



Australian veterinary workforce survey 2016

April 2017

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1. Introduction

The Australian Veterinary Association, in association with the state and territory veterinary boards and the Australasian Veterinary Boards Council conducted its 4th biennial workforce survey of veterinarians in 2016. The purpose of the survey was to collect data about the current profile of the veterinary profession and anticipate future trends and changes. The information will help the profession, government, veterinary boards, and others to understand how the provision of veterinary services may be affected by various factors, including graduate numbers, changes in career breaks and those working part-time.

This report provides a summary of responses to the 2016 veterinary workforce survey.

2. Methods

The workforce survey was originally based on an adaptation from a similar survey administered each year by the Veterinary Council of New Zealand. ¹ The survey has been refined based on recommendations contained in the Australian veterinary workforce modelling report 2014. ²

Veterinarians voluntarily completed the questionnaire. Each of the state and territory veterinary surgeons' boards distributed a link through a separate email to each registered veterinarian or via their board's newsletter. The link directed veterinarians to a dedicated web page where they could enter survey responses.

<https://www.surveymonkey.com/r/LBD8N98>



The online survey was made available to veterinarians between 5 January 2016 and 31 December 2016. An electronic copy of the survey was provided for analysis.

The analyses of this report are based on responses to 25 questions that comprised the workforce survey. Alongside the data summaries, interpretive comments are provided.

3. Results

3.1 Response

A total of 1601 rows of data were provided in the electronic copy of completed survey responses. The total number of registered veterinarians in Australia on 30 June 2016 was 11,418 (Australasian Veterinary Boards Council, 2016). The overall response rate (the number of veterinarians that provided valid responses to the survey divided by the total number of registered veterinarians) was 14%. It should be noted that while the rows of data provided was down on previous surveys, the number of valid responses was comparable. This was due to the refinement of the survey which eliminated error responses that occurred with the previous survey versions.

Response rates continue to vary by state-territory. They are very dependent on the method that the associated state-territory use to disseminate the link to the survey to their registered veterinarians. South Australia achieved an excellent 33% response rate by sending the link in email to all registered veterinarians that they had email addresses for; they had previously had low response rates of 7%, 12% and 10%. ACT and Western Australia also adopted this approach with good responses of 38% and 27% respectively. The response rate in NSW was 12% and in Victoria the response rate was 10% - both not as good as in previous surveys.

Table 1: State-territory of business address of respondents at the time of answering the 2016 veterinary workforce survey, number of registered veterinarians on 30 June 2016³ (Australasian Veterinary Board Council 2016) and survey response rate.

State-Territory	Respondents <i>n</i>	Veterinarians	Response rate
Queensland	156	2647	6%
New South Wales	380	3154	12%
ACT	114	303	38%
Victoria	268	2781	10%
Tasmania	42	265	16%
Northern Territory	15	130	12%
South Australia	235	723	33%
Western Australia	383	1415	27%
Not stated	1	-	-
Total	1601	11418	14%

3.2 Age and gender

Of the respondents, 62% were female and 38% were male. Eight respondents identified as 'Other'. This compares with the 2014 and 2013 surveys where 60% were female and 40% were male and the 2012 survey where 57% were female and 43% were male. The trends are consistent with increased feminisation of the veterinary workforce. Table 2 lists the number of veterinarians who responded to the survey by age group and gender. Figure 1 presents the same information as a population



pyramid. Younger age groups are dominated by females and older age groups are dominated by males.

Table 2: Age of respondents at the time of answering the 2016 veterinary workforce survey, by gender.

Age group	Female	Male	Other	Total	Percentage
20 - 24 years	27	5	2	34	2%
25 - 29 years	165	27	0	192	12%
30 – 34 years	177	30	1	208	13%
35 – 39 years	172	50	1	223	14%
40 – 44 years	113	47	1	161	10%
45 – 49 years	107	60	1	168	10%
50 – 54 years	92	94	0	186	12%
55 – 59 years	68	86	0	154	10%
60 – 64 years	45	60	2	107	7%
65 – 69 years	15	72	0	87	5%
70 + years	5	76	0	81	5%
Not stated	0	0	0	0	-
Total	986	607	8	1601	-

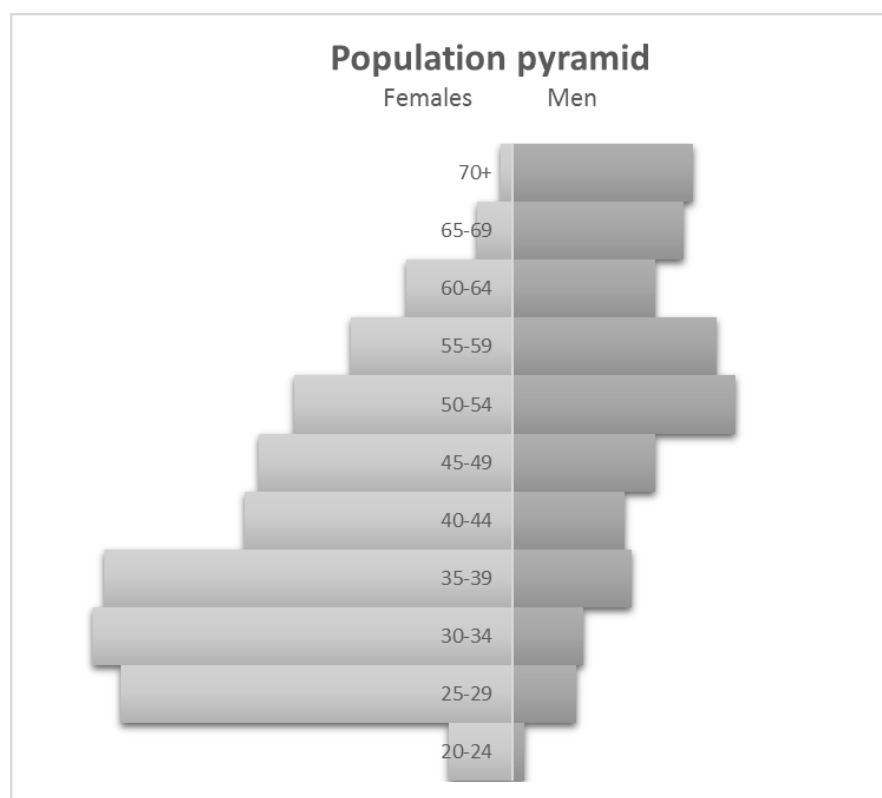


Figure 1: Population pyramid comparing the age distribution of female (left) to male (right) veterinarians that responded to the 2016 veterinary workforce survey.



3.3 Employment and work roles

Respondents were asked if they were engaged in veterinary work, including non-clinical veterinary work, in Australia in the year ending 31 December 2015. Of the respondents, 89% (n= 1417) were working in a veterinary role in 2015.

Respondents who engaged in veterinary work in 2015 were asked to provide details of their current employment using the categories listed in Table 3. Of the respondents who were working in a veterinary role, 73% were in a role in clinical practice. Most respondents were employed in group private practice, 49% in total. There appears to be a trend away from working in solo private practice, with 10% of those engaged in veterinary work in 2015 working in solo practices, compared with 20% in 2014, 20% in 2013 and 30% in 2012.

Table 3: Employment type at the time of completing the 2016 veterinary workforce survey, by gender.

Employment	Female	Male	Other	Total	% of veterinarians working in veterinary role
Solo private practice	77	68	1	146	10%
Group private practice	461	226	4	691	49%
Large Corporate practice	37	24	-	61	4%
Referral/specialist practice	32	24	-	56	4%
Emergency practice	22	10	-	32	2%
Locum	46	14	-	60	4%
Government	67	49	-	116	8%
Laboratory	11	5	-	16	1%
University/Research	49	29	1	79	6%
Industry	29	20	-	49	3%
Other	59	44	-	103	7%
Not stated	4	4	-	8	1%
Total	894	517	6	1417	

Of those who responded using the descriptor 'Other', nine reported working in animal welfare roles, 18 in consultancy roles, six in zoo and wildlife roles, six farming roles, three in live export roles and three in the Australian Veterinary Association.

Counts of veterinarians and numbers of full time equivalent veterinarians working in various activities at the time of completing the 2016 veterinary workforce survey are shown in Table 5. Female FTEs outnumber male FTEs in 21 of the 28 listed work type categories. The work categories where male FTEs outnumbered female FTEs were beef cattle, dairy cattle practice, export certification, meat inspection, pig practice and poultry practice.



Table 5: Counts of veterinarians and number of full time equivalent (FTEs) veterinarians working in various activities at the time of completing the 2016 veterinary workforce survey, by gender. A full time equivalent is defined as 38 hours worked per week in a given veterinary activity.

Work type	Female		Male		Total	
	<i>n</i>	FTEs	<i>n</i>	FTEs	<i>n</i>	FTEs
Aquaculture	10	2.4	9	1.1	19	3.5
Avian	181	18.2	97	16.1	278	34.3
Animal welfare	92	43.2	41	24.6	133	67.8
Beef	101	33.1	101	42.9	202	76.1
Camelids	33	4.6	34	3.1	67	7.7
Companion animals	651	1388.6	339	694.5	990	2083.1
Compliance	51	42.5	57	39.7	108	82.2
Dairy	51	16.1	55	32.3	106	48.4
Deer	2	0.1	3	0.1	5	0.1
Biosecurity	68	78.7	45	49.1	113	127.8
Export certification	31	12.6	41	19.1	72	31.7
Epidemiology	27	10.8	18	10.3	35	21.1
Equine	164	166.2	129	108.6	293	275.7
Goats	54	9.8	39	5.4	93	15.2
Meat Inspection	2	0.7	9	9.8	11	10.4
Pathology	45	32.3	20	18.7	65	50.9
Pharmaceutical	17	21.6	6	4.4	23	23.6
Sheep	92	26.9	66	16.2	158	43.0
Pigs	24	5.7	20	9.7	44	15.3
Pocket pets	342	34.8	124	15.6	466	50.3
Practice Management	123	58.3	108	50.6	231	108.9
Poultry	111	9.4	49	11.3	160	20.8
Reptiles	70	4.9	42	5.2	112	10.0
Research	67	61.2	42	42.2	109	93.4
Industry	17	16.9	15	15.7	32	32.6
Teaching	98	60.3	55	30.6	153	90.9
Wildlife	285	36.7	120	21.8	405	58.5
Other	51	64.3	36	52.6	87	116.9
Total	-	2261	-	1351	-	3600





Respondents were asked if they were specialists and 6% (n=93) responded that they were specialists.

Thirteen percent of respondents (n=214) said that they were considering not working as a veterinarian in 2016. They were then asked to select the option that most closely describes the main reason.

Table 4 summarises the reasons given for why 11% (n=184) of responding registered veterinarians were not engaged in veterinary work in 2015.

Table 4: Reason given for not working in veterinary role in 2015

Reason	Number	Percentage
Parental care	3	2%
Family care	2	1%
Health	5	3%
Personal preference	5	3%
Difficulty finding work	3	2%
Retired	68	37%
Study	31	17%
Working in a non-vet role	34	18%
Working overseas	16	9%
Other	10	5%
Not stated	7	4%
Total	184	

3.4 Hours worked per week

Respondents were asked to record the number of routine hours worked per week as a veterinarian in 2015.

Figure 2 is a box and whisker plot showing the distribution of cited hours by age group and gender.

Descriptive statistics of the number of routine hours worked per week by work role (clinician, non-clinician) and gender are shown in Table 6. The median work hours worked per week for clinicians was 40 hours, (interquartile range [IQR] 10-45) and was similar to non-clinicians which was also 40 hours (IQR 26-45).

For women (across all work roles), the median routine hours worked per week was 38 (IQR 25-42) and for men it was 40 (IQR 35-50). Females worked on average six hours less than men.



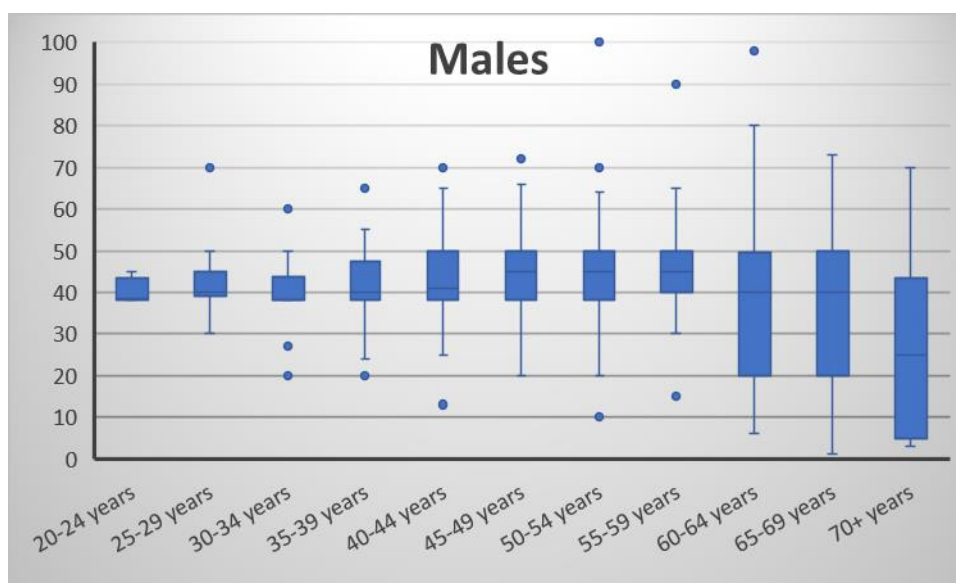
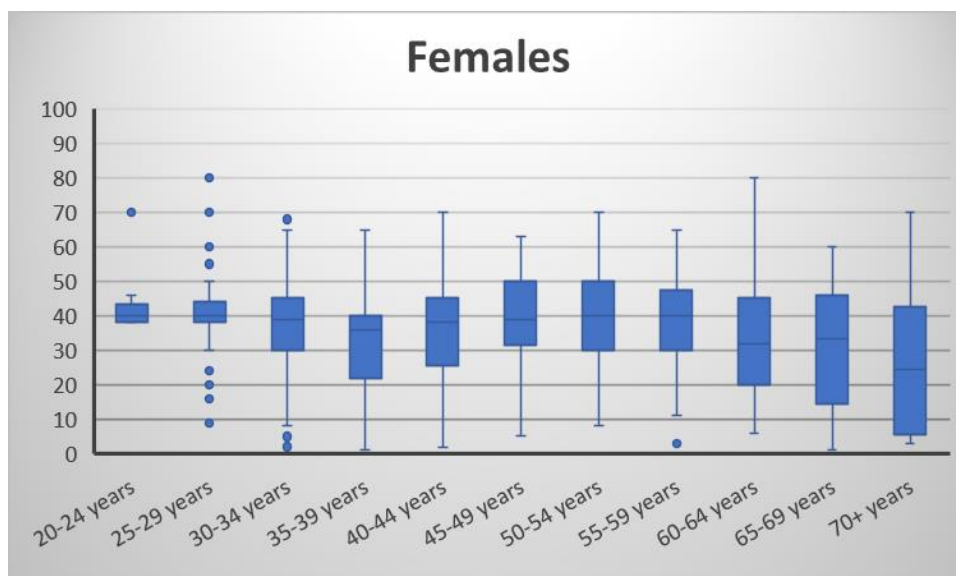


Figure 2: Box and whisker plot showing the distribution of hours worked per week by age group and gender for the 2016 veterinary workforce survey. In the plot the horizontal lines within each box represent the median number for each age group. The lower and upper bound of each box represent the 25th and 75th quartiles of distribution of work hours, respectively. The lower and upper whiskers represent the lower and upper bounds of the 95% confidence interval around the distribution of work hours. The closed circles represent outliers.





Table 6: Descriptive statistics of the number of hours worked per week as a veterinarian by work role (clinician, non-clinician) and gender for the 2016 veterinary workforce survey.

Work role	<i>n</i>	Mean(SD)	Median (Q1, Q3)	Min. Max
Clinician				
Female	660	35 (14)	38 (25,42)	1,80
Male	366	42 (14)	40 (36,50)	1,100
Total	1026	37 (14)	40 (10,45)	1,100
Non-clinician				
Female	206	35 (18)	38 (24,45)	1,70
Male	142	38 (18)	40 (27,50)	1,90
Total	348	35 (17)	40 (26,45)	1,90
All veterinarians				
Female	866	35 (14)	38 (25,42)	1,80
Male	508	41 (16)	40 (35,50)	1,100
Total	1374	37 (15)	40 (30, 45)	1,100

Clinician veterinarian respondents were asked how many hours on average per week they are on call. Forty-three percent of all clinicians ($n=440$) reported being on call, 37% of female clinicians compared with 53% of male clinicians reported being on call. Of those who are on call, the median number of hours on call per week was 30 hours with a median of three hours a week where they were required to attend cases. Tables 7 and 8 summarise this data.

Table 7: Descriptive statistics of number of hours on call worked per week by gender

Work role	<i>n</i>	Mean(SD)	Median (Q1, Q3)	Min. Max
Female	243	41 (41)	25 (13,50)	1,168
Male	194	50 (47)	32 (15,65)	1,168
Total	440	45 (37)	30 (14,60)	1,168

Table 8: Descriptive statistics of number of hours attending to cases while on call by gender

Work role	<i>n</i>	Mean(SD)	Median (Q1, Q3)	Min. Max
Female	243	4 (4)	3 (1, 5)	<1,30
Male	194	4 (4)	3 (1, 5)	<1,30
Total	440	4 (4)	3 (1, 5)	<1,30



Table 9 uses the definition of working part-time as working less than 30 hours on average per week and restricts the respondents to those who had engaged in veterinary work during the year 2015. This shows that 23% of respondents are working in part-time roles. Of the female respondents, 26% were working part-time and 17% of males were working part-time.

Table 9: Percent of respondents working part-time across gender and age groups

Age group	All				Female				Male			
	Number	Full time [#]	Part time [*]	% Part time	Number	Full time [#]	Part time [*]	% Part time	Number	Full time [#]	Part time [*]	% Part time
20-24yr	13	13	0	0%	9	9	0	0%	4	4	0	0%
25-29yr	172	156	16	9%	147	131	16	11%	25	25	0	0%
30-34yr	188	148	40	21%	162	124	38	23%	26	24	2	8%
35-39yr	203	132	71	35%	157	96	61	39%	46	43	3	7%
40-44yr	145	102	43	30%	101	61	40	40%	44	40	4	9%
45-49yr	148	114	34	23%	91	72	19	21%	57	51	6	11%
50-54yr	168	133	35	21%	83	70	13	16%	85	80	5	6%
55-59yr	121	96	25	21%	42	37	5	12%	79	73	6	8%
60-64yr	95	71	24	25%	42	25	17	40%	53	37	16	30%
65-69yr	60	41	19	32%	10	2	8	80%	50	31	19	38%
70+	39	30	9	23%	2	0	2	100%	37	12	25	68%
Total	1352	1036	316	23%	846	627	219	26%	506	420	86	17%

[#] Working 30 hours or more on average per week

^{*}Working less than 30 hours on average per week

3.5 Remuneration

Counts of survey respondents stratified by income category and gender are shown in Table 10. The same data by work hours (part-time, full-time), gender, employment category, type of practice, employment position and year of graduation are shown in Tables 11, 12, 13, 14, 15 and 16. Figure 3 gives a graphical representation of incomes across practice types.

Of the nine levels of income categories, the \$60,000 to \$80,000 and the \$80,000 to \$100,000 had the equal highest proportion of respondents. Fifty-three percent of males earned over \$100,000 per year compared with only 16% of females. This is confounded by the age profile as seen in Table 2 with most of the males being older and therefore more likely to be in a higher income category, and women more likely to be working part-time.

To investigate this issue further, an estimate of annual income was obtained for each respondent by taking the midpoint of their selected income category. For those in the >\$160k per year category, an annual income of \$200,000 was assigned. Annual income was converted into weekly earnings and the total number of hours worked per week was used to calculate the approximate amount earned per hour worked. Figure 4 is a box and whisker plot showing the distribution of remuneration per hour by age group and gender.



Table 10: Counts of respondents by annual income and gender

Income Category	Female	Male	Other	Total	Percentage
<20k	87	36		123	9%
\$20-\$40k	102	20	1	123	9%
\$40-\$60k	167	34	1	202	15%
\$60-\$80k	195	53	2	250	19%
\$80-\$100k	160	89		249	19%
\$100-\$120k	62	76		138	10%
\$120-\$140k	37	51		88	7%
\$140-\$160k	9	32		41	3%
>\$160k	25	102	1	128	10%
Total	844	493	5	1342	

Table 11: Counts of respondents by annual income category and gender (restricted to respondents working full-time)

Income Category	Female	% of Female	Male	% of males	Others	Full-time	% of Total
<20k	18	3%	8	2%		26	3%
\$20-\$40k	22	4%	4	1%	1	27	3%
\$40-\$60k	107	19%	24	6%		131	13%
\$60-\$80k	160	27%	37	9%	2	199	20%
\$80-\$100k	147	25%	85	21%		232	24%
\$100-\$120k	59	10%	70	17%		129	13%
\$120-\$140k	36	6%	47	12%		83	8%
\$140-\$160k	9	2%	31	8%		40	4%
>\$160k	25	4%	95	24%	1	121	12%
Total	583		401		4	988	



Table 12: Counts of respondents by annual income category and work hours

Income category	Part-time [#]	Full-time	Total
<20k	82	26	123
\$20-\$40k	94	27	123
\$40-\$60k	71	131	202
\$60-\$80k	50	199	250
\$80-\$100k	17	232	249
\$100-\$120k	8	129	138
\$120-\$140k	3	83	88
\$140-\$160k	1	40	41
>\$160k	6	121	128
Total	332	988	1342

[#] Less than 30 hours worked per week as a veterinarian

Table 13: Counts of respondents by annual income category and work role

Income Category	Govt ^a	Practice ^b	Industry	Laboratory	Locum	Research ^c	Other
<20k	6	59	3	0	10	9	32
\$20-\$40k	5	82	5	0	8	10	13
\$40-\$60k	7	173	0	0	10	3	9
\$60-\$80k	11	202	6	2	16	5	8
\$80-\$100k	19	175	10	7	10	12	16
\$100-\$120k	27	77	7	2	2	12	11
\$120-\$140k	25	36	10	1	0	12	4
\$140-\$160k	6	27	2	3	0	2	1
>\$160k	5	106	4	1	0	9	3
Total	111	937	47	16	56	74	97

^a Includes veterinarians employed by the commonwealth, state and local governments

^b Includes veterinarians in corporates, group and solo private practice

^c Includes veterinarians employed by universities



Table 14: Counts of respondents by annual income and practice type

Income categories	Solo practice	Multivet/location private practice	Large Corporate
<20k	16	40	2
\$20-\$40k	19	51	8
\$40-\$60k	9	143	12
\$60-\$80k	31	149	9
\$80-\$100k	25	124	11
\$100-\$120k	14	48	8
\$120-\$140k	2	25	1
\$140-\$160k	6	12	2
>\$160k	17	69	3
Total	139	661	56

Table 15: Counts of respondents and employment position

	Employed	Practice owner	Locum
<20k	42	15	12
\$20-\$40k	57	21	11
\$40-\$60k	153	19	11
\$60-\$80k	145	51	22
\$80-\$100k	105	68	12
\$100-\$120k	26	48	5
\$120-\$140k	12	23	2
\$140-\$160k	8	19	0
>\$160k	8	97	1
Total	556	361	76



Table 16: Income categories and year of graduation

	2016-2012	2011-2007	2006-2002	2001-1997	1996-1992	1991-1987	1986-1982	1981-1977	1976-1972	1971-1967	1966-1962
<20k	7	12	16	18	10	6	5	10	12	24	7
\$20-\$40k	9	19	24	30	8	11	8	6	10	6	3
\$40-\$60k	89	20	23	15	12	10	15	10	4	3	2
\$60-\$80k	40	70	33	25	17	17	26	10	10	1	1
\$80-\$100k	6	50	49	35	36	24	29	8	7	5	1
\$100-\$120k		7	24	14	18	18	27	19	6	4	
\$120-\$140k		5	11	11	10	15	23	4	6	3	
\$140-\$160k		3	4	2	5	5	10	4	7	1	
>\$160k		1	4	15	16	37	22	24	8		

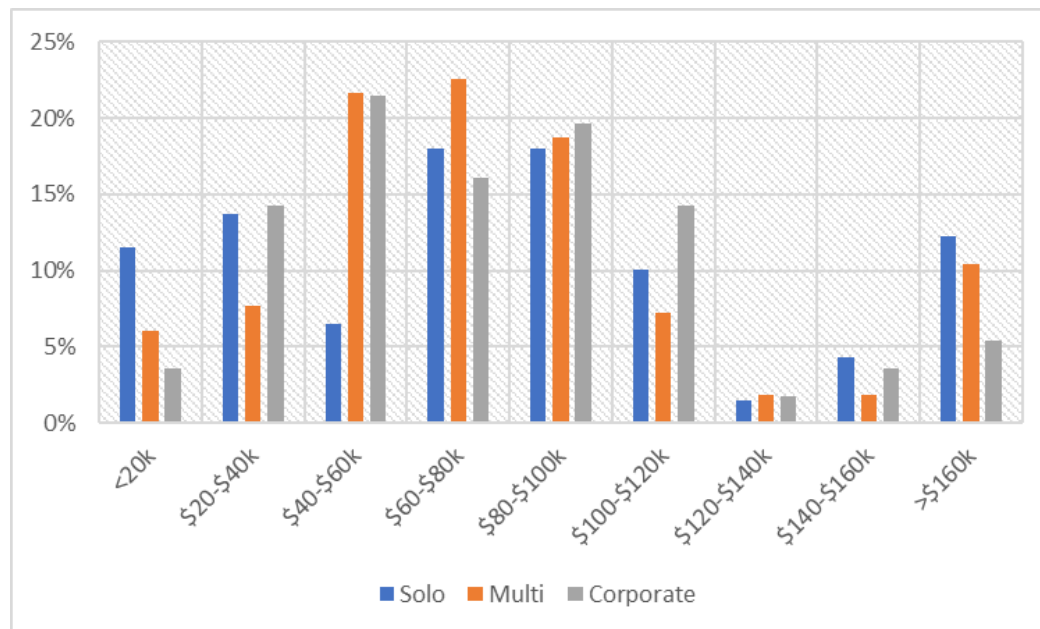


Figure 3: Graphical representation of income groups across practice types



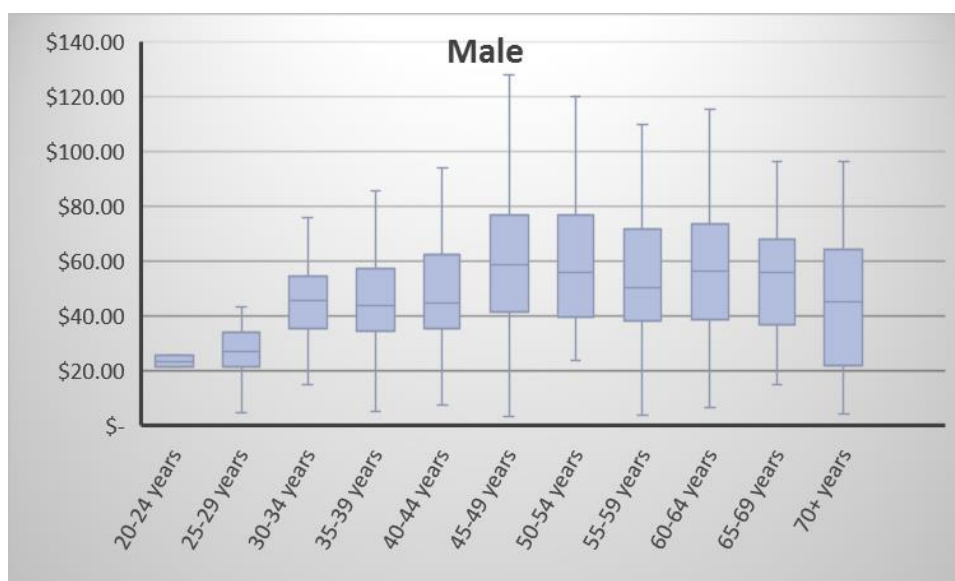
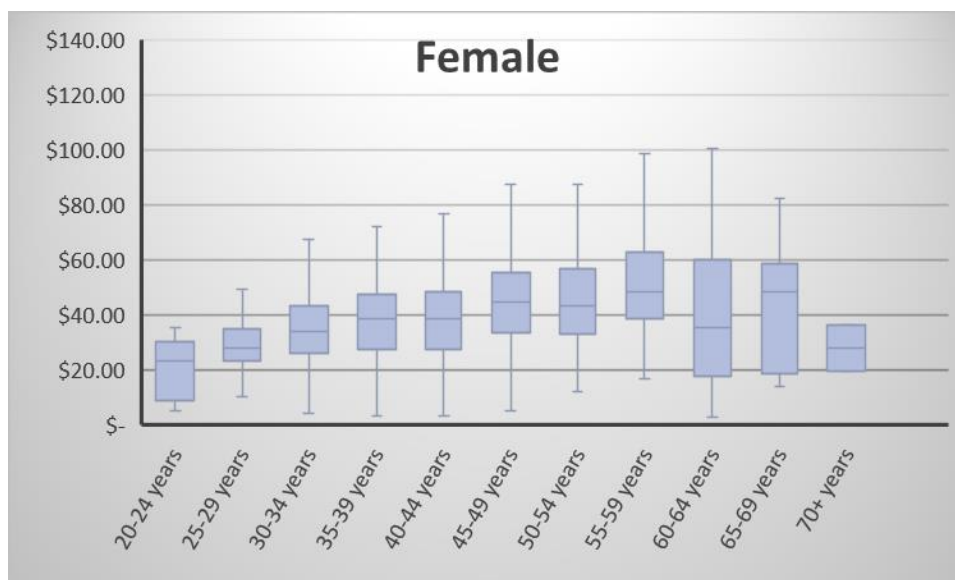


Figure 4: Box and whisker plot showing distribution of remuneration per age group and gender for the 2016 veterinary workforce survey. In the above plot the horizontal lines within the box represent the median amount earned per hour worked for each age group. The lower and upper bound of each box represents the 25th and 75th quartiles of the distribution of hourly remuneration.





3.6 Other demographics

Ten percent of graduates (n=164) obtained their primary veterinary degree overseas. Most overseas graduates are from the UK, Africa or New Zealand.

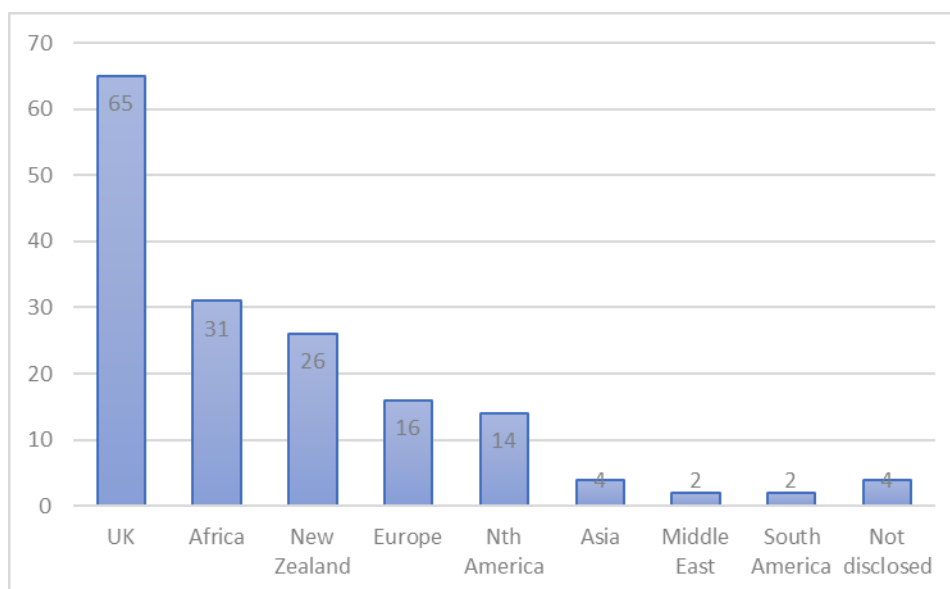


Figure 4: University where veterinary degree obtained if not in Australia

4. Acknowledgements

The Australian Veterinary Association thanks all veterinarians who took time to complete the 4th biennial workforce survey.

5. References

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