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## Pandemics and Animal Welfare: A Mixed-Methods Inquiry into how the COVID-19 Pandemic has Affected the Companion Animal Industry in Northwest Arkansas

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## **Pandemics and Animal Welfare: A Mixed-Methods Inquiry into how the COVID-19 Pandemic has Affected the Companion Animal Industry in Northwest Arkansas**

### **Cover Page Footnote**

Sabrina Cox is a May 2022 Honors Program graduate from the Department of Animal Science. Isabel M. Whitehead, M.S. is the honors faculty mentor and is an instructor for the Dale Bumpers College of Agricultural, Food and Life Sciences.

## Pandemics and Animal Welfare: A Mixed-Methods Inquiry into How the COVID-19 Pandemic Affected the Companion Animal Industry in Northwest Arkansas

### *Meet the Student-Author*



**Sabrina Cox**

Growing up in a rural area of Benton, Arkansas, I was constantly surrounded by animals and nature. I have always enjoyed working with animals, both large and small, and my mother's position as a NICU nurse led me to choose veterinary medicine as my career. I am a graduate of Glen Rose High School in Malvern, Arkansas, and am now a Summa Cum Laude Honors graduate of the University of Arkansas Dale Bumpers College. During my time at the university, I enjoyed being active in and out of the classroom. I was a member of Delta Gamma, I spent many early mornings at the North Farm tending to the horses, and I served as the vice-president of Community Service for the Arkansas chapter of the National Society of Collegiate Scholars. I also worked part-time as a leasing intern at a student apartment complex and as a veterinary assistant at a clinic serving both pets and livestock. These opportunities and countless others are experiences for which I will eternally be thankful. I want to extend my deepest thanks to my mentor, Isabel Whitehead, my committee members Dr. Jeremy Powell and Dr. Lauren Thomas for their continued guidance and dedication through this process, and to my partner Kayla DeSmet for the countless hours spent together writing, reviewing, and laughing. I am forever grateful for our incredible team, and I am so proud of the work we have done together.

### *Research at a Glance*

- There is a lack of current research on the impacts of the COVID-19 pandemic on veterinary professionals worldwide. Prior research suggested that these essential workers were greatly impacted by the pandemic.
- Data from this study indicate that the pandemic and subsequent socioeconomic challenges had a detrimental impact on the mental well-being of some veterinary professionals in Northwest Arkansas, which aligned with prior research.
- Though participants reported the pandemic had an overall negative impact, they expressed hope for the future and said that maintaining meaningful connections with peers throughout isolation was an important factor that helped them through the worst of the pandemic.



Photo credit: Russell Cothren

Sabrina Cox studying a radiograph of a patient at the Wedington Animal Hospital in Fayetteville, Arkansas.

# Pandemics and Animal Welfare: A Mixed-Methods Inquiry into How the COVID-19 Pandemic Affected the Companion Animal Industry in Northwest Arkansas

*Sabrina Cox\* and Isabel Whitehead†*

## Abstract

The first cases of coronavirus reported in the United States came in January 2020. In the two years since then, countries around the world have been affected by COVID-19 and the subsequent social, economic, and mental health issues. The animal healthcare field was already overrun with burnout, substance abuse, depression, and increased levels of stress, and the pandemic has only compounded these issues. Observing a lack of meaningful reporting on the issues affecting veterinary staff led the researchers to investigate staff members' practices, day-to-day responsibilities, and their current mental health. In this mixed-methods study, the purpose was to investigate and report the ongoing effects of the COVID-19 pandemic on veterinary staff in the Northwest Arkansas area through online self-reporting surveys and virtual interviews with the staff. Sixteen clinics were contacted, and four agreed to participate in the online survey. The survey remained open for two weeks, and virtual interviews were scheduled following the survey completion. Descriptive statistic findings ( $n = 10$ ) showed an overall increase in staffing shortages (80%), increased volume of daily appointments (100%), an increase in work-related burnout (90%), stress (90%), depressive tendencies (70%), and anxiety (100%). Qualitative interviews ( $n = 5$ ) explored how maintaining a sense of community and belonging with peers was a helpful strategy to cope with the stress of these unforeseen circumstances. The results from this study align with previous studies looking into burnout, stress, and depression in veterinary medicine.

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\* Sabrina Cox is a May 2022 honors program graduate from the Department of Animal Science.

† Isabel Whitehead, the faculty mentor, is an honors faculty member and an instructor for the Dale Bumpers College of Agricultural, Food and Life Sciences.

## Introduction

The COVID-19 pandemic has detrimentally impacted multiple industries with essential workers since the first cases were reported in late 2019. Research shows veterinarians have been busy during the pandemic (Tompkins, 2020) and that the combined financial, social, and workplace stressors are causing burnout in veterinarians worldwide (Tan, 2020). Many veterinary and medical students are experiencing increased levels of stress, anxiety, depression, and substance abuse. Additionally, the lack of in-person instruction has caused students across many disciplines to feel a lack of fulfillment in their education and in their social lives (Jawad et al., 2020). Veterinarians already experience some of the highest rates of work-related stress and suicide, and the pandemic has caused these rates to increase. Veterinary nurses in the United Kingdom self-reported some of the lowest mental health levels, indicating fatigue, depressive mood, and a lack of meaningful connections with others (Mair et al., 2020).

These preliminary findings about the impacts of the pandemic on the mental health of professionals and students in the veterinary medicine sector are vital to our understanding of the long-term effects and trauma caused by the pandemic. If students and professionals are reporting such negative effects on their mental health mere months into the pandemic, how will the coming months (or even years) impact them? Mobasheri (2020) called for a collaboration between all different sectors of medicine—namely, human and animal medical professionals—in order to form a united front to work towards optimal health for humans, animals, and the environment. Considering the levels of burnout and stress reported in recent studies, this study aimed to investigate and report the effects of the global pandemic on veterinary staff in the Northwest Arkansas region. The research objectives for the study were to 1) identify the financial impact on veterinary clinics in Northwest Arkansas, as well as the change in the volume of clientele and patients and the frequency of their visits; 2) investigate the effects of the pandemic on staffs' physical, mental, and emotional well-being; and 3) investigate how veterinary business practices adapted to city, state, and federal guidelines for interacting with clients.

## Materials and Methods

This study employed a non-experimental, mixed-methods approach using online surveys and semi-structured virtual interviews. The online survey was compiled by the researcher using questions from the Warwick-Edinburgh Mental Well-being Scale (Warwick Medical School, 2020) in addition to new questions specific to veterinary medicine. The interview protocol was developed by the

researcher based on questions from Leech (2002). The survey and interview protocol were sent to a panel of animal science experts for review, in addition to holding three cognitive interviews with individuals in the veterinary medicine industry to ensure that the questions were valid, relevant to the purpose of the study, and clear. The population included veterinarians, veterinary technicians, veterinary assistants, receptionists, office personnel, and kennel assistants employed at veterinary clinics in the Northwest Arkansas area. Convenience sampling, a non-probability form of sampling, was used for the study. This method is simple, inexpensive, efficient, and deemed appropriate for the scope of this study (Jager et al., 2017). After receiving approval from the Institutional Review Board of the University of Arkansas for the use of human subjects (Protocol #2201381633), the study was conducted in the spring of 2022. The researcher contacted 16 veterinary clinics, and 4 clinics returned the signed business consent form.

The first section of the survey included demographic questions, asking the participants to report their gender, age range, job title, and the amount of time they worked in the animal healthcare field. The next section asked questions relating to business practices, such as any change in protocols and changes in services offered. The last section of the survey asked respondents to report their mental health levels. Participants were presented with the Warwick-Edinburgh Mental Well-being Scale (WEMWBS), a 14-statement Likert-style questionnaire with answers ranging from (1) none of the time to (5) all of the time. Finally, participants were presented with a Likert-style matrix asking them to report the answer that best describes their mental health experience during the pandemic on a scale of (1) increased significantly to (5) decreased significantly.

For the quantitative portion of the study, the link to the online survey was emailed to clinics, which remained open for 14 days, with one reminder sent on day 7. For the qualitative portion of the study, semi-structured interviews were conducted through web conferences with participants who indicated their interest in the survey. Each virtual interview lasted approximately 30 minutes. The semi-structured nature of the interviews allowed for both standardized and individualized data collection without the rigidity and formality of a structured interview (Fontana and Frey, 2005). Interviews were conducted and audio recorded with the consent of the participant. Audio recordings were transcribed and edited by the researcher using an online transcription program in order to correct transcription errors and de-identify the transcripts of participants' information. A total of 5 interviews were conducted.

Data collected from closed-ended questions were analyzed statistically through an online data analysis program in order to identify frequencies, means, and standard deviations. The transcripts from the virtual interviews were



downloaded to a word processing software, using wide margins, and were qualitatively analyzed using thematic analysis. Three total rounds of coding were conducted in order to identify frequently used words, phrases, and sentiments. The categories were then refined and assigned names to represent the different themes (Alhojailan, 2012).

## Results and Discussion

A total of 4 veterinary clinics consented to participate in this study, and 10 survey responses were received, along with 5 follow-up interviews. Most participants were in the 25 to 34-year-old age range (50%), but age groups ranged from 18 to 24 (10%) to 55 to 64 (10%). All participants were female and white. Participants' roles included office managers (10%), receptionists (20%), veterinary assistants or technicians (40%), veterinarians (20%), and veterinarians/owners (10%). Participants' years of experience in the veterinary field ranged from 1 to 5 years

(10%), 5 to 10 years (40%), and 10 years or longer (50%).

Of the 10 responses received, 100% of participants reported that their clinic changed the services offered. Regarding specific changes, participants were presented with a set of services in a matrix table and asked to indicate whether their clinic offered these services on a scale of (1) already offered pre-pandemic, (2) added in response to the pandemic, (3) altered in response to the pandemic, (4) no longer offered, and (5) not applicable. All participants indicated that their clinic added curbside appointments in response to the pandemic. Other services, such as phone consultations and house calls, were already offered prior to the pandemic, but some participants indicated that these services were altered in response to the pandemic. Eighty percent of participants felt that the change in services had a positive effect on their business.

Participants reported an increase in the volume of clients, patients, and appointments since the start of the pandemic, with 100% of the responses in each category

**Table 1. Perception of change in demand for routine procedures and services.**

Item	Significant increase	Slight increase	No noticeable change/Unsure	Slight decrease	Significant decrease	Not applicable
Spay/Neuter Surgeries	20.00%	40.00%	20.00%	10.00%	0.00%	10.00%
Dentals	10.00%	40.00%	30.00%	10.00%	0.00%	10.00%
Mass/Tumor Removal	10.00%	40.00%	30.00%	10.00%	0.00%	10.00%
Radiographs (with or without anesthesia)	10.00%	30.00%	60.00%	0.00%	0.00%	0.00%
New Pet Wellness Appointments	70.00%	10.00%	0.00%	10.00%	0.00%	10.00%
Annual Wellness Appointments	30.00%	30.00%	20.00%	10.00%	0.00%	10.00%
Problem/Ill/Injured Appointments	50.00%	40.00%	10.00%	0.00%	0.00%	0.00%
Vaccine Appointments	20.00%	60.00%	0.00%	10.00%	0.00%	10.00%
Grooming Appointments (including nail trims)	20.00%	40.00%	20.00%	0.00%	10.00%	10.00%
Other (please specify)	0.00%	0.00%	10.00%	0.00%	0.00%	90.00%

falling into either slight increase or significant increase. They were then presented with a matrix and asked to indicate if there was a change in demand for any routine procedures. Participants reported an increase in almost all appointment categories—New Pet Wellness Appointments, Problem/Ill/Injured Appointments, and Vaccine Appointments were the categories that participants said increased in demand the most (Table 1). Participants reported their weekly hours worked increased as a result of the pandemic (60%). Participants also reported that they did not feel they received adequate compensation for the work they did and the care they provided during the pandemic (40%).

In the Warwick-Edinburgh Mental Well-being Scale, 80% of participants reported feeling relaxed rarely or none of the time, 60% reported that they rarely have energy to spare, while 30% reported that they do not have any energy to spare. Further statements show participants reporting that they rarely feel good about themselves (20%), they rarely or never feel cheerful (40%), and are not interested or are rarely interested in new things (40%). Participants also reported that they felt useful—40% reported that they felt useful all of the time, and another 30% felt

useful some of the time. Participants felt that they were often dealing with problems well (30%) and that they were often thinking clearly (40%) (Table 2).

Participants reported a decrease in their overall mental health (70%), an increase in stress levels (90%), a slight increase in substance abuse (10%), and increased feelings of work-related burnout (90%). All of the participants reported their anxiety levels increased either somewhat (60%) or significantly (40%). Seventy percent of participants reported increased levels of depression (Table 3). The quantitative data produced by this study aligns with prior research—veterinary professionals are experiencing increased rates of burnout, stress, anxiety, and depression (Mair et al., 2020).

The interviews utilized in this study sought to further explore participants' experiences working at a veterinary clinic during the COVID-19 pandemic. The themes identified include: boarding reservations, patient and client volume, staffing shortages, learning curves, physical wellness, mental and emotional wellness, dealing with misinformation, an optimistic outlook, immediate changes, curbside, and exceptions to the rules. Quotes that illustrate the themes identified through participant interviews are listed in Table 4.

**Table 2. Warwick-Edinburgh Mental Well-Being Scale.**

Item	None of the time	Rarely	Some of the time	Often	All of the time	Not applicable
I've been feeling optimistic about the future	10.00%	30.00%	30.00%	20.00%	10.00%	0.00%
I've been feeling useful	0.00%	10.00%	20.00%	30.00%	40.00%	0.00%
I've been feeling relaxed	20.00%	60.00%	0.00%	20.00%	0.00%	0.00%
I've been feeling interested in other people	20.00%	0.00%	30.00%	40.00%	10.00%	0.00%
I've had energy to spare	30.00%	60.00%	10.00%	0.00%	0.00%	0.00%
I've been dealing with problems well	20.00%	10.00%	30.00%	30.00%	10.00%	0.00%
I've been thinking clearly	10.00%	10.00%	40.00%	40.00%	0.00%	0.00%
I've been feeling good about myself	10.00%	20.00%	40.00%	10.00%	20.00%	0.00%
I've been feeling close to other people	20.00%	10.00%	20.00%	40.00%	10.00%	0.00%
I've been feeling confident	10.00%	10.00%	30.00%	40.00%	10.00%	0.00%
I've been able to make up my own mind about things	0.00%	10.00%	20.00%	50.00%	20.00%	0.00%
I've been feeling loved	10.00%	20.00%	10.00%	40.00%	20.00%	0.00%
I've been interested in new things	10.00%	30.00%	30.00%	20.00%	10.00%	0.00%
I've been feeling cheerful	10.00%	30.00%	30.00%	20.00%	10.00%	0.00%

Boarding reservations are an important part of many clinics' income, and one of the immediate challenges these clinics faced was a sudden drop in the volume of reservations. However, each of the participants interviewed identified an increase in overall workload. They described these times as chaotic and stated that doctors were unable to keep up with the patient load. Another clinic moved to a new facility with more examination rooms, which led to an increase in the volume of appointments and patients being seen. This added increased stress to the staff since they were already experiencing the highest turnover rates in the history of their clinic.

The sudden change in procedure affected everyone interviewed. Many clinics closed their doors to in-house services immediately after the start of "lockdown" in March 2020, and clinics began to require employees and clients to wear masks at all times. All participants interviewed reported that their clinic utilized curbside service for some duration of time; one clinic returned to normal in-house services as soon as the majority of the employees had been vaccinated, one clinic reopened its doors in May 2021, and another clinic is still functioning as curbside-only. Participants had mixed opinions on the curbside services; some indicated that it was far less efficient since assistants were spending extra time going out to parking lots or speaking on the phone to clients, while others felt that examinations were performed more efficiently without owners present. Many clinics continue to offer curbside service on an as-needed basis for clients who are ill or may be uncomfortable with prolonged face-to-face interactions. Clinics also allowed some exceptions—for sensitive appointments, such as euthanasia, clients were allowed into the buildings, though social distancing and masks were strictly required.

Responses varied when discussing physical well-being. Some participants expressed struggling with weight gain,

turning to comfort food, and returning to familiar unhealthy habits to cope with the pressures of the pandemic. A decrease in physical activity as a side-effect of stress and lack of energy only exacerbated these issues. However, another participant attributed their stable mental and physical state to spending time outside and working on their farm.

Participants also reported increased feelings of work-related burnout, stress, and anxiety across multiple positions. Multiple participants reported that they strongly considered leaving the profession—some considered leaving for a short time, while others considered leaving the field entirely. Though there was discussion of a significant increase in work-related mental health issues, participants commonly identified maintaining a sense of community with their peers and coworkers as the main factor that helped them through the worst of the pandemic.

## Conclusions

In conclusion, the goal of this study was to report the effects of the COVID-19 pandemic on veterinary clinics and their employees accurately and thoroughly—specifically, any changes in business practices, mental health levels, and financial impacts. Participants reported that their businesses changed the services offered, there was an overall increase in appointments, and their weekly hours worked increased during the pandemic. Mental health levels decreased overall, with an increase in stress, anxiety, depressive feelings, and work-related burnout. Though this study has limitations and cannot be generalized, it provided important insight into the effects of a global pandemic on veterinary professionals in the Northwest Arkansas region. The data produced by this study align with previous research looking into the effects of the pandemic on veterinarians and veterinary technicians. Further research

**Table 3. Participants' changes in mental health since the start of the pandemic.**

Question	Increased significantly	Increased somewhat	No change	Decreased somewhat	Decreased significantly	Total
Overall mental health	10.00%	0.00%	20.00%	50.00%	20.00%	10
Stress levels	70.00%	20.00%	10.00%	0.00%	0.00%	10
Substance abuse	0.00%	10.00%	90.00%	0.00%	0.00%	10
Feelings of work-related burnout	60.00%	30.00%	10.00%	0.00%	0.00%	10
Anxiety levels	40.00%	60.00%	0.00%	0.00%	0.00%	10
Depression	30.00%	40.00%	30.00%	0.00%	0.00%	10
Other (please specify)	0.00%	0.00%	55.56%	0.00%	44.44%	9



**Table 4. Direct quotes from participants in the study.**

Theme	Quotes
Boarding reservations	<p>"All of our kennels emptied out."</p> <p>"During the first year, boarding was nonexistent because no one was traveling. The second year, boarding was constantly busy every weekend."</p>
Patient and client volumes	<p>"All of a sudden, it just, it just started, and it kept coming and it didn't stop... it was just complete, complete chaos... [the doctors] couldn't keep up with the patient load."</p>
Staffing shortages	<p>"A lot of my experienced staff either quit and left the field entirely or just went to [non-emergency practices]. It was rough there for a while around the summer of 2020... I was just calling it, you know, if you have a pulse, you get a job."</p>
Learning curves	<p>"It was a big adjustment... but we adapted... [the pandemic] opened our eyes to, you know, different options... and made us see that we can be very flexible."</p> <p>"[We are] more having to train inexperienced people. So, we had enough numbers of people, but not like an equal trade for the [experienced] person that left."</p>
Physical wellness	<p>"It was literally wake up, stress, go to work, stress, come home, drink three White Claws so that you can go to sleep and then repeat."</p> <p>"I'm in way worse shape than I was just because you're mentally drained."</p>
Mental and emotional wellness	<p>"I'm definitely feeling more burned out than I ever have... most days I don't want to go to work."</p> <p>"At one point, I definitely did consider, like, is this what I want to do? Is it worth it?"</p> <p>"One of the most important things of veterinary medicine is our colleagues... I feel very connected."</p>
Dealing with misinformation	<p>"It was really frustrating being a professional that deals with vaccine risk versus benefit every day, and just seeing how stupid some people were being about it."</p>
An optimistic outlook	<p>"Through it all it did teach us to work more efficiently... the busier that we did get, the more efficiently we were working."</p>
Immediate changes	<p>"We closed the doors to having... people come inside, which happened almost immediately in spring of 2020."</p>
Curbside	<p>"I had a little bit more history taking... and then I would try to follow up on the phone, which was very difficult because people never answered their phone."</p>
Exceptions to the rules	<p>"We did allow people to be in the building and present with their [pets] during the euthanasia [process] as we didn't want to, you know, sacrifice that."</p> <p>"Outside appointments were encouraged if the owner needed to be present."</p>

should consider the long-term effects on these workers, as well as any impacts on patient care and client satisfaction.

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### Literature Cited

- Alhojailan, M. 2012. Thematic analysis: A critical review of its process and evaluation. *West East J. Social Sci.* 1(1):39-47.
- Fontana, A. and J. Frey 2005. *The Sage Handbook of Qualitative Research*. Sage Publications Inc., Thousand Oaks.
- Gardner, D.H. and D. Hini. 2006. Work-related stress in the veterinary profession in New Zealand. *New Zealand Veterinary J.* 54(3):119–124.
- Jager, J., D.L. Putnick, and M.H. Bornstein II. 2017. More than just convenient: The scientific merits of homogeneous convenience samples. *Monographs of The Society for Research In Child Development.* 82(2):13-30.
- Jawad, H., H. Qasir, N. Iqbal, J. Azhar, A Mubeen, and M. Affaq Azhar. 2020. Well-being of veterinary and medical students during COVID-19 pandemic. *Acta Scientific Veterinary Sciences.* 2(7):31–34.
- Leech, B.L. 2002. Asking questions: Techniques for semi structured interviews. *Political Science & Politics.* 35(04):665–668.
- Mair, T.S., D.R. Mountford, R. Radley, E. Lockett, and T.D. Parkin. 2020. Mental well-being of equine veterinary surgeons, veterinary nurses and veterinary students during the COVID-19 pandemic. *Equine Veterinary Education.* 33(1):15–23.
- Mobasheri, A. 2020. COVID-19, companion animals, comparative medicine, and one health. *Frontiers in Veterinary Science.* 7:522
- Tan, J.Y. 2020. Puppies & burnout: The economic impact of the coronavirus on vets. *The Conversation*. Accessed 4 February 2021. Available at: <https://theconversation.com/puppies-and-burnout-the-economic-impact-of-the-coronavirus-on-vets-141964>
- Tompkins, A. 2020. Veterinarians are busier than ever during the COVID-19 pandemic. *Poynter*. Accessed 4 February 2021. Available at: <https://www.poynter.org/reporting-editing/2020/veterinarians-are-busier-than-ever-during-the-covid-19-pandemic/>
- Warwick Medical School. 2020. The Warwick-Edinburgh Mental Well-being Scale (WEMWBS). Accessed 4 March 2021. Available at: <https://warwick.ac.uk/fac/sci/med/research/platform/wemwbs>
- World Health Organization. 2020. Listings of WHO's response to COVID-19. World Health Organization. Accessed 15 October 2021. Available at: <https://www.who.int/news/item/29-06-2020-covidtimeline>