

## Special Report

# Executive summary of the Merck Animal Health Veterinary Wellbeing Study

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There has been growing concern, fueled in part by recent studies,<sup>1</sup> about mental distress and suicide among veterinarians, along with numerous reports of compassion fatigue, burnout, and other forms of job stress.<sup>2</sup> In response, many professional organizations, including the AVMA, have launched initiatives to address mental health and wellness.

Still, questions remain as to how serious a problem mental distress is in the veterinary profession, how widespread it is, and whether it has risen to crisis levels. To date, no definitive assessments of the prevalence of serious mental health issues or of wellbeing among veterinarians have been published. Consequently, the authors undertook a survey of a large group of veterinarians representative of the veterinary profession in the United States to measure the prevalence of serious mental distress and determine the level of wellbeing within the profession. The research was conducted by Brakke Consulting in collaboration with the AVMA. To assist with the project, Brakke recruited experts in mental health and social work to help design the survey and analyze the results. Kynetec, a global market research firm specializing in animal health, conducted the survey. Merck Animal Health, a supplier of pharmaceuticals and vaccines to the veterinary industry, sponsored the project and participated in its implementation.

The 3 main goals of the Merck Animal Health Veterinary Wellbeing Survey were to definitively quantify the prevalence of mental illness among veterinarians and compare that prevalence with the prevalence in the general US population of employed adults, identify those segments of the veterinary population most at risk for mental illness and determine factors that negatively and positively impact mental health in veterinarians, and measure the level of wellbeing in the profession and identify factors that contribute to higher levels of wellbeing.

## Methods

A survey of practicing and nonpracticing veterinarians was conducted. The questionnaire and research protocol were submitted to the Chesapeake Institutional Review Board, Columbia, Md, for review and received a letter of exemption.

For the survey, a random sample of 20,000 email addresses was obtained from the AVMA's database of working US veterinarians. An email signed by AVMA president Dr. Michael Topper and executive vice president and CEO Dr. Janet Donlin was sent by the AVMA to alert recipients to the upcoming survey and encourage them to participate.

Subsequently, Kynetec sent an email to all 20,000 email addresses, with an invitation to participate in the study and a link to the online survey. Up to 2 reminders were sent to nonrespondents. As an incentive, respondents were given the opportunity to opt into a drawing for twenty \$100 gift cards. In addition, the study sponsor agreed to contribute \$1 to the American Veterinary Medical Foundation for each response.

The survey was designed to assess both mental health and wellbeing of respondents. Mental health was assessed with the Kessler Psychological Distress Scale,<sup>3</sup> which determines the presence or absence of severe psychological distress on the basis of a numeric score. Wellbeing, which goes beyond the concept of mental illness to examine the way individuals think and feel about their lives, compared with the best or worst possible lives they can imagine, was evaluated by calculating an index score on the basis of responses to 3 questions widely used to measure wellbeing.<sup>4</sup>

Nearly 3,600 veterinarians responded to the survey invitation, with a net of 3,540 usable survey responses, representing a response rate of 17.7%. Responses were weighted on the basis of age, gender,

and region of the country to ensure that respondents were representative of US working veterinarians. The statistical margin of error at the 95% confidence level for the entire sample was  $\pm 1.62\%$ .

Survey results were benchmarked against results for the US population by comparing them with responses from employed adult participants in the University of Michigan Panel Study of Income Dynamics (PSID).<sup>5</sup> Begun in 1968, the PSID is the longest-running longitudinal household study in the world and consists of a nationally representative sample of 18,000 individuals living in 5,000 households. Suicide ideation and suicide attempts were benchmarked to the third wave of the National Institute of Health's National Epidemiological Survey on Alcohol and Related Conditions (NESARC-III), a nationally representative study of adult Americans.<sup>6</sup> Finally, to benchmark whether respondents' recommendations regarding the profession were consistent with recommendations of individuals in other professions, the authors subscribed to an omnibus study representative of the US population and inserted questions about career recommendations identical to those in the veterinary wellbeing study.<sup>7</sup>

## Key Insights

When respondents were presented with a list of 11 issues and asked to indicate how important each one was to the veterinary profession, the issues that were most frequently considered critically important were high student debt levels (67% indicated the issue was critically important), stress levels of veterinarians (53%), and suicide rate among veterinarians (52%; **Figure 1**).

Two-thirds of respondents, including 79% of associate veterinarians in practice, reported experi-

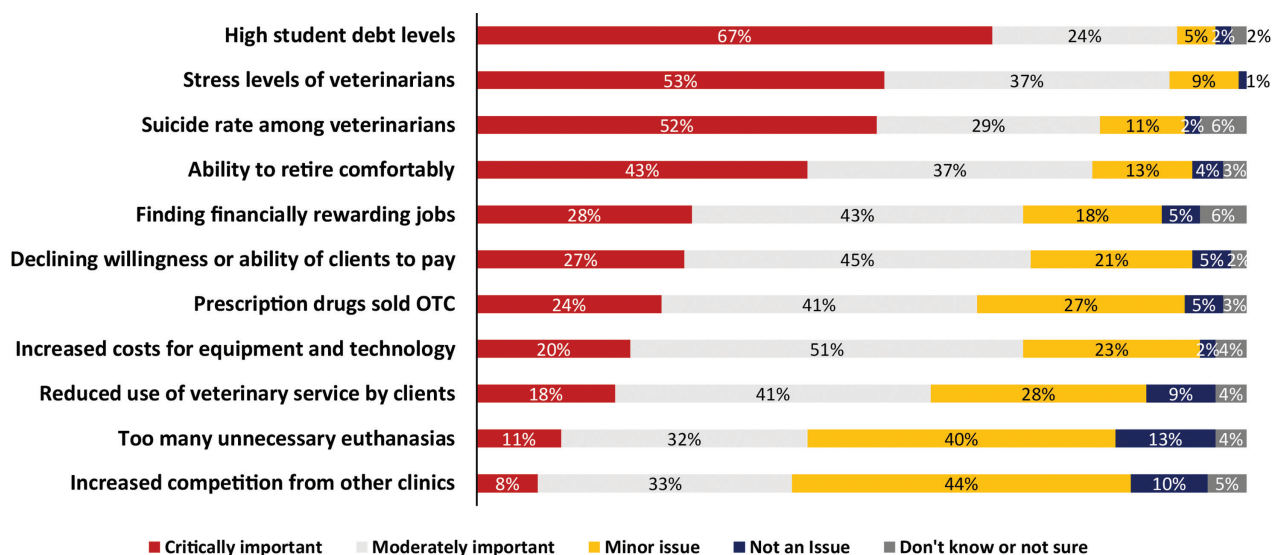
encing feelings of depression, compassion fatigue or burnout, or anxiety or panic attacks within the past year. Overall, 5.3% of veterinarians experienced serious psychological distress within the past 30 days, which was similar to the percentage reported for the general population (4.7%),<sup>5</sup> but significantly lower than the percentage for veterinarians reported by Nett et al<sup>1</sup> (9.3%). Serious psychological distress occurred more frequently in younger (< 45 years of age) veterinarians and less frequently in older veterinarians. Only half of those with serious psychological distress indicated that they were receiving treatment.

Work-related factors most associated with serious psychological distress were working long hours, having student debt, and working as a relief veterinarian. Other factors not related to work also contributed to serious psychological distress, including personality.

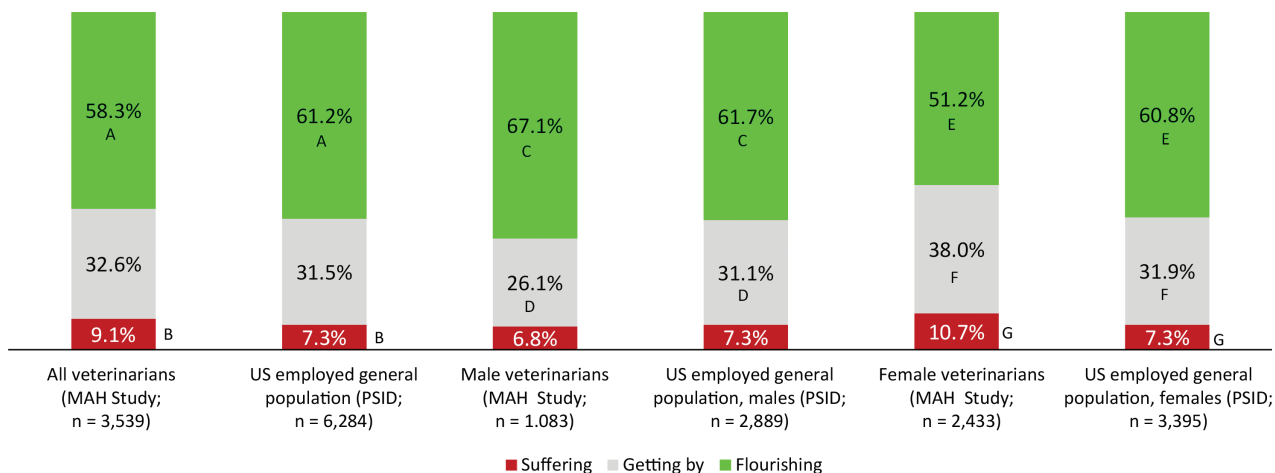
Overall, 25% of respondents had thought about suicide at some time in their lives, but only 1.6% of respondents reported having ever attempted suicide. That was similar to the percentage of veterinarians attempting suicide reported by Nett et al<sup>1</sup> (1.4%), but substantially lower than the percentage reported for the general population (5.1%).<sup>6</sup>

Respondents scored slightly lower in wellbeing than the employed general population in the United States<sup>5</sup> (**Figure 2**), with younger veterinarians scoring substantially lower in wellbeing and older veterinarians scoring substantially higher. Male veterinarians scored significantly higher in wellbeing than did men in the US employed general population, whereas female veterinarians scored significantly lower than women in the US employed general population.

Work-related factors associated with higher levels of wellbeing included higher income, working fewer hours, not working evenings, having little or no student debt, and being an owner of a practice. Several



**Figure 1**—Ratings provided by respondents to the Merck Animal Health (MAH) Veterinary Wellbeing Study regarding the level of importance for 11 issues facing the veterinary profession.



**Figure 2**—Wellbeing of respondents to the MAH Study and of employed adult participants in the University of Michigan Panel Study of Income Dynamics (PSID). A through G—Percentages with the same letter were significantly ( $P < 0.05$ ) different.

attributes not related to work were also associated with higher levels of wellbeing, including traveling for pleasure, spending time with family, socializing with friends, exercising, and being married or in a relationship. Many of these same factors were associated with good mental health. Interestingly, spending  $\geq 1$  hour each day on social media (eg, Facebook) was negatively associated with both mental health and wellbeing.

Only 41% of veterinarians who responded to the survey indicated that they would recommend the profession to a friend or family member. Thirty-three percent indicated they would not recommend it, and 26% were unsure. Major reasons for not recommending the profession were related to compensation, high student debt, and the personal toll practicing veterinary medicine takes on an individual (**Figure 3**).

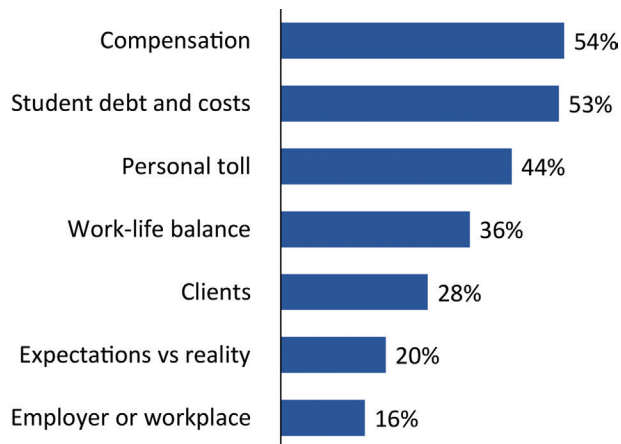
## Summary of Findings

### Mental health

The Kessler Psychological Distress scale<sup>3</sup> is a validated survey tool that is widely used to measure a person's emotional state. It involves 6 questions about feelings such as nervousness, hopelessness, worthlessness, and other attributes. Respondents answer using a 5-point frequency scale ("none of the time" to "all of the time"). Minimum score is 0; maximum score is 24. Those receiving a score  $\geq 13$  are said to be in serious psychological distress.

As indicated earlier, 5.3% of respondents, or approximately 1 in 20, rated as having serious psychological distress. This was not significantly different from the percentage of the general US population reported to have serious psychological distress (4.7%)<sup>5</sup>; however, several significant differences within the veterinary population were identified.

In particular, younger veterinarians were significantly more likely to have serious psychological distress than older veterinarians (**Figure 4**). However, among veterinarians  $< 45$  years old, there was no sig-



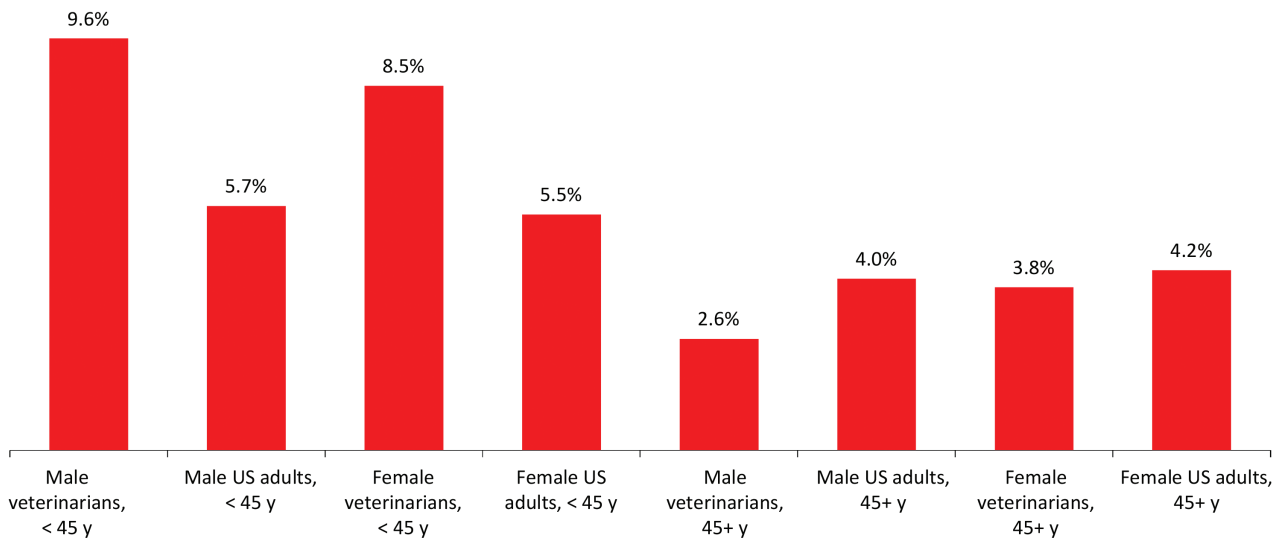
**Figure 3**—Major reasons for not doing so given by respondents ( $n = 1,266$ ) to the MAH Study who indicated they would not recommend the veterinary profession to a friend or family member.

nificant difference in prevalence of serious psychological distress between males and females. Serious psychological distress was also more common among younger veterinarians than among their counterparts in the general US population; conversely, serious psychological distress was less common among older veterinarians ( $\geq 45$  years old) than among their counterparts in the general US population.

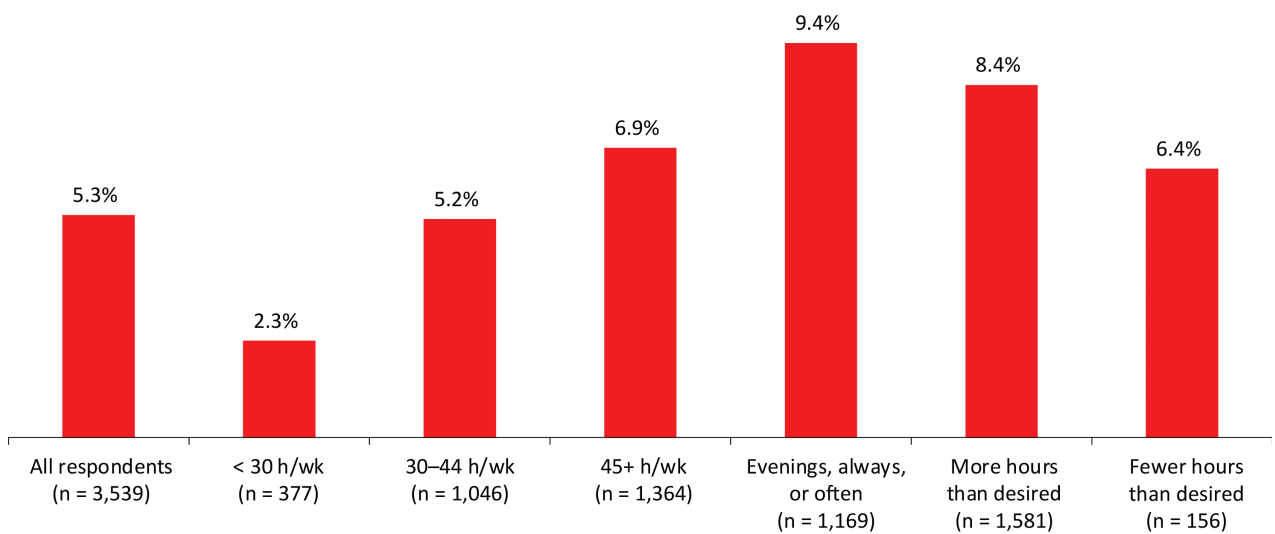
Single veterinarians were more likely to have serious psychological distress (9.3%) than married veterinarians and veterinarians in a relationship (4.5%).

Serious psychological distress increased with number of hours worked per week, and was especially common among those who always or often worked evening hours (**Figure 5**). Serious psychological distress was also more common among those who worked more hours or fewer hours than they desired.

The prevalence of serious psychological distress was generally consistent across practice



**Figure 4**—Prevalence of serious psychological distress (defined as a Kessler Psychological Distress score  $\geq 13$  on a scale from 0 to 24) among respondents to the MAH Study, categorized on the basis of gender and age, and employed US adults in the PSID. For each gender-age pair, prevalence of serious psychological distress was different between veterinarians and employed US adults, except for female veterinarians  $\geq 45$  years of age versus female US adults  $\geq 45$  years of age.



**Figure 5**—Prevalence of serious psychological distress among respondents to the MAH Study, categorized on the basis of number of hours worked per week and whether respondents were working more or fewer hours than desired.

types, except that it was low to nonexistent for respondents in food animal practice. Serious psychological distress was more common among veterinarians in clinical practice than among veterinarians who worked in areas other than clinical practice.

Student debt appeared to be a key driver of serious psychological distress (**Figure 6**). Interestingly, however, among those respondents with student debt, prevalence of serious psychological distress did not vary substantially with amount of student debt. Similarly, veterinarians who indicated that they felt they were doing poorly financially (ie, a score of 0 to 5 on a 10-point scale) were much more likely to

have serious psychological distress than those who indicated they felt they were doing better financially.

When asked about satisfaction with various life domains (eg, health, friendships, and family life), veterinarians with serious psychological distress were most unhappy with their financial situation and their job. Consistent with those findings, 83% of respondents with serious psychological distress would not recommend veterinary medicine as a profession. The most frequent responses given to an open-ended question about why they would not recommend veterinary medicine as a profession were the personal toll the profession takes (56%), the amount of student debt (50%), and the low compensation (44%).

## Mental health treatment

Half of the veterinarians in the survey with serious psychological distress said they were receiving treatment. Of those undergoing treatment, 40% were receiving treatment for depression and 30% were receiving treatment for anxiety or panic attacks. Among those who did not score as having serious psychological distress, 14% said they were receiving mental health treatment.

Employee assistance programs (EAP) under which employees could receive treatment for mental illness were rare. Only 14% of respondents with serious psychological distress said their employer had an EAP.

Many veterinary organizations have programs or web-based resources for veterinarians concerned about their mental health or wellness. Of those respondents with serious psychological distress, only 16% had accessed any of those resources (10% of all respondents had accessed those resources). The resources most frequently accessed were those of the AVMA (64%), followed by resources from the Veterinary Information Network (31%), state veterinary medical associations (29%), DVM360 (28%), the American Animal Hospital Association (13%), and other organizations (16%). Of those resources listed in the questionnaire, the VIN resources received the highest ratings, with 52% of users rating them as very or extremely useful.

One impediment to receiving treatment was that some respondents who needed treatment did not have confidence that they could find it. Only 46% of those with serious psychological distress agreed with the statement that “mental health treatment is accessible,” whereas 62% of those without serious psychological distress agreed with the statement. There was hesitancy seeking treatment because of concerns about being stigmatized. Sixty percent of those with serious psychological distress disagreed with the statement that “people are caring towards those with mental illness.” Among those not distressed, only 37% disagreed with the statement.

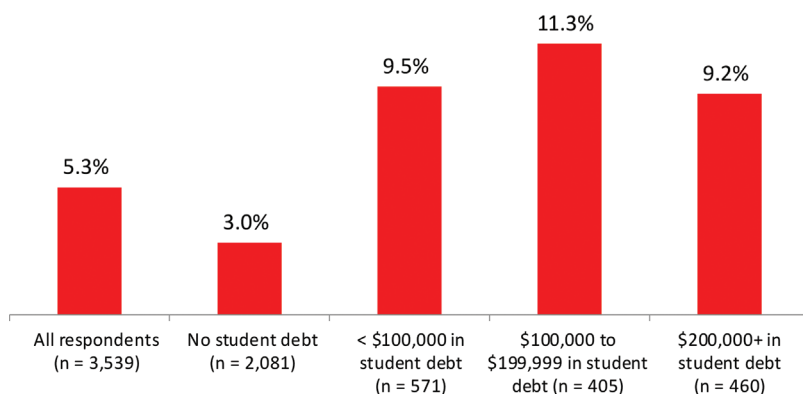
Veterinarians with serious psychological distress were much less likely to participate in the types of healthy activities mental health professionals typically recommend to prevent or mitigate psychological distress, compared with those without distress (**Figure 7**). Interestingly, those with serious psychological distress were far more likely than those not distressed to spend  $\geq 1$  h/d on social media sites such as Facebook. They were also more than twice as likely to spend  $\geq 2$  h/d on such sites.

## Suicide ideation and attempts

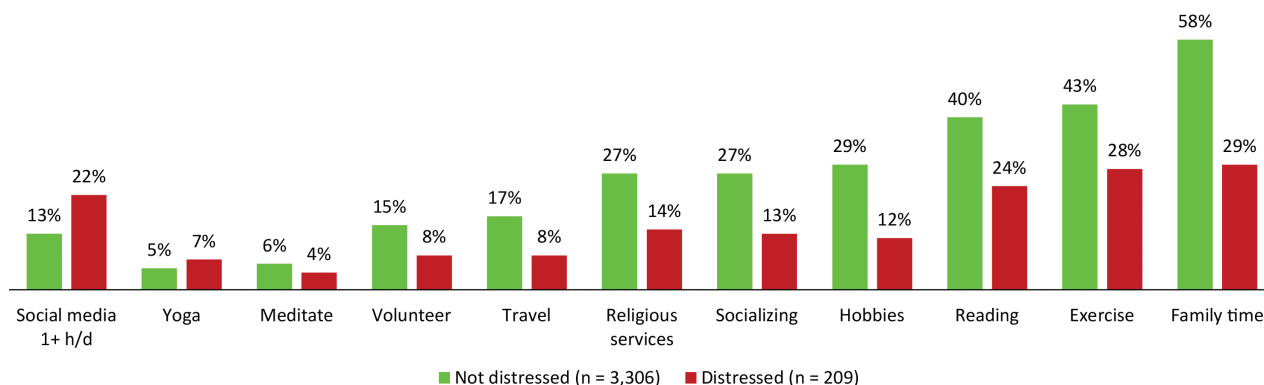
The Merck Animal Health Veterinary Wellbeing Study did not produce the type of data needed to calculate the incidence of suicide among veterinarians. However, it did collect data on suicide ideation and attempts.

Of all respondents, 24.9% said that at some time in their life, when their mood was at its lowest or they cared the least about things, they had thought about suicide. This compared with 16.8% reported in the study by Nett et al,<sup>1</sup> which asked a similar question, but in the context of since the beginning of veterinary school.

The percentage of suicide attempts appeared to be lower among veterinarians than in the general population. Overall, 1.6% of respondents reported that they had attempted suicide, which was similar to the 1.4% reported by Nett et al.<sup>1</sup> According to the NESARC-III study,<sup>6</sup> 5.1% of adult respondents had attempted suicide at some point in their lives.



**Figure 6**—Prevalence of serious psychological distress among respondents to the MAH Study, categorized on the basis of student debt.



**Figure 7**—Percentages of respondents to the MAH Study with and without serious psychological distress who reported that they participated in various types of healthy activities mental health professionals typically recommend to prevent or mitigate psychological distress. For all activities except yoga and meditation, percentages were significantly ( $P < 0.05$ ) different between those with and without serious psychological distress.

## Wellbeing

Wellbeing examines how satisfied an individual is with his or her life and how they believe their life compares to the best possible or worst possible life for them. For the present study, wellbeing was measured with an index based on 3 standard questions<sup>4</sup> and scored on a scale from 0 to 10. Following conventions in wellbeing testing, respondents were sorted into 3 categories: flourishing (scores of 7 to 10), getting by (scores of 4 to 6), and suffering (scores of 0 to 3).

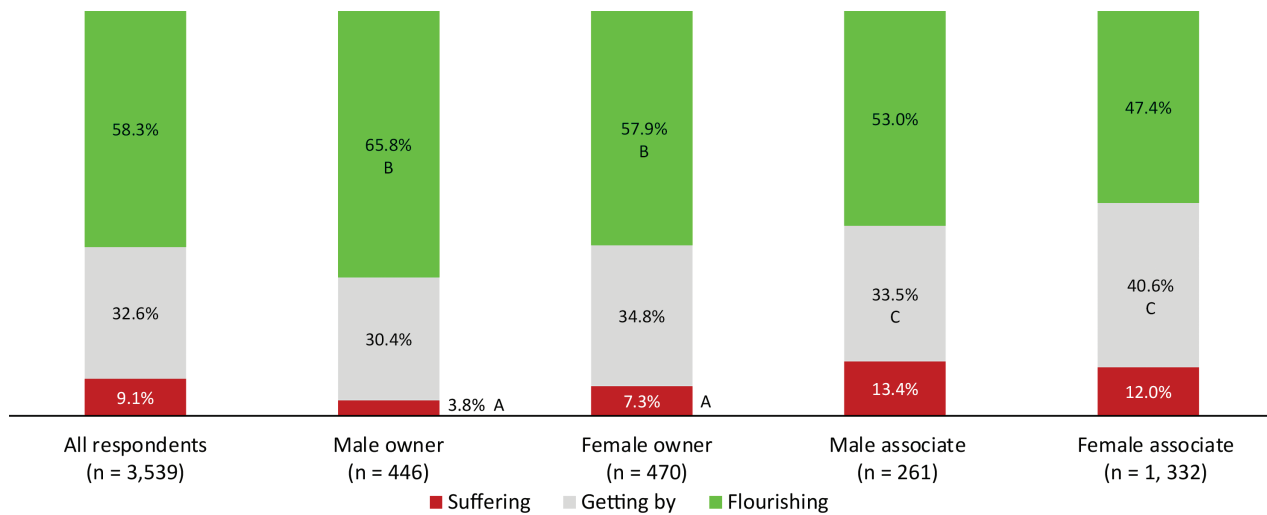
Notably, wellbeing is distinct from mental health, and a person can have low wellbeing but still be mentally healthy. In the present study, only 28% of those in the “suffering” wellbeing category were found to have serious psychological distress as determined with the Kessler scale.

Overall, veterinarians scored only slightly lower in wellbeing than the general population<sup>5</sup> (Figure 2), with a

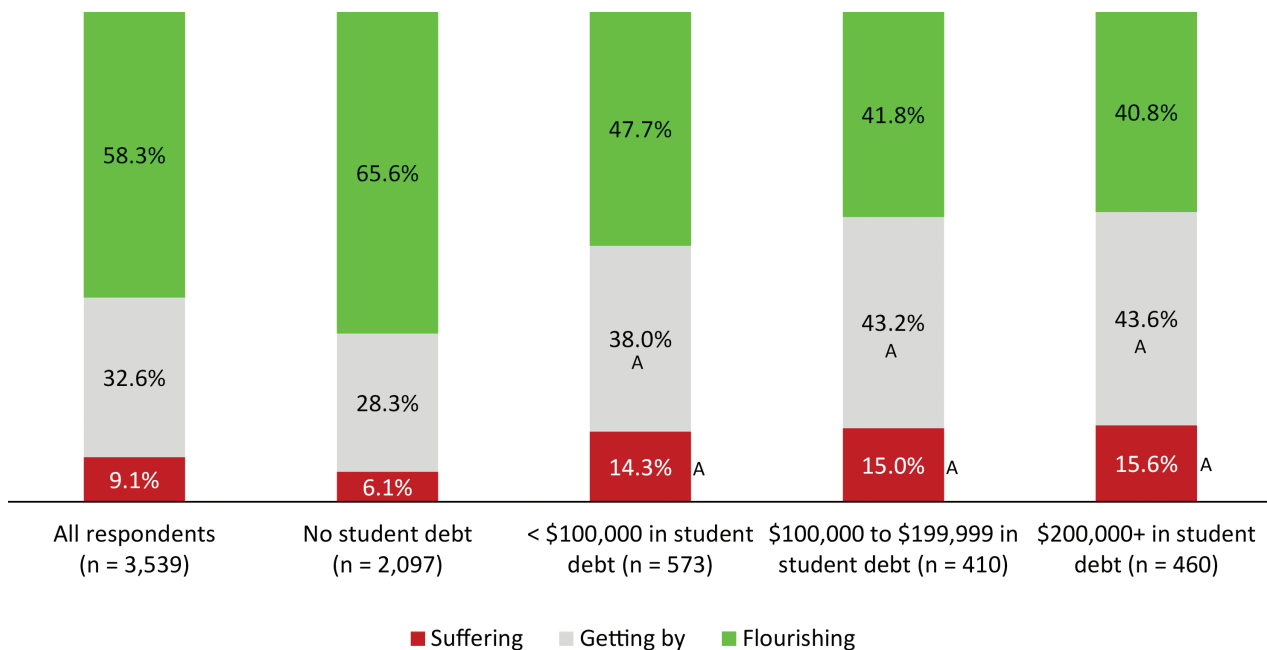
lower percentage of veterinarians flourishing and a higher percentage suffering.

There were significant variations in wellbeing among veterinarians. On average, male veterinarians scored higher in wellbeing than female veterinarians, and married veterinarians scored higher than those who were single or divorced. As a group, older veterinarians scored higher than younger veterinarians, and owners scored higher than associates (Figure 8). Veterinarians who were not in clinical practice scored higher than those who were. Among practice types, food animal veterinarians scored higher in wellbeing than those in other practice types.

As was the case with serious psychological distress, student debt was strongly associated with lower levels of wellbeing (Figure 9), with the amount of student



**Figure 8**—Wellbeing of male and female veterinary practice owners and male and female associate veterinarians who responded to the MAH Study. A through C—Percentages with the same letter were significantly ( $P < 0.05$ ) different.



**Figure 9**—Wellbeing of respondents to the MAH Study, categorized on the basis of student debt. A—Percentages were significantly ( $P < 0.05$ ) different from the corresponding percentages for respondents with no student debt.

debt associated with the percentage that fell into the “getting by” category. Respondents in the “suffering” category were much more likely to be very or completely dissatisfied with their financial situation (69%), job (68%), personal income from veterinary medicine (57%), and household income (53%).

Professional factors most associated with high levels of wellbeing were higher income, working fewer hours, low or no student debt, owning a practice, and not working evenings. As was the case with mental health, participating in healthy activities not related to work was strongly associated with high levels of wellbeing. These included traveling and reading for pleasure, spending time with family, socializing with friends, having a hobby, exercising regularly, and being married or in a relationship.

### Attitude toward profession

Although respondents in the present study generally fell at or near the norm for mental health and wellbeing, there were obviously segments of the population that were struggling. To measure current attitudes toward the profession, the survey included the following question: “Would you recommend a career in veterinary medicine to a friend or family member?” Only 41% of respondents said they would recommend veterinary medicine as a career, 33% said they would not recommend it, and 26% said they didn’t know or were not sure (Figure 10). When an identical set of questions was asked of employed US adults in fields generally requiring at least a college degree, 70% said that they would recommend their career field, and only 13% said they would not.<sup>7</sup> Among physicians, a recent study<sup>8</sup> reported that 51% would recommend their profession and 49% would not (respondents were not given a “don’t know, not sure” option).

As expected, there were significant differences within the veterinary community for this question. Younger veterinarians were far less likely to recommend veterinary medicine as a career than older veterinarians. Only 24% of veterinarians < 35 years of age and 31% of those 35 to 44 years of age indicated that

they would recommend the profession. By contrast, in the general population, younger adults were more likely (82%) to recommend their career. The primary reason veterinarians, especially young veterinarians, did not recommend the profession were low income (54%) and high student debt (53%). The personal toll the profession takes on a person’s life was also listed by 44% of those not recommending.

### Conclusions

Results of the present study confirmed that veterinary medicine is a stressful profession and that even those veterinarians who were mentally healthy and had high levels of wellbeing experienced feelings of depression, anxiety, compassion fatigue, or burnout with some frequency.

Mental illness, identified as serious psychological distress, occurred at about the same rate among veterinarians as in the general population. The percentage of veterinarians who reported having attempted suicide at some point in their lives was substantially lower than that in the general population.

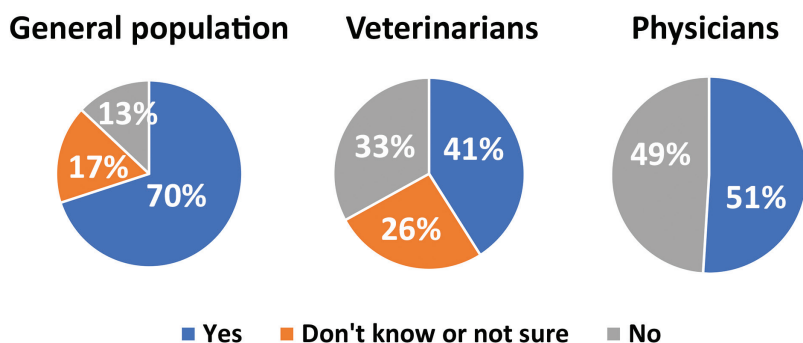
Although wellbeing among veterinarians was slightly lower than in the general population, several subgroups had higher-than-average wellbeing index scores. These included veterinarians who were men, married or in a relationship, older (≥ 55 years of age), food animal practitioners, or not in clinical practice and veterinarians having little or no student debt.

Younger veterinarians were most at risk, with a higher prevalence of serious psychological distress and lower wellbeing index scores. Contributing factors included high student debt and low income as well as other professional and personal issues.

Half of veterinarians with serious psychological distress were not receiving treatment and were not convinced that their peers were sympathetic to their situation. Few employers offered readily available mental health resources. Use of resources available from veterinary organizations was quite low, and the resources that were available were not highly rated by many individuals who had used them.

Many healthy activities were strongly associated with high wellbeing and good mental health, including spending time with family and friends, exercising, traveling, reading for pleasure, and being married or in a relationship.

The fact that 41% of respondents would not encourage others to enter the profession pointed to the seriousness of the issues facing veterinary medicine, especially the stress brought on by low incomes and high student debt.



**Figure 10**—Percentages of respondents who would or would not recommend their current career to a friend or family member for employed adults in the general US populations, veterinarians who responded to the MAH Study, and physicians who responded to a similar question<sup>8</sup> (physician respondents were not given a “don’t know, not sure” option).

### Recommendations

As in the case for physical health, the primary responsibility for good mental

health falls to the individual. In the Merck Animal Health Veterinary Wellbeing Study, several nonwork activities were closely associated with not only high wellbeing but also good mental health. The most important activities studied were spending time with family, socializing with friends, traveling for pleasure, reading for pleasure, having a hobby, and exercising. The study also found that spending  $\geq 1$  h/d on social media was negatively associated with good mental health and high wellbeing; therefore, our findings suggested that limiting time on Facebook, Instagram, and similar sites might be prudent.

Given the high levels of stress inherent in the veterinary profession and the obvious role of financial pressures, we believe that it would be helpful for veterinarians to consult with a social worker or mental health professional to develop a stress management plan to help strengthen their ability to cope with stress. In addition, consulting with a certified financial planner who could help develop a plan to manage student debt and living expenses within the limits of one's income may be helpful. However, the potential benefits of counseling were not specifically examined in the Merck Animal Health Veterinary Wellbeing Study.

Given our results, we believe that it would be advisable for employers of veterinarians to provide time off for meetings with mental health or financial planning professionals. In addition, employers can help educate veterinarians and other team members on the importance of mental health and wellbeing and encourage employees to budget time for healthy activities. Limiting excessive work hours and evening work hours would likely also be beneficial.

The contribution of student debt to serious psychological distress and low wellbeing was well documented in the present study. Thus, it is critical that veterinary medical colleges and veterinary organizations continue to seek ways to lower costs and subsidize veterinary education through scholarships, low- or no-cost loans, loan forgiveness, and other support.

All or nearly all veterinary medical colleges in the United States employ mental health professionals to

provide assistance to students and faculty members. It would be beneficial if those services could be extended to alumni as well.

Many veterinary organizations and publishers offer resources in the form of seminars, brochures, and materials available via the Internet for veterinarians seeking help for mental health and wellbeing issues. However, as our results indicated, these resources were not widely used, and for the most part, those who did use them did not rate them very highly. Organizations should seek to upgrade these capabilities and publicize them more widely to veterinarians in the work force. It would also be worthwhile for organizations to explore innovative methods such as telebehavioral health solutions to make access to mental health care more flexible, inexpensive, and time efficient. Such solutions were not evaluated in the present study.

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