JOURNAL OF
SHELTER MEDICINE &
COMMUNITY ANIMAL HEALTH

ORIGINAL RESEARCH ARTICLE

Unlocking Collaborative Dynamics: Exploring Veterinarian-Leadership Relationships in Animal Shelters

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Abstract

***Introduction*:** Veterinarians and organizational leaders play crucial roles in the success of animal shelters. Although both groups share a common mission, differing priorities and perspectives may lead to challenges that affect organizational success. This study explored attitudes of veterinarians and leaders toward collaboration and provides recommendations to enhance organizational effectiveness.

***Methods*:** An online survey collected data from 179 veterinarians and leaders of animal sheltering organizations on attitudes toward veterinarian-leader collaboration between June and August 2023. A composite score of Likert-type items measured attitudes toward veterinarian-leader relationship effectiveness (ATVLRE). Statistical tests compared responses across groups, while qualitative analysis identified recurring themes.

***Results*:** Differences were identified in ATVLRE among non-veterinarian leaders, veterinarian leaders, and veterinarian non-leaders. Non-veterinarian leaders reported the highest positive ATVLRE (M = 4.0, SD = 0.6), followed by veterinarian leaders (M = 3.7, SD = 1.0) and veterinarian non-leaders (M = 3.1, SD = 0.9). Statistically significant differences were found between these groups, particularly between non-veterinarian leaders and veterinarian non-leaders (Cohen d = 1.1). The most reported challenge for veterinarian non-leaders was 'lack of effective communication' (70%; n = 31/44), compared to veterinarian leaders (54%; n = 27/50) and non-veterinarian leaders (27%; n = 22/27). Additionally, 'differences in priorities or conflicting goals' were the top challenge for veterinarian leaders (66%; n = 33/50), while non-veterinarian leaders most frequently cited 'managing expectations and demands' (55%; n = 45/82). Communication was the primary contributor to successful relationships across all groups (68%; n = 122/179).

***Conclusion*:** This study revealed distinct attitudes within animal shelters and identified the critical role of communication in effective collaboration. Despite divergent attitudes, all groups emphasized constructive communication for fostering successful veterinarian-leader relationships. Understanding role-based perceptions can guide strategies to enhance organizational effectiveness and improve animal welfare.

Keywords: *veterinarian*; *leadership*; *shelter medicine*; *animal shelter*; *communication*

Received: 21 June 2024
Revised: 1 November 2024
Accepted: 19 November 2024
Published: 10 January 2025

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The success of animal shelters in the United States and Canada hinges on the collaborative relationship between veterinarians and organizational leaders, each with distinct but complementary responsibilities. Traditionally, leaders focus on areas such as strategic direction and financial viability, while veterinarians are responsible for the health and welfare of shelter and community animals.[1–3] In some cases, veterinarians also take on leadership roles, balancing medical decision-making with broader organizational needs.[4] While veterinarian non-leaders, veterinarian leaders, and non-veterinarian leaders share the common goal of advancing animal welfare,[5] their differing responsibilities can result in contrasting priorities,[6,7] where veterinarians may prioritize immediate animal care, and non-veterinarian leaders may prioritize long-term strategies and resource allocation. Veterinarian leaders, who must integrate both sets of responsibilities, must navigate both sets of demands. These varying priorities can create misalignment, which may impede collaboration and compromise organizational effectiveness as decisions and actions are approached from different vantage points.

Effective collaboration is vital, given the complex internal and external dynamics that animal shelters must

Citation: Journal of Shelter Medicine and Community Animal Health 2025, **4**: 108 - http://dx.doi.org/10.56771/jsmcah.v4.108

navigate. Approximately 6.5 million animals enter U.S. shelters annually,[8] creating challenges that require constructive collaboration among veterinarian non-leaders, veterinarian leaders, and non-veterinarian leaders. Managing limited funding and staffing, navigating public expectations, and triaging medical care are just some areas where alignment between these roles is critical.[9] This necessity for collaborative relationships mirrors human healthcare settings, where the quality of interactions between medical professionals and leaders can influence individual, group, and organizational outcomes.[10–12] Moreover, work environments characterized by positive relationships boast workers who report increased performance,[13] job satisfaction,[14–17] organizational commitment,[18] and overall well-being,[14] illustrating the impact that attitudes and perceptions toward work relationships can have within the context of animal shelter operations.[19,20]

This study explored the attitudes of veterinarian non-leaders, veterinarian leaders, and non-veterinarian leaders toward the elements that define a successful collaboration within the unique context of animal shelters. By examining the key relational factors from the perspectives of all three roles, our research endeavors to shed light on the complexities of collaborative shelter dynamics. To frame these relationships, we utilized the Leader-Member Exchange (LMX) Theory,[21,22] which emphasizes the importance of the quality of the relationship between leaders and their team members. According to LMX, the nature of leader-member interactions can significantly affect perceptions of communication, alignment with organizational goals, and overall satisfaction – factors that are crucial to effective shelter operations. This study, though focused on shelter veterinarians, has implications for all fields of veterinary medicine.

Through this exploration, we sought to bridge a notable gap in existing research by offering a foundational analysis of the attitudes and perceptions of veterinarian non-leaders, veterinarian leaders, and non-veterinarian leaders toward the effectiveness of their relationship within animal shelters. Understanding these attitudes is essential in laying the groundwork for future research and practical applications aimed at elevating animal welfare practices, improving veterinary professional well-being, and positively impacting animals and communities alike. Strategic interventions, such as deep listening,[23–25] and fostering high-quality leader-member relationships are offered to address perceived communication challenges within these critical relationships.

Methods

This study focused on understanding the dynamics of the relationship between animal shelter leaders and veterinarians to identify attitudes and perceptions toward successful collaborations. A mixed methods approach was used, and combining qualitative and quantitative data was collected through an online survey from individuals in veterinarian and leader positions at animal shelter organizations. Qualitative data obtained through open-ended text questions in the survey allowed respondents to provide in-depth insights into their experiences and perspectives and provided context for the quantitative findings. Quantitative data obtained through specific survey items allowed for the identification of key elements that contribute to effective collaboration and examination of the differences between the groups.

Data collection

This study employed an online survey platform (Google Forms) and targeted a convenience sample of individuals currently or formerly occupying leadership or veterinarian roles in animal shelters across the United States and Canada. Distributed primarily via email through professional networks, participants were encouraged to further share the survey with eligible colleagues. Additionally, the survey was promoted on veterinary and animal shelter professional social media sites, as well as during meetings with Maddie's Fund® Weekly Community Conversations, which targeted leaders nationally, and the Cal4ALL® initiative at UC Davis Shelter Medicine Program, which focused more specifically on California.

Responses were collected anonymously to ensure participant confidentiality, with the survey available for completion over a 2-month period from June 13th to August 22nd, 2023. Respondents were advised to take 20 min to complete the survey, and participation was restricted to one response per email account to maintain data integrity. The entire survey is available in the Supplementary materials.

Survey design

The survey was developed using an iterative process that included review and feedback from the following: a CEO of an animal shelter organization, a CEO of a nonprofit animal sheltering organization, an executive director of a municipal animal control facility, an academic and shelter veterinarian, a Diversity, Equity, and Inclusion expert, and a survey methodology expert. This group served as an ad hoc ethics committee to ascertain that the research complied with ethical standards. Participation in the survey was entirely voluntary and anonymous, with no incentives. No personally identifiable information was collected, ensuring confidentiality and privacy. Informed consent was obtained implicitly, as participants chose to complete the survey after being informed about the study's purpose.

The survey included 43 items, but due to the implementation of branching logic, 25 items were presented to veterinarians, and 22 items were presented to leaders.

Seven Likert-type items were presented to both veterinarians and leaders to indicate their positive or negative sentiment regarding aspects of their working relationship. Three Likert-type items were presented only to veterinarians regarding how their organization prioritized the health and well-being of veterinarians, and how valued and respected they felt. Two text-entry items were presented to all respondents encouraging them to share their perspectives on what makes a veterinarian-leader relationship function successfully and to identify key challenges to their relationship. Respondents were also asked to share demographic information, specifically the type of organization they are affiliated with, their organization's annual intake and operating budget, their organization's geographic area, the number of years spent working in Veterinary Medicine, and the number of years spent working with their current organization leaders.

The survey includes several elements that align with key components of LMX. Survey items such as 'Leadership feedback frequency', 'Communication clarity understanding', and 'Resource adequacy' provide insight into the quality of interactions and support experienced by veterinarians – dimensions that are relevant to LMX. By analyzing these elements, we aimed to explore how they might reflect the quality of leader-member relationships within animal shelters.

For this study, we included veterinarians and those in formal or perceived leadership roles in animal sheltering organizations. Respondents first indicated whether they were veterinarians. Veterinarians were then asked if they held a leadership role, defined as 'engagement in management or decision-making capacities within the organization'. This approach allowed veterinarian respondents to self-identify as leaders or non-leaders based on their role's influence and responsibilities, recognizing that formal titles may not capture the extent of an individual's impact on organizational decisions. Exclusion criteria were based on respondents' stated role within the organization (i.e. veterinary technicians were excluded from the analysis if they did not hold a leadership role).

Qualitative analysis

To categorize qualitative responses regarding factors contributing to a successful working relationship, we systematically identified recurring themes by following the deductive thematic analysis framework outlined by Naeem et al.[26] The process began with familiarization and identification of initial patterns. During this phase, researchers took detailed notes to capture initial impressions of the data. Key terms representing participants' responses were identified and grouped by related concepts to form preliminary categories.

We used an Excel spreadsheet to log all raw data and detail the team's progress throughout the coding and theme development stages. Each response was reviewed, and important sections of text were identified, with labels attached to index these sections. The coding process involved establishing explicit boundaries for each code.

Debriefing sessions were held regularly, during which all authors discussed methodology and theoretical reasons for coding decisions. After establishing criteria for each category, responses were coded to quantify the prevalence of each category. We then reviewed the categories to identify connections, which guided the development of broader themes.

The final themes identified were communication, decision-making, shared vision and goals, deference, and trust. Responses coded under the theme of communication were further analyzed to determine prominent key terms and attributes participants used to define successful communication.

Quantitative analysis

To determine whether there were disparities in the quality of LMXs across different roles, we compared responses among veterinarian non-leaders, veterinarian leaders, and non-veterinarian leaders. This comparative analysis aimed to identify any significant differences in LMX-related factors, such as feedback frequency, communication clarity, and resource adequacy, to better understand relationship dynamics within the organization.

As reported earlier, seven Likert-type items were similarly presented to both groups and measured attitudes toward aspects of the veterinarian-leader partnership. These items were combined using the average of the responses to create a composite variable. Five of the respondents did not complete all seven items; however, those who answered at least four of the seven items were included in the composite (n = 178). Exploratory factor analysis was used, and it was determined that the seven items measured one factor: attitude toward veterinarian-leader relationship effectiveness (ATVLRE), where a higher score indicated a more positive attitude. This ATVLRE composite was used as the dependent variable in subsequent analyses. In addition, 17 items were analyzed using descriptive statistics.

Data were analyzed using the Python[27] programming language along with NumPy,[28] SciPy,[29] pandas,[30] FactorAnalyzer,[31] statsmodels,[32] Pingouin,[33] Matplotlib,[34] and seaborn[35] libraries to generate descriptive statistics, tests, and visualizations.

Results

Characteristics of survey respondents

Respondents' demographic characteristics are presented in Table 1.

Table 1. Demographic characteristics of total population stratified by organizational role

Variable	Level	Total		Organizational role					
				Non-veterinarian leaders		Veterinarian leaders		Veterinarian non-leaders	
		n	%	*n*	%	*n*	%	*n*	%
Affiliated organization type	Government animal control agency	61	35	34	41	15	30	12	27
	Nonprofit animal welfare organization WITHOUT animal control contract(s)	60	34	29	35	16	32	15	34
	Nonprofit animal welfare Organization WITH animal control contract(s)	48	27	15	18	17	34	16	36
	Nonprofit animal welfare organization WITHOUT shelter facility	3	2	3	4	0	0	0	0
	For-profit animal services organization	2	1	1	1	0	0	1	2
	University	1	1	0	0	1	2	0	0
	Low cost care facility with rescue	1	1	0	0	1	2	0	0
Affiliated organization annual operating budget	<$100,000	3	2	2	2	1	2	0	0
	$100,000–$499,999	8	5	5	6	2	4	1	3
	$500,000–$999,999	10	6	9	11	0	0	1	3
	$1,000,000–$4,999,999	57	34	28	34	17	36	12	32
	$5,000,000–$9,999,999	36	22	19	23	8	17	9	24
	$10,000,000–$24,999,999	28	17	12	15	11	23	5	13
	>$25,000,000	25	15	7	9	8	17	10	26
Affiliated organization annual animal intake	<500	8	5	6	7	2	4	0	0
	500–999	9	5	6	7	1	2	2	5
	1,000–4,999	62	36	30	37	15	31	17	41
	5,000–9,999	43	25	23	28	13	27	7	17
	10,000–24,999	33	19	14	17	10	20	9	22
	25,000+	17	10	3	4	8	16	6	15
Affiliated organization geographic area	Great Plains (ND, SD, MN, NE, IA, KS, MO)	2	1	1	1	1	2	0	0
	International	9	5	1	1	6	12	2	5
	Mid-Atlantic (MD,VA, DC, NC,TN)	20	11	12	15	6	12	2	5
	Midwest (WI, MI, IL, IN, OH, WV, KY)	18	10	12	15	2	4	4	9
	Mountain (MT, ID,WY, NV, UT, CO,AZ, NM)	23	13	8	10	7	14	8	18
	Northeast (ME,VT, NH, MA, RI, CT, NY, NJ, PA, DE)	10	6	4	5	0	0	6	14
	Pacific (WA, OR, CA,AK, HI)	83	47	35	43	27	53	21	48
	South Central (OK,AR, TX, LA)	8	5	6	7	1	2	1	2
	Southeast (SC, GA, FL, AL,MS, PR)	3	2	2	2	1	2	0	0

Citation: Journal of Shelter Medicine and Community Animal Health 2025, **4**: 108 - http://dx.doi.org/10.56771/jsmcah.v4.108

Table 1. (Continued)

Variable	Level	Total		Organizational role					
				Non-veterinarian leaders		Veterinarian leaders		Veterinarian non-leaders	
		n	%	*n*	%	*n*	%	*n*	%
Years practicing Veterinary Medicine or years working in Animal Welfare	0–2 years	8	4	2	2	0	0	6	13
	3–5 years	14	8	6	7	2	4	6	13
	6–10 years	32	18	14	17	11	22	7	16
	11–15 years	39	22	18	22	17	33	4	9
	16–20 years	30	17	17	20	6	12	7	16
	20 years or more	55	31	25	30	15	29	15	33
Years working with current leadership or years working with current veterinarian	0–2 years	69	39	27	33	23	45	19	42
	3–5 years	58	33	29	35	13	25	16	36
	6–10 years	28	16	14	17	7	14	7	16
	11–15 years	14	8	7	9	5	10	2	4
	16–20 years	6	3	3	4	3	6	0	0
	20 years or more	3	2	2	2	0	0	1	2

Percentages for each question were calculated by excluding blank responses. As a result, the number of respondents for each question varies slightly, and the respective sample sizes are reported in the first row for each variable.

Organizational role

There were 179 participants who responded to the survey. The distribution of respondents based on their role within the organization was categorized. Most of the respondents were non-veterinarian leaders (46%; *n* = 83/179), followed by veterinarian leaders (28%; *n* = 51/179) and veterinarian non-leaders (25%; *n* = 45/179).

Type of organization

The most represented type of organization across all groups was government animal control agencies (35%; *n* = 61/176), followed closely by nonprofit animal welfare organizations without animal control contracts (34%; *n* = 60/176) and nonprofit animal welfare organizations with animal control contract(s) (27%; *n* = 48/176). Other organization types such as for-profit animal services organizations and universities had limited representation among the respondents (4%; *n* = 7/176).

Geographic distribution

The regional distribution indicated a heavy concentration of respondents from the Pacific region (47%; *n* = 83/176), followed by the Mountain region (13%; *n* = 23/176), the Mid-Atlantic region (11%; *n* = 20/176), and the remaining areas with 6% or less.

Annual operating budget and intake

The highest proportion of respondents estimated their annual operating budget, in U.S. dollars, between $1,000,000 and $4,999,999 (34%; *n* = 57/167). The smallest proportion of respondents estimated their annual operating budget as less than $1,000,000 (13%; *n* =21/167).

Similar to the proportions earlier, most respondents indicated their organization's annual intake of animals between 1,000 and 4,999 (36%; *n* = 62/172). The population had a small number of respondents reporting estimates of less than 1,000 annual intake (10%; *n* = 17/172).

Duration of current veterinarian-leader relationship

The majority of veterinarians reported working less than 6 years with their current leader (74%; *n* = 71/96). Similarly, most of the non-veterinarian leaders reported working with their current veterinarian for less than 6 years (68%; *n* = 56/82).

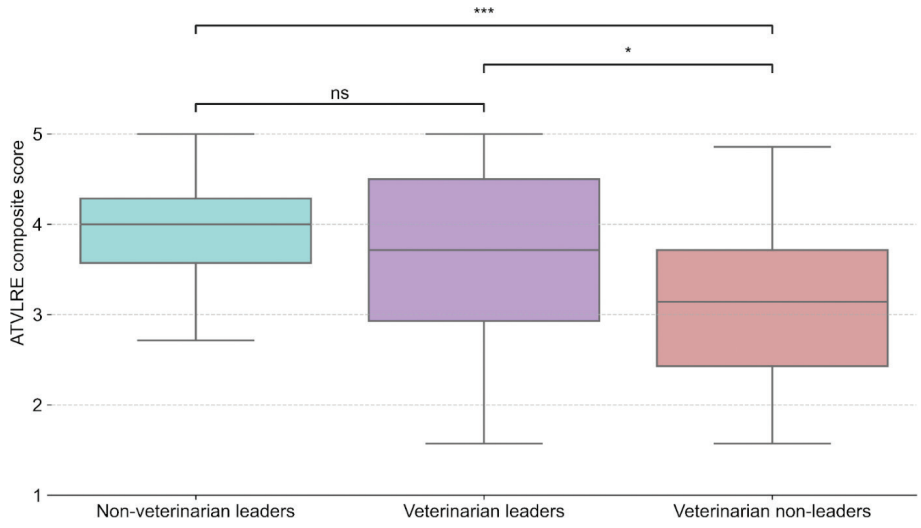
Attitude toward veterinarian-leader relationship effectiveness composite

Regarding the respondents' ATVLRE composite scores (from a level of 1 to 5 where 1 = negative, 3 = neutral, 5 = positive; Table 2), the non-veterinarian leader group had the highest mean score (*M* = 4.0, SD = 0.6), indicating a more positive perception of organizational attitudes and conditions compared to the other groups. The veterinarian leader group had a slightly lower mean score (*M* = 3.7, SD = 1.0). The veterinarian non-leader group had the lowest mean score (*M* = 3.1, SD = 0.9) (Fig. 1). These differences suggest varying levels of satisfaction and perceived effectiveness, especially between non-veterinarian leaders and veterinarian non-leaders.

Table 2. Likert-type items and attitude composite by organizational role

Variable	Total		Organizational role					
			Non-veterinarian leaders		Veterinarian leaders		Veterinarian non-leaders	
	n	Mean (SD)	*n*	Mean (SD)	*n*	Mean (SD)	*n*	Mean (SD)
Veterinarian goal alignment	178	4.0 (0.9)	82	4.2 (0.7)	51	4.0 (0.9)	45	3.6 (0.9)
Veterinarian approach alignment	178	3.6 (1.1)	82	4.0 (0.9)	51	3.4 (1.3)	45	3.0 (1.0)
Communication clarity understanding	178	3.6 (1.2)	82	3.9 (0.9)	51	3.6 (1.2)	45	2.8 (1.3)
Leadership feedback frequency	177	3.5 (1.3)	81	4.1 (1.0)	51	3.4 (1.2)	45	2.6 (1.4)
Resource adequacy	177	3.5 (1.2)	81	3.6 (1.1)	51	3.6 (1.2)	45	3.1 (1.4)
Organization culture impact	175	3.7 (1.4)	80	4.0 (0.8)	51	3.7 (1.3)	44	3.1 (1.3)
Veterinary culture impact	176	3.7 (1.0)	80	3.8 (1.0)	51	3.8 (1.0)	45	3.6 (1.0)
Attitude toward veterinarian-leader relationship effectiveness (ATVLRE)	178	3.7 (0.9)	82	4.0 (0.6)	51	3.7 (1.0)	45	3.1 (0.9)

A higher mean score indicates a more positive attitude. Mean scores and standard deviations were calculated in each item by removing blank responses.



P-value annotation legend: ns: $P > 0.05$, *: $P \leq 0.05$, ***: $P \leq 0.001$.

Fig. 1. Comparison of Attitude Toward Veterinarian-Leader Relationship Effectiveness (ATVLRE) composite scores by organizational role box plot. 'Box plot displaying the Attitudes Toward Veterinarian-Leader Relationship Effectiveness (ATVLRE) Composite Scores across three groups: non-veterinarian leaders, veterinarian leaders, and veterinarian non-leaders. The non-veterinarian leaders' group shows the highest median score, while the veterinarian leaders' group shows a lower median score, and the veterinarian non-leaders' group shows the lowest median score. Statistical annotations indicate no significant difference between non-veterinarian leaders and veterinarian leaders (ns), a highly significant difference between non-veterinarian leaders and veterinarian non-leaders (***), and a significant difference between veterinarian leaders and veterinarian non-leaders (*)'.

We used a one-way ANOVA to determine if there was a significant difference in the attitude composite to organizational effectiveness among the non-veterinarian leader, veterinarian leader, and veterinarian non-leader groups. The data met the assumptions of the test. The results indicated that there was a statistically significant difference ($F(2, 175) = 16.1$, $P < 0.001$) between at least two of the three groups (non-veterinarian leaders, veterinarian leaders, and veterinarian non-leaders).

Multiple comparison tests were used to examine the pairwise differences between three groups: non-veterinarian leaders, veterinarian leaders, and veterinarian non-leaders.

- **Non-veterinarian leaders versus veterinarian leaders:** The non-veterinarian leader group had a higher average score ($M = 4.0$, SD = 0.6) than the veterinarian leader group ($M = 3.6$, SD = 1.0); however, this difference was not statistically significant ($P = 0.115$), indicating there was no substantial evidence of perceived differences in collaboration or support between these two leader groups.

Citation: Journal of Shelter Medicine and Community Animal Health 2025, **4**: 108 - http://dx.doi.org/10.56771/jsmcah.v4.108

- **Non-veterinarian leaders versus veterinarian non-leaders:** A larger difference was observed between the non-veterinarian leader group (M = 4.0, SD = 0.6) and the veterinarian non-leader group (M = 3.1, SD = 0.9). This difference was statistically significant ($P < 0.001$) with a large effect size (Cohen d = 1.1).
- **Veterinarian leaders versus veterinarian non-leaders:** A smaller difference was observed with the veterinarian leader group (M = 3.6, SD = 1.0) scoring on average higher than the veterinarian non-leader group (M = 3.1, SD = 0.9). This difference was also statistically significant (P = 0.017) with a medium effect size (Cohen d = 0.6).

Role-based perceptions

Individual Likert-type items

The analysis of individual survey items contributing to the ATVLRE composite score revealed consistent trends across different respondent groups. Non-veterinarian leaders and veterinarian leaders exhibited higher average scores than veterinarian non-leaders across all items, indicating people in leadership roles had more positive attitudes toward veterinarian-leader relationship effectiveness. Overall, the non-veterinarian leader group scored 18% (4.0 – 3.1 = 0.9/5.0) higher on the Likert-type than the veterinarian non-leader group, and the veterinarian leader group scored 12% (0.3/5.0) higher than the veterinarian non-leader group.

The largest disparity was observed in the 'Leadership feedback frequency' item, where non-veterinarian leaders and veterinarian leader groups scored 30% (1.5/5.0) and 16% (0.7/5.0) higher than veterinarian non-leaders, respectively. This was followed by the 'Communication clarity understanding' item, where non-veterinarian leader and veterinarian leader groups scored 22% (1.1/5.0) and 6% (0.3/5.0) higher than veterinarian non-leaders, respectively.

Both groups in leadership positions (non-veterinarian leaders and veterinarian leaders) had similar response scores to the 'Resource Adequacy' item averaging 10% (0.5/5.0) higher than the veterinarian non-leader group. Respondents' Likert-type item characteristics across groups are summarized in Table 2.

Key challenges and contributing factors of successful working relationships

The non-veterinarian leader group most frequently cited 'managing the expectations and demands' as a key challenge (55%; n = 45/82), followed by 'managing veterinary team culture with other departments' (49%; n = 40/82), 'balancing financial constraints with the need for quality veterinary care' (46%; n = 38/82), and 'lack of effective communication' (27%; n = 22/82) (Table 3).

For the veterinarian leader group, the most frequently reported key challenges faced when working closely with leaders were 'differences in priorities or conflicting goals' (66%; n = 33/50), 'lack of effective communication' (54%; n = 27/50), and 'limited understanding or appreciation of veterinary expertise and/or regulatory requirements' (48%; n = 24/50) (Table 4).

The veterinarian non-leader group was at a higher level of agreement compared to other groups on challenges faced, with 70% (n = 31/44) identifying 'lack of effective communication' as a key challenge. This group also reported high rates of experiencing 'differences in priorities or conflicting goals' and 'limited understanding or appreciation of veterinary expertise and/or regulatory requirements', both at 64% (n = 28/44). Additionally, 55% (n = 24/44) noted 'inadequate recognition or involvement in organizational decision-making' and 'compensation for veterinarians and veterinary teams' as key challenges.

Table 3. Key challenges faced by non-veterinarian leaders when working closely with a veterinarian

Key challenges faced as leadership when working closely with a veterinarian	Organizational role	
	Non-veterinarian leaders (n = 82)	
	n	%
Lack of effective communication	22	27
Balancing financial constraints with the need for quality veterinary care	38	46
Limited knowledge of veterinary practices and protocols	11	13
Managing the expectations and demands	45	55
Integrating veterinary goals with overall organizational goals	25	30
Ensuring compliance with legal and regulatory requirements	7	9
Addressing conflicts between veterinary recommendations and organizational priorities	24	29
Managing veterinary team culture with other departments	40	49

Participants were able to select all factors that apply in regard to key challenges faced working closely with veterinarians.

Table 4. Key challenges faced by veterinarians when working closely with leaders

Key challenges faced as a veterinarian when working closely with leadership	Organizational role			
	Veterinarian leaders (*n* = 50)		Veterinarian non-leaders (*n* = 44)	
	n	%	*n*	%
Lack of effective communication	27	54	31	70
Differences in priorities or conflicting goals	33	66	28	64
Limited understanding or appreciation of veterinary expertise and/or regulatory requirements	24	48	28	64
Insufficient allocation of resources for veterinary care	13	26	17	39
Inadequate support for implementing best practices in animal welfare	17	34	21	48
Lack of transparency in decision-making processes	20	40	26	59
Difficulty in balancing medical care with organizational constraints	14	28	15	34
Inadequate recognition or involvement in organizational decision-making	20	40	24	55
Compensation for veterinarians and veterinary teams	23	46	24	55

Participants were able to select all factors that apply in regard to key challenges faced working closely with leadership.

In assessing contributing factors to a successful relationship, communication emerged as the most frequent factor, reported by 68% (*n* = 122/179) of all participants with the emphasis most pronounced among the veterinarian non-leader group (76%; *n* = 34/45). Comparatively, 'shared vision and goals' was the factor least cited (13%; *n* = 23/179) as contributing to a successful working relationship. Also, reported with less frequency than 'communication' were 'deference', 'trust', and 'decision-making', which comprised only 34% (*n* = 60/179), 18% (*n* = 33/179), and 16% (*n* = 29/179) of responses, respectively (Table 5).

Discussion

This study explored the attitudes toward veterinarian-leader relationship effectiveness within US and Canadian animal shelters. Notably, California organizations were of high interest to the research team and contributed to the large number of responses from the Pacific region. The respondent population had a balanced representation across roles, a strong focus on government and nonprofit organizations, and diverse budget and animal intake levels. A majority of respondents reported less than 6 years of collaboration with their current leaders or veterinarians, highlighting a landscape of fluid professional relationships.

Significance of leader roles in the ATVLRE composite

The veterinarian non-leader group scored significantly lower in ATVLRE composite scores compared to both veterinarian leaders and non-veterinarian leaders, who did not differ significantly from each other. This suggests that leadership roles, regardless of veterinary background, are associated with more positive attitudes and perceptions toward veterinarian-leader relationship effectiveness. The large effect size observed between non-veterinarian leaders and veterinarian non-leaders indicates a meaningful and substantial difference in their attitudes. Additionally, the medium effect size between non-veterinarian leaders and veterinarian leaders signifies a meaningful, though less pronounced, difference between these groups.

Role-based Likert-type patterns

This study's findings demonstrate that individuals in different positions experience the organizational environment in distinctly varied ways. Notably, veterinarian non-leaders exhibited lower scores compared to both non-veterinarian leaders and veterinarian leaders on all items comprising the ATVLRE composite, with communication aspects showing the largest disparities. These disparities highlight a potential lack of engagement and support for veterinarian non-leaders, placing them in what LMX theory would describe as the 'out-group'. This group is less likely to receive individualized attention and opportunities for high-quality interactions, which impacts their perception of leadership effectiveness and overall job satisfaction.

The perception of resource adequacy varied based on whether the respondent was in a leadership role. This disparity might reflect a disconnect between resource allocation decisions and frontline needs. The variations in perceptions and experiences of animal shelter organizations underscore the importance of considering role-based perspectives in developing organizational strategies and communication policies, to ensure that all members of the organization, regardless of their position, feel adequately informed about resource decisions.

Critical role of communication

A striking 62% (*n* = 58/94) of veterinarians identified 'lack of effective communication' as a key challenge. Notably,

Table 5. Contributors to a successful working relationship by organizational role

Contributing factors to a successful working relationship between a veterinarian and leadership	Total (*N* = 179)		Organizational role					
			Non-veterinarian leaders (*n* = 83)		Veterinarian leaders (*n* = 51)		Veterinarian non-leaders (*n* = 45)	
	n	%	*n*	%	*n*	%	*n*	%
Communication	122	68	60	72	28	55	34	76
Decision-making	29	16	9	11	10	20	10	22
Shared vision & goals	23	13	14	17	7	14	2	4
Deference	60	34	25	30	19	37	16	36
Trust	33	18	13	16	11	22	9	20

Qualitative themes describing factors contributing to a successful working relationship between a veterinarian and leadership were produced based on open-ended responses. Participants' responses were not limited to a single factor.

this challenge was more prevalent among the veterinarian non-leader group, with 70% (*n* = 31/44) reporting it as a concern, compared to 54% (*n* = 27/50) of the veterinarian leader group. The non-veterinarian leader group only reported 'lack of effective communication' with 27% (*n* = 22/82) of responses. This reveals a pronounced gap in perceptions of communication effectiveness between different levels within the organization. This disparity emphasizes the need for enhanced communication strategies.

Given the importance placed on communication and resource adequacy by respondents, the pronounced disparities in communication scores between non-veterinarian leaders and veterinarian non-leaders highlight the critical role of effective dialogue in fostering organizational cohesion and effectiveness within animal shelters. LMX theory underscores the necessity of consistent, high-quality communication in building strong LMXs. The observed gaps suggest that veterinarian non-leaders may not receive the same level of transparent communication as their leader counterparts. Addressing these disparities by recognizing the unique viewpoints of veterinarian non-leaders and integrating their perspectives into decision-making processes can enhance collaborative environments. Adopting leadership approaches that prioritize inclusive communication strategies ensure that all team members are well-informed and engaged, thereby bolstering relationships and ultimately contributing to the success of animal welfare efforts.

Enhancing communication clarity through joint strategic sessions could serve as a proactive step toward aligning perspectives. Involving veterinarians in decision-making processes and organizational planning meetings can also foster a sense of inclusion and improve the flow of information across all levels of the organization.

The qualitative responses to the question of what constitutes a successful working relationship between veterinarians and leaders further emphasize the critical role of communication and define aspects of effective communication as perceived by the participants. Listed as a response by 65% (*n* = 62/96) of veterinarians, communication was described through terms like 'open', 'honest', and 'clear and direct'. Participants also indicated the need for 'respectful discourse' and the 'ability to truly listen'. This frequent emphasis on communication reinforces the notion that successful veterinarian-leader relationships hinge significantly on the ability to engage in meaningful and constructive dialogue, where a genuine effort to understand and consider differing perspectives is present. These elements align with LMX theory's emphasis on developing strong interpersonal relationships that are characterized by mutual respect and understanding. Deep listening is one strategy utilized in other fields that has opened opportunities for collaboration and more meaningful work relationships.[36–39] Recognizing the importance of communication clarity that emphasizes speech along with the balance of listening is an area for further exploration.

Leaders' perspectives parallel this emphasis, with a notable concurrence on the prominence of trust, respect, and transparency, which closely follow communication in terms of frequency and importance. Such insights point to the necessity of nurturing relationships built on mutual respect, clear communication, and collaborative problem-solving. Future studies could investigate how perceived effective communication within shelters correlates with tangible outcomes such as improved animal welfare, operational efficiency, or staff well-being. This exploration may validate the impact of communication on shelter success and could inform the development of leadership programs designed to strengthen communication skills in the context of animal sheltering.

Among the various leadership frameworks available, we chose to utilize LMX to frame our research. As we engaged in conversations with veterinarians and leaders, we noticed that many of their responses aligned with the principles of LMX theory. Specifically, their

insights highlighted the importance of the relationship between leaders and followers, a central focus of LMX theory.

While this study represents a pioneering effort to explore the intricacies of the veterinarian-leader relationship and sheds light on the qualities that characterize successful collaborations, certain limitations should be acknowledged. Due to the authors' associations with California veterinarians, more respondents were from the West Coast, which might limit the generalizability of the findings. Future studies might reach a broader audience with more representation from other regions. The number of leaders surveyed could be expanded by distributing the survey through national organizations or funders with a large reach. Incentives were not offered for completion of the survey and had they been offered, might have led to greater participation.

Due to the anonymous nature of our survey design, we were unable to determine whether multiple respondents originated from the same organization. This limitation prevented us from analyzing the number of participants per organization or exploring intra-organizational response patterns. Consequently, we could not assess whether veterinarian non-leaders working in organizations with veterinarian leaders had different perceptions compared to those in organizations without veterinarian leaders. Future research could address this gap by collecting organizational identifiers, while still ensuring respondent's confidentiality, to examine how organizational leadership structures might influence individual perceptions within the same institution.

One challenge was the varied interpretation of what constitutes a 'leadership' role. Participants' self-identification as a leader or non-leader might be influenced by diverse factors, including job titles, responsibilities, or personal perceptions of influence within the organizations. This variability underscores the complexity of defining a leader in a context as collaborative and multifaceted as animal shelter operations.

The respondent's perception of being in a leadership position was deemed sufficient for the purposes of this study. This approach aligns with the subjective nature of leadership roles in varied organizational contexts, where formal titles may not fully capture the extent of an individual's influence or responsibilities. Future research could benefit from a more structured definition of leadership roles, possibly incorporating specific criteria or organizational hierarchies to differentiate between leadership and non-leadership positions more clearly. For example, specifying that leadership roles include those within the C-suite or those with broad decision-making authority could provide a clearer framework for participant classification.

Conclusion

This study explored the attitudes and perspectives of relationship effectiveness between animal shelter veterinarians and leaders. Through this analysis of survey responses, we shed light on significant differences in attitude toward relationship effectiveness based on organizational role. Our findings reveal the perceived importance of communication across all roles and offer a starting point for developing strategic directions for animal shelter organizations seeking to strengthen internal dynamics and partnerships for veterinarians. This research supports the need for a nuanced understanding of the veterinarian-leader relationship, with a potential to improve animal welfare practices, enhance the well-being of veterinary professionals, and ultimately benefit the animals and communities they serve.

Author contributions

Clinton R. Mauck: Conceptualization, Methodology, Data Curation, Formal Analysis, Visualization, Writing-Original Draft, Writing-Review & Editing; Marjorie R. Vincent: Conceptualization, Data Curation, Writing-Original Draft, Writing-Review & Editing; Jyothi V. Robertson: Conceptualization, Supervision, Writing-Original Draft, Writing-Review & Editing.

Acknowledgments

We would like to acknowledge the individuals who gave feedback during the development of the survey.

Conflict of interest and funding

The authors declare no potential conflicts of interest. The authors have not received any funding or benefits from industry or elsewhere to conduct this study.

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