

# Should I stay or should I go – a qualitative assessment of experiences of recent veterinary graduates in bovine practice

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## Abstract

Twenty-three recent graduates (< 8 years in practice) participating in the 2022 AABP Recent Graduate Conference or practicing in the Texas Panhandle were recruited for participation in focus groups to engage in dialogue about why they choose to remain in bovine practice, why they might leave bovine practice, and challenges that they face in bovine practice. All focus groups were recorded and transcribed. Transcription was performed by a commercial source and anonymized for analysis. Full coding and thematic analysis were performed utilizing NVivo software.

Recent graduates report that they choose to stay in bovine practice because they love the industry and the associated people. They have a deep respect for their clients and how they care for their animals. However, participants did voice concerns about a career-ending injury causing them to completely leave bovine practice. Multiple participants had already sustained injuries due to the physical demands of bovine practice including a back injury, numbness of arms and hands, and diagnosis of carpal tunnel syndrome. Other concerns that were voiced by the participants included unmet needs for mentorship, a feeling of loneliness and isolation, percentage of time spent on-call, and gender inequities in practice.

**Key words:** recent graduates, veterinary practice, mentorship, injury

## Introduction

Attrition of food animal veterinarians is occurring at an alarming rate. Evidence of this downward trend can be seen in a recent review of the American Association of Bovine Practice (AABP) membership which showed a significant decline in the percentage of recent graduates that maintain AABP membership 5 years or more following graduation. The same report also reveals a concerning decline in retention of female membership post-graduation through the first 5 years of practice. Membership numbers show a 40% decrease, a reduction from 710 to 288, in the female population from 0 to 5 years post-graduation as compared to 6 to 10 years post-graduation compared to a 15% decrease in the male population. In a recent survey of those who did not renew AABP dues in the last 3 years, the most common reason for non-renewal was transition to small animal practice with 36% of respondents

stating such. It is unknown whether the loss of membership is due to attrition from clinical practice entirely, or whether veterinarians simply shift into other areas of practice (e.g., companion animal practice).

Veterinary attrition from bovine practice is not new, and not limited to the United States. This phenomenon has been reported on multiple times over the last 2 decades. For example, Chenoweth reported on the vulnerabilities of the food animal veterinary profession and highlighted how the profession could become more relevant and appealing to professionals.<sup>1</sup> In 2010, Villarroel et al., reported that 30.6% of survey respondents in the United States had left rural practice for a variety of reasons.<sup>2</sup> Furthermore, a 2015 study from the UK reported that 38% of veterinarians < 8 years post-graduation were considering changing career areas.<sup>3</sup> In an Australian study, veterinarians who worked in rural or semi-rural regions were less likely to leave clinical practice than veterinarians in metropolitan areas, but those who worked in both metropolitan and regional areas were 4 times more likely to leave than those in metropolitan areas.<sup>4</sup> Collectively, these studies point to the threat of veterinary attrition from food animal practice. In general, factors associated with attrition from practice in all species sectors have been largely identified as: 1) environmental factors (lack of managerial and peer support, working hours including being on-call), 2) clinical mistakes, 3) incongruent client expectations, 4) excessive clerical tasks, 5) the threat of litigation and client complaints,<sup>5</sup> 6) student loan debt,<sup>6</sup> and 7) the burden of moral and ethical conflicts in their practice.<sup>7</sup>

Issues that also influence attrition rates unique to food animal and rural veterinarians, who are more likely to be mixed-animal practitioners, include farm profitability, lack of social and cultural opportunities, limited job opportunities for spouses, and lack of childcare.<sup>8</sup> Villarroel et al. identified the top reasons veterinarians of any age left rural practice, which included emergency duty, time off, salary, family concerns and practice atmosphere. Dawson et al. offered insight on the experiences of recent graduates. They found recent graduates were at greater risk of occupational stress than older practitioners, which is likely a factor contributing to early attrition.<sup>9</sup>

Additionally, another pilot study of recent graduates entering mixed animal practice indicated working more hours than scheduled, weekend work, on-call time and financial

constraints are all contributing factors resulting in attrition. The findings from this pilot study agree with extant literature. Themes of inadequate working conditions, versatility of medicine (the need to have competency in multiple species), and business acumen also emerged from 4 individual interviews in that study.<sup>10</sup>

Early attrition from food animal practice is an international concern. Australian veterinarians who had on-call responsibilities were 10 times more likely to leave than those with no on-call time.<sup>4</sup> Additionally, lower salaries and longer hours also contributed to attrition with males being overrepresented and more likely to leave practice.<sup>4</sup> In a second study from Australia, personal factors including, but not limited to, alternative professional interests, motivation, character, beliefs, negative thoughts, affectivity, personal time, relationships, physical and mental health, fatigue, and negative work experiences all influenced a veterinarian's decision to leave practice.<sup>11</sup> In a similar UK study, those staying in farm work were significantly more likely to work in a practice with a higher number of veterinarians, perform a higher proportion of on-farm animal work, earn a higher salary, experience less on-call time, receive regular feedback from their employers, and regularly receive bonuses and continuing education allowances. Participants who stayed in farm practice also had significantly higher agreement with farm practice statements that centered around improving animal welfare, safeguarding the food supply, and enjoying the clients and the work that they do.<sup>12</sup> This was also reflected in a qualitative sister study, where those staying in farm practice reported they "enjoyed" or "loved it" indicating job satisfaction.<sup>13</sup> However, those remaining in farm work were more likely to suffer a serious injury on the job. Completing an externship or similar work with the practice as a student was associated with retention.<sup>13</sup> This finding is similar to findings by Gibbons et al. who reported that completed externships prepared students for life in mixed practice.<sup>10</sup> Mentorship for recent graduates was also associated with retention (specifically having a senior veterinarian attend calls with them, or available for phone consults). Peer support was not associated with retention.<sup>12</sup>

The aim of this study was to investigate the challenges experienced by recent graduates in bovine practice in the United States, reasons for staying in (rural) bovine practice, and reasons one might consider leaving this sector of veterinary medicine.

## Materials and methods

To answer the research questions of our study, it was necessary to collect rich, qualitative data. A series of focus groups designed to evoke in-depth responses from participants regarding reasons for attrition from food animal practice was conducted.

Veterinarians attending the 2022 AABP Recent Graduate Conference were recruited to participate in a focus group with peers. Any veterinarian interested in participating was accepted and there was no stratification of participants by percentage of time devoted to bovine practice. Two focus group sessions were held at Recent Graduate Conference. In addition, 3 veterinarians participated in a pilot focus group prior to the conference. Last, a 4<sup>th</sup> focus group consisting of a convenience sample of recent graduates in private, mixed-animal practice in the Texas Panhandle were recruited to participate in a separate focus group. No incentive was offered to the participants for any group other than an evening meal. The study

was approved by Texas Tech University Research Protection Program, IRB 2021-1098.

Participants were asked questions pertinent to the challenges faced as a recent graduate, reasons to be in bovine/mixed rural practice, factors involved in wanting to stay in practice, and reasons to leave bovine practice. Questions are available from the corresponding author upon request. Participants were encouraged to share reasons for leaving or changing practices as well. For the focus group hosted in the Panhandle, questions were also generated from knowledge gained in the AABP focus groups to include mentorship experiences, opportunities to further develop professional skills, and continuing education topics they may desire. All 4 focus groups were recorded, and the recording was transcribed by a commercial source and anonymized for analysis. Full coding and thematic analysis<sup>14</sup> were performed by 2 authors (PG, JK) using NVivo software and confirmed by remaining researchers.

## Results

A total of 23 veterinarians participated in the 4 focus groups, 3 in the pilot, 3 in the first session of Recent Graduates, 9 in the second session of Recent Graduates, and 8 in the Texas Panhandle group. Regarding gender, 14 females and 15 males participated. One of the participants practiced exclusively dairy, 6 practiced in bovine-predominant practices (> 60% bovine), 1 provided bovine consultation, 2 worked in industry, and the remaining 14 identified as working in mixed-animal practice.

One of the participants had completed an equine internship before joining the current mixed-animal practice. Five of the participants disclosed that they had resigned from at least 1 position while others did not share. For those who resigned, the reasons cited revolved around opportunities for personal and professional growth.

When asked why participants choose to remain in bovine practice 1 major theme was identified: a sense of professional fulfillment. Evidence that supports the theme of professional fulfillment for the profession manifested when most participants expressed a profound respect for the clients they serve, and deep emotional connections to the work they perform. They also expressed the enjoyment and fulfillment received through their involvement in the agriculture industry. One recent graduate commented, "there's something really special about the industry and the clients and how doing the right things for your cows and your employees may not be always best for your pocketbook while also feeding the world". Another participant noted, "I find the clients to be incredibly rewarding. The people who care for these animals are very near and dear to me even though I'm not a farmer myself. This is not a blanket statement, but they are very easy [farmers] to work with. They are appreciative, they are humble, and they care for me I feel, in a different capacity than what I have observed of my small animal veterinary client counterparts."

Participants were also asked to share reasons why they would leave bovine practice entirely. Four major themes emerged from the analysis: 1) health preservation, 2) work-life balance, 3) a sense of isolation, and 4) the need for mentor relationships. Further quotes can be found in the appendix (Appendix 1).

Health preservation was mostly expressed as ways to prevent injury or health conditions that might compromise one's ability/capacity to practice medicine. One participant noted that after 2 years of practice they developed carpal tunnel

syndrome. Others noted numbness of their hands and arms and back injuries that sidelined them from practice for a brief period. One participant commented, “Obviously, the injuries would cause you to potentially leave or at least look at other areas, industry, or something like that.”

Work-life balance was seen as a challenge by participants as several agreed on the burden of on-call frequency. This concern was mostly expressed by participants practicing in < 3 doctor practices or by those who spend 50% or greater time on-call. Participants working in large multidocor (> 3 doctor) practices did not share this same concern. Ultimately, work-life balance has the potential to cause practitioners to consider leaving practice.

Several statements supported the theme of sense of isolation which seems to be recurring among professionals in rural practice. One participant said, “I will add one [challenge]. And that is it can be really isolating. Nobody tells you that part. You are, for the first time, not surrounded by other people who are also taking the same step you are.” Those who were in practice with fellow recent graduates found peer support beneficial, both professionally and personally. Isolation in rural settings seems to be exacerbated by several other common issues encountered in rural areas. Participants mentioned difficulties finding appropriate housing and job opportunities for spouses or significant others.

Mentorship was discussed at length by participants. Unmatched or uncommunicated expectations of mentorship were a self-identified source of stress for the recent graduates and potential reason for leaving a practice. One point that emerged was the need to consider setting proper expectations and following through with realistic mentoring opportunities offered by the hiring clinician or practice. Some participants readily admitted that as new hires, they did not always know how to advocate for their mentorship wants or needs. One participant commented, “[I] did not have clear goals on what the practice wanted me to do, versus [sic], and even what I wanted to do. So, I think that was just a big disconnect, that was partially my fault, too.”

Gender inequities were also discussed by several women who participated in the focus groups. Inequities revolved around fewer ownership opportunities due to gender and lack of practice policy for maternity leave. One participant shared the following, “One of my most passionate obstacles was in a mixed practice and it became very apparent that there were gender differences, how ownership looked at the females.” Another participant added, “With our practice, there was no policy or handbook until last year. Not that that’s a huge deal, but it’s important to have in place. And so, there wasn’t a policy on maternity leave. There was nothing in place until after, or very close to when my son was born. And so that made it tough.”

## Discussion

Recent graduates interviewed loved the cattle industry, enjoyed being a part of the agricultural community, and profoundly respected their clients and how they care for their animals. This passion appeared to sustain them through many of the challenges they encountered in bovine practice. This finding of respect for the cattle industry aligns with a survey of UK farm animal veterinarians.<sup>13</sup>

On the other hand, physical injury was identified in our study as a primary reason that recent graduates felt they would need

to leave bovine practice. This concern is well-founded: Reist et al. noted that bovine veterinarians performing reproductive examinations were exposed to multiple ergonomic hazards that could contribute to musculoskeletal discomfort and injury of the upper extremities. These ergonomic hazards were compounded when veterinarians participated in other activities such as operating the cattle handling chute, opening and closing gates, and moving cattle.<sup>15</sup> In a survey of UK veterinarians, those participating in farm animal practice were significantly more likely to have sustained serious injury or had a motor vehicle accident while making farm calls as compared to those veterinarians who left farm animal practice.<sup>12</sup> Musculoskeletal disorders (MSD) have been widely noted among the veterinary industry with 63% of respondents in one study experiencing MSD of the lower back, 57% experiencing neck MSD, and 52% experiencing shoulder MSD.<sup>16</sup> Another study of Canadian bovine veterinarians found high prevalence rates of MSD experienced by survey respondents with 89.5% of respondents reporting MSD in the previous 12-month period and 96.9% of respondents experiencing MSD in their career.<sup>17</sup>

Mentorship was also a major topic of discussion among focus group members. Notably, mentorship has been previously named as a major factor on why an employee would leave a practice in multiple studies. Two Canadian studies found that mentorship ranked as the most common reason for leaving a place of employment with 38.3% of respondents leaving a position solely because of insufficient mentorship or support.<sup>18,19</sup> This sentiment was echoed in a more recent New Zealand study.<sup>20</sup> In the previously mentioned UK study, having an experienced veterinarian attend daytime calls with the recent graduate, or being available by phone, was associated with retention, while no support had a negative association with retention. The same was found for mentorship availability during after-hours calls.<sup>12</sup>

Although we did not provide a definition of mentorship to the focus groups, the following definitions for both mentor and mentee in the context of veterinary medicine are commonly understood. A mentor is a more experienced and knowledgeable person who actively guides a less experienced or less knowledgeable person. A mentee is defined as a less-knowledgeable and less-experienced person who is open to learning and accepting mentorship.<sup>21</sup> A mentor also has a keen interest in helping the mentee to flourish both personally and professionally, while encouraging the mentee to develop their own unique professional identity. Mentoring is acknowledged as a successful method to increase retention in business and human medicine.<sup>21</sup> Niehoff et al. found that having a mentor improved career success.<sup>22</sup> New graduates have stated that having a mentor who checked in regularly and provided structured feedback were important characteristics that improved their mental well-being.<sup>20,22</sup> Mentors and mentees may find group mentoring or mosaic mentoring to be an effective strategy in which a mentee draws mentorship from multiple mentors with a variety of skill sets, experiences and perspectives.

Peer-to-peer mentoring has also been shown to be a highly effective type of mentoring for medical students. Benefits reported include improved personal and professional development, stress reduction, and ease of transitioning.<sup>23</sup> Review of peer-to-peer mentoring outcomes focus on resilience and increased mental well-being as compared to increased competency or proficiency as seen in typical mentor-mentee interactions. Consequently, many corporate veterinary practices have implemented not only traditional mentorship, but also

peer-to-peer mentorship programs.<sup>21</sup> Focus group members shared similar sentiments to those previously reported in that having another recent graduate in the practice eased the transition from veterinary school to practice. A peer within the practice also provided a confidant and friend for support. Those participants that had peer-to-peer mentorships within their practices did not voice the concern of loneliness and isolation as compared to those who did not have a peer-to-peer mentorship relationship within the practice. Conversely, in the UK study, peer-to-peer support was not associated with retention in food animal practice.<sup>13</sup> These published reports align with the participants' responses and themes identified in the current study.

By attending to mentoring, retention may be improved. Retention of veterinarians in food-animal practice, mixed-animal practice, and rural practice are well known issues in veterinary medicine.<sup>2,4,8,11-13,18,24</sup> New graduates have indicated that they chose an internship over private practice as they highly valued mentorship in their early careers.<sup>25</sup> Minimal literature around structured mentoring programs in veterinary medicine exists to date, especially regarding increased retention rates of new graduates. Nonetheless, if we draw on literature in human medicine, mentoring is a successful retention strategy.<sup>26</sup> Mentorship may be within a practice, either from their direct supervisor or another veterinarian, or may be obtained from an external source. The role of the mentors in each of these situations will vary.

It is important to recognize there are some barriers to successful mentor-mentee relationships, most notably effective communication on behalf of both parties. Generational differences may exist within a mentor-mentee relationship, and both parties should work diligently to understand the needs and values of the other party.<sup>27</sup> By working to understand another person's point of view, a culture of trust and mutual respect is established, which is foundational to a successful mentor-mentee relationship.

Common pitfalls include limited access to mentors, unrealistic expectations of both mentor and mentee, and lack of time on the part of the mentor or mentee. Unrealistic expectations of both parties can be avoided through concise and clear communication. Mentors are also encouraged to set clear guidelines on what a mentee can expect. Mentees are encouraged to be open and realistic about their needs from a mentor. Setting realistic and truthful expectations early in the relationship avoids the feeling of unmet expectations by both the mentor and mentee. Veterinary practices may benefit from frequently reviewing the efficacy of mentorship relationships and make changes as needed.<sup>21</sup>

Research on gender inequities as a reason for leaving food animal or bovine practice are limited at present. A 2010 study found that 23% of female respondents, but no male respondents, ranked gender issues as the reason for leaving rural veterinary practice.<sup>2</sup> Gender concerns were also noted in a more recent study.<sup>28</sup> Similarly, 3 focus group participants reported leaving a practice due to gender inequities. Quotes from participants regarding this topic are included in the appendix.

Three main factors have been previously cited as key drivers related to the retention of recent graduates in practice: the caseload of the practice, the workload including the number of nights on-call, and the level of mentorship.<sup>18</sup> Interestingly, based on the current findings, two of the above factors are

seen as major challenges recent graduates are facing in practice. One could also make the case that lack of opportunity for professional growth could be tied to caseload within a practice. Therefore, one may construe that these issues, while not novel in nature, continue to be significant challenges effecting recent graduates' decision to remain in bovine practice. Mentorship training has become increasingly more accessible. An opportunity exists for AABP membership to work toward understanding the needs of recent graduates, and effectively bridge the generational gaps and improve communication. Furthermore, considering the high value placed on peer-to-peer mentoring by recent graduates in the focus groups, practices might find it useful to identify ways to foster this type of mentoring. Practices may also consider the benefit of hiring 2 recent graduates at similar times to create an internal community for support. Alternatively, practices within a community or region may find benefit in facilitating time for recent graduates to engage and create peer-to-peer mentoring opportunities.

In conclusion, the results of our analysis indicate that recent graduates find that, while they have a deep appreciation and respect for rural, bovine/large-animal practice, there are clear indicators that may motivate them to leave bovine practice. Peer support, especially within the practice, is key to personal and professional fulfillment. Peer support helps recent graduates avoid the feeling of isolation or loneliness often experienced in rural communities where other similar-aged professionals are few. Mentorship is an area of concern for many recent graduates. Negative experiences revolved around uncommunicated expectations on both the mentor and/or mentee's part. Recent graduates appreciate 50% or less time on call, whereas they note that gender inequities still exist within bovine and mixed-animal practice. The risk of injury including overuse injuries was stated as a concern and reason for potentially leaving bovine practice. These findings may be helpful to the industry and practice owners attempting to successfully recruit and retain recent graduates interested in bovine practice.

## Conflict of interest

The authors declare no conflict of interests.

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## Author contributions

Gibbons, Koziol, Schmidt and Cummings contributed to conception and design, acquisition of data analysis and interpretation of data, drafting the manuscript and approval of the final version to be published. Sacquitne and Hake contributed to acquisition of data, drafting the manuscript, and approval of the final version.

## Endnotes

- a American Association of Bovine Practitioners Monthly Newsletter, August 2021
- b American Association of Bovine Practitioners Non-Renewal Survey, October 2022

## References

1. Chenoweth PJ. Editorial: food animal veterinary futures. *J Vet Med Educ* 2004;31:323-328.
2. Villarroel A, McDonald SR, Walker WL, et al. A survey of reasons why veterinarians leave rural veterinary practice in the United States. *J Am Vet Med Assoc* 2010;236:859-867.
3. Voices from the future of the profession. *VETFUTURES*. Last modified July 2015. Accessed March 15, 2022.
4. Arbe Montoya AI, Hazel SJ, Hebart ML, et al. Risk factors associated with veterinary attrition from clinical practice: a descriptive study. *Aust Vet J* 2021;99:495-501.
5. Bartram DJ, Yadegarfar G, Baldwin DS. A cross-sectional study of mental health and well-being and their associations in the UK veterinary profession. *Soc Psychiatry Psychiatr Epidemiol* 2009;44:1075-1085.
6. Nett RJ, Witte TK, Holzbauer SM, et al. Risk factors for suicide, attitudes toward mental illness, and practice-related stressors among US veterinarians. *J Am Vet Med Assoc* 2015;247:945-955.
7. Moses L, Malowney MJ, Wesley Boyd J. Ethical conflict and moral distress in veterinary practice: A survey of North American veterinarians. *J Vet Intern Med* 2018;32:2115-2122.
8. Navarre C, Daniels A, Jonston MO, et al. . Impact of recruitment and retention of food animal veterinarians on the U.S. food supply. *CAST Issue Paper* 2020;67:1-16.
9. Dawson BF, Thompson NJ. The effect of personality on occupational stress in veterinary surgeons. *J Vet Med Educ* 2017;44:72-83.
10. Gibbons PM, Wells JK, Watson KR, et al. A mixed-method pilot study investigating challenges experienced by mixed animal veterinarians in practice and their private practice experiences prior to graduation. *Bov Pract* 2022;56:18-28.
11. Arbe Montoya AI, Hazel SJ, Matthew SM, et al. Why do veterinarians leave clinical practice? A qualitative study using thematic analysis. *Vet Rec* 2021;188:e2. doi: 10.1002/vetr.2.
12. Adam K, Baillie S, Rushton J. Retaining vets in farm animal practice: a cross-sectional study. *Vet Rec* 2015;176:655.
13. Adam KE, Baillie S, Rushton J. 'Clients. Outdoors. Animals.': retaining vets in UK farm animal practice-thematic analysis of free-text survey responses. *Vet Rec* 2019;184:121.
14. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol* 2006;3:77-101.
15. Reist RM, Bath BL, Jelinski MD, et al. Ergonomic assessment of veterinarians during performance of bovine reproductive examinations. *J Am Vet Med Assoc* 2021;258:1243-1253.
16. Smith D, Leggat P, Speare R. Musculoskeletal disorders and psychosocial risk factors among veterinarians in Queensland, Australia. *Aust Vet J* 2009;87:260-265.
17. Zeng X, Reist R, Jelinski M, et al. Musculoskeletal discomfort among Canadian bovine practitioners: Prevalence, impact on work, and perception of physically demanding tasks. *Can Vet J* 2018;59:871-879.
18. Jelinski MD, Campbell JR, MacGregor MW, et al. Factors associated with veterinarians' career path choices in the early postgraduate period. *Can Vet J* 2009;50:943-948.
19. Jelinski MD, Campbell JR, Naylor JM, et al. Factors affecting the career path choices of graduates at the Western College of Veterinary Medicine. *Can Vet J* 2008;49:161-166.
20. Gates M, McLachlan I, Butler S, et al. Experiences of employers, work colleagues, and mentors with new veterinary graduates and preferences towards new graduate support programmes. *NZ Vet J* 2021;69:38-50.
21. Elce Y. The Mentor-Mentee Relationship, Addressing Challenges in Veterinary Medicine Together. *Vet Clin North Am Small Anim Pract* 2021;51:1099-1109.
22. Niehoff BP, Chenoweth P, Rutti R. Mentoring within the Veterinary Medical Profession: Veterinarians' Experiences as Protégés in Mentoring Relationships. *J Vet Med Educ* 2005;32:264-271.
23. Akinla O, Hagan P, Atiomo W. A systematic review of the literature describing the outcomes of near-peer mentoring programs for first year medical students. *BMC Med Educ* 2018;18:98.
24. Andrus DM, Prince JB, Gwinner K. Work conditions, job preparation, and placement strategies for food-animal veterinarians. *J Vet Med Edu* 2006;33:509-516.
25. Barbur L, Shuman C, Sanderson MW, et al. Factors that influence the decision to pursue an internship: the importance of mentoring. *J Vet Med Educ* 2011;38:278-287.
26. Bettis J, Thrush CR, Slotcavage RL, et al. What makes them different? An exploration of mentoring for female faculty, residents, and medical students pursuing a career in surgery. *Am J Surg* 2019;218:767-771.
27. Charles EM, Farnsworth K. A Strategy for Effective Generational Communication in Veterinary Medicine. *Vet Clin North Am Small Anim Pract* 2021;51:985-997.
28. Gilliam G, Fajt V, Wagner S, et al. Perceptions of gender bias among members of the American Association of Bovine Practitioners in bovine practice in the United States in 2018. *Bov Pract* 2021;55:98-103.



# Appendix 1

## Selected quotes from transcriptions of the focus group

### Why recent graduates stay in bovine practice

- “There’s something really special about the industry and the clients and how doing the right things for your cows and your employees may not be always best for your pocketbook while also feeding the world.”
- “I find the clients to be incredibly rewarding. And the people who care for these animals are very near dear even though I’m not a farmer myself, they are totally blank statement, but they’re very easy to work with. They are appreciative, they are humble, and they care for me I feel, in a different capacity than what I’ve observed of my small animal veterinary client counterparts.”

### Why recent graduates leave bovine practice

- “The physical strain on my body for sure. Two years in I developed carpal tunnel.”
- “Obviously, the injuries would cause you to potentially leave or at least look under other areas, industry, or something like that. I think the work/life balance has the potential to make people want to leave.”

### Percentage of time on call

- “I did 50% for two months while my boss was on maternity leave, and I did not like it.”
- “I’ve been in a four to four-and-a-half split on-call since I started and it’s cushy. I mean it’s nice because if I want to do something every Wednesday night, there isn’t a rotating schedule or well I’m going to have to work every fourth one or something like that. So having four or more doctors to be on call that helps a lot. You can plan something every Tuesday or whenever.”

### Mentorship

- “As a new grad mentorship is important. And they always say that they’re going to provide mentorship no matter where you interview and that’s not always the case.”

### Communication of expectations

- “Didn’t have clear goals on what the practice wanted me to do, versus, and even what I wanted to do. So, I think that was just a really big disconnect, that was partially my fault too.”

### Finding community in rural settings

- “I’ll add one. And that’s that, it can be really isolating. Nobody tells you that part. You’re for the first time not surrounded by other people who are also taking the same step you are.”

### Gender inequities

- “One of my most passionate obstacles was in a mixed practice and it became very apparent that there was gender differences, how ownership looked at the females.”
- “With our practice, there was no policy or handbook until last year. Not that that’s a huge deal, but it’s important to have in place. And so, there wasn’t a policy on maternity leave. There was nothing in place until after, or very close to when my son was born. And so that made it tough”