Veterinary Sciences and Medicine

RESEARCH ARTICLE

Has Veterinary Science been a success or failure in Australia?

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Introduction

The author graduated in Veterinary Science from the University of Sydney, in January 1964. There were 46 graduates that year, four females and 42 males.

I have been active in practice for a total of 57 years, 54 of those in his own practice at Katanning situated in the agricultural region of Western Australia (WA).

During my career, I have published articles on diseases of livestock, surgery, especially horses and, the utility of veterinary services in Australia. I have acquired a number of post-graduate qualifications, including two doctorates.

The first record of veterinary surgery that I could discover, was that found in the Code of Laws, by the Babylonian King Hammurabi, who is thought to have reigned in the 18th century before the birth of Jesus Christ.

Two of the 284 laws recorded in the code relate to the act of veterinary surgery. These laws indicate, that nearly 4,000 years ago, there were those possessing the skill to treat animals and receive a fee for their services. That is, at the time of Hammurabi, the art of veterinary surgery was practiced [1].

University education for the training of veterinary surgeons began with the establishment of a school at Lyon in France in 1761 AD, that is, 259 years ago.

Since then, veterinary schools have appeared throughout Europe, the United Kingdom, North America and elsewhere and Veterinary Science has become a well-recognised university discipline.

The first university-educated veterinary surgeon to practice in Australia was John Stewart, who, in 1841, established a practice in Sydney, the centre of the colony of New South Wales (NSW). During the 19th century, all veterinary surgeons were migrants, mostly British, as there was no veterinary school in the colony. However, that changed in 1888, when William Tyson Kendall, a graduate of the University of Edinburgh in Scotland, established a private veterinary school in conjunction with his practice in Melbourne [2].

In 1909, this facility was incorporated into the first university veterinary school established at the University of Melbourne. The next year, the University of Sydney established a veterinary school. A third school began at Brisbane in the state of Queensland in 1936, and a fourth school was established in Perth, in the state of WA in 1974 [3].

Australia became a nation in its own right on the 1st of January 1901 and almost immediately became embroiled in World War I, when most veterinary staff and graduates joined the war effort. Added to this was the impact of the motor car on transportation followed by the Great Depression. As a result, veterinary services were not widely utilised during the first half of the 20th century and, by 1950, there were only 400 registered veterinary surgeons in Australia. Half worked for the government and half in private practice [4].

The reason for this was that the farming community considered it the responsibility of government, both State and Commonwealth, to provide a free veterinary service, because of the importance of agriculture to the Australian economy. Farmers preferred a free-service (Socialism) to a service that they had to pay for.

In Australia, veterinary attention was originally directed at servicing livestock, such as sheep, cattle, both dairy and beef, pigs and poultry. This was in addition to the profession's attention to the horse, either for military or transport purposes.

Australia's veterinary research was directed at solving health problems of livestock and during the first half of the 20th century incredible advances in the knowledge of their diseases took place. Between 1920 and 1960, the major diseases of our most important animal, the sheep, specifically the Merino, were elucidated. This could be considered the "Golden Age" of Veterinary Science in Australia [5, 6].

The second half of the 20th century proved the opposite to the first regarding veterinary services. With the advent of the 4th veterinary school, which was accompanied by the collapse of agriculture in the 1960s, and 70s, plus the institution of free higher education and the change from being a male vocation to a female avocation, the number of graduates increased

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dramatically and the attention of veterinarians shifted from livestock to companion animals [7-9].

From 400 veterinary graduates in 1950, to approximately 6,000 by the end of the century; from a focus on livestock in 1950, to almost total focus on small animals by the end of the century; from an almost exclusively male activity in 1950, to an almost exclusive female cohort of veterinary graduates by the end of the century.

In the first 20 years of the 21st century, with the advent of three new veterinary schools, we now have more than 9,000 veterinary graduates. Australia, with a population of about 25 million has seven veterinary schools, making it the most prolific producer of veterinary graduates in the Western World.

Because of the funding of Australian Universities, a significant proportion of students are international, so these schools are not focused on producing veterinarians for domestic service, but, as one Dean proclaiming, "We are producing vets for the world" (personal communication).

Concern for veterinary education in Australia became an issue at the end of the 20th century [10-13]. Not only were questions raised about the competence of the various veterinary schools, concern was also expressed as to the quality of their graduates.

In 2002, the Commonwealth Government commissioned an inquiry, titled "Review of Rural Veterinary Services". This review, chaired by Peter Frawley, arose out of a growing concern for the future of veterinary services to rural Australia [14].

The review's diagnosis of the problem was accurate, but its release produced no slowing-down of the deterioration of such services. In fact, one of the review's findings was that there was no case for increasing the number of veterinary schools in Australia at that time, yet within five years, three new schools were established. Note, the government that initiated the review and accepted its recommendation was the same government that approved each of the new schools!

With the failure of the Frawley Review, the author sought to examine this situation using two doctoral theses. In 2004 and 2015, I approached Murdoch University Veterinary School with research projects to study this situation and the school accepted my candidature, one for a PhD and the second for a post-doctoral DVMSc [15, 16].

In this article, I will provide data on the status of veterinary science in Australia today in an attempt to answer the question posed in the title.

Materials and methods

In 2006, a survey of WA rural veterinary practitioners was conducted.

A postal survey was sent to all members in the Annual Registrar of the Veterinary Surgeons' Board of WA [17]. The survey answers were statistically analyzed [18, 19]. The thesis titled, "Rural Veterinary Practice in Western Australia 1964 to 2007" was awarded a PhD in 2008 [20].

In 2015, the author approached Murdoch University Veterinary School with a proposal to examine the status of Veterinary Practice, Quarantine and Veterinary Education in Australia. The proposal was accepted for a post-doctoral degree.

In 2016, each of the eight Veterinary Boards in Australia was asked to forward an on-line survey of all of its registered veterinary surgeons using the Survey Monkey format. The results from the survey was exported to Excel (2016) and analysed by IBMSPSS Statistics ver.24 [20-23]. The thesis titled, "Australia's Veterinarians and the Frawley Review of 2002" was awarded a DVMSc in 2018 [16].

Results

A large number of data were recorded, but only that related to the topic at hand will be presented here.

For the first thesis, 67% of WA rural practitioners responded to the 2006 survey, half were female and the mean age of females was 37 years and for males 51 years and the difference was significant.

Ninety per cent considered their education adequate and, 60% considered their training sufficient.

At graduation, 88% entered practice, with the balance working in government, academia or industry and, 96% worked full-time.

Fifty-four percent serviced livestock with the balance working with companion animals.

Fifty-one percent acquired a serious injury or illness during their careers, 60% stating that it impaired their ability, whilst 21% stated that it would lead to their retiring from the service.

Fifty percent of respondents stated that farmers were reluctant to pay for advice and 34% objected paying for any veterinary service at all. Eighty percent reported that farmers required a seven-day a week, all-hours service, with 74% reporting that farmers expected to receive therapeutic drugs when demanded.

Six percent were dissatisfied with their career, 35% with their income and 12% with their status.

Seventy-six percent considered that rural practice in WA had a future, with 94% stating that the service provided would be for companion animals and, as a result, 15% of rural practices had curtailed services to livestock, whilst 11% had ceased to provide them altogether.

For the second survey there were 555 responses, 64% were female with a mean age of 40 years and they were significantly younger than their male colleagues, whose mean age was 53 years.

Sixty-two percent were raised in an urban environment and 74% were born in Australia. Respondents raised in a rural environment were 3.9 times more likely to work in that environment than respondents raised in an urban environment.

At graduation, 88% entered clinical practice, but by the time of the survey, 63% were employed there.

Fifty-eight percent worked full-time and 78% worked continuously, with males significantly higher in both categories.

Nine percent worked on-farm with the balance servicing clients either in a clinic or a hospital.

Six percent were dissatisfied with their education, 16% with the career, 41% with their income and 19% with their status.

Fifty-four percent acquired an injury or illness during their veterinary careers and of those affected 17% reported that it impaired their ability and 15% declared that it would lead to them leaving veterinary service.

Eighty-seven percent reported that there had been no increase in caseload or income from livestock as a result of the Frawley Review; 80% reported that the problem servicing livestock arose because of lack of utilisation by the farming community and; 76% considered that rural practice did have a future, but that it would be essentially a small animal practice located in the country.

Discussion

The surveys found that nearly nine-out-of-ten veterinary graduates enter practice, with the balance in government, academia and Industry, which is similar to that found by others [9-11].

In the second study, 55% entered rural practice with 45% entering urban practice, but at the time of the survey, these figures had changed to 28% and 78% respectively. Clearly, in Australia, rural practice was no longer an attractive option for graduates.

The last 20 to 25 years has seen a reversal in the gender of veterinary graduates from a male dominated service (my graduating class) to one that has become female dominated and nothing appears to have been done to address this imbalance.

As a result, there has been a change in work patterns. When I graduated you were required to work full-time, but in recent years, part-time work has become popular with about 50% working full-time with the balance part-time [24, 25]. This is primarily due to female graduates, although some males choose or are offered part-time work only.

In addition, you were expected to devote your entire career to veterinary service, whereas today, graduates often take periods of time away from veterinary service or choose other career paths. Twenty-five percent stated that they took time off, mostly females to pursue childrearing duties.

The mean ages of female and male graduates also indicted the progress toward of female dominance. Female mean age at 40 years was significantly younger than that for males at 53 years of age. Males are approaching retirement age and this will accelerate the predominance of females.

The issue of transitioning from university to veterinary service has occupied the attention of veterinary schools and registration authorities [26, 27]. Levels of satisfaction regarding their careers revealed considerable discontent. Overall 90% considered their education adequate; however, only 60% thought their training in practical skills sufficient. Therefore, these skills have to be acquired after graduating. This inadequacy poses a serious impediment to the transition as reported by others [10,26].

On further dissection of satisfaction, 6 to 16% were dissatisfied with their work as veterinary surgeons, 35 to 41% with the income they received and 12 to 19% with the status they receive in their communities. Long working hours, poor remuneration, heavy physical demands, danger, relatively poor status and prestige and lack of suitable infrastructure in rural Australia have all contributed to this discontent [28]. These high levels of discontent, should prompt universities to reflect on how to counter this, for if this is not addressed, further losses will occur.

Half the respondents had incurred a major physical injury or illness during their careers with the majority stating that their skill was impaired and 20% considered leaving the service as a result, thus confirming that rural veterinary practice was a hazardous occupation.

The attitude toward livestock clientele was not flattering indicating that little has changed from the experience of earlier veterinarians [29-31].

The Frawley Review reported that only 20% of livestock producers engaged veterinary service in any given year with an average expenditure of $200, less than 0.5% to total farm costs (Frawley 2003). Farmer's view rural veterinary services as an expense to be avoided.

This raises the issue of whether veterinarians should provide a service to livestock owners at all. Framers did not like paying for advice and they required a full-time service – 24 hours a day, 7 days a week – with some objecting when the veterinarian took a break.

Finally, the question of the future of Veterinary Science was canvassed, three quarters considered that rural practice had a future, but almost all stated that this would be servicing companion animals, not livestock. In other words, a small animal practice located in rural Australia.

The most significant finding of the first survey was that the viability of rural practice in WA depended upon servicing companion animals not livestock, which agrees with the finding of others [32]. Note, in this survey, 15% had curtailed their services to livestock and 11% had ceased providing them altogether.

The Australian Veterinary Association has, since the release of the Frawley Review, produced a series of Veterinary Workforce reports, essentially trying to track the movements of graduates after joining the veterinary workforce. This has been done, in an endeavour to predict what is in store for veterinary graduates in this country [33, 34].

In 2016, Oxford academics predicted the demise of all professions based on their assessment of the growth of the internet. In a book, "The Future of the Profession; How

technology will transform the work of human experts" they predicted the end of all professions [35].

Summary

In the WA study, surveys of those providing services directly to livestock producers, both government and practitioners, were conducted. The conclusion reached was that government services had dramatically contracted in both size and scope, whilst those in private practice changed from servicing livestock to attending small animal cases and horses. Livestock services were contracting and in larger rural centres were reduced, whilst others were dropping them altogether.

Frawley concluded that only if the earning opportunities for rural practices were improved and a better balance of teaching animal species could be achieved, there was little chance for improvement [14].

Since the release of the review, there has been an increase in the numbers of registered veterinary surgeons, especially companion animal veterinarians, but a marked contraction in rural services both government and private.

In Australia, rural veterinary services have deteriorating at a rapid rate, with three-out-of-four agreeing that rural practice had a future and that government services were essentially regulatory.

Conclusion

Veterinary Science may claim success during its first 50 or so years in Australia, but for the last 50 years, it would have to be given an "F".

From the research, I conclude that there are three possible scenarios, you may be able to think of others.

Firstly, Australia's Veterinary Industry – it's no longer a profession – will stagger on in its present form, tending dogs and cats with universities pumping out graduates to service a decreasing population of animals.

Secondly, science graduates from other biological disciplines, could take over the contracting role of GP veterinarians – run tests, refer or euthanasia.

Thirdly, there might even be an abandoning of the discipline of Veterinary Science altogether and a return to a system of training apprentices as a trade [36].

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