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Addendum 2

Comparison of veterinarian biosecurity surveys in 2022 and 2024 to evaluate biosecurity and disease prevention for the horse industry

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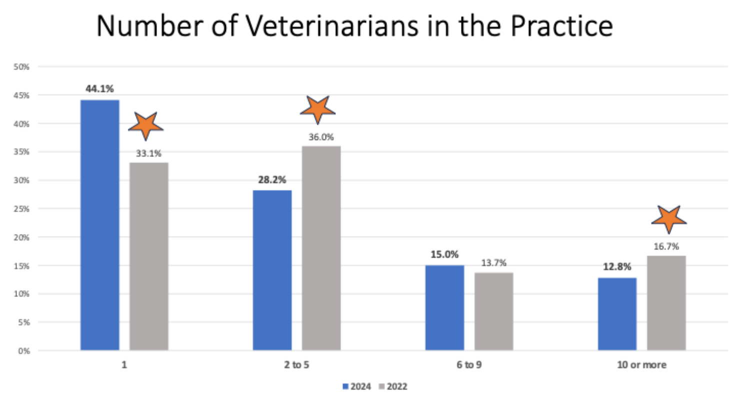
Introduction: As part of the USDA-APHIS National Animal Disease Preparedness and Response Program (NADPRP) project entitled "Increased biosecurity and disease prevention for the horse industry" AAEP veterinarians were surveyed in 2022 and again with the same questions in 2024. The objective of survey #1 was to determine the veterinarian's appraisal of horse owner understanding and knowledge of biosecurity practices for preventing infectious diseases in the United States. The methods and results of this survey was reported in White NA, Flynn K, Pelzel-McCluskey A. *Assessment of biosecurity for equine infectious disease in veterinary practice*. AAEP Proceedings 2024; Vol 70: 337-349.

Methods: Survey #2's (2024) was identical to survey #1 and was distributed by sending requests to AAEP members by email and listing the request on the AAEP newsletter SPUR. The email request described the survey and provided a website link to start the survey. Two requests were sent to the email lists 6 weeks apart. To determine differences in each response based on horse use, statistical analysis of the results was completed using the same cross-tabulation software as in survey #1. Significant differences in the percentage (proportional) to the responses to each question was compared between the surveys. When the % change (proportion) was greater than +/- 0.20, the increase or decrease is considered significant between surveys.

Results: A total of 408 responses were collected from survey #1 and 227 from survey #2. Significant differences in horse use within each survey question are listed in table 1. Significant differences in the percentage change in responses (increase or decrease) in survey #2 compared to survey #1 are presented in table 1 and summarized in the following list. Stars on the graphs indicate a significant difference in responses.

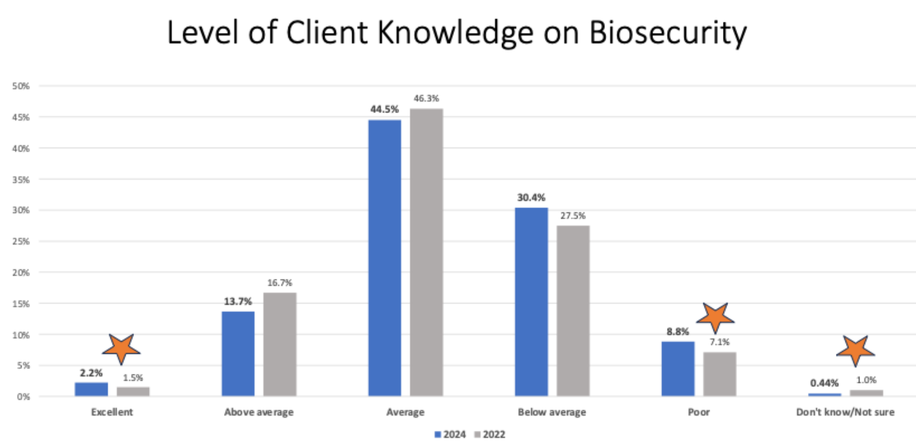
- Decreased years as a veterinarian <5 years and increased 5-10 years.
- Increased number of one veterinarian in the practice and decreased 2-5 and > 10 in the practice (Figure 1).

Figure 1



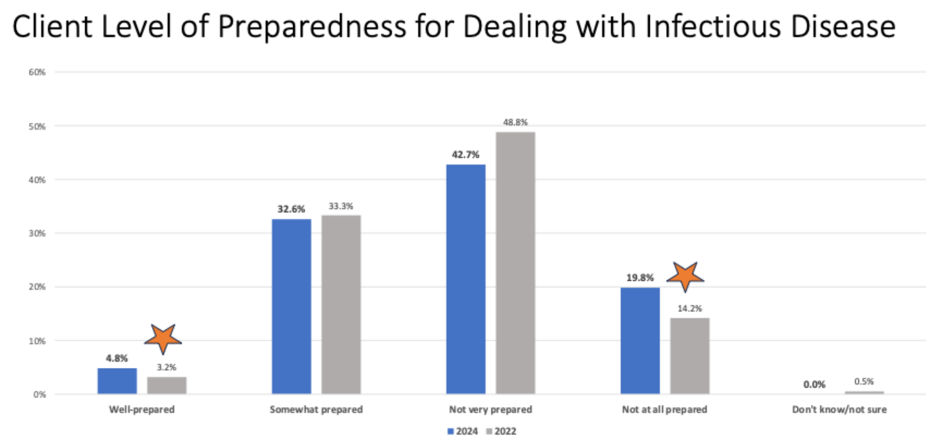
- Increase in respondents from specialties in anesthesia, cardiology and general practice
- Increase in servicing the retired horse practice
- Increase in excellent and poor client knowledge of biosecurity (Figure 2)

Figure 2



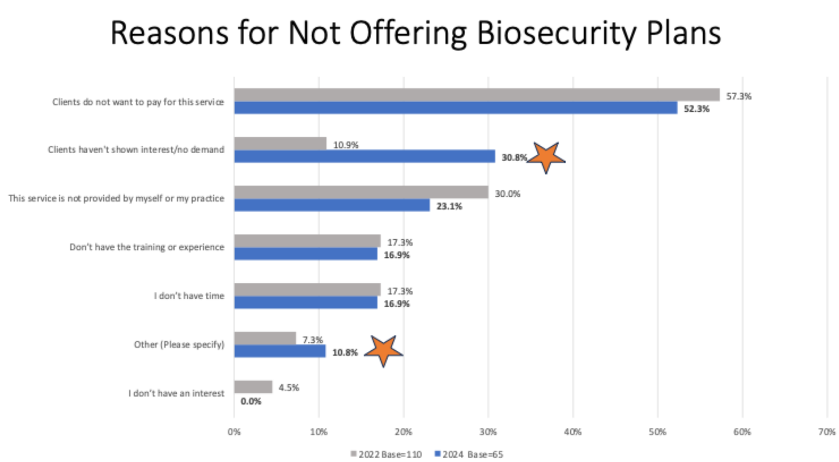
- Increase in well prepared and not at all prepared to deal with an infectious disease (Figure 3).

Figure 3



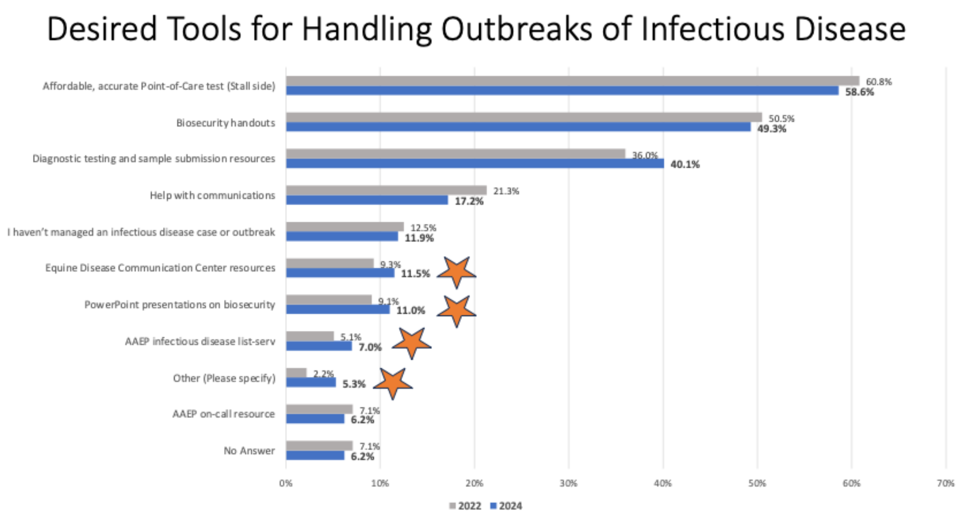
- Decrease in strongly disagree that lack of compliance by owners hampers implementation of biosecurity plans
- Decrease in 6-15 or >16 biosecurity plans created
- Decreased in number of biosecurity plans offered due to lack of horse owner interest (Figure 4)

Figure 4



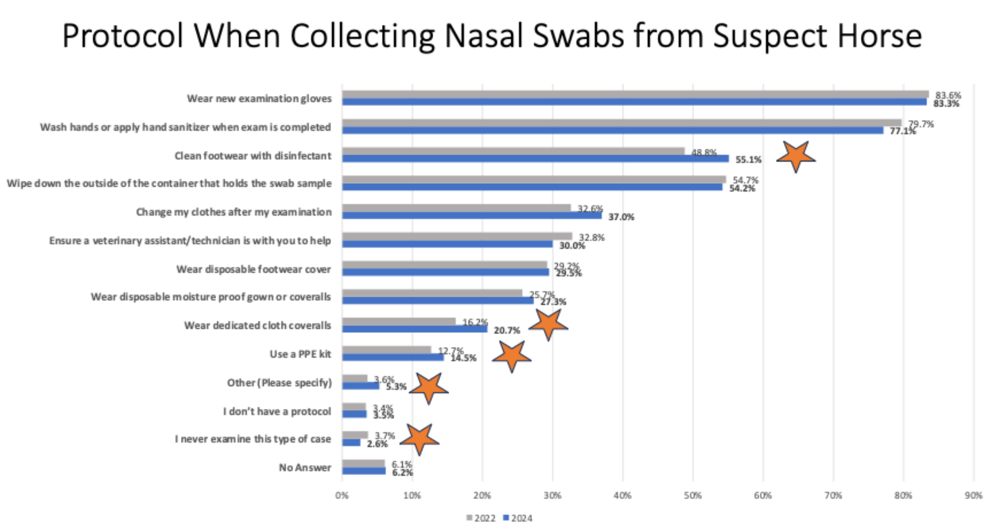
- Increased desired tools for handling outbreaks: EDCC resources, PowerPoint presentations, AAEP infectious disease listserv (Figure 5).

Figure 5



- Increase use of footwear, dedicated cloth coveralls, use of PPE kit for taking nasal swabs from a suspect horse (Figure 6).

Figure 6



- 64% of respondents use the EDCC for disease or biosecurity information. Additionally, 28% have made management changes based on the EDCC.

Discussion: Chief demographic change from survey #1was an increase in the veterinarians in a one person practice. Similar to survey #1 veterinarians responded that the majority of clients continue to have average to poor knowledge of biosecurity and approximately 60% of clients are not very or not at all prepared to deal with an infectious disease at their facility.

There was an increase from 10% to 30% in veterinarians not offering making or reviewing a biosecurity plan because clients are not interested. More than 50 % respondents in both surveys said the greatest disease risk is lack of a way to isolate a new horse at a facility and lack of owner knowledge of biosecurity. Use of footwear and a change of clothes was increased for biosecurity when entering or leaving for routine visits to facilities was identified in survey #2 . The use of the EDCC information was recognized by 64% of respondents but the question was not asked in the first survey for comparison.

Both surveys indicate a substantial deficit of biosecurity application leaving the horse industry at increased drisk of disease outbreaks and the ability to prevent them. Additionally, surveys indicate horse use is associated with different levels of applied biosecurity. Because veterinarians are the most trusted to supply medical information for horse owners, utilizing the veterinarian/horse owner relationship associated with horse use appears to be the best way to inform owners about the need for biosecurity. Increasing owner understanding the risk of disease spread needs to be the focus of future biosecurity education in the horse industry.