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The status of veterinary services in Australia

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Abstract

Objective: Determine if the Frawley Review of 2002 influenced the services provided by Australia's veterinarians.

Design: Australia's registered veterinarians were invited to participate in an on-line survey questionnaire.

Method: Each of Australia's eight Veterinary Boards was asked to participate in the distribution of an on-line survey to members of its jurisdiction.

Results: Five hundred and fifty-five responses were received from registered veterinarians throughout Australia. Sixty-four percent of respondents were female. The mean age was 44 and nearly three-quarters were born in Australia. Fifty-six percent graduated with a BVSc degree, 36% with a BSc, BVMS degree with the balance holding other qualifications. Eighty-seven percent were employed in therapeutic practice, with the majority in urban, small animal practice, whilst the balance worked in various institutions. Less than 10% performed work on-farm. Fifty-eight percent worked full-time and 22% had taken significant time-out from veterinary service during their career. Various levels of disquiet were expressed with veterinary education, job-satisfaction, income and status achieved as veterinarians. More than half the respondents stated that they had been injured or suffered illness whilst conducting their veterinary occupation. All respondents contributed to the debate of the efficacy of the Frawley Review recommendations.

Conclusions: The Frawley Review, although valid in its observations and conclusions, failed to beneficially influence veterinary services in this country.

Abbreviations: AVA: Australian Veterinary Association; AVR: Australian Veterinary Reserve; BVSc: Bachelor of Veterinary Science; BSc: Bachelor of Science; BVMS: Bachelor of Veterinary Medicine and Surgery; DVM: Doctor of Veterinary Medicine; WA: Western Australia

Introduction

Australia's veterinarians serve in a variety of roles. The core areas, enunciated more than 50 years ago, are private practice, state disease control, research and education [1]. But, as seen in the Australian Veterinary Workforce Survey of 2013, many other activities such as aquaculture, avian, welfare, management, technical, biosecurity, compliance, epidemiology, reptiles and wildlife have been added [2].

The Commonwealth Government of Australia established a review to enquire into the status of veterinarians and veterinary services in Australia at the beginning of the 21st century, which became known as the Frawley Review [3]. The present research examines whether this review impacted on the services provided by veterinarians in Australia in the 14 years since its release and it did this by the conduct of an on-line survey questionnaire of Australia's registered veterinarians.

Materials and methods

The study aimed at securing veterinary opinion from currently registered veterinarians in Australia by means of an on-line survey questionnaire and was conducted under the auspices of Murdoch University.

A survey questionnaire was designed and submitted to the Human Ethics Research Committee of Murdoch University for approval. Once sanctioned, it was developed as an on-line survey using the Survey Monkey format. It was designed to be comprehensive, anonymous and for research purposes only.

Australia's eight Veterinary Boards were approached to participate in the research project. The Registrar of each Board received a request to notify their members with information regarding the survey and a link to its site on the internet. The validated survey contained 40 questions including personal, employment, satisfaction and wellbeing details, as well as questions relating to the Frawley Review.

The questionnaire was posted on the internet in February 2016 and the link to the survey was https://www.surveymonkey/r/VET2016

Results

Comprehensive?

Seven of the eight Veterinary Boards confirmed that their members had been notified of the survey and provided with the link to the questionnaire. Although the request was rejected by one board, there were respondents from all jurisdictions, so the sample of responses can be considered inclusive of Australia's veterinary community.

Of the total of 555 respondents from registered veterinarians, the following distribution resulted: Queensland 50, New South Wales 100, Victoria 106, South Australia 25, Western Australia 206, Australian Capital Territory 14, Tasmania 22, Northern Territory five and 27 did not specify where they were registered.

Not all respondents answered all questions, so numbers and percentages are given for individual questions.

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Gender and origin?

All responded to the question of gender; 356 or 64% were female with the balance male and of the 551 who responded to place of origin, 341 or 62% having an urban background, with the balance having a rural background.

Age, year of birth, year of graduation?

Five hundred and fifty responded to the question of age and year of birth and 537 responded to the year of graduation. The mean age of all respondents was 45 (SD 13.14); for female respondents was 40 (SD 10.30) and for male respondents was 53 (SD 13.61). Female respondents were significantly younger $P < 0.001$ than male respondents.

Country of birth?

Five hundred and forty-eight responded to the question of country of birth, with 403 (73.5%) born in Australia and the balance of 145 born overseas.

Veterinary School?

Of 555 respondents, 548 indicated which schools they graduated from, with 494 or 90% graduating from Australian schools. Of the 54 or 10% graduating overseas, 21 were from the UK, 12 from the USA, seven from both South Africa, New Zealand and from elsewhere.

Degree?

Of the 553 who responded to the question of qualification. Of the Australian graduates, 304 were awarded BVSc, 201 graduated BSc, BVMS, nine graduated BVBiol, BVSc and three graduated with a DVM. Overseas qualifications such as BVMS, DVM, BVetMed, VetMB and MVB made up the balance of 36.

Type of employment at graduation and at present?

Table 1 provides numbers and percentages of the type of employment of respondents when they graduated and at present.

Initially, 87% entered practice, but now 68% are employed there; 6% entered government service, but now 10% are employed there; 4% entered academia, but now 7% work in universities; and 3% entered industry or other services, but now that figure is 15%. Initially, the majority (87%) entered practice, with the balance (13%) distributed among the other categories. At present the percentage in practice is 68%, a drop of 19% and these have relocated to the alternative categories.

Urban or rural employment at graduation and at present?

Table 2 provides numbers and percentages of those involved in urban and rural service, at graduation and at present.

Of 530 responses answering at graduation, 241 entered urban service, whilst 289 entered rural service. Of 519 answering at present, 372 were urban, whereas, 147 were rural. That is, initially 45% entered urban service with the balance of 55% entering rural service, but now, 72% are urban with the balance of 28% rural, demonstrating a marked shift from rural to urban service over time.

Number and percentage of work-time spent in rural practice?

Table 3 provides the number and percentage of working life spent in rural service

Table 1. Employment upon graduation and employment today.

Service	Originally: n	%	At present: n	%
Practice	463	87	364	68
Government	32	6	52	10
Academia	19	4	37	7
Industry	4	1	11	2
Other	11	2	68	13
	529	100	532	100

Table 2. Where service provided at graduation and at present.

Where service provided	At graduation: n	%	At present: n	%
Urban	241	45	372	72
Rural	289	55	147	28
	530	100	519	100

Table 3. Number and percent of work time spent in rural service.

Service provided	Number: n	Percentage: %
Full-time rural	73	14
More than 50% of time	109	20
Less than 50% of time	183	34
No-time rural	169	32
	534	100

Of the 534 respondents to the question regarding time spent in rural service, 73 or 14% were employed full-time, 109 or 20% spent more than half their time, 183 or 35% spent less than half their time and 169 or 32% spent no-time in rural Australia. That is, two-thirds of respondents spent less than 50% of their work time, or no time, servicing economic livestock in rural Australia.

Number and percentage of where respondents provided their veterinary service?

Table 4 reports the answers to the question where respondents worked?

Less than 10% work "on-farm" with nearly three-quarters working in a clinic or hospital and the balance of 17% working in an institution, such as government departments, diagnostic laboratory, universities or research and manufacturing establishments.

The nature of service provided?

Table 5 provides data on the type of service provided.

Of the 519 respondents to the type of veterinary service, 67% provided a clinical service, 18% a consulting service, 9% a government service, 3% a teaching service and 3% a research service.

Time devoted to servicing livestock and time devoted to servicing companion animals?

Tables 6 and 7 provide details of estimates of the time devoted to livestock and companion animals when entering upon their veterinary career and at present.

Of 491 respondents at graduation, 6% were full-time, 31% spent more than 50% of their time, 36% spent less than 50% of their time and 27% spent no time at all with economic livestock. Of the 473 respondents at present, 12% were full-time, 9% spent more than 50% of their time, 21% spent less than 50% of their time and 58% spent no time with economic livestock. Initially, slightly more than one-in-three allocated half or more of their time to servicing livestock, with 27% allocating no time to these species. Today, one-in-five allocate half or more of their time servicing livestock, with 58% allocating no time at all to livestock.

Table 4. Where do you provide your veterinary service?

Veterinary service	Number: n	Percent: %
On Farm	48	9
In a clinic	224	44
In a hospital	152	30
In an institution	85	17
	509	100

Table 5. What type of veterinary service do you provide?

Type of service	Number: n	Percent: %
Clinical	347	67
Consulting	94	18
Government	48	9
Teaching	15	3
Research	15	3
	519	100

Table 6. Time devoted to economic livestock at graduation and at present.

Time allocated	At Graduation:	At Present:
Full-time	31	58
>50% of the time	152	42
<50% of the time	176	101
No-time	132	272
	491	473

Table 7. Time devoted to companion animals at graduation and at present.

Time allocated	At graduation:	At present:
Full-time	164	279
>50% of the time	225	108
<50% of the time	97	35
No- time	13	69
	499	491

Of the 499 respondents at graduation, 33% were full-time, 45% spent more than 50% of their time, 19% spent less than 50% of their time and 3% spent no time with companion animals. Of the 491 respondents at present, 57% were full-time, 22% spent more than 50% of their time, 7% spent less than 50% of their time and 14% spent no time with companion animals. Initially, nearly 80% spent all or more than half their time with companion animals, with 3% not working with these species at all. Today, almost 80% spend all or more than half their time with companion animals, but now 14% spend no time with these animals.

Full-time versus part- time employment?

When asked if they worked full-time or part-time, of a total of 533 respondents, 310 or 58% worked full-time with the balance of 221 or 42% working part-time.

Continuously or intermittently employment?

When asked if their veterinary career involved continuous service or not, of a total of 534 respondents, 418 or 78% were employed continuously, whilst the balance of 116 or 22% had taken time off from veterinary service. When this latter group was asked to give an estimate of the time devoted to veterinary work, 33% devoted most of their time, 54% devoted half their time, and 13% devoted less than half their time working as veterinarians.

Have you changed employment?

When asked about changes in their employment, of the 534 respondents, 455 or 85% had changed their place of employment, some once, others two- to four-time and some more than four-times. Seventy-nine or 15% of respondents had stayed in their initial employment.

Mentored when first employed or not?

When asked if they were mentored by an experienced veterinarian when they began their veterinary career, of the 531 respondents, 186 or 35% said that they had been mentored, whilst the balance of 345 or 65% stated that they had not.

Satisfaction with education, position, income and status as a veterinarian?

Table 8 provides responses to series of questions on satisfaction with their veterinary career.

Twenty-one percent stated that they were completely satisfied with their undergraduate education, 72% were generally or mostly satisfied with 7% stating that they were dissatisfied.

Regarding satisfaction working as a veterinarian, 18% were completely satisfied, 66% mostly or generally satisfied with 16% dissatisfied.

Regarding satisfaction with the income received, 9% were completely satisfied, 50% mostly or generally satisfied and 41% dissatisfied.

Regarding status achieved within the community, 17% were completely satisfied, 64% mostly or generally satisfied and 19% dissatisfied.

Wellbeing?

Questions were asked of respondent's wellbeing and of the 532 responses, 290 or 55% replied that they were injured or became ill pursuing their veterinary careers. When this latter group was asked if this condition had impaired their capacity to perform, 48 or 17% stated that it had. Further, when asked if this condition would result in their leaving veterinary service, 43 or 15% stated that they would.

Since Frawley has there been an increase in workload and income from livestock cases?

Respondents were asked if there had been an increase in the case-load of livestock and of the 442 responses, 58 or 13% considered that there had been, whilst 384 or 87% replied that there was no increase. When asked if there had been an increase in income derived from livestock cases and of the 443 responses, 54 or 12% considered that there had, whilst 389 or 88% replied that was no increase.

Did you join the AVR and would you be prepared to be involved in a surveillance program if it were professionally conducted and commercially viable?

Respondents were asked if they had joined the AVR. Frawley had recommended the formation of the reserve as a major priority; 100 private practitioners were to be trained for deployment in an exotic disease outbreak. Twenty-three members of the reserve were identified amongst 529 replies.

Respondents were asked if a surveillance program were to be professionally conducted and commercially viable, would they be

Table 8. Satisfaction with undergraduate education, position, income and status.

Satisfaction	Education	Position	Income	Status
Completely	108	92	46	87
Mostly	254	218	99	175
Generally	112	115	152	151
Not Satisfied	33	83	209	95
	507	508	506	508

prepared to participate? Of the 515 replies, 256 or half indicated that they would.

Is the difficulty servicing livestock a problem of providing the right service or lack of farmer demand?

Of the 453 responses, 88 or 19% stated that the problem was the service provided, whilst 365 or 81% stated it was because the farming community did not use available veterinary services. That is, the problem, as seen by the majority, was a demand problem

Farmer attitude?

When asked if farmers shop around for the cheapest veterinary services, 456 replied with 363 or 80% stating yes. When asked if farmers treat a female veterinarian differently from the male counterpart, of the 481 replies, 310 or 64% said yes, 43 or 9% said no, and 128 or 27% had no opinion on the matter.

Is rural practice a small animal practice in the country and is government veterinary service purely regulatory?

Respondents were asked would they agree that rural practice is essentially a small animal practice located in the country and, of the 483 replies, 153 or 32% replied yes, whilst 330 or 68% disagreed. When asked would they agree that government veterinary service is essentially a regulatory service, of the 484 replies, 332 or 69% agreed and 152 or 31% disagreed.

Discussion

That a total of 555 registered veterinarians participated ensured that the data provided by respondents could be considered representative of Australia's veterinary community.

In Australia, for the first 100 years of veterinary education and training – 1880's to 1980's – being a veterinarian was seen to be a masculine occupation. Then it changed and, for the last 30 years, there have been significantly more female graduates than males. Today, being a veterinarian is a feminine occupation and the gender of the respondents of this survey reflects this with 65% female respondents.

The mean age of respondents was 45 years; therefore, the responses were from a cohort of mature and experienced graduates. The mean age for female was 40, whereas, for males 53. As most enrolled veterinary students are female, It is likely that as the males retire they will be replaced by females [2,4].

In the survey, 65% of respondents came from an urban background, and this could account for their preference to work in urban service. Initially, 45% of respondents worked in urban Australia, whereas now that figure is 72%. Initially, 55% worked in rural Australia whereas, now that figure is 28%. Today, more than two-thirds of respondents work in urban Australia with less than one-in-three in rural Australia. The clear trend is away from rural service to favour urban service.

In the survey, 30% of respondents were born overseas, reflecting a relatively high number of migrants who either came here as children or who came here as adults seeking employment as veterinarians.

Australian veterinary schools of the 20th century adopted the qualification of BVSc. However, when established in the 1970's, Murdoch adopted a different degree of BSc, BVMS and this is reflected in the high number of respondents, particularly those who were registered in Western Australia. Overseas graduates had a variety of veterinary degrees.

There was a disproportionate number of Western Australian respondents and this may be since the research was conducted through Murdoch University and the researcher was a West Australian veterinarian.

Survey respondents answered a series of questions related to employment. For example, 88% entered private practice on graduation with the balance distributed in government service, academia, industry and other. Currently however, 68% are in private practice and those who have changed, have moved into the "other" category. These latter positions would be considered less stressful and perhaps more interesting than private practice which can become routine.

Today, 72% of survey respondents were employed in urban Australia. For this cohort, rural service had limited attraction and this applies whether the respondent came for an urban or rural background supporting the work of Heath [4].

Initially, significant more male respondents entered rural service than females, but now that difference no longer applies. Currently, slightly more than 50% work full-time and approximately 25% have taken time-out away from their veterinary careers. This is in contrast to earlier eras when being a veterinarian was a full-time, whole-of-life vocation. Veterinarians, particularly female veterinarians take time-out to have and raise a family [5-7].

A number of respondents stated that they had changed employment, some on a number of occasions, indicating possibly dissatisfaction with their terms of employment, restlessness or reflecting the culture of modern generations. Older generations valued stability and reliability and so changed employment infrequently, but that is not the case with modern generations, who view change as a sign of ambition and enterprise. Today, being mobile is a virtue.

Less than half respondents received mentoring when beginning their veterinary careers, and this failure was highlighted in the Craven Review [8].

Less than 10% worked on farms, with the majority providing their services in practice (clinic or hospital) or within an institution; 83% worked in private practice with the balance in government service or research and teaching in contrast with earlier eras [1,6].

The majority of survey respondents provided service in private practice, 11% in government service and 6% in teaching and research. The study was designed to determine how veterinary services to economic livestock and companion animals have changed with time. These are the two major areas of veterinary occupation. However, it does not shed light on those veterinarians who engage with other species, i.e. wildlife, marine, exotic or others.

Employment data from respondents can be summarised as follows; although initially distributed evenly between urban and rural service, veterinarians are now predominantly employed in urban, small animal service. Comparing initial employment with present employment, the majority still function in private practice however, those who have changed have moved into government service, academia, industry and other categories.

Satisfaction with various aspects of veterinary life was canvassed; 7% were dissatisfied with their undergraduate education, 16% were dissatisfied with their work as veterinarians, 41% were dissatisfied with the income received, and 19% were dissatisfied with the status achieved in the community working as a veterinarian. In an earlier study, similar levels of dissatisfaction were recorded for WA veterinarians.[7] These

results need sober reflection as they indicate a relatively high level of dissatisfaction with life as a veterinarian and could influence future university enrolments as well as the future of veterinary service in this country.

More than half of respondents suffered an injury or illness as a result of their occupation and 17% stated it affected their capacity to operate and 15% stated it would lead to their leaving the occupation of a veterinarian. In a previous study of WA veterinarians, 50% incurred a major injury or disease during their career and of those 59% stated that it had impaired their performance as a veterinarian and 20% considered leaving practice as a result [7].

Because of the view that Australia's animal health system was being skewed toward companion animals and away from economic livestock, the Frawley Review was commissioned to establish livestock health needs and the role, availability and capability of veterinarians to meet those needs into the future [3]. Frawley found that the current service to rural Australia was unsustainable, with both State government veterinary services and rural private practices unlikely to be maintained. Various State and Territory Governments were reducing their expenditure on veterinary services so that, in the future, veterinary attention to rural Australia would come principally from rural private practice. However, this service was also contracting due to lack of demand by the farming community. The Review concluded that this would only be reversed if the earning opportunities for rural practice were improved. There needed to be a significant increase in demand for private practice services by livestock producers.

The majority of respondents considered the failure to utilise veterinary services in rural Australia to be due to a lack of demand by the farming community. However, nearly one in five respondents thought that veterinarians did not provide an effective veterinary service to that rural community. During the second half of the last century veterinarians tried to promote an effective rural veterinary service [9-11]. However, those efforts have failed to produce significant numbers of veterinarians trained in the effective servicing of livestock.

As only one in four or five farmers used a veterinary service regularly, rural practitioners have found that servicing economic livestock insufficient to maintain a practice and they had to promote the servicing of companion animals to remain viable as has been reported by others [4,12,13].

To stimulate demand for rural practice, Frawley made a number of proposals including uniform registration, the removal of barriers to veterinary practice consolidation and efficiency such as limitations on practice ownership and unsocial service obligations. Frawley also proposed the development of "best practice models", enhanced monitoring systems and broadening the skills base of those involved. All of these recommendations might prove helpful. However, unless there was an increase in the demand for rural veterinary services with an increased income to be derived from these endeavours, then nothing worthwhile would eventuate. The Review offered no examples to stimulate a demand-based solution apart from using private practitioners in government disease control programs.

What has transpired in the dozen or so years since the release of the Review?

The present survey found that, since the year 2000, there had been a decrease of both case-load and income derived from economic livestock. So, since the time of Frawley there has been a reduction in the use of veterinary services by farmers. The major source of work and remuneration in rural practices today is with companion animal work as opposed to livestock work. This does not include those rural practices that provide speciality services for livestock.

Thirty-two percent of respondents agreed that rural practice was essentially a small animal practice located in the country and this has been the findings of others [3,4,12,13]. In the survey, a number disagreed with this proposition. However, as the majority of these respondents did not work in rural practice they may have assumed livestock occupied a greater role in such practices. As the case-load and income derived from livestock has not increased since the release of Frawley, the future for rural practice appears limited.

Data taken from the Annual Veterinary Registrar of Western Australia comparing 2005 and 2014 indicates an increase of 44% in registered veterinarians from 958 to 1382. Whilst there was an increase of 79% for those in small animal urban practice from 414 to 741, there was a decrease in mixed animal rural practice of 5% from 290 to 276 [14,15].

Survey respondent comments regarding the farming community were not positive; they considered that the major problem was lack of demand by farmers for their service. They also considered that farmers sought the cheapest service and treated female and male veterinarians differently.

So, what has resulted since the release of the Frawley in 2003? Taken together, there has been no significant change; urban practice has continued to increase whilst rural veterinary services, both government and private, have continued to deteriorate.

Conclusion

The decline in the veterinary servicing of rural Australia has continued and the Frawley Review of 2003 has not been able to influence this decline.

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