

Familiarity with artificial intelligence drives optimism and adoption among veterinary professionals: 2024 survey

Sebastian Gabor, BS¹; Galyna Danylenko, MA^{2*} ; Bill Voegeli³

¹Digitail, Wilmington, DE

²Full Slice, Kiev, Ukraine

³American Animal Hospital Association, Lakewood, CO

*Corresponding author: Galyna Danylenko (galyna@fullslice.agency)

Objective

To capture veterinary professionals' perspectives and applications of AI in veterinary care. This study assesses the perceived benefits, challenges, and potential areas where AI could enhance veterinary medicine and practice workflows.

Methods

An online survey was distributed to members of the American Animal Hospital Association and Digitail's network of veterinary professionals. The questionnaire included 18 close-ended and 7 open-ended questions exploring awareness, perceptions, usage, expectations, and concerns about AI in veterinary medicine. The survey was open from December 19, 2023, through January 8, 2024.

Results

The survey gathered 3,968 responses from professionals in various veterinary roles. Most respondents were veterinarians and veterinary technicians, with an average age of 35.

Conclusions

Respondents demonstrated varying familiarity with AI, with an overall positive outlook toward its adoption in veterinary medicine. Those who actively use AI tools in their professional tasks reported higher levels of optimism about its integration. Key concerns included the reliability and accuracy of AI in diagnosis and treatment. The top benefits identified by respondents included improving efficiencies, streamlining administrative tasks, and potential contributions to revenue growth, employee satisfaction, and client retention.

Clinical Relevance

The findings underscore the influence of practical exposure and experience with AI tools on attitudes toward AI adoption. The positive correlation suggests that familiarity with AI technologies fosters trust and confidence, consequently driving greater acceptance and adoption within the veterinary community.

Keywords: artificial intelligence (AI), AI integration, AI technologies, AI adoption, professional perspectives

Artificial intelligence is entering all aspects of veterinary medicine, from radiology and voice-to-text to numerous other tools for client communication, diagnostics, and treatment planning.¹⁻³ Artificial intelligence solutions are developed not only by commercial companies but also by academic institutions, such as Cornell University's "Cascade"⁴ and the use of ChatGPT by its Feline Health Center.⁵ While these innovative platforms promise improvements in patient care, veterinary workflows, and

practice efficiencies, the perceptions and perspectives of veterinary team members have only begun to be explored.

As AI continues to penetrate every industry, this study aimed to evaluate the level of adoption among veterinary professionals, focusing on their familiarity with AI tools, the extent of their usage, and the associated benefits and concerns. By gathering and analyzing these insights, the study seeks to provide an evidence-based understanding of AI attitudes and utilization within the veterinary field and to guide strategies for its responsible and effective integration. Additionally, the findings could offer valuable insights for educational programs, informing curricula, technology training initiatives, and

Received October 11, 2024

Accepted January 22, 2025

Published online February 11, 2025

doi.org/10.2460/ajvr.24.10.0293

efforts to prepare veterinary teams for AI integration in practice.

Methods

This descriptive cross-sectional study was initiated by Digitail and administered by the American Animal Hospital Association. It employed an online survey approach, wherein participants received a hyperlink to access the survey generated by and hosted on Qualtrics XM software. The survey was a structured exploratory survey distributed to the American Animal Hospital Association's members and the Digitail community of veterinary professionals in the US and Canada, including veterinarians, veterinary technicians, veterinary assistants, practice managers, customer service representatives, veterinary students, business executives, and other industry representatives. To ensure relevance and clarity, the survey was designed and validated in consultation with veterinary professionals on the Digitail team, with additional support from ChatGPT to refine and optimize the survey questions.

The survey contained an introduction letter providing general background information on AI and briefly describing the purpose of the study. The questionnaire included 18 close-ended questions and 7 open-ended questions designed to explore respondents' awareness and perceptions of AI and its usage in personal and professional contexts. The study examined differences across demographics, including age, professional roles, and professional settings (including business model and practice type), focusing on exposure to and attitudes toward AI. It aimed to understand the characteristics and attitudes within the population and to compare the relationships between variables. It also investigated practical applications, perceived benefits, and key concerns and barriers to adoption. Additionally, all participants were asked about their interest in incorporating AI into their practice and the factors that might encourage its adoption. The order of questions in the survey was not randomized and was presented in a fixed sequence to all respondents.

The survey consisted of 10 nominal questions (practice setting, type of organization, role, areas of AI use, areas where AI is a benefit, main advantages of AI, primary concerns about AI, factors that would lead to AI use, and valuable AI features for a Practice Information Management System), 8 ordinal questions (age, familiarity with AI, veterinary adoption of AI, personal use of AI, use of AI in veterinary settings, frequency of AI use in veterinary settings, desire to use AI in veterinary settings, and competitive impact of AI in veterinary settings), and 7 open-ended questions ("other" areas of AI use, advantages of using AI for veterinary, "other" barriers to adoption, "other" reasons to use AI, additional AI features for a Practice Information Management System, repetitive tasks to be automated, and additional comments). For full details, the complete survey questionnaire is available in **Supplementary Material S1**.

Data collection took place over 3 weeks, starting on December 19, 2023, and ending on January 8,

2024. As an incentive, respondents who provided their email addresses upon completing the questionnaire were entered into a raffle for 10 \$25 Amazon.com gift cards.

A total of 13,700 emails were sent, yielding 474 responses (3.46%), along with an additional 3,652 participants recruited through a social media campaign. The actual number of respondents to each question varied according to the ability of respondents to answer each question. Statistical analyses were performed using only the actual response set for each question. Chi-square tests were performed on all questions independently by data set as well as the combined data set, assuring the sample sizes supported robust statistical analysis.

Data analysis

A correlation analysis was conducted using all discrete metrics to identify possible positive and negative relationships between survey findings. Correlations were performed using SPSS Statistics (version 21; IBM Corp). Correlations found to be significant at the .01 level were used in the analysis. Kendall τ and Spearman ρ correlation analyses were performed on all ordinal data. Chi-square and *P* value tests were performed using ChatGPT-4o on each variable within each separate data set and the combined data set to assure independence and statistical viability. Chi-square and *P* value tests were run using interpolated data for missing data, then again excluding all records with missing data.

All *P* values were highly significant ($P < .001$), confirming the reliability of the observed trends. For detailed statistical outputs, including correlation matrices and frequency tables, refer to **Supplementary Material S2**.

The open-ended survey responses were analyzed using ChatGPT AI, with categories and analyses independently reviewed by human analysts for logical and interpretive alignment. The audited results were used in the overall analysis of findings.

Results

Participants

The survey collected 3,968 responses. There were 45.3% of respondents under 31 years old; 30.8% were between the ages of 31 and 40, and 13.1% were aged 41 to 50. A smaller proportion, comprising 6.5% and 4.3%, respectively, were in the age groups of 51 to 60 and 61 years old or older. The average age of participants was 35 years old.

The distribution of roles was varied. Veterinarians accounted for 24.3% of the respondents, and 25.2% were technicians, with practice managers, veterinary assistants, receptionists, students, executives, and other roles making up the remainder. Of those participating in the survey, a majority worked in general practice (44.6%), with the remainder working in emergency rooms, specialty clinics, shelters, nonprofits, relief work, and mobile practices.

A wide range of organizational types were represented, with the largest segment (44.9% of respondents) affiliated with private practices. A substantial

proportion, 30.6%, were in corporate or consolidator-owned practices, followed by 12% in academic institutions, 6% in government organizations, and 6.5% in other organizations not specified in the provided options.

Chi-square and *P* value tests were performed on both the combined data set and separate data sets, including analyses with interpolated data for missing responses and those excluding incomplete records. The results remained consistent across all data sets, confirming the reliability of observed trends (*P* < .001).

Exposure and sentiments toward AI technologies across demographics

Respondents demonstrated varying levels of familiarity with AI and its applications. Of those who responded, 33.3% indicated being very familiar with AI and its applications. A larger proportion, at 50.5%, reported being somewhat familiar with AI, and 16.2% of respondents admitted to not being familiar with AI at all.

Overall, the sentiment among veterinary professionals leans toward optimism regarding the adoption of AI in veterinary medicine. Specifically, 13.9% feel very optimistic, whereas 29.2% are somewhat optimistic. Conversely, 25.2% reported feeling somewhat skeptical, and 11.7% expressed being very skeptical. Additionally, 19.9% remain neutral on the matter (**Figure 1**).

The study found a strong correlation between familiarity with AI and its perception. Respondents with greater familiarity were statistically more likely to be optimistic about AI adoption in veterinary medicine, have used AI tools for personal tasks, and have incorporated AI software in their veterinary workflows (*P* < .001).

The study also explored differences between certain demographics and their exposure to and feelings about AI.

Younger respondents exhibited a statistically higher level of familiarity with AI and its applications (*P* < .001). Professionals with an average age of 33 displayed the highest familiarity. When considering roles, students emerged as having the most exposure, whereas veterinary technicians reported

relatively lower exposure. However, across all demographics, respondents demonstrated at least a moderate level of familiarity with AI and its applications on average.

Younger respondents were statistically more skeptical regarding the adoption of AI in veterinary medicine (*P* < .001). This statistical correlation is primarily the result of the relatively higher number of respondents under the age of 31, indicating higher levels of skepticism than other respondents. If respondents under age 31 are removed from the calculation, then the finding is reversed, and older respondents are statistically more skeptical regarding the adoption of AI in veterinary medicine.

Among different roles, veterinarians and business executives were most enthusiastic about the adoption of AI in veterinary medicine. Additionally, respondents affiliated with the government and academia demonstrated the greatest optimism toward AI. Relief and mobile veterinarians, along with employees of emergency room/specialty hospitals, were notably optimistic as well.

Conversely, veterinary technicians and respondents from general practice or shelter/nonprofit organizations displayed relatively lower levels of optimism toward AI adoption.

Artificial intelligence: personal and professional adoption

The study delved into the utilization of AI tools across both personal and professional domains.

Among respondents, 45.8% either have never used AI for personal tasks or attempted such tools but found them unsuitable. Correspondingly, 60.8% reported not using AI at work.

Conversely, 54.1% of respondents either have experimented with such tools a few times and expressed intentions to continue doing so or are already using AI technologies in their daily lives. In the veterinary setting, 39.2% of respondents reported utilizing AI tools for professional tasks.

Among respondents who have utilized AI tools in veterinary practice, 69.5% indicate using them on a daily or weekly basis (**Figure 2**). A significant

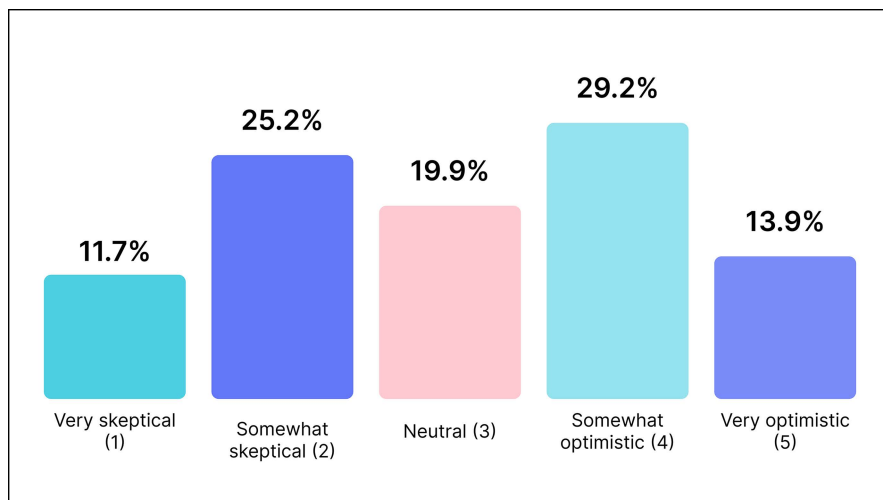


Figure 1—Sentiments of veterinary professionals toward AI adoption in veterinary medicine. This shows the distribution of responses from veterinary professionals when asked how they feel about the adoption of AI in veterinary medicine. Sentiments ranged from “very skeptical” to “very optimistic,” with the majority leaning toward optimism. Veterinary professionals generally feel more optimistic than skeptical about AI in veterinary medicine.

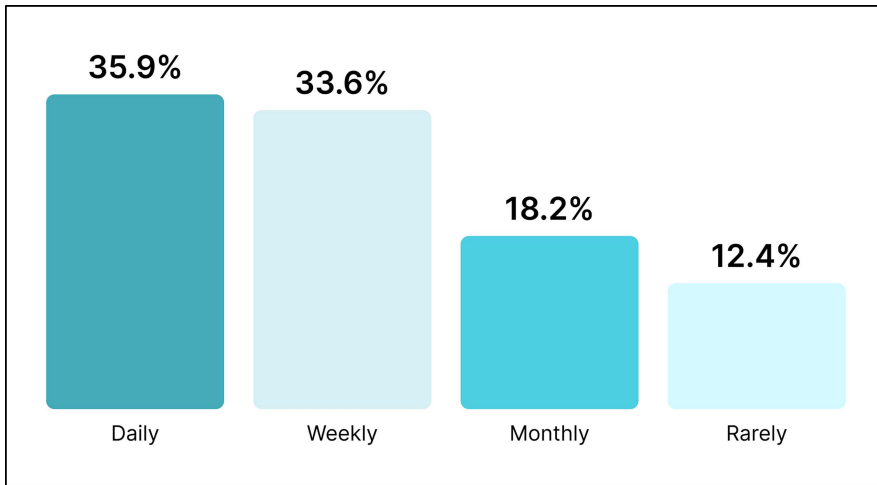


Figure 2—Frequency of AI tool usage in veterinary practice. This shows the distribution of how frequently veterinary professionals use AI tools in their practice. This question was only asked of respondents who indicated having tried AI in their practice. Percentages indicate the proportion of respondents who reported using AI tools daily, weekly, monthly, or rarely. Those who have experimented with AI have consistently incorporated it into their regular practice.

correlation emerged through the cross-analysis of responses to questions regarding the frequency of AI usage in veterinary practice and sentiments toward AI adoption in the field. Respondents who actively incorporate AI tools in their professional tasks demonstrated notably higher levels of optimism regarding AI's integration into veterinary medicine.

Artificial intelligence: applications and perceived benefits

Respondents who utilize AI tools in their veterinary practice employ them across a diverse array of tasks and applications. Among these, the top utilization includes imaging and radiology, along with record-keeping and administrative tasks (39.0% each; **Figure 3**).

Veterinary professionals perceive AI as holding significant promise, particularly in improving productivity and saving time (60.6%), reducing administrative workload (56.1%), and increasing the efficiency of diagnosis and treatment (46.1%). They believe that AI can have the greatest impact on client education (41.6%), writing patient records (38.6%), and patient prescreening and triage (29.5%). In contrast,

6.7% of respondents indicated that they did not see any advantages in using AI in veterinary practice.

The majority of respondents agreed that embracing AI technology may give their hospital a competitive advantage and enhance organizational performance.

Concerns and barriers to adoption

The findings reveal the primary concerns and barriers to adopting AI in veterinary practice as reported by respondents. The most prevalent concern, cited by 70.3% of veterinary professionals, is the reliability and accuracy of AI systems. Following closely behind are concerns regarding data security and privacy, with 53.9% of respondents expressing apprehension in this area. Other notable barriers include the cost of implementation (42.6%), lack of training and knowledge (42.9%), fear of job displacement (36.1%), and regulatory or legal issues (42.1%; **Figure 4**). Respondents could select all options that applied, add their own responses in an open-text field, or choose “none” if no concerns or barriers applied.

In addition to providing structured responses, respondents to the survey were given the opportunity to leave additional comments regarding their

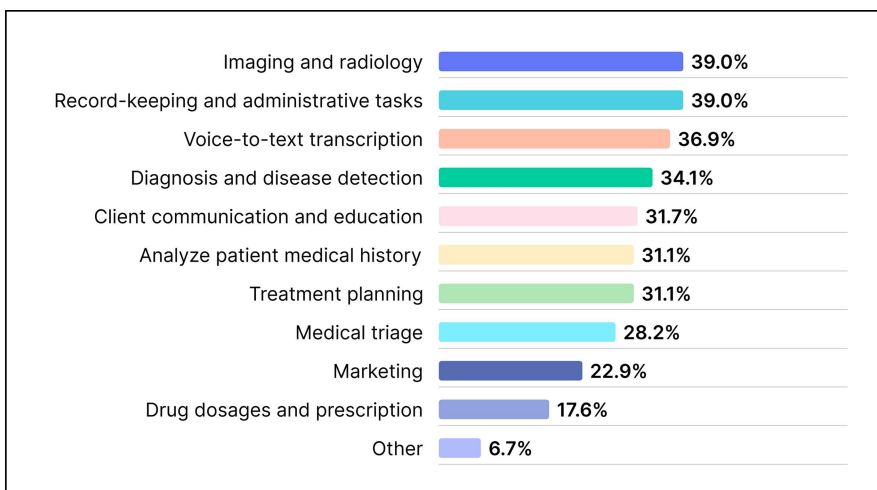


Figure 3—Applications of AI tools in veterinary practice. This displays the percentage of respondents who reported using AI tools in specific applications within veterinary practice. Respondents could select multiple options, with imaging and radiology as well as record-keeping and administrative tasks being the most commonly used applications. Current typical AI applications include imaging and radiology, administrative tasks, and voice-to-text transcription.

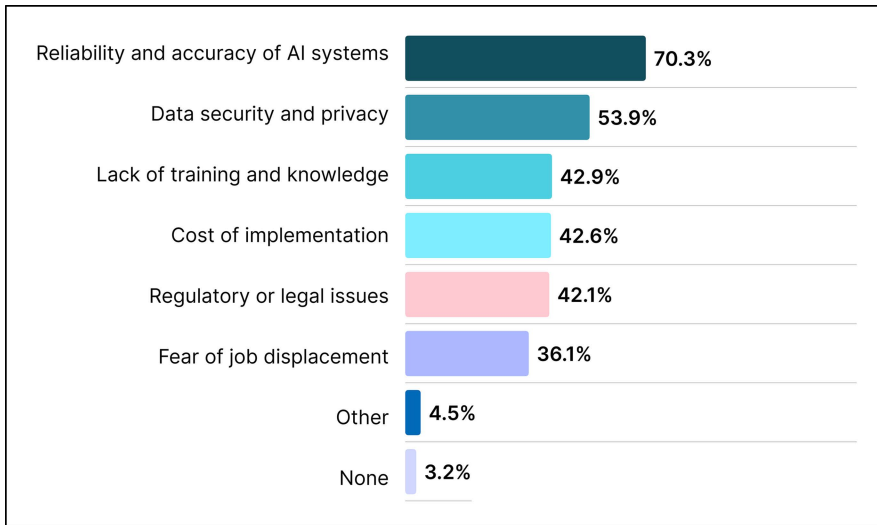


Figure 4—Concerns and barriers to AI adoption in veterinary practices. This highlights the key concerns and barriers reported by respondents regarding AI adoption in veterinary practices. The most frequently cited concerns included the reliability and accuracy of AI systems and data security and privacy. Participants could select multiple responses. Challenges perceived by veterinary professionals range from technical and financial considerations to ethical and regulatory concerns.

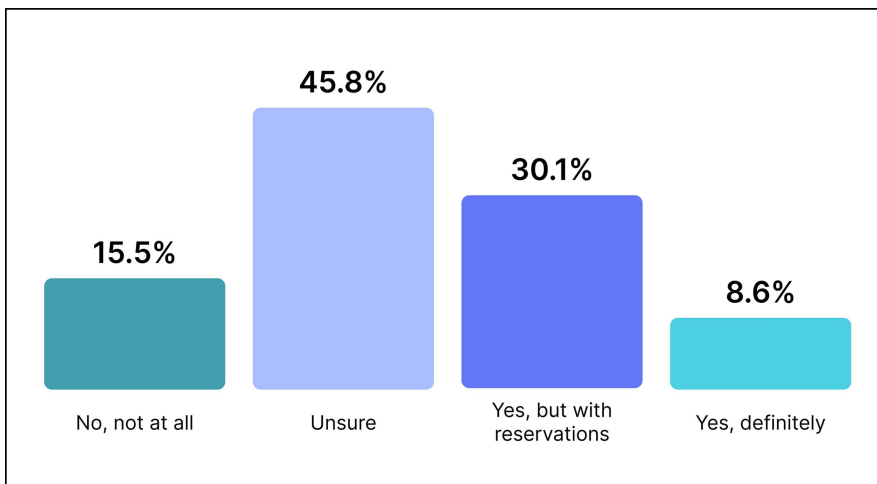


Figure 5—Interest in incorporating AI into veterinary practice in the near future. This shows respondents' interest in incorporating AI into their veterinary practice in the near future. This question was asked of all respondents regardless of whether they had previously tried AI. Opinions were split between uncertainty and positive intention, with 38.7% of veterinary professionals interested in incorporating AI tools in their practice in the near future.

concerns or barriers to adopting AI in their veterinary practices. Several comments highlighted concerns about integrating AI into existing workflows and systems, ethical considerations, potential impacts on client relationships and the perception of veterinary medicine, and fears of diminished professional judgment and manual skills.

Drivers of adoption

Regardless of their current use of AI, all survey participants were asked if they would like to incorporate AI tools into their practice in the near future.

A relatively small percentage (8.6%) of respondents expressed a strong affirmative stance, indicating a definite desire to incorporate AI in their practice. However, a larger proportion (30.1%) expressed interest in AI adoption but with reservations. Another 45.8% reported feeling unsure about incorporating AI, and 15.5% of respondents expressed a clear reluctance or opposition to incorporating AI into their veterinary practice in the near future (**Figure 5**).

The survey then explored factors that may encourage veterinary professionals to incorporate AI tools more in their veterinary practice. The most

commonly cited argument is the availability of case studies from the industry (56.9% of respondents). Following closely behind is the availability of training and support resources (55.1%) and personal positive experience (52.1%). Additionally, the availability of AI functionality within the current software used at the practice is seen as a motivating factor (49.3%).

In their responses to open-ended questions, respondents provided additional insights into factors motivating the increased incorporation of AI tools into veterinary practice, such as the need for clearer regulations, cost effectiveness, and managerial or corporate support.

Discussion

The study revealed a potential correlation between familiarity and optimism: veterinary professionals who use AI tools at work regularly are more enthusiastic about integrating AI in veterinary medicine and more inclined to implement it in their veterinary practice. Conversely, those who have less hands-on experience with AI tools tend to be more skeptical. This trend aligns with findings in human healthcare, where practitioners' satisfaction with AI

is positively correlated with their intention to use it, and this relationship is significantly enhanced by their engagement with the technology.⁶

This finding highlights the importance of AI training and education within the veterinary field. Providing training programs that include practical experience with AI applications can help veterinary professionals build the confidence and skills necessary for effective integration into their daily workflows. Supporting this, the outcomes of the Clinician Champions Program⁷ demonstrated that incorporating elements such as case studies, hands-on learning, capstone projects, and reflective exercises significantly enhances practitioners' understanding of and confidence in using AI.

Based on AI's current applications and expectations from this technology, veterinary professionals primarily see AI as a tool to alleviate administrative burdens and streamline manual, repetitive tasks within veterinary practices. This emphasis on optimizing processes and workflows reflects a pragmatic approach to integrating AI into daily operations, prioritizing efficiency and time-saving measures. Similar findings in human healthcare indicate that AI is valued for its potential to accelerate processes such as diagnosis, communication with care teams, decisional support, and routine tasks, like progress monitoring.⁸

The survey findings highlight key concerns among veterinary professionals regarding AI adoption, with reliability and accuracy emerging as the primary issue, particularly for complex tasks, like diagnosis and treatment. Respondents also cited fears of job displacement, regulatory and legal challenges, skill erosion, data security, and ethical concerns. These findings align with the 9 ethical issues for veterinary AI outlined by Coghlan and Quinn⁹: overdiagnosis, transparency, data security, trust and distrust, client autonomy, information overload and skill erosion, responsibility for AI-influenced outcomes, and environmental effects. A recommended framework for applying AI in veterinary medicine, suggested by Basran and Appleby,¹⁰ also recognizes these challenges and emphasizes the importance of assembling diverse expert teams and ensuring data quality to ensure that AI implementation benefits patient care.

This study has several limitations, particularly regarding the sample population and survey questions. While the sample size was adequate, the reliance on online participation may introduce sampling bias. The average age of respondents was 35, potentially skewing findings toward early-career professionals. Additionally, the distribution of roles was uneven, with underrepresentation of practice owners, administrators, and niche specialists. The survey also lacked details about the size and type of practices, which could impact AI adoption trends.

Future research should aim to diversify the participant base in terms of age, experience, and professional roles, including those in managerial positions or niche specialties. Studies could also examine AI adoption across different practice types, such as general, emergency, specialty, or mobile practices, and investigate the influence of practice

size on AI applications. Furthermore, comprehensive evaluations of AI's financial and operational impacts, including return on investment, productivity gains, and client satisfaction, would provide valuable insights. Lastly, skepticism surrounding AI's reliability in complex veterinary tasks, regulatory concerns, and fears of job displacement suggest a need for more research to build trust, establish ethical frameworks, and explore best practices for integrating AI responsibly into veterinary workflows.

This study provides valuable insights into the factors shaping familiarity, attitudes, and the current use of AI in veterinary medicine, along with the main drivers of its adoption. Veterinary professionals highlighted key benefits, such as improving productivity, saving time, and enhancing diagnostic and administrative tasks. These findings highlight AI's potential to tackle practical challenges in veterinary workflows, offering opportunities for streamlined operations and better resource allocation.

At the same time, concerns such as reliability, cost, data security, and ethical issues point to the need for targeted steps to support AI integration. Building trust through practical training, clear ethical guidelines, and thoughtful design of AI tools can help address these challenges. By shedding light on these dynamics, this work aims to support the veterinary community in navigating the evolving landscape of AI, paving the way for more efficient and innovative care solutions.

Acknowledgments

The authors gratefully acknowledge the support of the American Animal Hospital Association in conducting the survey and extend their appreciation to Dr. William Tancredi for his valuable contributions to the study's design and his advocacy for the responsible integration of AI in veterinary medicine. Additionally, they would like to recognize and thank their Digital clients who trust them on the journey to pioneer AI in their practices, driving innovation and setting new standards for the future of veterinary care.

Disclosures

This study was administered by the American Animal Hospital Association. The authors have nothing else to disclose.

Artificial intelligence tools (ChatGPT-4o) were used to assist in the writing and editing of this manuscript as well as in the design and optimization of survey questions to improve clarity and respondent engagement. Additionally, ChatGPT-4o AI-based tools were employed to analyze and summarize responses to open-ended questions. All content and interpretations were thoroughly reviewed and approved by the authors to ensure accuracy and integrity. Figures were created using the Figma web application.

Funding

This study was funded by Digital.

ORCID

G. Danylenko  <https://orcid.org/0009-0008-7706-4420>

References

1. Appleby RB, Basran PS. Artificial intelligence in veterinary medicine. *J Am Vet Med Assoc*. 2022;260(8):819-824. doi:10.2460/javma.22.03.0093
2. Burti S, Banzato T, Coghlan S, Wodzinski M, Bendazzoli M, Zotti A. Artificial intelligence in

- veterinary diagnostic imaging: perspectives and limitations. *Res Vet Sci.* 2024;175:105317. doi:10.1016/j.rvsc.2024.105317
3. Akinsulie OC, Idris I, Aliyu VA, et al. The potential application of artificial intelligence in veterinary clinical practice and biomedical research. *Front Vet Sci.* 2024;11:1347550. doi:10.3389/fvets.2024.1347550
 4. Waldron P. Newly released open-source platform cuts costs for running AI. *Cornell Chronicle.* December 7, 2023. Accessed January 31, 2025. <https://news.cornell.edu/stories/2023/12/newly-released-open-source-platform-cuts-costs-running-ai>
 5. Hartigan H. Cornell Feline Health Center launches playful CatGPT. *Cornell Chronicle.* March 18, 2024. Accessed January 31, 2025. <https://news.cornell.edu/stories/2024/03/cornell-feline-health-center-launches-playful-catgpt>
 6. Wang W, Chen L, Xiong M, Wang Y. Accelerating AI adoption with responsible AI signals and employee engagement mechanisms in health care. *Inf Syst Front.* 2023;25(1):2239–2256. doi:10.1007/s10796-021-10154-4
 7. Teferi B, Omar M, Jeyakumar T, et al. Accelerating the appropriate adoption of artificial intelligence in health care: prioritizing IDEA to champion a collaborative educational approach in a stressed system. *Educ Sci.* 2024;14(1):39. doi:10.3390/educsci14010039
 8. Chew HSJ, Achananuparp P. Perceptions and needs of artificial intelligence in health care to increase adoption: scoping review. *J Med Internet Res.* 2022;24(1):e32939. doi:10.2196/32939
 9. Coghlan S, Quinn T. Ethics of using artificial intelligence (AI) in veterinary medicine. *AI Soc.* 2023;39(5):2337–2348. doi:10.1007/s00146-023-01686-1
 10. Basran PS, Appleby RB. What's in the box? A toolbox for safe deployment of artificial intelligence in veterinary medicine. *J Am Vet Med Assoc.* 2024;262(8):1090–1098. doi:10.2460/javma.24.01.0027

Supplementary Materials

Supplementary materials are posted online at the journal website: avmajournals.avma.org.



Related AVMA Journals Resource

Explore our Themed Collection of *JAVMA* and *AJVR* articles on artificial intelligence, featuring clinically important topics to advance your practice:

<https://avmajournals.avma.org/page/Artificial-Intelligence-Collection>

