Assessing the Illinois small animal veterinarian's opinion on antimicrobial resistance and factor that influences their antimicrobial use practices

VARGA LAB
INFECTIOUS DISEASE EPIDEMIOLOGY

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INTRODUCTION

- The widespread use, misuse, and overuse of antimicrobials have been associated with the development of antimicrobial resistance (AMR)[1].
- One of the challenges in decreasing the emergence of AMR is to understand the knowledge and awareness of small animal veterinarians related to AMR and their antimicrobial prescription practices which might be related to the development of antimicrobial-resistant bacteria[2,3].
- A survey will help to design an effective antimicrobial stewardship program for appropriate antimicrobial use.

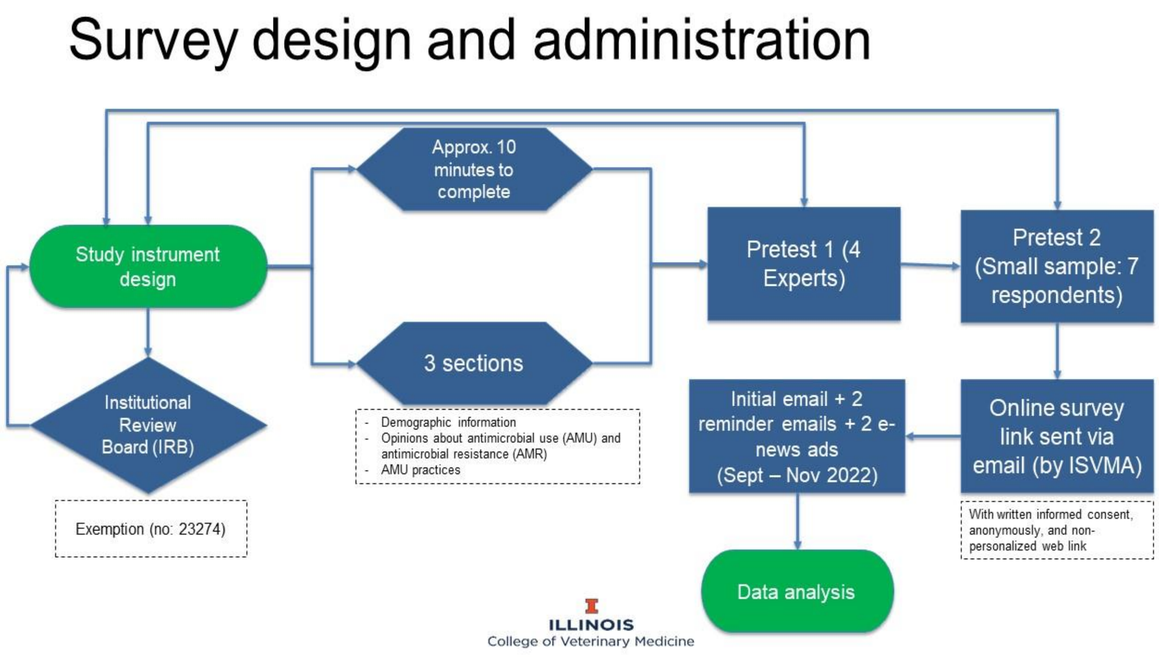
References:
[1]Christaki, E., Marcou, M., & Tofarides, A. (2020). Antimicrobial resistance in bacteria: mechanisms, evolution, and persistence. Journal of molecular evolution, 88(1), 26-40.
[2]Norris JM, Zhuo A, Govendir M, Rowbotham SJ, Labbate M, Degeling C, Gilbert GL, Dominey-Howes D, Ward MP. Factors influencing the behaviour and perceptions of Australian veterinarians towards antibiotic use and antimicrobial resistance. PLoS One. 2019 Oct 10;14(10):e0223534.
[3]Kovačević Z, Vidović J, Erdeljan M, Cincović M, Ružić Z, Galić I, Kukurić T, Stojanac N, Horvat O. Veterinary Practitioners' Standpoints and Comprehension towards Antimicrobial Use-Are There Opportunities for Antimicrobial Stewardship Improvement? Antibiotics (Basel). 2022 Jun 27;11(7):867.

OBJECTIVES

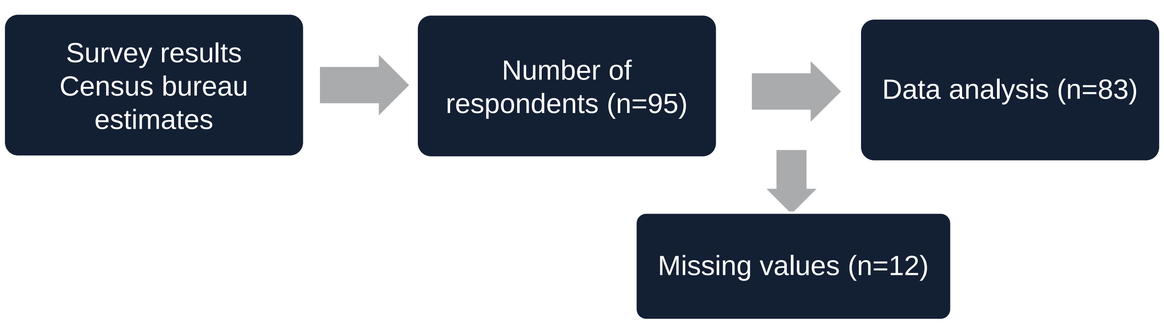
To aid Illinois small animal veterinarians and animal health stakeholders in developing an effective antimicrobial stewardship program to mitigate the emergence of antimicrobial-resistant bacteria.

METHODS

- This study used an online questionnaire (Qualtrics^{xm} survey tool) and was administered to licensed small animal veterinarians in Illinois through the Illinois State Veterinary Medical Association (ISVMA) between September 7th and November 7th, 2022.



DATA MANAGEMENT



RESULTS

- A total of 95 responses were received with 83 complete responses (66.3% females and 31.3% males).
- The respondent's practice location was from 34 different Illinois county, with the highest number of responses coming from Champaign (15.7%), followed by Cook (10.8%), DuPage (7.2%), Lake (7.2%), and Will (7.2%).

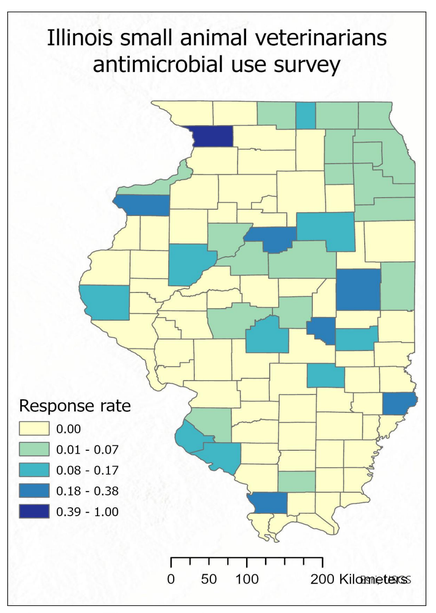


Figure 1. The survey's response rate (3 per 100 small animal veterinarians).

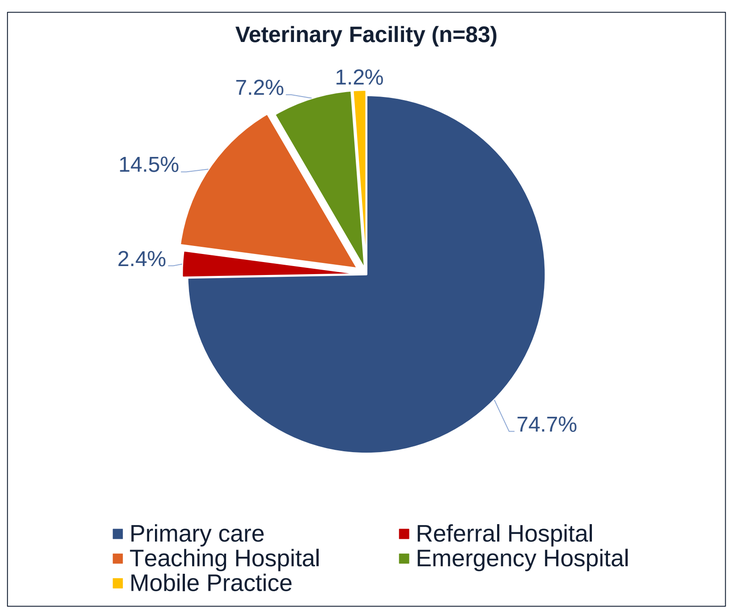


Figure 2. Respondents working facilities.

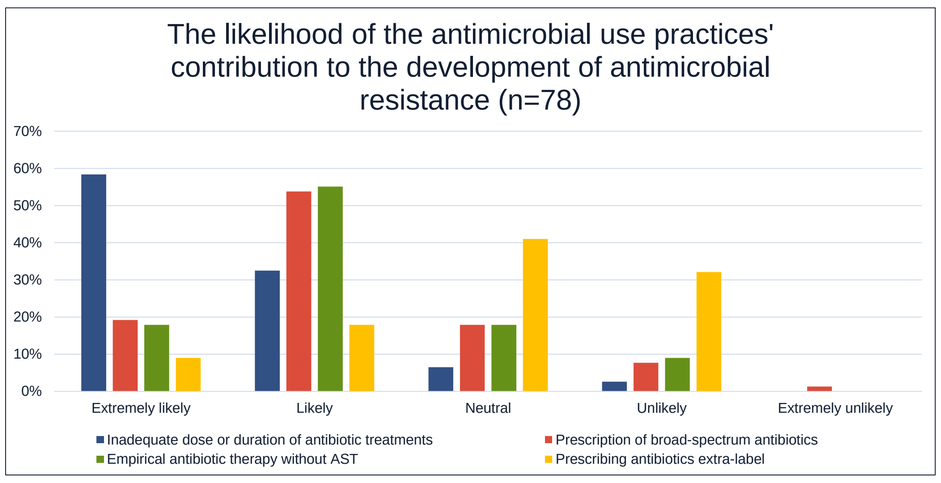


Figure 3. Opinions of Illinois small animal veterinarians on the antimicrobial use practices' contribution to the development of antimicrobial resistance.

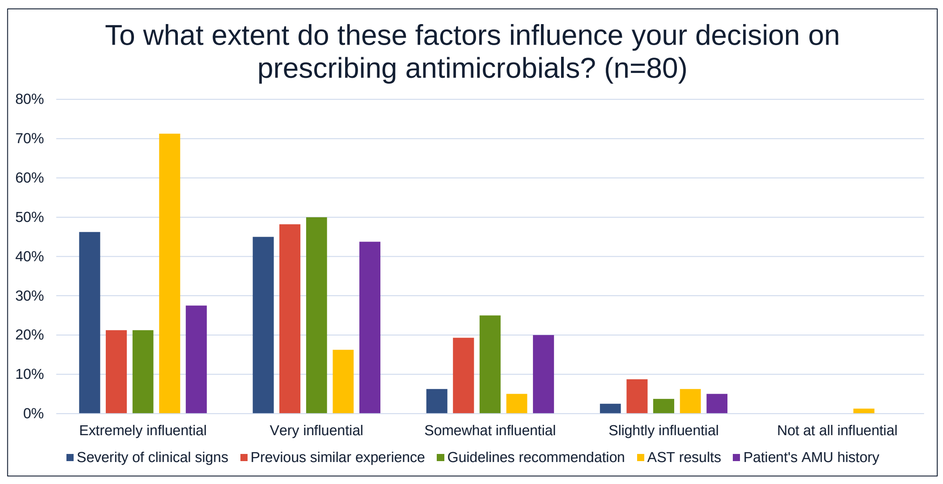


Figure 4. Factors influencing Illinois small animal veterinarians' decision to prescribe antimicrobials.

Questions	Number of responses (Percentage; 95% CI)
Are you aware of the current antimicrobial resistance profiles of major bacterial pathogens (e.g., E. coli, Staphylococcus sp.) in your area??	
Yes	36 (46.25%; 95% CI: 34.79 - 57.82)
No	42 (53.8%; 95% CI: 42.18 - 65.21)
Do you have antimicrobial prescription guidelines at your facility?	
Yes	20 (26.3%; 95% CI: 16.87 - 37.68)
No	56 (73.7%; 95% CI: 62.32 - 83.13)

CONCLUSION

- Understanding the current local status of AMU and AMR will benefit small animal veterinarians in Illinois in developing an effective antimicrobial stewardship program by adopting appropriate antimicrobial prescription guidelines.

LIMITATIONS

- The survey results are representative of the opinions of Illinois's small animal veterinarians who are members of the ISVMA, however, it might not represent the views of all veterinarians in Illinois.
- Response and non-response bias should be considered when interpreting the study results.

ACKNOWLEDGEMENT

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