

Factors influencing administrative personnel and veterinarian turnover and compensation packages in rural mixed-animal practices over a 5-year period

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Abstract

Personnel management is one of the keys to developing and maintaining a successful veterinary practice. The research objective was to identify factors influencing administrative personnel and veterinarian turnover, as well as compensation packages of owners, new associates, and 10-year associates. A web-based questionnaire was sent to AVC and AABP list-serves consisting of approximately 2,007 members; 125 complete responses were received. Multivariable models were created using factors identified as associated with the outcome variables with a significance level of $P < 0.05$. Lower administrative personnel turnover was associated with the presence of veterinarian retirement plans, asset protection plans, new associate compensation packages, and the number of veterinarians leaving the practice. Lower veterinarian turnover was associated with veterinarian ownership and the number of administrative personnel leaving the practice. Higher owner compensation packages were associated with longer practice establishment, use of marketing plans, and more veterinarian annual vacation days. Higher compensation packages for 10-year associates were associated with the number of administrative personnel, more all-veterinarian and all-staff meetings, fewer veterinarian hours per week, more hiring of administrative personnel, and fewer administrative personnel leaving the practice. Administrative personnel and veterinarian turnover were impacted by business management practices and number of personnel.

Key words: economics, practice management, veterinary turnover; veterinary compensation

Introduction

Many factors play a role in recruiting, hiring, and retaining employees within the veterinary profession. The process of replacing an employee can affect customer satisfaction, business operations, and financial stability.⁷ Compensation

packages for new associates can impact the overall recruitment process for young professionals, especially with economic challenges related to high student debt burden. Total compensation also impacts employee retention, and while data exist on starting salaries of veterinary professionals, sparse data describe compensation packages for associates with practice experience and owner compensation packages.³ Understanding factors associated with compensation packages and earning potential could help job seekers and practice managers better manage the recruitment and retention process.

The predicted average growth rate for all occupations for 2018-2028 is 5%, but the veterinary profession has grown at a much faster rate of almost 20%.⁹ A growing number of positions and number of available veterinary personnel can lead to greater turnover. Understanding the factors that lower turnover rates is now more important than ever. Assuming that high levels of personnel turnover are undesired in most veterinary practices, manageable factors associated with personnel dynamics warrant exploration. Some veterinary practice consultants suggest that many veterinary practices fail to optimize practice management because they are not incorporating proven strategies that increase performance.⁴ A better understanding of specific associations among business practices and personnel longevity /compensation may generate useful guidance for veterinary practices.

Understanding turnover and compensation is important for all practices, but there is little information currently available to rural, mixed animal practices in these areas. The objective of this research is identifying business management factors potentially associated with administrative personnel and veterinarian turnover and compensation packages in rural practices over a 5-year period.

Materials and Methods

The survey was designed to determine if business management strategies and demographics have significant

impacts on personnel turnover and compensation packages. The questionnaire was designed by the research team and reviewed by the Kansas State University Institutional Review board and deemed exempt from needing full IRB review. This questionnaire was distributed on September 9, 2019 through list-serves at both the Academy of Veterinary Consultants (829 members) and the American Association of Bovine Practitioners (approximately 2007 members). There is an unknown number of duplicate subscribers between the 2 electronic lists. All survey responses were anonymous with no identifying questions asked, and all individual responses were confidential as stated on the survey form. Questionnaire responses were reviewed for completeness and outcome variables assessed for transformation for statistical analysis; incomplete responses were removed from the dataset.

Outcomes of administrative personnel turnover, veterinarian turnover, owner compensation package, new associate compensation package, and 10-year associate compensation package were created for use in model statistics. Questions were asked in the survey for the current number of veterinary technicians, administrative personnel, and licensed veterinarians. Each class of employee was not defined in the survey. Questions were only asked on the number of personnel from 5 years ago in administrative personnel and licensed veterinarians; therefore, turnover statistics could only be calculated on these 2 categories. Administrative turnover was a continuous variable created using the number of administrative personnel that left in the last 5 years divided by the current number of administrative personnel. Practices with no (0) current administrative personnel were removed from this portion of the analysis due to the inability to divide by zero. The outcome of veterinarian turnover was a continuous variable created from the number of licensed veterinarians that left in the last 5 years divided by the current number of licensed veterinarians. Survey responses for compensation packages (in US dollars) were categorized in \$5,000 intervals from <\$40,000 to ≥\$250,000, and a continuous variable was created utilizing the median of the \$5,000 interval categories in the models of new associate, 10-year associate, and owner compensation packages. The total compensation package was defined in the survey as the salary plus the value of benefits. Several variables used in the statistical models were categorized prior to analysis due to hypothesized potential non-linear relationships with the outcomes of interest and outliers in the data. A list of variables included in the final models for each of the outcomes is shown in Table 1. A complete list of survey questions is available in the supplementary material.

Data were imported into a statistical software package (R Studio) for analysis. Univariate generalized linear models were created for each potential factor and outcome of interest, and a final multivariable model was created using factors identified as associated with the outcome variables with a significance level of $P < 0.10$. The final models were generated through an iterative process to include only factors associated with the outcomes at $P < 0.05$. Both Akaike

Information Criterion and Bayesian Information Criterion were applied in the model selection process.

Results

There were 281 respondents engaged in work at a veterinary practice; after removing respondents with incomplete responses, 125 survey responses were analyzed. These data indicated practices responding to the survey were all from the US and on average (\pm St Dev), employed 3.8 (\pm 8.6) administrative staff members, 3.7 (\pm 3.0) licensed veterinarians, and 4.2 (\pm 4.9) veterinary technicians. Respondent veterinarians worked an average of 48.9 (\pm 11.6) hours per week. The average number of veterinarians having ownership of the practice averaged 1.9 (\pm 1.3). Practices from 31 different states responded to the questionnaire with most (37.3%) being located in Iowa, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota. Practices were established between 1917 and 2019, but the majority (35.7%) were established between 1971 and 1990. Additionally, a majority (59.5%) of the practices were located in communities of less than 5,000 people.

Respondents were asked to indicate how many administrative and veterinarian personnel had left the practice and how many were hired in the previous 5 years. On average, respondents indicated 3.6 (\pm 5.3) administrative personnel and 1.3 (\pm 1.8) veterinarians had left the practice in the past 5 years. Additionally, a per-practice average of 5.5 (\pm 7.3) administrative personnel and 2.2 (\pm 2.5) veterinarians were hired in the past 5 years. Administrative personnel turnover (administrative personnel left/current administrative personnel) over a 5-year period ranged from 0 to 12 with a median of 0.92. For example, if 2 administrative personnel left in the past 5 years, and the current number of administrative personnel is 2, then the practice 5-year turnover would be 1.0; the administrative personnel turnover would then be 20% on an annual basis. A graph of administrative personnel turnover is presented in Figure 1. Veterinarian turnover over a 5-year period (veterinarians left/current veterinarians) ranged from 0 to 7 with a median of 0.33. For example, if 1 veterinarian left in the last 5 years, and the current number of veterinarians is 3, then the practice 5-year turnover would be 0.33; the veterinarian turnover would then be 6% turnover on an annual basis. A graph of veterinarian turnover is presented in Figure 2. Several factors identified in the survey were significantly associated with administrative personnel and veterinarian turnover (Table 2). Model output indicates the predicted amount of turnover over a 5-year period.

Administrative personnel turnover (5-year) was associated with the practice including a retirement plan for veterinarians ($P = 0.02$), use of an asset protection plan through business or corporate structuring ($P = 0.03$), the number of veterinarians that left in the past 5 years ($P < 0.01$), and new associate compensation packages ($P = 0.02$). The presence of a veterinarian retirement plan was associated with lower

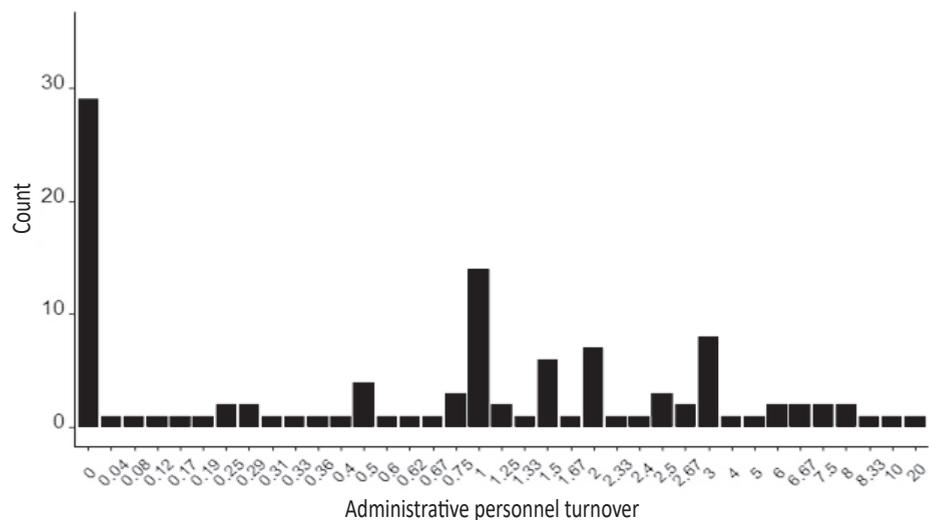
administrative personnel turnover (2.76 ± 0.51) compared to practices that did not offer a veterinarian retirement plan (4.11 ± 0.6). The use of an asset protection plan through business or corporate structuring was associated with lower administrative personnel turnover (2.65 ± 0.42) when compared to practices without an asset protection plan through business or corporate structuring (4.22 ± 0.73). The number

of veterinarians that left in the past 5 years was positively associated with administrative personnel turnover. Practices having no veterinarians leave experienced less administrative personnel turnover (1.9 ± 0.52) compared to practices that lost 4 or more veterinarians (6.16 ± 1.1). The compensation packages of new associates was associated with the amount of administrative personnel turnover. New associate compensa-

Table 1. A list of variables utilized in final model predictions to determine if business management and practice demographics influence personnel turnover and compensation and the type of data utilized.

Survey question	Original variable	Model variable
How many administrative personnel and non-staff are in your practice?	Continuous	0, 1, 2, 3, ≥ 4
Of the DVMs in your practice, how many of them have ownership in the practice?	Continuous	0-1, >1-2, ≥ 3
What year was your practice established?	Continuous	<1950, 1950-1970, 1971-2010, ≥ 2011
Does your practice use a marketing plan?	Yes/No	Yes/No
What is the total compensation package for a new veterinary associate in your practice? (salary plus value of benefits)	\$5,000 increments from <40,000 to $\geq 250,000$	<\$55,000, \$55,000-\$64,999, \$65,000-\$74,999, \$75,000-\$84,999, $\geq 85,000$
Does your practice offer a retirement plan for veterinary associates?	Yes/No	Yes/No
Does your practice have an asset protection plan through business or corporate structuring? (eg, LLC, Inc)	Yes/No	Yes/No
How often does your practice have a meeting with all the veterinarians in your practice?	Daily, Weekly, Monthly, Annually, Never	Daily, Weekly, Monthly, Annually, Never
How often does your practice have a meeting with the entire practice staff?	Daily, Weekly, Monthly, Annually, Never	Daily, Weekly, Monthly, Annually, Never
How many annual vacation days do veterinary associates in your practice receive?	0, 1-7, 8-14, 15-20, 21-27, ≥ 28	0, 1-7, 8-14, 15-20, 21-27, ≥ 28
On average, how many hours does a veterinary associate work per week in your practice? (one value, not a range)	Continuous	<45, 45-49, 50-54, 55-59, 60-64, ≥ 65
In the last 5 years, how many veterinary associates have left your practice?	Continuous	0, 1, 2, 3, ≥ 4
In the last 5 years, how many staff members have been hired in your practice?	Continuous	0, 1-2, 3, 4-5, ≥ 6
In the last 5 years, how many staff members have left your practice?	Continuous	0, 1, 2, 3, ≥ 4

Figure 1. A distribution of the administrative personnel turnover from a survey of AABP and AVC members (n=125) with a mean of 1.77. Administrative turnover was a continuous variable created using the number of administrative personnel that left in the last 5 years divided by the current number of administrative personnel. Practices with no (0) current administrative personnel were removed from this portion of the analysis due to the inability to divide by zero. Note: the x-axis is scaled to show all responses.



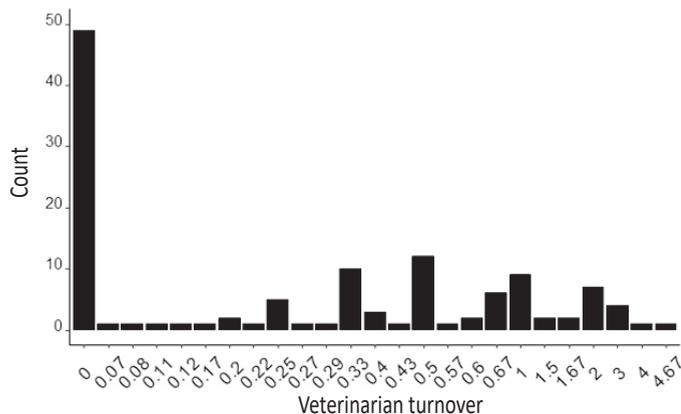


Figure 2. A distribution of the veterinarian turnover from a survey of AABP and AVC members (n=125) with a mean of 0.56. Veterinarian turnover was a continuous variable created from the number of licensed veterinarians that left in the last 5 years divided by the current number of licensed veterinarians. Note: the x-axis is scaled to show all responses.

tion packages of <\$55,000 saw less administrative turnover (2.5 ± 1.3) than practices offering new associate compensation packages of \$75,000-\$84,999 (4.4 ± 3.2).

Veterinarian turnover (5-year) was associated with the number of veterinarians with ownership ($P < 0.01$) and the number of administrative personnel that left in the past 5 years ($P = 0.03$). The number of veterinarians with ownership at a practice had a significant association with veterinarian turnover; practices with 1 or less veterinarians with ownership experienced more veterinarian turnover (0.77 ± 0.10) compared to practices with 3 or more veterinarians with ownership (0.22 ± 0.17). Additionally, as the number of administrative personnel that left in the past 5 years increased, so did the level of veterinarian turnover. Practices having no administrative personnel leave were associated with less veterinarian turnover (0.17 ± 0.14) compared to practices having 4 or more administrative personnel leave (0.75 ± 0.13).

Respondents were asked to indicate the total compensation package (in US dollars) for owners, new associates, and 10-year associates. Available total compensation package categories started at <\$40,000 and increased by \$5,000

increments to $\geq \$250,000$. Owner compensation packages ranged from <\$40,000 to $\geq \$250,000$, with the median falling in the category of \$125,000 to \$129,999. A summary of the owner compensation packages is presented in Figure 3. Compensation package categories for new associates ranged from <\$40,000 to \$105,000-\$109,999. The median compensation package for new associates was in the \$75,000 to \$79,999 category. This breakdown of new associate compensation packages is shown in Figure 4. Ten-year associate compensation package categories ranged from \$85,000-\$89,999 to \$170,000-\$174,999, with a median in the \$100,000-\$104,999 category. A summary of the 10-year associate compensation packages is presented in Figure 5. Several factors in the survey were significantly associated with the outcomes of owner compensation, new associate compensation, and 10-year associate compensation packages (Table 3). Model output indicated the predicted compensation packages.

Owner compensation packages were associated with the year of establishment ($P < 0.01$), use of a marketing plan ($P < 0.01$), and the number of annual vacation days per veterinarian ($P = 0.01$). A practice's year of establishment was positively associated with the owner's compensation package. The longer a practice had been in operation, the larger the owner compensation package; practices established before 1950 indicated an owner compensation package of \$147,744 ($\pm \$16,181$) compared to those established in 2011 or later at \$111,421 ($\pm \$14,135$). Practices that noted use of a marketing plan reported a significant increase in the owner's compensation package (\$164,380 \pm \$11,828) compared to those practices that did not use a marketing plan (\$133,903 \pm \$9,035). The number of annual vacation days per veterinarian also showed a significant positive association with owner's compensation packages. Respondents indicating 1 to 7 annual vacation days per veterinarian reported significantly smaller owner compensation packages (\$128,436 \pm \$12,151) compared to those reporting 28+ annual vacation days per veterinarian (\$240,781 \pm \$31,098).

Compensation packages for new associates were associated with the number of administrative personnel ($P < 0.01$), use of a marketing plan ($P = 0.02$), frequency of an all-staff meeting ($P < 0.01$), the number of annual vacation days per veterinarian ($P < 0.01$), and the number of administrative personnel hired in the past 5 years ($P < 0.01$). The compensation package for new associates was positively associated

Table 2. Summary of factors that were associated with administrative personnel and veterinarian turnover in a 5-year period from a survey of AVC and AABP members (n=125).

Administrative personnel turnover	Offer veterinarian retirement plan	P = 0.02
	Have asset protection plan	P = 0.03
	Number of veterinarians left in the past 5 years	P < 0.01
	New associate compensation package	P = 0.02
Veterinarian turnover	Number of DVMs with ownership	P < 0.01
	Number of staff left in the last 5 years	P = 0.03

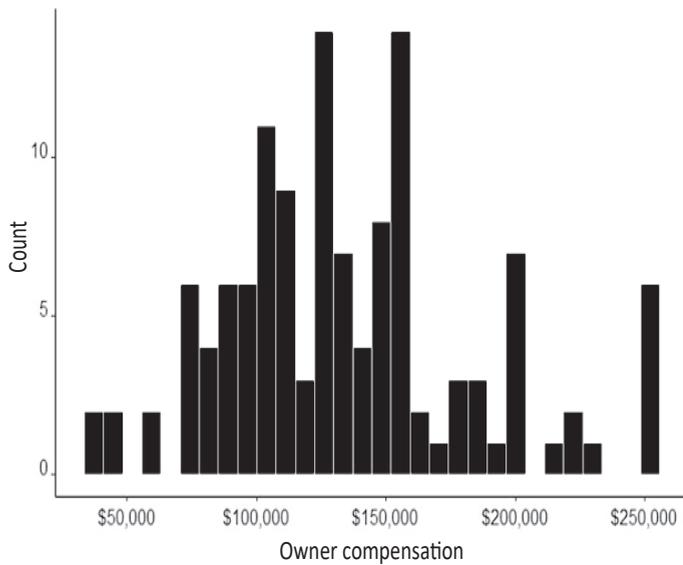


Figure 3. The distribution of owner compensation package from respondents of a survey of AABP and AVC (n=125) members regarding business management strategies with a mean of \$134,820 (USD).

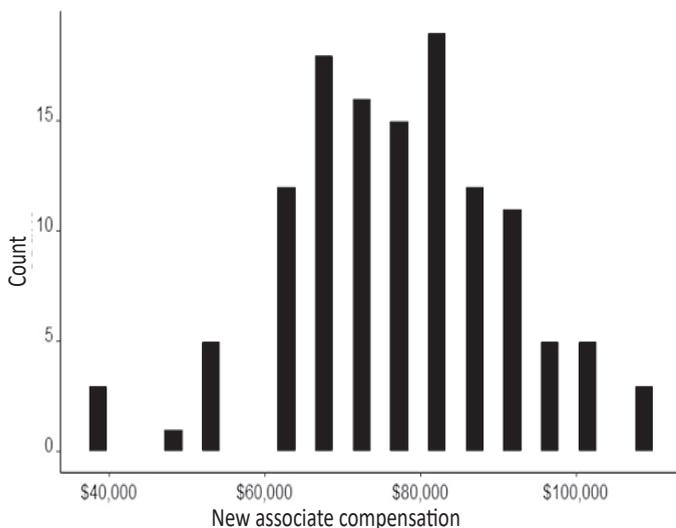


Figure 4. The distribution of new associate compensation package from respondents of a survey of AABP and AVC (n=125) members regarding business management strategies with a mean of \$77,340 (USD).

with the number of administrative personnel; practices with no administrative personnel indicated a new associate compensation package of \$65,185 (\pm \$3,595) compared to those with 4+ administrative personnel at \$78,185 (\pm \$2,953). Respondents that indicated the use of a marketing plan at the practice were associated with higher compensation packages for new associates (\$78,384 \pm \$2,964) compared to respondents without a marketing plan (\$72,424 \pm \$2,279). The frequency of an all-staff meeting showed more frequent meetings were associated with increased compensation for new associates; practices with daily staff meetings reported

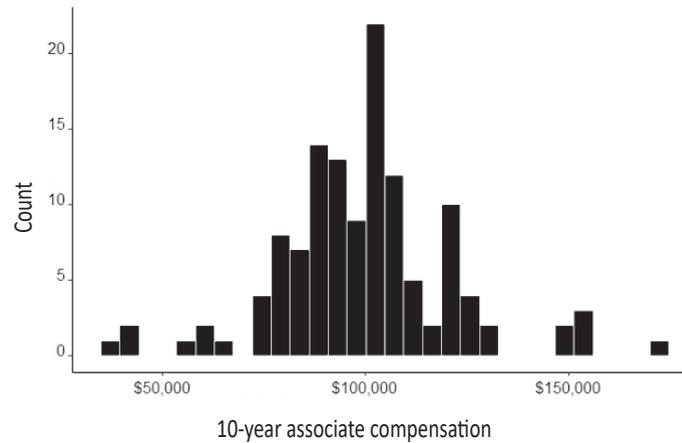


Figure 5. The distribution of 10-year associate compensation package from respondents of a survey of AABP and AVC (n=125) members regarding business management strategies with a mean of \$99,460 (USD).

\$80,734 (\pm \$4,507) in new associate compensation. The number of annual vacation days per veterinarian was associated with an increase in new associate compensation packages; practices offering no annual vacation days per veterinarian showed new associate compensation packages of \$52,670 (\pm \$7,944) compared to those offering 28+ annual vacation days per veterinarian at \$93,220 (\pm \$7,936). Additionally, the number of administrative staff hired during the previous 5 years was associated with larger new associate compensation packages, with those having hired 4 or 5 administrative personnel experiencing the largest new associate compensation packages (\$85,550 \pm \$3,160).

Compensation packages for 10-year associates were associated with number of administrative personnel ($P < 0.01$), frequency of an all veterinarian meeting ($P < 0.01$), frequency of an all-staff meeting ($P = 0.01$), the average hours per week per veterinarian ($P < 0.01$), number of administrative personnel hired in the past 5 years ($P < 0.01$), and number of administrative personnel that left in the past 5 years ($P < 0.01$). The number of administrative personnel at a practice was significantly associated with 10-year associate compensation packages, with practices having only one administrative personnel experiencing the largest compensation package (\$104,774 \pm \$3,005). An increased frequency of an all-veterinarian meeting was associated with an increase in 10-year associate compensation packages; practices with daily meetings reported a compensation package of \$104,127 (\pm \$63,879) compared to practices that never had an all-veterinarian meeting at \$89,548 (\pm \$4,753). The frequency of an all-staff meeting also was associated with the compensation packages for 10-year associates with monthly meetings resulting in the largest packages (\$102,548 \pm \$2,613). The average number of hours per week per veterinarian was associated with a larger compensation package; veterinarians working 65+ hours per week received \$115,955 (\pm \$5,196)

Table 3. Summary of factors that were associated with outcomes of owner compensation, new associate compensation, and 10-year associate compensation from a survey of AVC and AABP members (n=125).

Owner compensation	Year established	P < 0.01
	Use of a marketing plan	P < 0.01
	Number of annual vacation days per veterinarian	P = 0.01
New associate compensation	Number of administrative personnel	P < 0.01
	Use of a marketing plan	P = 0.02
	Frequency of an all-staff meeting	P < 0.01
	Number of annual vacation days per veterinarian	P < 0.01
	Number of administrative personnel hired in the past 5 years	P < 0.01
Ten-year associate compensation	Number of administrative personnel	P < 0.01
	Frequency of an all-veterinarian meeting	P = 0.01
	Frequency of an all-staff meeting	P < 0.01
	Average hours per week per veterinarian	P < 0.01
	Number of administrative personnel hired in the past 5 years	P < 0.01
	Number of administrative personnel that left in the past 5 years	P < 0.01

compared to those working less than 44 hours per week at \$76,960 (\pm \$3,236). The more administrative personnel a practice hired in the last 5 years, the larger the 10-year associate compensation package. Practices having hired no administrative personnel noted significantly smaller compensation packages (\$74,858 \pm \$5,893) compared to those having hired 4 to 5 administrative personnel in the past 5 years (\$116,510 \pm \$3,674). Finally, the more administrative personnel that left in the past 5 years, the smaller the 10-year associate compensation package. Practices that had no administrative personnel leave offered \$111,542 (\pm \$4,196) compared to those having 4+ administrative personnel leave offered \$86,655 (\pm \$4,638).

Discussion

This survey reveals that veterinary and administrative personnel turnover was associated with several factors: offering a veterinarian retirement plan, utilizing an asset protection plan, the number of veterinarians and administrative personnel that left in the past 5 years, new associate compensation package, and the number of veterinarians with ownership in the practice. The turnover rates from these data were calculated over a 5-year period, but the averages for administrative personnel and veterinarians was 1.8 and 0.56, respectively. These averages converted into an annual percentage base equate to 36% for administrative personnel and 11% for veterinarian turnover. The average turnover rate for all jobs in the U.S. range from 12% to 15% on an annual basis.⁸ The growth rate for US occupations is 4%; the growth rate for occupations in the veterinary field is much higher at 16%.⁹ In addition to the increase in jobs, the number of graduates from veterinary colleges has increased roughly 1.8% per year in the past 30 years.² As more jobs become available and more graduates are seeking full-time employment, job turnover could also increase over time.

This study identified potential management factors associated with employee turnover: utilizing an asset protection plan, sharing practice ownership, offering retirement plans, and knowing the number of employees leaving over time. A report from the *Advances in Economics and Business Journal* noted a positive relationship between organizational culture and management on the commitment and retention of employees.⁶ The way a practice is operated is not only important for financial success, but also for the culture and wellbeing of its employees.

The 2018 AVMA Report on The Market for Veterinary Services indicated mixed animal practice owners reported an average of \$134,000 in income and owners of predominantly food animal practices reported an average of roughly \$95,000 in income for 2016.¹ The data did not describe owner compensation by primary practice activities, but with a large percentage of respondents being from Midwest states, food animal practices and mixed animal practices would likely represent a large proportion of the data. The average owner compensation in their survey was \$134,820. Additionally, the report indicated associate compensation packages for food animal predominate practices were around \$75,000, and mixed animal practices slightly above \$70,000.¹ This questionnaire asked for both new and 10-year associate compensation packages; new associates average \$77,340 and 10-year associates average \$99,460.

Based on the associations we found in our survey, possible business management practices to implement in order to decrease personnel turnover and improve compensation ability could be use of a marketing plan, increased frequency of employee meetings, and a reasonable amount of annual vacation days and hours worked per week. The AVMA's Brakke business management and behavior study found several business management practices to be associated with overall incomes of practices; additionally, an increase in compensation was seen among practice owners, staying

longer at a practice, and working more hours per week.⁵ Several business management factors were associated with compensation packages within this study, along with staff numbers and turnover rates.

There were several inherent weaknesses related to level of detail in the questions and responses used in this survey. Several question topics, such as use of a marketing plan, were not clearly defined by multiple categories in the questionnaire sent to AVC and AABP members. Respondents that indicated practices were using a marketing plan could range from a well-structured and implemented marketing plan to simply having discussions around marketing with no actions taken. Additionally, as with all cross-sectional survey data, we are unable to determine causation among the outcomes of interest and the associated factors. A larger study including additional practice profitability indicators may better identify factors associated with personnel turnover and compensation levels.

Within the outcomes of administrative personnel and veterinarian turnover, business management practices and personnel numbers were found to be important factors. Additionally, numerous business management practices were found to be important factors when evaluating compensation packages for new associates, 10-year associates, and practice owners.

Conclusions

Understanding the many factors that impact turnover and compensation is important to all practices, but especially those in rural areas that could be experiencing a workforce shortage. This information provides a better understanding of business management factors that may impact both financial compensation and employee retention in veterinary practices and fuels future research to determine primary causal factors for these outcomes.

Acknowledgements

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