BRIDGING THE GAP BETWEEN EQUINE EXPERTS AND GENERAL HORSE OWNERS: A QUALITATIVE STUDY

A Record of Study

by

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ABSTRACT

Bridging the gap between industry experts (IEs) and general horse owners (GHOs) is a priority for all involved in the equine industry. This starts with understanding both the knowledge gap theory and diffusion of innovations theory. Both of these theories were used to explore what GHOs need to know, regarding equine health care. Additionally, it is important to recognize what GHOs know and understand how they learn, this in turn will allow IEs to disseminate knowledge into the GHOs sector more readily. This study used a qualitative case study approach with semi-structured interviews for both IEs and GHOs. IEs were interviewed to determine the knowledge needed by GHOs regarding equine health care. Interviews of GHOs were then guided based on IEs' concerns to understand which knowledge was known and being applied by GHOs. Findings discovered IEs felt nutrition management, forage management, and yearly preventatives were important topics of concern that GHOs needed to know. Additionally, a majority of GHOs were able to identify the signs and symptoms of colic, and the importance of yearly preventatives. However, GHOs struggled to identify the signs and symptoms of founder and did not realize horses could survive on forage alone. Most GHOs stated they ask their veterinarian, farrier, or other GHOs who they trust when accessing new knowledge. The majority of GHOs prefer workshops and online courses as a method to gain new knowledge. Overall IEs' knowledge concerning equine health care was diffusing into the GHOs sector which was evident by GHOs being able to express their knowledge and experiences over this topic.

DEDICATION

To my husband, my parents, and all the great horses I have ridden along the way.

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Contributors

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NOMENCLATURE

IEs	Industry Experts
GHOs	General Horse Owners
NM	Nutrition Management
FM	Forage Management
YP	Yearly Preventatives
FaM	Facility Management
FA	First Aid
CmE	Communication Education
SE	Self-Education
GE	Group Education
T	Technology
NHO	Novice Horse Owner
CE	Compatible Elaborate
CG	Compatible Growing
I	Incompatible
N	Nonexistent

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CHAPTER I

INTRODUCTION

In the equine industry, health of the horse is one of the most important aspects of horse ownership, yet many general horse owners (GHOs) are unaware or do not practice recommendations of industry experts (IEs). Therefore, this disconnect needs to be explored to discover if this disconnect is caused by lack of communication, lack of knowledge, or active rejection of IEs' information by GHOs. Current literature is slim in terms of connecting the IEs with GHOs. The two facets of this industry have minimal overlap and even less communication. This study aimed to bridge the gap in equine health care between IEs and GHOs in hopes to provide more knowledge to each and improve the industry as a whole.

The horse industry greatly impacts the economy of the United States. The industry contributes approximately $50 billion directly to the United States economy, while employing almost 1 million people and paying $38 billion in wages, salaries, and benefits (American Horse Council, 2017). Furthermore, there are approximately seven million horses in the United States, with Texas leading the nation at over 700,000 head. Recreation (trail riding and local shows) leads the nation in terms of activity or job of the horse (American Horse Council, 2017).

The Texas economy is also greatly impacted by the equine industry. Horse owners spend almost $3,100 per horse per year; with almost $1,400 of that money being devoted to feed, veterinary services, and farrier visits (Texas A&M Equine, 2015). The total economic impact of the equine industry is $5.9 billion in the state of Texas, with $3.2 billion devoted towards recreational purposes (Texas A&M Equine, 2015). This is compared to the beef industry in the state of Texas which has a $12 billion economic impact and includes beef cattle used for consumption (Texas Agrilife Extension, 2015).

In 2010, Kentucky Equine Management (2012) conducted a nationwide study to determine the demographics of the equine industry. The researchers collected 10,000 responses from both barn managers and horse owners. Ninety-percent of horse owners were female, and more than half of those owners were between 45 and 65 years of age. Twenty-percent of owners insured their horses, approximately half rode for pleasure, and approximately one-third showed competitively.

Due to an increase in the recreational use of horses (Parker, 2008), closing the knowledge gap when it comes to equine health care becomes even more important. Mendez et al. (2017) indicated that a breakdown in communication between IEs, such as veterinarians, and their clients may directly affect animal health outcomes. Veterinarians also need to acknowledge that their clients likely lack the necessary information as GHOs (Mendez et al., 2017). In efforts to gain information, Hartmann et al. (2017) reported that GHOs typically sought desired information from equine publications and veterinarians. Some of the top sources of equine information for horse owners included "websites, veterinarians, and other horse owners" (Hartmann et al., 2017, p. 6-7). When this communication gap is bridged and the knowledge is utilized, horses and people alike will be safer, healthier, and more productive in the industry.

This inability to openly communicate results in the lack of full scientific advancement in the daily care of the horse by GHOs. Additionally, Mendez et al. (2017) concluded that "poor communication may have serious occupational health and safety repercussions for both veterinary personnel and animal owners" (p. 2). The focus of this research aimed to understand the gap in equine health care information between IEs and GHOs, in hopes to provide more knowledge to each and improve the industry as a whole.

Background of the Study

This study explored the gaps that exist between industry experts (IEs) and general horse owners (GHOs) with regard to equine health care. This was accomplished by identifying the main equine health care topics of concern from an academic point of view by specifically questioning and interviewing IEs. Furthermore, this study aimed to determine if GHOs are adopting or rejecting information provided by IEs, and finally to provide needed recommendations to start bridging the gap between equine health care practices, protocols, and procedures as proposed by IEs and those used by GHOs.

In this study, IEs and GHOs were interviewed to explore the gaps in equine health care. IEs were recently retired individuals, current horse extension specialists in Texas, and large animal veterinarians who lived and practiced in East Texas. Their interviews were used to determine areas of concern in the equine industry and possible recommendations for closing the gap between experts and owners. Additionally, their responses to interview questions were then used to guide interviews of GHOs. GHOs were equine club youth leaders, parents of youth involved in equine activities, and recreational horse owners, who compete or trail ride at the local level. Their interviews were used to explore if and how GHOs were accepting or if they were even aware of expert recommendations.

Statement of the Research Problem

Based upon the existing literature, there is a communication barrier between IEs and GHOs (Mendez et al., 201; Collins et al., 2012), specifically in the area of equine health care. Consequently, this lack of communication results in a knowledge gap in equine health care between IEs and GHOs. Specifically, IEs need to be aware of the ways in which their expertise is perceived to achieve better communication with GHOs (Mendez et al, 2017). This study explored GHOs knowledge and the reasons behind rejecting or adopting knowledge regarding

equine health care. Additionally, this study provided recommendations to potentially address any possible gaps between IEs and GHOs.

Purpose of the Study

The purpose of this study was to explore the knowledge gaps in the equine industry, specifically regarding equine health care between the recommendations by IEs and the adoption of those practices by GHOs. This was accomplished by interviewing both IEs to understand areas of concern and GHOs to understand knowledge gained and practices. The results of this study led to an increased understanding of the disconnect between the two equine realms—the experts and the general horse owners. GHOs were the focus of this study instead of equine professionals since a majority of individuals in this industry are amateurs (Hartmann et., 2017), which fall into the GHOs category according to the American Horse Council (2017). Additionally, it provided insight on determining if knowledge is known by GHOs and if so, if they are adopting or rejecting these practices. Finally, based on these findings, recommendations for bridging the gap between the two realms were provided.

Research Objectives

The following research objectives were used in this study:

1. What are the information gaps in equine health care (knowledge and practices) between IEs and GHOs?
2. What are possible recommendations for bridging the gap between the IEs and GHOs in terms of equine health care?
3. Are GHOs adopting or rejecting IEs knowledge and if rejection is occurring, is it active or passive?

4. Where are GHOs currently obtaining their equine health care knowledge, and where would they prefer to obtain their equine health care knowledge?

Significance of the Study

Poor equine health care results in reduced athletic performance (Murray, 1992; Collier & Stoneham, 1997), poor body condition (Dionne et al., 2003; Murray et al., 1989), and behavioral changes (McClure et al., 1999). Proper equine health care is paramount for both horses and GHOs. It allows for horses to live healthy lives at their fullest potential while affording GHOs opportunities to compete with their horses. Furthermore, this study will allow for the understanding of adoption practices and potential barriers of GHOs, which in turn will ensure our equine partners are well-cared for and thriving when owned by GHOs. Additionally, this study will allow IEs to better understand the knowledge which is utilized by GHOs, while also understanding how these adult learners best learn and thus provide learning environments and material that are important to the GHOs sector.

The Researcher's Assumptions of the Study

As the researcher, I had the following five major assumptions of this research study. The first assumption was that all participants, both IEs and GHOs, answered the questions both candidly and honestly throughout the entire interview. This assumption was necessary because my research study was dependent on the participants' honesty and transparency of their personal experiences. Next, the criteria for sample selection were assumed appropriate, based on definitions for IEs and GHOs, along with geographical parameters set up for the case study. Next, my final assumption was that each participant was sincere in their involvement in the study, and thus wanted to participate (Merriam & Tisdell, 2016). Also, the assumption was made that both veterinarians and extension horse specialist were considered IEs based on the definition

used. Finally, since GHOs were identified by IEs and other GHOs utilized in this study, most GHOs were not novice and had years of experience.

Delimitations of the Study

Every research study has delimitations that can have a direct impact on the results of the study. Delimitations restrict the focus of a research study within the researcher's control (Creswell, 2007). The major delimitation in this study was that it was only concerned with equine health care. Equine health care was the topic of choice picked by the researcher since forty-five- percent of the yearly budget spent by GHOs was concerning health care in some aspect (Texas A&M Equine, 2015). Another delimitation of this study was that I focused only on the perceptions and experiences of IEs and GHOs.

Limitations of the Study

Limitations of a research study are the factors that cannot be controlled by the researcher (Creswell, 2007). The limitations of this research study were consistent with other qualitative studies in the field. There were four major limitations to this study. The first major limitation of the study was that it was a case study bounded to Deep East Texas, and therefore is not generalizable outside of the bounded system. The second limitation of the study is that three out of the eight IEs were from the same veterinary clinic in Nacogdoches, Texas which could possibly lead to bias. Additional participants from different veterinary clinics would have likely enhanced the findings of the study. Thirdly, was the limitation of transparency of the participants. This limitation may have possibly inhibited the participants' transparency due to most of the participants being from small communities in Deep East Texas. Although the forthrightness of the participants sharing their personal experiences was considerably pertinent to the study, it was considered highly possible that the participants were apprehensive in being

completely transparent to the researcher as they could be potentially identified in those tight-knit communities. Finally, most GHOs used in this study had years of experience in the equine industry. Therefore, they likely knew more than average GHOs because they were well known and recommended by IEs. These four limitations carried the potential to alter the results of the research study.

Definition of Terms

The following terms were used while completing this study:

Industry Experts (IEs) - Those individuals who are educated academically in the equine industry. These individuals include large animal veterinarians, along with recently retired and current horse extension specialists in the state of Texas.

General Horse Owners (GHOs) - Those individuals who own and ride horses as a hobby. These individuals may show and compete, but it is on a local level and they do not make their living in the equine industry. These individuals include equine youth leaders, parents, and recreational horse owners.

Professional - Also known as a trainer or open rider. These individuals make their living in the equine industry riding horses. Their jobs include giving lessons, riding, training, showing, and breaking horses. They often train youth and/or amateurs along with showing horses owned by other individuals.

Youth- Someone 18 years old or younger who competes in the equine industry.

Outline for the Record of Study

Chapter II is the literature review for this study. This literature review delves into the following topics:

- Equine Industry

- Adult Learning
- Digital Learning
- Diffusion of Innovations
- Knowledge Gap Theory

Chapter III is concerned with methods and data collection. In the subsequent chapter (IV) discussion and data analysis can be found. The final chapter (V) of this record of study encompasses a conclusion, along with implications and recommendations for future studies.

CHAPTER II

LITERATURE REVIEW

Sections of the Literature Review

This chapter reviews the literature behind this research study. In this chapter, I discuss the following areas: the equine industry, adult learning, digital learning, diffusion of innovations theory, and the knowledge gap theory.

Equine Industry

As horses and equine sports increase in the animal industry, so does the need for post-secondary equine degrees and knowledge in the general sector (Long & Morgan, 2010). From a Delphi study, Long and Morgan (2010) determined the following goals must be achieved for graduates to be successful in the equine industry: prepare students for competitive employment opportunities, provide students with hands-on skills and experiences, and develop in students a general working knowledge of the equine industry. This is vastly different from the current college curriculum in equine programs, which include primarily performance and evaluation (judging) and raising/breaking quality workhorses (Long & Morgan, 2010). To adequately prepare for success in the real-world industry, individuals need to comprehend and utilize the science undergirding the equine industry, while also being able to use real-world applications such as judging and breaking horses.

Perry-Hill and Prokopy (2015) conducted a Delphi study in Kentucky and Indiana to determine the use of environmental management on horse farms in both states. These states were used because of their opposition in terms of the equine industry. Kentucky has a billion-dollar equine industry, while residents in Indiana primarily use horses for working and farming purposes. Coupled with interviews with extension educators from both states, this research study

also interviewed farmers in both states regarding their assessments of their farms. The researchers found that extension educators believed horse owners were uneducated in terms of conservation practices. However, when farmers were interviewed, the researchers found that to be untrue. Farmers were familiar with conservation practices but did not utilize said practices. Therefore, the question is raised why environmental management is discerned but is not being applied in the real-world setting across both a billion-dollar industry and in working farm settings.

Furthermore, veterinarians need to be able to communicate with their clients who are horse owners. It is necessary for horse owners and veterinarians to effectively communicate during illness and injury and to be able to exchange information and knowledge, which in turn will improve the quality of equine health care (Christley & Perkins, 2010). Communication between veterinarians and clients is essential not only for the animal's health, but also for the client's health depending on the illness of the animal (Mendez, et al., 2017). Additionally, Mendez et al. (2017) reported that veterinarians expressed feelings of concern when discussing topics such as treatment options, payments, and diagnoses. Mendez et al. (2017) determined communication between the two parties is affected by numerous factors including communication skills from all parties involved, misaligned motivations, situation type, and the clients' ability to comprehend. Moreover, Mendez et al. (2017) found that, with a client-centered approach, adoption of both veterinary recommendations and directives increased with clients. For example, clients were more willing to follow a veterinarian's orders when those orders were expressed in a way that was understandable and made the client feel comfortable. This form of open communication can only be accomplished by both sides possessing the ability to understand and communicate with each other (Christley & Perkins, 2010).

Collins et al. (2012) determined communication between the real world and the academic world of the equine industry was extremely important for success in the equine industry. Specifically, in studying communication between clients and veterinarians, Collins et al. (2012) found that discussion can be stimulated, and information can be exchanged between parties when proper group environments are established for communication. Additionally, providing facilitated workshops on issues where both parties can learn and communicate with each other without the burden of being in a veterinarian/client atmosphere is helpful to ensure communication channels remain open and clients follow guidelines and recommendations. When this is achieved, communication can openly flow between the two parties (Collins et al., 2012).

Additionally, Hartmann (2017) conducted a needs assessment in partnership with the Rutgers Equine Science Center. For this research, Hartmann emailed 4,185 questionnaires to horse owners in the tri-state area of New Jersey, New York, and Pennsylvania. A total of 236 questionnaires were completed and returned. Seventy-nine percent of the respondents were females, and 62 % of the respondents considered themselves intermediate or advanced amateur riders. Respondents reported their primary way to gain knowledge was through their veterinarian. They also stated that horse health and nutrition were topics that necessitated more information.

Furthermore, research has also been conducted about gaining knowledge through alternative approaches, such as extension education. In a similar research study, Pulec et al. (2016) reported that "extension professionals are using the growing variety of online learning resources to explore innovative methods for providing new information to their clientele" (p.1). The researchers discovered that the use of online interactive educational resources was beneficial in providing information to improve horse health and management decisions (Pulec et al., 2016).

Hence, online extension programs have become a common mechanism for disseminating educational materials in the equine industry (Anderson et al., 2021).

Digital Learning

In the era when knowledge and information flow rapidly, the application of digital learning covers different fields and industries (Lin et al., 2017). Digital learning, also known as e-learning, is defined by the American Society of Training and Education as the process in which learners apply digital media to learning (as cited in Lin et al., 2017). Digital learning is a mode of education that is rapidly growing while becoming the education outlet of the future (Sebastian et al., 2012). Due to the Covid-19 pandemic, digital learning has moved to the forefront of education, even going so far as being the only form of education during the lockdown in 2020-2021. Lofgren et al. (2015) noted that the "use of online classes in the very hands-on field of equine science education has become more and more frequent" (p. 209). During this virtual era of learning, IEs need to disseminate information and GHOs need to gain new knowledge. This suggests that digital learning be incorporated into the equine industry.

With a virtual platform for learning comes a different way to learn, for both educators and students. The software and hardware for many distinct digital teaching platforms have been developed and introduced with expectations to promote students' learning (Lin et al., 2017). With access to digital learning, one is now able to learn synchronously and asynchronously through various applications such as Internet-based training, web-based training or on-line learning, network learning, and distance learning (Lin et al., 2017). A research study conducted by Pulec et al. (2016) found that utilizing webinars or webcasts as an educational tool "provided participants with relevant research-based information on current horse industry issues from industry expert speakers" (p. 5). Digital learning allows both the educator and the student to

break through the restrictions of location, schedule, and time to achieve individualized learning, which is learner-centered (Lin et al., 2017).

Participating in digital learning typically requires more intrinsic learning motivation as compared to traditional learning. In essence, learning motivation is the inherent belief to guide individualized learning goals, change learning behaviors to make positive, continuous efforts, improve and strengthen learning outcomes, and reinforce cognitive recall (Karim, 2012). Digital learning is different from traditional methods of learning which rely heavily on extrinsic motivation, such as parent and teacher expectations (Block et al., 2013). Intrinsic learning motivation comes from within the learners themselves, rather than extrinsically from others. "In order for students to be engaged in their educational experience, they must be committed to active participation and interaction with the material" (Lofgren et al., 2015, p. 209). Research suggests that intrinsic learning motivation is a necessary skill for what students need to succeed in digital learning.

Social Media

Along with an increase in digital learning, the use of social media has also expanded. Lofgren et al. (2015) reported that "social media and other forms of technological advancement are encroaching quickly on the pedagogical norms" (p. 209). Social media promotes engagement by providing a space for dynamic interaction and idea-sharing (Leece & Campbell, 2011). According to Lofgren et al. (2015), social media has also become more frequently used in the equine industry. Although an increasing amount of research has been conducted involving the incorporation of various social media sites into educational curriculum, there is still extremely limited research on the effect of social media implementation into animal/equine science curriculum (Lofgren et al., 2015).

Social media has changed the way we communicate with each other (Lofgren et al., 2015). With this increase in communication also comes the ability to positively change how we educate our learners. As is the case with most outlets for education, educators are not uniform in their support of incorporating social media as an educational tool (Rambe, 2012). Additionally, Rambe (2012) reported the benefits of utilizing social media, specifically Facebook, into course curriculum, included a "safe haven" for students regarding self-expression, an increase in academic networking, and the ability to access a more advanced learning community. The positive benefits of social media to online learning were determined by Abe (2013). Of those surveyed, two-thirds of educators currently utilized social media as an educational tool, and of those, 30% posted content that allowed students to interact outside of the classroom. Furthermore, Briones (2013) reported educators who used social media sites in class saw an increase in the engagement of students and improved student-teacher relationships.

Lofgren et al. (2015) conducted a research study that examined the benefits of utilizing social media as a supplemental portion in an equine higher education curriculum, specifically in an advanced level equine science class. Her students were taught in a traditional setting with an added social media component in the form of LinkedIn. LinkedIn was chosen as the social media outlet of choice due to its professional tone and the ability to connect with industry professionals for possible employment opportunities. Results showed students felt a greater connection to their teacher and the outside world in the equine industry while utilizing LinkedIn, thus proving the importance of utilizing social media during the learning process. Although the research study did not provide statistically significant data about the effect of social media use in the equine science classroom, it did provide encouraging feedback that it could very well have a positive impact on student engagement and result in a deeper learning experience.

Adult Learning

Adult education is different from youth education (Knowles, 1962). The adult learner is independent and can determine their learning. Moreover, self-directed learners not only learn more efficiently, but also have a capacity to learn more and can recall more information when needed as compared to their passive learning counterparts (Knowles, 1975). Adult learners are driven by internal factors and not external forces (Knowles, 1984). Adult learning should be experiential and problem based. In essence, it should be both the assessment and accreditation of learning from not only life but also work, and the experiences that are encompassed. It should allow for not only expanding self-awareness, but also for increasing group effectiveness (Tight, 2002). As compared to youth, who are directed in their learning, adults are the opposite. Educators need to be aware of this difference in their learning process. Adult learning is a result of self-reflection, coupled with the need to learn. Hence, the learner is aware of their shortcomings and their need to think critically through a problem (Tight, 2002). For these reasons, adult education programs need to be structured differently in the classroom.

Agricultural education has been a leader of adult education (Boone, et al., 2002). However, even as leaders in the development of adult education there has been a decline of adult education programs in recent years (Boone, et al., 2002). Furthermore, Birkenholz and Maricle (1991) reported in the United States there were 5,852 programs for secondary (grades 7 through 12) agricultural education; this number is substantial when compared to the mere 1,610 programs offered to adult learners. Adult education is important in the agricultural community, especially with the rapid advancements in technology, laws, regulations, new farm management techniques, and innovative marketing (Chizari & Taylor, 1991), but it has waned in importance

comparatively as the demand for secondary agricultural education programs has continued to increase.

Whitaker (1977) conducted a survey in Montana specifically looking at the adult horse owner population. In the state, 20 saddle clubs were included, and questionnaires were distributed to adult members at a monthly meeting. The questionnaire contained 19 questions regarding the number of horses owned, the economic impact of owning horses, use of the horse, how equine information is gathered, what equine information is needed, and how individuals would prefer the information is presented. Questionnaires from 160 individuals were completed and collected. From this study, most participants were from a rural area and had owned horses for more than 10 years. Most individuals owned two to three horses where they were used primarily for recreation (41%). Most horse owners in this study gathered information by asking their veterinarian (61%) or a fellow horse owner (27%), and the top two topics where further knowledge was desired were diseases and nutrition. Furthermore, 93% of individuals in the study stated they were willing and wanted to learn more information related to horses. Forty-nine percent ranked night classes as their choice for method of delivery. Also, one-day and three-day clinics were tied in their rankings concerning length of class. This shows the importance of actively listening to our learners and designing learning experiences that meet their needs, even if that means going outside of our normal operational hours.

Additionally, to properly educate our adult learners, their learning needs and preferences must be met (Conner et al., 2018). To close the knowledge gap in the equine industry, equine industry experts (IEs) must disseminate information in a manner and at a level in which it can be understood by general horse owners (GHOs). This can be done only if it is understood how the GHOs learn and garner information.

Theoretical Framework

This research is based on both the diffusion of innovations theory and the knowledge gap theory.

Diffusion of Innovations Theory

Opportunities for the study of innovation and diffusion in agriculture are practically unlimited (Colman, 1968). The diffusion of innovations theory, an adoption process model, is "widely used in agricultural extension studies that describes a linear set of diffusion stages" (Pathak, 2019, p. 1294). The diffusion of innovations theory was originally proposed by E.M. Rogers in 1962 when he found that innovations, when introduced in a social system, take on a certain diffusion rate in that system (Rogers, 2003). Likewise, Pathak et al. (2019) concluded the following:

> The theory argues that the adoption of innovation does not occur simultaneously in a social system. Some people have a greater tendency to adopt innovation than other people because of their characteristics. Therefore, it is important to understand the features of the target groups while promoting innovation. (p. 1294)

There are five steps to the adoption process. Step one is known as the knowledge stage. It is during this stage a would-be adopter is first exposed to the innovation or knowledge. Next, comes the persuasion phase. During this phase, individuals are actively seeking information about the product or new-found knowledge. Then, a decision must be made, of either acceptance or rejection of the innovation. If the product or knowledge is accepted, it continues down the adoption path. Once acceptance has occurred an individual goes through the implementation phase. It is during this time the information is used, and the individual determines the usefulness

of the innovation. The final stage is confirmation where the adopter decides to continue to use or discontinue the use of the product or knowledge (Rogers, 2003).

If an innovation is not adopted during the decision phase, then rejection occurs, with the rejection being either active or passive. With active rejection, an individual tries the innovation and decides to not adopt it, while with passive rejection the individual does not think about or consider adopting the innovation. If one thinks of knowledge as an innovation, then it must take the same diffusion path, and as such either the adoption or rejection path.

Colman (1968) suggests that "extensive sharing of personal and environmental characteristics by innovators and early adopters is necessary for rapid diffusion" (p. 187). This key point is considered fundamental for diffusion to not only be rapid, but also successful. Moreover, Colman (1968) indicates that "it is evident from censuses of agriculture that the rate of adoption of particular innovations has varied widely within states and that striking contrasts in the rate of adoption may be found, even between adjacent counties" (p. 187).

A research study conducted in 2019 supported the implementation of an innovation diffusion framework to "analyze the complex interactions between different factors in the adoption process" that are affecting the rate of adoption of precision agriculture (PA) technologies (Pathak et al., 2019, p. 1292). Through a diffusion of innovations theoretical lens, the research study explored the adoption process. The researchers found that major knowledge gaps in the literature may contribute to the relatively slow rate of adoption of PA technologies (Pathak et al., 2019).

In a similar agricultural research study regarding adoption, Wang et al. (2020) investigated and analyzed the interaction effect between social networking and Extension service in farmers' agricultural technology adoption efficiency (TAE). This study not only indicated the

significant importance of social networking and Extension service to farmers' TAE, but also reported that the two are competitive in improving farmers' TAE (Wang et al., 2020).

This study aims to determine the knowledge needed by GHOs based on IEs interviews. This will help us determine the knowledge that has not been diffused to the GHOs, the type of innovation rejection commonly used by recreational horse owners, and finally recommendations for affecting knowledge adoption.

Knowledge Gap Theory

This research is also guided by the knowledge gap theory first proposed by Tichenor et al. (1970). This theory states knowledge is equivalent to wealth in terms of how it is distributed across a social system. Those individuals of a higher status have quicker, greater, and more efficient access to knowledge. As the knowledge continues to grow in the higher status segment of the social system, an increased gap in knowledge is seen between the higher and lower status segments of the social system (Tichenor et al., 1970).

Furthermore, those individuals with higher status possess more knowledge than their lower status counterparts due to advantages in communication skills, relevant social contact, stored information, media target markets, and selective exposure, acceptance, and retention (Tichenor et al., 1970). Those individuals with higher status tend to have a higher degree of education, and exhibit better speaking skills, reading and writing skills, comprehension skills, and higher-order thinking skills. Regarding relevant social contact, those individuals with higher status simply have more social contact and have an increased ability to share information and more aptly determine fact from fiction when new information is presented (Tichenor et al., 1970).

Moreover, individuals with higher status have had more exposure to a broader range of topics in their past. This results in the higher status individuals using their prior knowledge to better understand a topic when presented with new information (Tichenor et al., 1970). Additionally, different media have different audience targets and those that are in printed and digital forms are geared towards higher status individuals. Finally, individuals of differing status consume media differently, which is known as the selective exposure argument. Essentially, individuals select and consume information from people in their own status bracket (Tichenor et al., 1970).

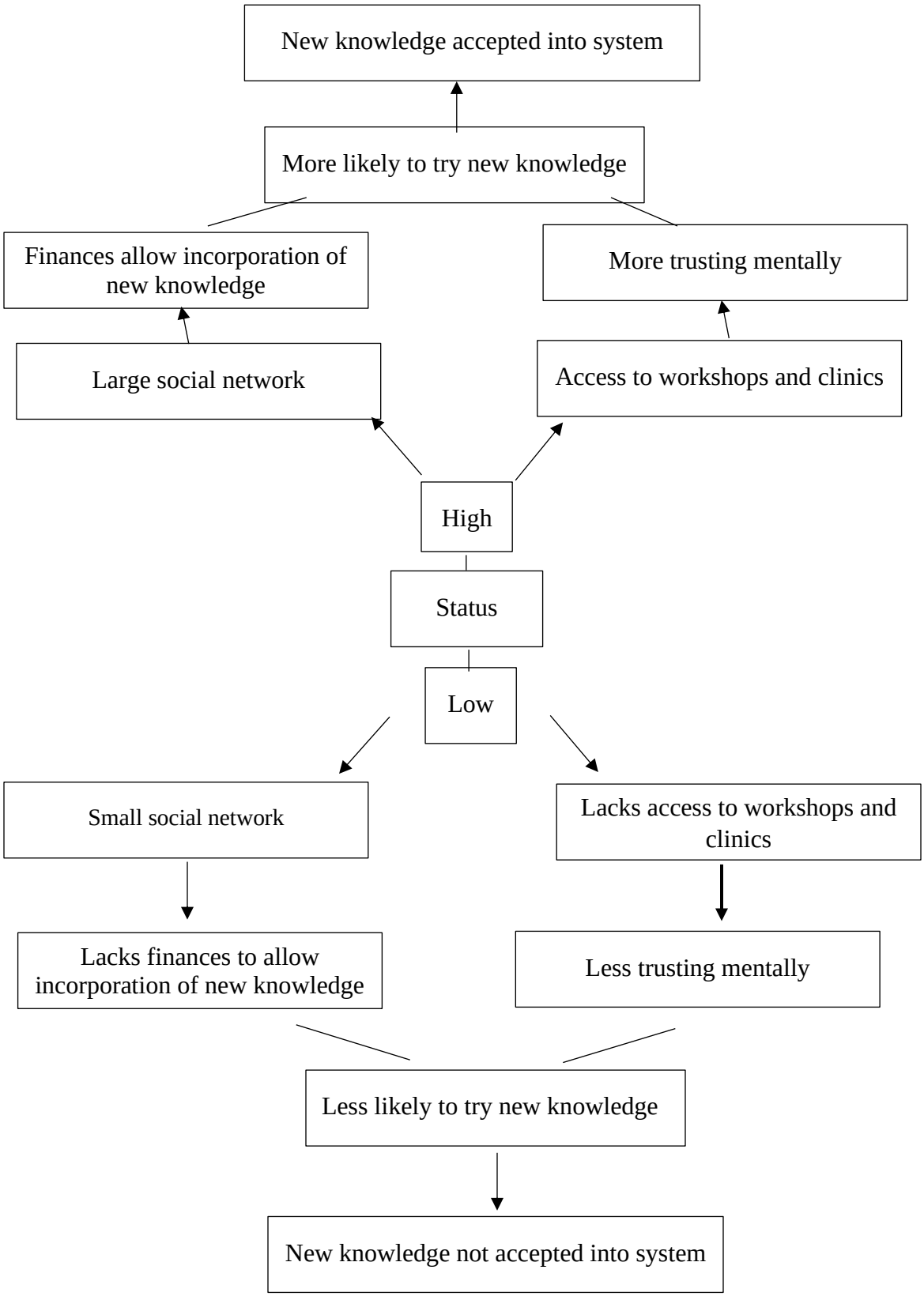
Akinsola and Dehinbo (2013) conducted a qualitative case study that researched using an Internet-enabled platform for bridging South African emerging farmers' knowledge gap. The research study included data from knowledge support service providers and emerging farmers who lacked formal agricultural education. All participants in this study expressed their "readiness to contribute to any Internet-enabled platform that could foster interaction and collaborations between agriculture stakeholders" (Akinsola & Dehinbo, 2013, p. 2). Participating emerging farmers clearly indicated the serious challenge of user-centered agricultural knowledge support and they expressed their "inability to secure needed or desired agricultural knowledge" as well (Akinsola & Dehinbo, 2013, p. 2). This research study concluded that bridging emerging farmers' agricultural knowledge gap could hold huge benefits for the farming industry. Lastly, Akinsola and Dehinbo (2013) found that "while existing emerging farmers' agricultural knowledge support could be considered as inefficient, Internet-enabled agricultural knowledge support platforms possess potential resources that may be applied to improve their transformation" (p. 5).

Conceptual Framework

The conceptual framework for this research study combines the implementation of knowledge gap theory with diffusion of innovation theory. Utilizing knowledge gap theory along with diffusion of innovation theory provides a conceptual framework that allows an understanding of how a higher-class status determines knowledge acceptance or rejection. Knowledge gap theory directly relates to the understanding that individuals in the lower status groups will have less access to new knowledge based on a social and economic standpoint. These individuals also have a smaller social network, where individuals are less trusting; moreover, those in a lower status have a decreased financial ability to seek and/or incorporate new knowledge (Wang et al., 2020). This results in either a slower diffusion rate or a rejection of knowledge. A rejection of knowledge will occur because individuals in the lower status group either do not have the means to increase their knowledge base (social status) or cannot financially afford to implement the new knowledge once it is gained. These considerations directly relate to diffusion of innovation theory. This study seeks to understand the gaps present between general horse owners and industry experts in the equine industry. Figure 1 shows how knowledge is accepted or rejected based on social status.

Figure 1

Flowchart for Knowledge Diffusion Framework



Summary of Literature Review

This literature review explains the importance of exploring the knowledge gap that exists between IEs and GHOs. Based on the literature, there is at the very least a communication barrier between the two sectors of the equine industry. Furthermore, this review shows the importance of IEs understanding how and why adults learn. Adult learning has been compounded with digital learning and should be considered when researching the knowledge possessed by GHOs. Finally, this research is warranted to understand the knowledge gaps that may exists within the equine industry and to determine if GHOs are accepting or rejecting the knowledge of IEs based on equine health care.

CHAPTER III

METHODOLOGY

Introduction

This research study aimed to bridge the knowledge gap in equine health care between industry experts (IEs) and general horse owners (GHOs) in hopes to provide more knowledge to each and improve the industry as a whole. The goal of this study was to explore the gaps in information in the equine industry, specifically equine health care between the recommendations by IEs and the adoption of those practices by GHOs. This qualitative case study investigated the experiences and perceptions obtained from both IEs and GHOs.

Research Design

This research study employed a qualitative research paradigm to explore the knowledge gap which exists between the two sectors, IEs and GHOs, of the equine industry. The qualitative research process focused on learning the reality of participants, not always what the literature presents, or what the researcher brings into the study (Creswell, 2013). According to Merriam (1998), "qualitative researchers are interested in understanding the meanings people have constructed, that is, how they make sense of their world and the experience they have in the world" (p. 6). Based on the purpose and research objectives that guided this study, the qualitative paradigm was determined most appropriate as it sought to explore an understanding of the knowledge gap that exists between IEs and GHOs through participants' experiences and perspectives.

According to Yin (2003), "a research design is the logic that links the data to be collected (and the conclusions to be drawn) to the initial questions of the study" (p. 19). This research design followed the guidelines of qualitative research design by conducting interviews,

maintaining a researcher's journal, and collecting field notes throughout the entire data collection process. One of the most central key components to qualitative research is that "the researcher is the primary instrument for data collection and analysis" (Merriam, 2009, p. 15). The qualitative design proved effective for gaining understanding of the experiences and perceptions of the research study's participants.

Case Study Methodology

A qualitative case study approach was the most appropriate and fitting design for this research study because it allowed me, as the researcher, to search for information and meaning of the participants' experiences and perceptions of equine health care. Qualitative case study research, similar to other qualitative research, is conducted with the intent to "search for meaning and understanding, with the researcher as the primary instrument of data collection and analysis, an inductive investigative strategy, and the end product being richly descriptive" (Merriam & Tisdell, 2016, p. 37). Additionally, Merriam (2009) also described a case study as an "in-depth description and analysis of a bounded system" (p. 40). The bounded system can be a person or a group of people, with a limit on the number of people who can be interviewed (Yin, 2003). This research was considered a case study since the Texas equine community is considered a bounded system—a unit that can be "fenced in" and, as a result, has boundaries (Merriam & Tisdell, 2016). Furthermore, binding the case by establishing boundaries will ensure that the research study remains reasonable in scope (Baxter & Jack, 2008).

Based on the purpose and research objectives guiding this research study, this qualitative case study was designed to explore the information gaps in the equine industry, specifically concerning equine health care between the recommendations by IEs and the adoption of those practices by GHOs. Additionally, this research study aimed to bridge the knowledge gap in equine

health care between IEs and GHOs in hopes to provide more knowledge to each and improve the industry as a whole. A qualitative case study approach was used to address the research objectives in this study. The following research questions were used to guide this study:

1. What are the information gaps (knowledge and practices) in equine health care between IEs and GHOs?
2. What are possible recommendations for bridging the information gaps between the IEs and GHOs in terms of equine health care?
3. Are GHOs aware of IEs knowledge, and if so, is adoption or rejection occurring?
4. Where are GHOs currently obtaining their equine health care knowledge, and where would they prefer to obtain their equine health care knowledge?

Data Collection Methods

Case study research is described as a "qualitative tradition in which the researcher explores a bounded system (a *case*) over time, through detailed, in-depth data collection involving multiple sources of information" (Creswell, 2007, p. 73). According to Baxter and Jack (2008), "a case study is an excellent opportunity to gain tremendous insight into a case. It enables the researcher to gather data from a variety of sources and to converge the data to illuminate the case" (p. 556). Moreover, the design and implementation of a case study project enhanced the overall quality of the research study.

Yin (2003) reported that the inclusion of data gathered from multiple sources was highly complementary to each other in case study research. Therefore, I used a variety of data sources to collect my data for this research study. According to Yin (2003), data for case study research can originate from multiple sources, with no single source having a complete advantage over the other sources. I used semi-structured interviews with my participants as my primary data source.

I also maintained a researcher's journal throughout my research study to document personal notes and observational notes from the interviews. I used field notes that I collected during the study as well.

These data sources allowed me to gain information to further an understanding of the knowledge gaps that exist in the equine industry, especially pertaining to equine health care between IEs and GHOs. Furthermore, these data sources provided me an opportunity to explain to readers about the knowledge gaps in the equine industry, specifically regarding equine health care between the recommendations by IEs and the adoption of those practices by GHOs. It is important to know both sides of the equine industry, so the knowledge gap between the two can be explored and better understood. When this is accomplished through personal interviews, experiences along with knowledge are gained for both IEs and GHOs.

All interviews were considered semi-structured, with the end goal of obtaining information from questions concerning equine health care to understand and explore the knowledge gap between GHOs and IEs. Qualitative researchers believe they can get closer to their participants' perspectives through detailed interviewing (Denzin & Lincoln, 2003). I was careful to not provide leading questions, yet probe deep enough to ensure the reasoning, statements, and experiences expressed by informants were understood. Interviews were approximately 60 minutes in length and were recorded using Zoom. The interviews were transcribed to a word document and saved to a confidential file on a password-protected computer.

At the end of each interview, a member check was conducted. Merriam (2009) encouraged utilizing member checks, or arranging for those who provided data, to evaluate the conclusions to avoid misrepresentation or misinterpretation by the researcher. Field notes were

read back to each informant, to ensure the topics of concerns were correct and no major points of concern were forgotten. This step in the interview process insured the dependability of the study. After the interview was completed, I transcribed field notes into an ongoing researcher's journal, and data was analyzed soon thereafter to increase trustworthiness. Throughout my research study, I strove to maintain full credibility as a researcher which helped to establish trustworthiness in my study. Also contributing to my credibility as a researcher, I implemented peer debriefing upon the completion of each data set collected. This peer had no active involvement in the study, which ensured no biases or assumptions were made by the researcher. My peer debriefer regularly assisted me in examining the data from an alternative perspective.

A pilot interview was conducted before the start of data collection for both IEs and GHOs. Similar to interviews conducted in the study, both of the pilot interviews were conducted via Zoom. Both pilot subjects had to meet the same requirements as those individuals participating in the study. Pilot interviews are an important process when conducting qualitative research. It allows the researcher to learn before the start of data collection and allows for refinement of the interview process (Merriam & Tisdell, 2016). During the pilot interviews, I learned IEs were less willing to talk and share information; however, GHOs were willing to talk continuously about their horses and experiences if given an outlet. It is because of these pilot interviews that I was prepared to ask more probing questions to IEs to obtain the desired information while taking an alternative approach and actively listening to GHOs and their experiences.

Sample

Both IEs and GHOs samples were purposive in nature. Unlike quantitative research, qualitative research does not utilize probability sampling, since generalization regarding statistics

is not the end goal (Merriam & Tisdell, 2016). Instead, qualitative researchers utilize nonprobability sampling or sampling with a purpose to answer those problems which are qualitative (Merriam & Tisdell, 2016). Additionally, I utilized both criterion-based selection and network sampling during the study. Criterion-based sampling was utilized for IEs. First, certain attributes were decided upon, which were crucial to the study at hand; then individuals who met those requirements were contacted to be a part of the study (Merriam & Tisdell, 2016). Then, those same IEs were used as key informants for interviews of GHOs. As a result, early participants were asked to refer the researcher to those individuals who would meet the criteria of the study (Merriam & Tisdell, 2016).

Industry Experts (IEs)

The first part of this study dealt with IEs interviews. Eight interviews of individuals who were considered experts in the equine field were completed. IEs were recently retired and current horse extension specialists and large animal veterinarians who practiced and lived in East Texas. Four individuals were large animal veterinarians. These individuals were chosen for not only their knowledge concerning equine health care but also their daily involvement with GHOs and their equine counterparts. Additionally, four extension specialists, either current or recently retired, were also interviewed. Extension specialists were included as IEs because of their involvement with 4-H youth and their parents, who take on the financial responsibility and burden of horse ownership. Extension specialists are typically those who are the first to be informed of new research-based knowledge and have the job responsibility of disseminating this knowledge to the GHOs sector. Additionally, extension specialists can connect with both parents and youth at state-wide events such as Texas State 4-H Roundup and the Texas State 4-H Horse

Show. This allows extension specialists the opportunity to meet and reach GHOs in a face-to-face situation.

The criteria for this study pertaining to IEs were the following:

1. Job Title: large animal veterinarian (in the East Texas area) or extension horse specialist (current and retired).
2. Job Responsibilities: have daily contact with GHOs in a doctor-patient relationship or are responsible for disseminating information into the GHOs sector.
3. Number: eight to 11 IEs were selected with approximately half being large animal veterinarians and the other half being extension horse specialists, or until saturation was reached.

About the IE Participants

IEs was given a pseudonym, which is the name of a past Triple Crown winner. Their demographics can be found below.

War Admiral

War Admiral was a current or retired horse Extension specialist and assistant professor for Texas A&M University (TAMU). War Admiral lived in East Central Texas with their spouse and children. War Admiral had a doctor of philosophy degree in animal science. Their job responsibilities were outreach and education for equine science across the state of Texas. War Admiral also helped with the Texas State 4-H Horse Show, along with online learning platforms for 4-H'ers and 4-H volunteers, and was responsible for the social media accounts produced by the Extension service concerning equine species.

War Admiral owned five horses, with an age range of seven to 28 years old. As a youth, War Admiral enjoyed showing horses. War Admiral also enjoyed ranch work and riding with their family as an adult.

Sir Barton

Sir Barton was a current or retired horse Extension specialist and lived in North Central Texas. Sir Barton obtained their doctorate in animal science with an emphasis on equine exercise physiology from TAMU. Sir Barton taught and completed research, along with the duties as Extension specialist. Sir Barton was also an equine feed consultant. As an Extension specialist, their primary job was to disseminate information regarding equine science to the general public, horse owners, and county agents.

When asked about horse ownership, their response was “way too many.” Sir Barton owned nine horses. All horses were reined cow horses or cutters in terms of bloodlines. There were three broodmares and the rest were riding age or were about to start the training process.

Secretariat

Secretariat was a current or recently retired horse Extension specialist. Secretariat lived in East Central Texas with their spouse and children. Secretariat received their doctorate in animal science from TAMU and was horse Extension specialist and assistant professor. Their primary job responsibilities included taking knowledge and education gained at TAMU via research and spreading it across the state of Texas via adult and youth education programs. Secretariat did not own any horses.

Seattle Slew

Seattle Slew was a current or recently retired horse Extension specialist and lived in East Central Texas with their spouse. Seattle Slew had a doctorate in physiology of digestion and worked at TAMU as an equine Extension specialist for over 20 years.

Seattle Slew owned horses in the past and their primary focus was showing in western events. Additionally, Seattle Slew's son went through the 4-H horse program by competing and showing horses.

Affirmed

Affirmed was a large animal veterinarian who lived in East Texas, with their spouse. Affirmed had a practice in both Nacogdoches and Center. Affirmed graduated from veterinary school at TAMU in 1987 and worked at a medium-size animal hospital. Approximately 80% of the time spent at the clinic was performing equine services and the other 20% on wildlife, bovine, and occasionally small animals.

Affirmed owned 10 head of horses. Five were personal, while five were in partnership. With the personal horses, Affirmed enjoyed team roping. Affirmed also used personal horses for pleasure riding and moving cows on the ranch. All partnership horses were Thoroughbred racehorses. The partnership horses consisted of broodmares, along with two and three-year-olds that were in training.

Citation

Citation was a large animal veterinarian who lived and practiced in East Texas, and was responsible for starting the first stallion station. Citation obtained a veterinary medicine degree in 1965 from TAMU. Citation worked part-time for Cargill as an equine management consultant and part-time as a consultant for equine cases. Citation has owned horses in the past, where their

primary focus was reproduction and breeding. Citation owned two stallions that stood to the public and broodmares.

American Pharoah

American Pharoah was a large animal veterinarian who lived in East Central Texas. All four degrees were obtained from TAMU with a doctorate of veterinary medicine in 1995. American Pharoah was a large animal veterinarian and assistant clinical professor in the College of Veterinary Medicine and Biomedical Sciences at TAMU. The majority of their time was spent teaching fourth-year veterinarian students in the clinical curriculum, where only horses were seen and treated. The name of the rotation was equine community practice, which encompasses routine farm calls and haul-in patients. American Pharoah's special interest included cancers, of the eye and skin.

American Pharoah owned two horses that were turned out and retired. However, growing up American Pharoah showed paint horses as a youth and rodeo-ed, but stopped showing after graduating high school.

Justify

Justify was a large animal veterinarian who lived and worked in East Texas. Justify obtained a doctorate of veterinary medicine in 2007 from Louisiana State University and was an associate veterinarian at a medium-sized animal hospital where both large and small animals were treated. Justify's primary job responsibilities included veterinary care, exams, and diagnosis. Justify was also the reproduction specialist for dogs, horses, and cows. Justify did not own horses.

Table 1 below contains demographics for the IEs. IEs are listed via their pseudonym and their occupation, horse ownership status, and industry involvement are listed.

Table 1

Demographics of Industry Experts

Pseudonym	Occupation	Horse Owner	Industry Involvement
War Admiral	Extension	Yes	Showing /Ranching
Sir Barton	Extension	Yes	Reined Cow/Cutting
Secretariat	Extension	No	
Settle Slew	Extension	Yes	Showing
Affirmed	Veterinarian	Yes	Roping/ Racing
Citation	Veterinarian	Yes	Breeding
American Pharoah	Veterinarian	Yes	Showing
Justify	Veterinarian	No	

General Horse Owners (GHOs)

The second part of this study dealt with GHOs. The area sampled for GHOs was East Texas, specifically Nacogdoches County, and those counties adjacent to Nacogdoches County: San Augustine, Shelby, Cherokee, Angelina, and Rusk. This sampling area was selected for two reasons:

1. Texas leads the nation in terms of total horse population (American Horse Council, 2017; Texas A&M Equine, 2015) and
2. Nacogdoches is home to a four-year university that offers an equine science degree.

For this study, 12 GHOs were interviewed; it was determined that saturation was met within the system, by use of peer review at the end of each data set. Additionally, GHOs did not include youth, primarily because parents and youth leaders are the ones guiding and monitoring youth in their horse ownership, and the adults are the ones who are responsible financially.

The criteria for this study pertaining to GHOs were the following:

1. Place of Employment: could not be related to the equine industry. Equine industry includes farrier, equine veterinarian technician, barn manager, and stable hand.
2. Residence: Individuals needed to live in Nacogdoches County or a county that was adjacent to Nacogdoches County. These counties were Rusk, Shelby, San Augustine, Angelina, and Cherokee.
3. Involvement in the Industry: Individuals were youth leaders of equine clubs, parents, grandparents, and/or recreational horse owners, who compete or trail ride with their horses on the local level for personal enjoyment, or engage with youth who are participating in these activities. These are individuals who have made the equine industry their hobby.

4. Number: 10 to 15 GHOs were selected for this study, or until saturation was reached.

About the GHO Participants

Colonel Freckles

Colonel Freckles lived in Nacogdoches County, and was an x-ray technician at a local hospital. Colonel Freckles' highest degree was a baccalaureate.

Colonel Freckles owned five horses and has owned horses for approximately 30 years. Both of Colonel Freckles' children competed on horses showing in 4-H and youth rodeos when they were younger. Colonel Freckles enjoyed recreation riding and showing in ranch classes at the local level. Colonel Freckles had grandchildren who competed in playdays and youth rodeos and enjoyed spending time with the grandchildren on a hobby they all loved.

Colonel Freckles most enjoyed just being able to spend time with their horses. Colonel Freckles had just as much fun grooming their horses at the house as they did going to a show and competing. Colonel Freckles also stated the most difficult part of horse ownership is the physical aspect of the horse industry, because of their age. In a worst-case scenario, Colonel Freckles did not have a problem with affording the cost or reaching appropriate care quickly. Colonel Freckles had a good relationship with their veterinarian and knows if there is an emergency, they could make payments. Colonel Freckles also stated they had a dependable truck and trailer if needed.

Smart Little Lena

Smart Little Lena lived in Shelby County where they were an office manager at a local nursing home and had a baccalaureate degree.

Smart Little Lena owned one horse and has owned horses their entire life (30+ years). Smart Little Lena competed in the ranch classes at local levels, but had a goal to transfer to versatility ranch horse classes and compete at register shows.

Smart Little Lena said horses were their therapy and it is their way to get away and escape from the world's problems. Smart Little Lena also shared that horses are magnificent creatures that God has given us and loved to work together with their horse accomplishing goals, regardless of the size. The most difficult part of horse ownership was the fact they can be like children. Horses were dependent upon you for everything: food, water, and even shelter. But Smart Little Lena also stated they knew the responsibility when they decided to own horses. There was a concern about reaching appropriate care quickly in case of an emergency, simply due to the lack of equine veterinarians in the area.

Doc Bar

Doc Bar was retired and lived in Cherokee County; before retirement Doc Bar was in the adult protective services field and a contract manager. Doc Bar had an associate degree.

Doc Bar has owned horses for over 30 years and got their first horse at the age of eight, although they have been riding since they were in diapers. Doc Bar owned three horses and enjoyed showing in halter, showmanship, and all western judged events. Doc Bar also competed in American Competitive Horse Events known as timed trail events.

Doc Bar enjoyed riding and their horse's company. It was their quiet time. On the flip side, Doc Bar also enjoyed going to shows and socialized with different people and friends made in this industry. The most difficult part of owning a horse was finding a baby sitter, well a horse sitter. It was difficult to go away on vacation and find someone you know and trusted to take care of your horses while you were gone. When asked about an emergency arising Doc Bar

stated worrying about affording the cost, not so much during the actual emergency, but after the fact and the chaos has settled.

Cutter Bill

Cutter Bill lived in Angelina County and worked at a local coffee shop and had a baccalaureate degree. Cutter Bill owned two horses, which were half-siblings to each other, and has owned horses for 10 years. Cutter Bill enjoyed showing and looked forward to going to in-person shows once Covid clears up and life got back to normal. Cutter Bill showed one horse in the ranch event classes and showed the other one in English classes. In the past, Cutter Bill has owned and showed horses in three-day eventing competitions.

When asked what Cutter Bill most enjoyed about owning a horse, the response was simply their companionship. Cutter Bill enjoyed growing and getting better as a horseman and as a team with the horse. It's was all worth it and the hard work paid off when you see success in the show pen. Cutter Bill also stated the most difficult part of horse ownership is saying goodbye. This goodbye could be caused by death or because you had to sell your horse; either way it is difficult. Cutter Bill also worried about affording the cost. Cutter Bill had access to a good veterinarian, but worried about cost, especially for a situation that was not planned.

Hollywood Dun It

Hollywood Dun It lived in Nacogdoches County. Hollywood Dun It had a double master's degree and was a licensed marriage and family therapist. Hollywood Dun It owned one horse and has owned horses since the age of six. Hollywood Dun It rode for pleasure and also did trail riding.

Hollywood Dun It said the most enjoyable part of horse ownership is actually a collection of things, which included taking care of their horse mainly grooming, and riding. Hollywood

Dun It also just loved being with horses and the one-on-one time. This included caring for her mare, grooming, feeding and building as a team as they both advanced in their skill set. Hollywood Dun It also stated if their current horse was human, it would be equivalent to a soul sister. Hollywood Dun Its horse experienced an injury and was going through rehab. Hollywood Dun It was disappointed and upset she got injured, but has found the silver lining and enjoyed spending this time reconnecting with her and found new ways to make her the best horse she can be. Hollywood Dun It stated the most difficult part of horse ownership was finding balance and trust. When presented with an emergency there were concerns about reaching appropriate care quickly. Hollywood Dun It would be gone for three to four days in a row on trail rides; it was concerning wondering if you could make it back to your veterinarian in time or find a good veterinarian when you were away from home.

Wimpy P-1

Wimpy P-1 was a single parent who lived in Nacogdoches County. Wimpy P-1 was a co-manager of a local family Angus Ranch and had a baccalaureate degree.

Wimpy P-1 owned three horses and has owned horses their entire life. Wimpy P-1 grew up showing and competing at local shows, 4-H, and rodeos. Wimpy P-1 was not pursuing an avenue in terms of competition but their horses were used for ranch work when needed. Wimpy P-1 did have a barrel horse that is was at the trainer's but struggled to find time to go and compete because life got in the way. Also, their daughter was not interested in horses but did show cattle.

Wimpy P-1 enjoyed the peace of mind and comfort horses brought after a stressful day by riding, grooming, or cleaning stalls. Wimpy P-1 also stated the financial burden of horse ownership was the most difficult part. When asked about an emergency Wimpy P-1 had

concerns about affording the cost. Being a single parent there were not a lot of opportunities to save money and put it back in a rainy-day fund. Wimpy P-1 expressed they had an excellent support group who could help if there was a situation where a horse needed to get to the veterinarian.

Zippo Pine Bar

Zippo Pine Bar lived in Rusk County and was a Justice of the Peace. Zippo Pine Bar's highest degree earned was a high school diploma; however, they did take some computer programming classes.

Zippo Pine Bar joked they had three and a half horses since they owned three horses and one miniature horse. Zippo Pine Bar had owned horses since the age of 10. Zippo Pine Bar did mostly open shows and enjoyed going on trail rides. Zippo Pine Bar had two granddaughters who also rode and they enjoyed being able to spend quality time with each other on horseback.

Zippo Pine Bar said there were so many things about owning a horse which were enjoyable. The main one is they gave Zippo Pine Bar the ability to relax, especially if it had been a stressful day. Zippo Pine Bar also enjoyed the fact they can just listen and not talk back or offer unwanted advice; sometimes all that is needed is a listening ear. Zippo Pine Bar also stated horses provided motivation to exercise and to keep moving because "I have to go feed and take care of them and I want to go see them and ride." Horses kept Zippo Pine Bar from just sitting at the house and getting old. Zippo Pine Bar stated the most difficult part of horse ownership was finding the right one. "It is just so difficult; it took me years." Zippo Pine Bar also stated cost was a concern in an emergency. Zippo Pine Bar did state cost was not thought about during the time of the emergency, only getting the horse well and healthy was the concern. But Zippo Pine

Bar was concerned with cost after the fact. Zippo Pine Bar did not have a problem reaching appropriate care, since there was access to a good local veterinarian.

Poco Bueno

Poco Bueno lived in Nacogdoches County and was previously a county extension agent and a fifth-grade teacher and coach at a local private school. Poco Bueno was also the 4-H manager of the school's 4-H club where horses were their primary focus. Poco Bueno's highest degree earned was a Master of Science.

Poco Bueno owned three head of horses and has owned horses their entire life. When Poco Bueno was younger, they showed until the loss of a show horse. In college, Poco Bueno took riding classes and rode for pleasure, along with trail rides.

As an adult, Poco Bueno's children got involved in horses and as a result, time was spent as a family around horses. Poco Bueno enjoyed watching them grow as a rider and enjoyed giving back to their children and other youth. Poco Bueno also enjoyed the friendships and fellowship that were a direct result of owning horses. Poco Bueno also enjoyed being outside and connecting with nature which was accomplished while on horseback. Poco Bueno did state the hardest part of horse ownership was having a partner who does not understand and whose passion was not horses. Poco Bueno's significant other saw them as an unnecessary cost instead of something that brought joy and a way to connect with their children. At the same time, Poco Bueno did say cost or reaching care quickly was not a concern if an emergency arose. This was because Poco Bueno's partner managed their money very well and had an emergency fund set aside should something occur. Poco Bueno also stated they were 25 minutes away from the veterinarian, and they had a working truck and trailer.

King P-234

King P-234 lived in San Augustine County and was a county extension agent. King P-234 had a baccalaureate degree. King P-234 owned four horses and one miniature horse and has owned horses their entire life. King P-234 used horses to work cattle and was involved with their kids at playdays, making it a family affair. King P-234, when time allows, enjoyed showing in ranch classes and roping.

King P-234 enjoyed working with the younger horses and starting two-year-olds and enjoyed helping them get on the right track. Since King P-234's kids rode, they spent quality time together riding. King P-234 also stated the most difficult part was finding time to ride; there were never enough hours in the day and life seemed to get in the way. When asked about concerns in an emergency King P-234 stated there were no concerns; the veterinarian was close and only a phone call away and there was an emergency fund set aside.

Skipper W

Skipper W was single, lived in Nacogdoches County, and was a team member at the local Tractor Supply Company. Skipper W had an associate degree and was working on a baccalaureate.

Skipper W owned nine horses and has owned horses over 20 years. Skipper W competed in barrel racing and enjoyed going on trail rides. Skipper W also competed at playdays and in extreme cowboy events.

The most enjoyable aspect of horse ownership for Skipper W was having someone to talk to. It was a bonus that they were unable to talk back. Skipper W enjoyed the company of horses and spending time with them; it provided the opportunity to relax and just get away. The most difficult part of horse ownership was the money aspect and burden it brought. However, when asked about the ability to afford or reach care quickly in an emergency, Skipper W stated neither

were a concern. Skipper W had access to a good dependable truck and trailer and an emergency fund for the cost of veterinarian care should something unexpected happen.

Sonny Dee Bar

Sonny Dee Bar lived in Shelby County, had a high school education, and was the owner and operator of a local martial arts studio. Sonny Dee Bar owned two horses and has owned horses for 15 to 20 years. Sonny Dee Bar did not compete at horses shows or rodeos and only participated in trail rides for pure enjoyment.

Sonny Dee Bar enjoyed their horses' companionship and liked to tend to their needs, ride them, and play with them. Sonny Dee Bar said the most difficult part of horse ownership is having one that was sick or injured and having to take care of them. "It is scary when there is something wrong, especially if you don't know what it is or you cannot see it physically, so internal." When asked about emergencies Sonny Dee Bar expressed both cost and reaching care as concerns. Sonny Dee Bar did not live close to a veterinarian and did not have an emergency veterinarian fund set up.

Mr. San Peppy

Mr. San Peppy lived in Shelby County, was self-employed, and had a baccalaureate degree. Mr. San Peppy was relatively new to the equine industry; he owned horses for six years. Mr. San Peppy had the most horses owned in the study at 10 head. Mr. San Peppy worked cattle on his family's ranch and team roped. Mr. San Peppy enjoyed just being in the presence of horses. Mr. San Peppy viewed horses as gentle giants and loved to watch them work and be the athletes they were meant to be. Mr. San Peppy's favorite events to watch were cutting, barrels, and poles.

Mr. San Peppy expressed that the most difficult part of horse ownership was making sure you are ahead of them, especially in preventative care and maintenance. Mr. San Peppy was also concerned about bedding, since they are kept in a stall, exercised regularly, eating correctly, and staying fit and healthy to go and compete. When asked about an emergency Mr. San Peppy stated the cost was a concern, especially if it was an injury because veterinarian care was just the beginning, there was also the cost and time of rehabilitation.

Table 2 below contains demographics for the GHOs. GHOs are listed via their pseudonym and their county of residency, number of horses owned, and industry involvement.

Table 2

Demographics of General Horse Owners

Pseudonym	County	Horse Ownership (Yrs)	Horses Owned (#)	Industry Involvement
Colonel Freckles	Nacogdoches	30+	5	Recreation/Show (Ranch Events)
Smart Little Lena	Shelby	30+	1	Show (Ranch Events)
Doc Bar	Cherokee	30+	3	Show (Classic)/ Timed Trail
Hollywood Dun It	Nacogdoches	30+	1	Pleasure and Trail Riding
Wimpy P-1	Nacogdoches	30+	3	Ranch Work/Speed Events (Barrels)
Zippo Pine Bar	Rusk	30+	4	Trail Ride/Show (Classic events)
Poco Bueno	Nacogdoches	30+	3	Pleasure/Trail Riding

Table 2 Continued

Demographics of General Horse Owners

Pseudonym	County	Horse Ownership (Yrs)	Horses Owned (#)	Industry Involvement
Skipper W	Nacogdoches	20	9	Speed Events/Timed Trail Events/Trail Rides
Cutter Bill	Angelina	10	2	Showing
Sonny Dee Bar	Shelby	20	2	Pleasure/Trail Riding
King P-234	San Augustine	30	5	Ranch Work/Speed Events/Roping
Mr. San Peppy	Shelby	6	10	Roping

Interview Protocol

The internet has changed the world we live in; additionally, this change has not been more felt than in the past year due to the Covid-19 pandemic; thus, how qualitative research is conducted has also changed. Due to the internet and its tools, computer-mediated communication (CMC), and information communication technologies (ICTs) there are multiple possibilities in terms of conducting interviews for qualitative research (Merriam & Tisdell, 2016). Qualitative

data no longer has to be conducted through face-to-face interviews or in-person observations but instead can be collected via email, blogs, social media, and Zoom. This allows for both asynchronous (lag time) and synchronous (real-time) avenues for collection (Merriam & Tisdell, 2016).

For this study, online interviews were conducted via Zoom for both IEs and GHOs. This synchronous method of data collection over the internet allowed all participants to remain healthy and safe from each other due to the Covid-19 pandemic. Additionally, conducting interviews that were synchronous allowed for oral interviews with video, which simulated a face-to-face traditional interview (Merriam & Tisdell, 2016). Furthermore, because of the ability to meet face-to-face virtually, rapport and trust were still able to be obtained, which can be difficult and challenging in an asynchronous setting (Merriam & Tisdell, 2016). It was important to conduct this study utilizing interviews since the two main limitations of diffusion research is a result of individuals saying diffusion has happened when in fact it has not, and not stating diffusion has taken place when it has since the innovation is so wide spread (Rogers, 2003). Furthermore, GHOs rely on past experiences to express their knowledge gained. Finally, it should be noted, since this is a qualitative study, emergent design and themes were developed during the interview process.

Individuals who met the criteria for the study were initially contacted by email or phone. During this initial contact, I explained the purpose of my research study. Once subjects agreed to be part of the sample, a date was agreed upon for the initial interview. Before the interview, I sent an informed consent form (Appendix A) to each participant, which was signed and returned. Following the receipt of the signed informed consent forms, I sent a Zoom link to each participant via email for the interview. All interviews were completed and recorded via Zoom

due to the Covid-19 pandemic, which was taking place during the interview process. The semi-structured informal interviews with my participants were guided by an interview protocol, but neither the exact wording nor the order of questions was predetermined (Merriam, 1988). I chose to use semi-structured informal interviewing methods to provide a "conversation as research" approach to gather data from my participants (Kvale & Brinkmann, 2008). This approach was necessary because it provided additional opportunities to truly get to know my participants and their insights. This established a sense of comfort that encouraged them to speak freely regardless of the topic and avoid any hesitations that they may normally have when discussing certain topics.

Data Collection

Industry Experts

All interviews for IEs were conducted between December 2020 and February 2021. For industry experts, the interview was divided into three parts: background, topics of concern, and recommendations. The interview schedule for IEs can be found in Appendix F. Part one consisted of the background set of questions that were used to develop trust and build a relationship between the participant and me, before being asked questions pertaining to the study. The "most important aspect of the interview method is trust and rapport between the interviewer and the interviewee" (Kim, 2015, p. 161).

The second part of the interview dealt with topics of concern. It was during this part of the interview IEs expressed their concerns over topics related to equine health care that affect the equine industry. During this stage in the interview, I was careful not to ask leading questions. However, given the breadth of some of the topics in the equine industry, follow-up questions were needed to understand the topics of concern.

Following questions of concerns, the final part of the interview dealt with gaining knowledge recommendations, or how IEs feel GHOs should gain their knowledge. This was initiated to start bridging the gap between the two realms of the equine industry.

General Horse Owners

All interviews for GHOs were conducted between February 2021 and March 2021. Similar to IEs, interviews of GHOs were semi-structured, which allowed for the respondents to guide the interview. Questions for GHOs were divided into four parts: background, nutrition/forage, yearly preventatives, and gaining new information. The interview script for GHOs can be found in Appendix G. Like IEs, GHOs were asked background questions which were used to garner trust and build a relationship between the interviewee and me. The second and third parts of the interview were questions based on IEs' concerns. The broad, overarching theme for part two was nutrition/forage. Part three consisted of yearly preventatives. The last part of the interview pertained to obtaining new information

Human Instrument

Regarding this study, I served as the human instrument. Looking back there has never been a major moment in my life, good or bad which has not revolved around horses. As a youth, I grew up through 4-H and FFA. I was on the horse judging team, horse bowl team, showed competitively in the all-around and competed in rodeo queen contests. It was during this time as a youth I made friends in this industry who have become family. It was also during this time that I rode my fair share of "junk." We did not have the means financially to afford competitive horses; they had to be made, by us. It was also during this time my path crossed with my "heart horse." He was everything; there truly was nothing he could not do, and as a team we were unstoppable.

During my college years, I continued to show on the weekends and at some level became a weekend warrior. I would attend college during the week, but every weekend I was going to a horse show. My parents were smart. I went off to college, but my horses stayed at home. So, every Friday afternoon I would drive home and every Saturday morning we would load the trailer and head to a show. During my undergraduate career, I was also on the horse judging team and a new event called stock horse came bursting onto the scene in the equine industry. It looked fun and there was a university team, which meant more riding time during the week and a chance to become a better rider since I would be riding different horses. As a result, I tried out and made the team.

I started my college career as a biomedical science major, with plans on attending veterinarian school. The moment I realized I had picked the wrong profession, is a memory that is etched into my mind. I was two semesters away from graduating and competing at the National Reining Breeders' Classic collegiate judging contest. I was preparing a set of reasons in the skybox. I could look out in one direction and see trainers warming up for the main event and look out the other way and see a class happening. It was at that moment I realized if I was a veterinarian these experiences in the equine industry would be limited because of my profession. I came back to campus on Monday and changed my major to animal science with an equine production option.

I graduated a semester behind schedule, in December 2007. In January 2008 I started graduate school. In February my heart horse died suddenly and unexpectedly. My major professor at the time was cold, harsh, and uncaring during this difficult time. I remember the day CowBoy died. I remember my heart hurting. I remember failing my first graduate school exam. But most of all, I remember how my major professor, who was supposed to be my mentor and

love horses and the equine industry as much as me, treated me that day. I remember through the pain, telling myself regardless of my job or how big I made it in this industry I would never treat people that way. Horse people are a family. I also remember vowing to never stop learning and sharing my knowledge. My goal would be to share my knowledge, so hopefully, others did not have to go through the same heartbreak I experienced. I showed in classic events for a couple of more years, but it was not the same; nor was I the same person. I now had too much baggage and it was not fair for my equine partner to show in these events. So, I decided to show strictly stock horse, which has now become ranch horse events. In 2009, I was crowned Miss Rodeo Oklahoma and spent the entire year traveling our nation, promoting rodeo, and supporting our equine industry. It was amazing. It was a year of a perfect blend between people who made a living in this industry, those who simply enjoyed this industry, and those who were new. Looking back, I realized it was here, at this stage in my life I realized I wanted to bridge the gap in our industry.

In 2010 I started my first teaching job. I taught high school science at Center ISD, which is a 4A high school in deep East Texas. In 2014, I moved out of the secondary education sector and became the Equine Center supervisor for Stephen F. Austin State University (SFASU). It was also during this time; I upped my game in the show pen and decided to start competing at the national and world level. I was gone every weekend, chasing both points and titles. Once again, I was meeting amazing people in this industry, some who had the knowledge and skillset and others who did not, but wanted to learn. While at SFASU I finished my master's degree in general agriculture, started a breeding program, and took the ranch horse team to the next level. It was also during this time; I realized there were people in this industry who were considered experts because of their degrees but lacked the experience needed to be successful in this

industry. In 2018, I left SFASU and came back to teach at Center ISD. I was burned out and stressed. Somewhere along the way, I lost my passion for this industry. I started at SFASU because I wanted to make my hobby my career, but I ended up losing my hobby because of my career.

I once again teach at Center ISD in the science department. I also coach a competitive and successful horse judging team. It is here I can pass on my knowledge and experiences to the next generation. I have been in every facet of this industry, from novice youth to open trainer, from the weekend warrior to manager of a breeding barn. I know and understand all sides of the equine industry because I have been on both sides of these experiences. I have also seen and experienced first-hand the disconnect in our industry. In the horse industry people who are similar or at least feel they are on the same level communicate with each other and share information. However, if you are not on the same level and are not paying for that information (advice from your veterinarian or trainer) then it is much more difficult to find and access the information needed.

I want to work toward closing the gaps that exist in our industry and find ways to disseminate information that both sides can utilize and understand. My extensive background in equine health care and experiences in this industry have improved data collection during this study. Throughout this process, I have been able to talk to both sides of the industry and communicate with both IEs and GHOs on their levels, which has increased trust between us and allowed for more open conversations and truer, candid responses.

Data Analysis

In qualitative research, data analysis is an ongoing process throughout the research study, and it occurs concurrently with data collection (Merriam, 1998). At its core, data analysis is the

process of making sense out of field data (Merriam & Tisdell, 2016). It is the process of forming singular data and observations into organized groups and emergent themes. It involves a constant process of organizing, reducing, adding, and interpreting data based on subjects' responses and visual observations of the researcher to form a meaning (Merriam, 2009). As stated earlier, as the researcher, I was the human instrument during the data collection process and during the data analysis. According to Merriam (2009), a central key component of qualitative research is "the researcher is the primary instrument for data collection and analysis" (p. 15). The goal of qualitative data analysis is for the researcher to understand and accurately interpret the data (Creswell, 2013; Denzin & Lincoln, 2000; Merriam, 2009, Merriam & Tisdell, 2016). Data analysis continued until answers to the guiding questions emerged.

Coding and References

Berg and Lune (2012) propose conducting open coding to discover patterns in the data through marking, highlighting, clustering of words and phrases, and journal writing. To provide an additional analysis angle and to achieve further accuracy, all data sources were extensively reexamined using an open coding method of analysis. In an open coding process, the researcher can see categories and sub-categories being noted and labeled, while also recognizing any implied connections among them (Strauss, 1990). Data that were collected and unitized in nature was organized and categorized in a manner that produced descriptive information regarding the context of how it was derived, this is known as categorizing (Lincoln & Guba, 1985). As a result of categorizing, the researcher starts with detailed segments of data, which turns into clusters of data that are similar, and then naming the cluster (Merriam & Tisdell, 2016). As a result of this continuous process, some categories will remain throughout the data collection while others will not (Merriam & Tisdell, 2016).

To ensure confidentiality and protect subjects, I gave each subject a pseudonym. IEs were all given names of former Triple Crown winners. GHOs were all given names of horses that are in the AQHA Hall of Fame. This grouping allowed me to not only see each respondent individually but also as a group while coding data. Coding at its essence is merely a shorthand to various aspects of data, which can be recalled and retrieved at a later time when needed (Merriam & Tisdell, 2016).

Rather than utilizing qualitative coding software, I manually completed all of the coding and analyzing, which deepened and reinforced my familiarity with the data and facilitated data analytic procedures. All data for IEs were analyzed in three phases. The first phase resulted in responses being transferred to an Excel spreadsheet. Responses were then color-coded as topics in the spreadsheet. The second phase required grouping coded topics into combined areas of concern. It was during this phase each combined area of concern was defined. The final phase of data analysis looked at evidence of patterns between those individuals being interviewed. Comparable to IEs, GHOs data were also analyzed in three phases. The first phase required each subject's responses to be transferred into an Excel spreadsheet. Responses were then analyzed to see if keywords or phrases were used, and responses were then color-coded accordingly. In the final phase of data analysis, I looked for patterns of those individuals being interviewed to see if saturation had been met. The constant comparative method was used to analyze patterns and specific commonalities between subjects (Glaser & Strauss, 1999). This "constant comparative analysis aided in identifying patterns, coding data, and categorizing findings" that surfaced by using an informal analytic system to reorganize the data under more specific coding (Anfara et al., 2002, p. 32). Throughout the data analysis process, the categorical themes constantly evolved. Rossman and Rallis (2003) state that "thematic analysis typically emerges from the

deep familiarity with the data that comes from categorizing" (p. 282). In qualitative research, the data are allowed to "speak for themselves" by the emergence of conceptual categories and descriptive themes that are usually embedded in a framework of interconnected ideas that make sense to the researcher.

Trustworthiness

Results of research must be trusted, especially the social sciences, when it is required to intervene in the lives of people (Merriam & Tisdell, 2016). When concerning trustworthiness, the current criteria include dependability, transferability, credibility, and confirmability, in the qualitative realm, which replaces external validity, internal validity, objectivity, and reliability (Lincoln & Guba, 1985). Keeping this in mind to ensure trustworthiness, the following were completed throughout the study: journaling, peer debriefing, member checks, audit trails, and triangulation.

I continuously maintained a researcher's journal during the entire study. This allowed me to keep all important details, thoughts, processes, and decisions in one place (Lincoln & Guba, 1985). This journal also allowed me a place to maintain and record their thoughts and feelings of each interview. Journaling should be conducted by every qualitative researcher, and this, in turn, will decrease bias by the researcher (Lincoln & Guba, 1985).

Member checks were also utilized during this study. Merriam (2009) states member checks are important to ensure misrepresentation and misinterpretation did not occur during the interview process while giving yourself an outlet to recognize your own biases. It is important to ensure respondents of the study can recognize their voices and experiences (Meriam & Tisdell, 2016). Furthermore, as a researcher, it is important to ensure our personal longing meets criteria, and we do not create an environment that will influence behavior that is unproducible in the

natural setting (Lincoln & Guba, 1985). To ensure misrepresentation and misinterpretation did not occur, all interviews were recorded and transcribed. Additionally, at the end of each section of questions, answers were read back to respondents. It was at this time that participants could add, change, and/or delete responses, to ensure their voice was heard accurately.

Peer debriefing also occurred during this study. Peer debriefing was conducted after the completion of interview for both IEs and GHOs. Dr. Julie Harlin served as my peer debriefer. A dependability audit was created after each interview, where each interview was transcribed line by line. This allowed the true voice of each subject to be heard and to facilitate organization and the data analysis process. Furthermore, for coding purposes I also used the line numbers to specifically reference quotes from my participants. An audit trail was also conducted during this study. This allowed the study to be described in detail regarding data collection, categories and emerging themes, and the decision-making process (Merriam, 2009). Once interviews were transcribed, the data was further analyzed. Next, I coded topics of concern into categories, and themes started to form. After all interviews were conducted for IEs and GHOs, the Excel sheet was sent via email to Dr. Harlin to ensure confirmability.

Finally, triangulation was employed. Triangulation is the use of multiple methods, multiple investigators, multiple theories, and/or multiple sources of data to confirm emerging findings (Merriam & Tisdell, 2016). Regarding this study, semi-structured interview questions, field notes, journaling, peer debriefing, an audit trail, and two different sample groups were used to explore this topic.

Ethical Considerations

As previously stated, I recruited both IEs and GHOs via email or phone. The recruitment scripts can be found in Appendix B through Appendix E. Furthermore, I gave each respondent an

informed consent form and explained the basis of the study. I also informed each participant of their rights to participate in the study voluntarily, along with the ability to withdraw from the study at any time. Finally, in order to keep each participant's identity confidential, I gave each a pseudonym. I gave IEs a pseudonym of a Triple Crown winner. I also gave GHOs pseudonyms of horses in the American Quarter Horse Association (AQHA) Hall of Fame. It should be noted that names are as they appear on the horse's registration papers, specifically American Pharoah. American Pharoah's name was misspelled on his registration papers and The Jockey Club would not allow the owners to go back and make the correction.

Summary of Methodology

This qualitative case study explored the knowledge and information gap between IEs and GHOs with regard to equine health care. One-on-one interviews with semi-structured questions were conducted for both interview groups. IEs provided key informants in the GHOs sector. Moreover, questions for GHOs were formulated after interviews with IEs were conducted and themes emerged. All data were collected between December 2020 and March 2021. Data were analyzed, coded, and emergent themes were noted. To ensure trustworthiness, field notes, journaling, peer debriefing, and an audit trail were utilized in the research study.

CHAPTER IV

RESULTS AND DISCUSSION

Industry Experts

I interviewed eight industry experts (IEs) for this qualitative research study. From the collected data, themes emerged which helped not only to answer the research objectives, but also to frame the questions for the general horse owners (GHOs) interviews. Respondents discussed topics that GHOs needed to know to be health care informed horse owners. Much of each interview was spent discussing these topics in detail, while also providing recommendations for disseminating knowledge to the GHOs sector of the industry.

Areas of Concern

Research Objective #1: What are the information gaps (knowledge and practices) in equine health care between IEs and GHOs?

To help answer research objective #1, I asked IEs the following question: What topics or concerns relating to equine health care do you feel GHOs need to know? Their responses were grouped into five primary areas of concern, which represented my five emergent themes: nutrition management (NM), forage management (FM), yearly preventatives (YP), facility management (FaM), and first aid (FA).

Nutrition Management (NM)

Three themes emerged from the data almost simultaneously. Of these three emergent themes, the first theme was nutrition management. All eight IEs responded with multiple topics within nutrition management. Nutrition management covered subthemes which encompassed (a) basic nutrition recommendations, (b) knowing and utilizing body condition scores (BCS), (c) signs and symptoms of both colic and founder, (d) feeding management, and (e) developmental

orthopedic disease (DOD). Sir Barton, Secretariat, and Citation discussed the most topics regarding nutrition management.

When asked what topics GHOs need to know regarding equine health care, Sir Barton indicated the importance of healthy horses:

> The number one and two concern for most horse owners are colic and founder. And obviously from a nutritional standpoint and with that being my background and what I make my living in now, there is a general misunderstanding on how to feed horses properly and what kinds of feed and hay are best for horses, and mainly it is related to feeding management. Both of those concerns, both colic and founder, are not inherent diseases of the horses obviously, they are management problems. People trying to keep a healthy horse revolves around proper nutrition, once you get beyond disease control and vaccinations. (Sir Barton, Interview 1, l. 35–40, 42–44)

When asked to elaborate further regarding body condition score (BCS) and nutritional requirements, Sir Barton explained their viewpoint:

> They understand body condition, but I don't know about actual scoring. They understand when the horse looks good, they think they feel good. But the problem with that is they can have fat covering over their ribs and look good, but not have the energy storage they need for the type of exercise or performance they are going to ask them to do. (Sir Barton, Interview 1, l. 72–75)

When also asked the question regarding topics GHOs need to know, Secretariat elaborated on their beliefs:

> Certainly, nutrition is one of those bigger ones. Just basic nutrition management skills need to be an area of focus. Also, topics related to diseases that often inflict the horse.

> More common ones that our general horse owners struggle with and need to know such as laminitis and colic. From a nutrition standpoint—general horse owners, especially first-time horse owners, try to equate what they know as a human in nutrition and apply that to the horse. The fallacy with that is that they don't understand the digestive system of the horse. And so, knowing the right application in terms of ration development. (Secretariat, Interview 1, l. 25–26, 37–39, 50–54)

Citation stated, "As a horse owner, manager, and veterinarian, colic was always the biggest concern I had. Followed by laminitis, and then developmental orthopedic disease" (Citation, Interview 1, l. 24–25). When asked to expand further on the topic of colic, Citation reiterated the importance of health care:

> Prevention is what I always try to do, especially on a large ranch or breeding farm, colic can be an issue. I was looking at always trying to minimize that by improving the nutrition or improving management. The same holds true for laminitis. Many times, laminitis will follow a colic and a lot of the same causes of colic will cause laminitis, which is important to know. (Citation, Interview 1, l. 30-32, 34-35)

Forage Management (FM)

The next theme discussed is forage management. Seven of the eight IEs interviewed discussed topics related to forage management. Subthemes of forage management included (a) basic forage management, (b) toxic plants, (c) good quality horse hay, and (d) knowing horses are considered forage animals.

War Admiral covered all four subthemes during the interview. Regarding forage management, War Admiral stated their experience:

> In my role, we get a lot of questions. And the majority of questions we have been getting lately have been about forage management, how to tell what good forage is and what weeds might be toxic to their animals. We get a lot of questions about toxic plants. (War Admiral, Interview 1, l. 53–55)

When asked to expand further on forage management, War Admiral clarified their thoughts:

> The informed horse owner knows the difference between good quality horse hay and cattle hay, especially if they have been around or have some knowledge of cattle production. But the average horse owner, who is going to the feed store to buy a few bales of hay at a time does not understand the differences. There is also a fair amount of horse owners that do not know horses are meant to and are built to survive on forage. (War Admiral, Interview 1, l. 58–61)

Affirmed mentioned three of the four subthemes while discussing forage management:

> Forage should be the bulk of the diet. They need to provide something for the equine to munch on all day long, instead of making them a meal eater. Horse owners do not know there is a difference between good quality horse hay and cattle hay, but it is something they need to know. We are seeing more and more easy keeper horses, so there are cases where some of those horses don't need high-quality hay—a weekend horse that gets ridden once a week on a trail ride. We have more and more of those, and we try to test their hay and let them know they don't need to feed alfalfa, or maybe they don't need to feed the real high-quality hay because of a history of laminitis and obesity. (Affirmed, Interview 1, l. 45–49)

Yearly Preventatives (YP)

The third theme to emerge from the data was yearly preventatives. Six of the eight IEs stated yearly preventatives, along with its subthemes, as an area of concern for GHOs. The five subthemes of yearly preventatives were (a) yearly vaccinations, (b) diseases that affect horses, (c) dental care, (d) deworming programs, and (e) farrier visits. American Pharoah mentioned four of the subthemes of yearly preventatives during the interview, and Affirmed, Secretariat, Seattle Slew, and Sir Barton each discussed three of the subthemes in their interviews.

American Pharoah stated, "They need to know all the routine medicine, so basic health care; vaccinations to deworming to taking care of their teeth. If they are doing any kind of breeding work, then basic breeding work" (American Pharoah, Interview 1, l. 40–42). American Pharoah explained their perspective regarding yearly preventatives:

> Most of them certainly know vaccines exist. We have them pretty trained in small animals. They know there are routine vaccinations that other pets get. So, it is not a far stretch for them to know that horses likely need some type of routine care as well. But they might not know all of them and may only know some of them. There are also those that are recommended for endemic areas of the country, that are not recommended everywhere. (American Pharoah, Interview 1, l. 51–56)

Regarding yearly preventatives, Seattle Slew stated their thoughts:

> They need to know just the basic nuts and bolts of a vaccination and deworming program. A lot of general horse owners don't want the details. They don't want to know about the life cycle of the worm. They just want to know how often they need to deworm and what they need to use. (Seattle Slew, Interview 1, l. 23–26)

Facility Management (FaM)

Only two IEs discussed topics concerning facility management during their interviews. The subthemes that emerged from facility management were (a) basic facility management, (b) manure management, and (c) management risk. Secretariat discussed all three subthemes during the interview.

Secretariat offered their perspective regarding facility management:

> A lot of general horse owners don't know what it takes to have proper facility management. From an environmental standpoint like manure management is not on the forefront of most general horse owners. That is a huge environmental impact and can be a huge facility impact as well. With more of our general horse owners becoming more of the urban type, whether that be they are managing in an urban setting, or their background just comes from a non-agricultural or non-rural setting. They have not thought through managing a horse on a small acreage, so pasture management and some of the liabilities that come with that. So, especially if you are boarding your horse or offering boarding at your facility, just being more urban and more accessible to the public, managing those perceptions and managing those liabilities as well. (Secretariat, Interview 1, l. 100–109)

First Aid (FA)

The final theme to emerge during the interview process was first aid. First aid subthemes included (a) basic first aid, (b) taking vital signs, (c) knowing when to call a veterinarian, (d) resources to take to the veterinarian when needed, and (e) hydrotherapy. Three IEs covered this area of concern throughout their interviews. Justify talked about all six subthemes relating to first aid in the interview.

Justify discussed the importance of first aid:

General horse owners need to know emergency responsiveness or recognizing an acute issue or a concerning issue. It starts with being aware that an emergency could happen at any time and having transportation—so a truck and trailer. They also need to know about acute injuries—so having some bandages on hand for an emergency in order to stop the bleeding. (Justify, Interview 1, l. 53–55, 58)

Table 3 shows the five emergent themes for combined areas of concern.

Table 3

Industry Experts Emergent Themes for Primary Areas of Concern

Theme	Description
Nutrition Management (NM)	• basic nutrition recommendations • knowing and utilizing body condition scores • signs and symptoms of both colic and founder/laminitis • feeding management • developmental orthopedic disease
Forage Management (FM)	• basic forage management • toxic plants • good quality horse hay • knowing horses are considered forage animals
Yearly Preventatives (YP)	• yearly vaccinations • diseases that affect horses • dental care • deworming program
Facility Management (FaM)	• basic facility management • manure management • risk management

Table 4 shows each area of concern for IEs. Superscript formatting was used on the themes as they emerged to indicate how many topics were discussed. Additionally, superscript formatting was also used on IEs to specify how many topics within that area were discussed

during the interview. As can be observed from Table 3, nutrition management (NM), forage management (FM), and yearly preventatives (YP) were the three main areas of concern discussed in interviews with IEs. Nutrition management was the only area of concern that all eight IEs discussed in their interviews. Forage management was discussed by seven IEs, and yearly preventatives were discussed by six IEs. Accordingly, these areas of concern, especially the topics discussed, were used to build GHOs' questions.

Table 4

Industry Experts Coding Results for Primary Areas of Concern

	Informant [a]				
	Justify[3] American Pharoah[3] Citation[5] Affirmed[4] Seattle Slew[2] Secretariat[5] Sir Barton[5] War Admiral[2]	Justify[3] American Pharoah[3] Affirmed[3] Seattle Slew[1] Secretariat[2] Sir Barton[3] War Admiral[4]	Justify[2] American Pharoah[4] Affirmed[3] Seattle Slew[3] Secretariat[3] Sir Barton[3]	Citation[1] Secretariat[3]	Justify[5] Citation[5] Secretariat[5]
Coding [b]	NM[6]	FM[4]	YP[4]	FaM[3]	FA[5]

[a] The superscript numeral equals the number of sub-concepts addressed by each informant for each area of concern.

[b] The superscript numeral equals the total number of sub-concepts addressed.

Note. NM = nutrition management, FM = forage management, YP = yearly preventatives, FaM = facility management, FA = first aid

Gaining Knowledge Recommendations

Research Objective #2: What are possible recommendations for bridging the information gaps between IEs and GHOs in terms of equine health care?

To help answer research objective #2, I asked IEs the following question during the third part of their interview: You have given me some concerns—how do you feel we can educate GHOs about these issues? Their responses from interviews were then grouped into themes as they emerged during the data analysis process. From their responses, these five themes emerged: communication efforts (CmE), self-education (SE), group-education (GE), technology (T), and novice horse owners (NHO).

Communication Efforts (CmE)

Among communication efforts, four subthemes were discussed: (a) communication within the industry, (b) talking to county extension agents, (c) talking to horse extension specialists, and (d) talking to veterinarians. Only four IEs mentioned communication efforts when they discussed possible recommendations for closing the information gaps between IEs and GHOs in terms of equine health care. American Pharoah elaborated on all four subthemes within this recommendation area.

> During the interview, American Pharoah explained ways to acquire information:
>
> Some of the ownership is on veterinarians, going to 4-H clubs, going to pony clubs, and accepting those offers to come in and help educate those clients. If we start them out as little guys and they grow up with horses, and they know where those resources are, then we have a better educated public and a much better owner. Some veterinarians will include a link to some of those various organizations that have really good information on their website. So, if a client is tuned into going to their veterinarian for information, then

they can pick up on things that way. That is probably the easiest way for horse owners to get information. (American Pharoah, Interview 1, l. 96–103)

When asked the question "How do we ensure all horse owners are good horse owners?" Justify responded with clarification:

I don't know. I don't think that is possible. You can give people opportunities to educate themselves and try to reach people by providing opportunities. Sometimes you run into an emergency or issue and you don't become aware of your deficiencies until it is too late. So maybe following up on that with them after the fact. You have such a huge variety of knowledge and people, if you start off with the basics you might insult them. Tailoring it to what people need to know and adding on to what they already know is important. (Justify, Interview 1, l. 72, 74–81)

Secretariat offered another perspective:

Information related to any of these topics is readily available, yet you still encounter learners who have gaps in this information or education. You must take into account your learner, so depending on if you are dealing with a youth or adult audience there is a difference. Then gender is also a big difference as well. Based on your audience, we can disseminate information in a lot of different ways. (Secretariat, Interview 1, l. 131–132, 137–139)

Self-Education (SE)

Self-education comprised the subthemes of (a) reading science publications and breed association journals, (b) self-reflection, and (c) self-questioning. Six IEs discussed self-education during their interview. Justify and Affirmed both discussed all three subthemes related to self-education.

Affirmed discussed the importance of reading horse journals and magazines:

Be aware every horse journal and free horse magazine always has some health issues in there. You got to read, you got to study, and you have to work at it. Of course, I am talking about *Western Horsemen*, the *Quarter Journal*, and the *Paint Journal*. But there are little horse journals that are dropped off at the clinic that are free, and there are normally good articles in them. I think sometimes owners think they are boring, I worm my horse and don't need that, I feed good hay based on just looking at it. You have to help them delve a little deeper before they have a crisis, but it is hard to make them. (Affirmed, Interview 1, l. 110–112,118-122)

Secretariat reiterated the significance of equine education:

As part of the process of education, trying to develop some of those skills that allows that learner to continue on in the process of learning. You are setting the stage that will help them continue to grow and learn. That may be through resource sharing, that may be through connecting them with other people that will help them in their education process. But I certainly think preparing them for continued learning should be an important part of your initial engagement with them and trying to educate them. I think it has to start with the learner, the horse owner, honestly. They must want to initiate the drive and want to for learning. You can't teach someone who does not want to learn, and it is almost impossible to find people who are not looking to learn. Oftentimes the people we are encountering for education are those who have made the choice to be there. You can do a great job as a teacher, but people must seek that education. (Secretariat, Interview 1, l. 149–154, 156–160)

Group-Education (GE)

Subthemes for group-education encompassed (a) workshops and (b) short courses. Group education was also stated as a recommendation by six IEs, all of whom discussed both subthemes.

During his interview, Seattle Slew offered his thoughts on group-education:

> The Extension service is probably the only outfit that truly offers all of the mechanism and venue to disseminate information. Up until a year ago public meetings, workshops, and short courses were great. But we do see where people are too busy and now, we have to deal with the pandemic. To get people to take an entire day to come and attend a whole day on nutrition, feeding management, or health care you are going to get people to come; but if you do a riding clinic and right after lunch while everyone is resting you do a 15 to 20 minute talk on health care and nutrition, they love it. I experienced it so many times, they thoroughly enjoy that. Everyone wants to ride their horse and I don't blame them. (Seattle Slew, Interview 1, l. 96–98, 117-121)

Likewise, Citation discussed group-education:

> In the past, we have done meetings—so workshops and short courses. But due to health concerns and the Covid virus, it has stopped in the past year. We need to make sure horse owners are capable of finding good information from veterinarians and industry professionals. (Citation, Interview 1, l. 66–68, 70-71)

Technology (T)

Technology subthemes were (a) utilizing the extension agency mobile app, (b) social media, and (c) online courses. Once again, six IEs stated technology as a recommendation for bridging the information gaps between IEs and GHOs regarding equine health care. Sir Barton,

War Admiral, and Secretariat mentioned all three subthemes regarding technology in their interviews.

War Admiral elaborated on using online technology for education:

> We must change or adapt or add to the ways we present our information. Right now, our current focus is social media, through online education, so people can have that information on demand. We are moving towards those more virtual types of platforms. We had started down the virtual path before Covid happened. We developed our mobile app back in 2018, and we started online education in 2017, and we vamped up our social media account in 2017 with the start of our YouTube channel. We have been slowly moving in that direction, obviously the pandemic has caused a lot of people to move to more of a virtual platform. I think people are becoming more comfortable in getting their education in that way. We have videos that are geared towards 4-H age youth, but we do have videos that are geared towards a more adult audience. For the most part, the videos are pretty universal, in terms of font, family, color choices, etc. so it could be for a senior youth or an adult audience. (War Admiral, Interview 1, l. 77–79, 83–88, 90–93)

Similarly, Secretariat talked about utilizing online platforms:

> One of those that comes to mind very quickly is online, whether that be through online courses, online interactions (webinar and long-distance presentations), so learner-live scenarios or learner self-paced opportunities as well. Quick information can be disseminated through social media outlets, too. Some of our education quick points can be done through YouTube, Facebook, Instagram. (Secretariat, Interview 1, l. 140–144)

Sir Barton offered their perspective on technology:

> There is never going to be a lack of need for educational programs, from people that are associated with extension and universities. I think we have to continue to push that, whether it is through publications. I think, in general, people at universities and extension have been reluctant to embrace social media outlets as well as maybe some others. Things are happening now and there are lots of conferences and seminars that you can go to now online and join. The information is out there, it is just making the availability of that information known to the general public. Extension and university people probably need to do a better job on letting general horse owners know where they can get the reliable information versus all of the things you can read on Facebook. (Sir Barton, Interview 1, l. 135–144)

Novice Horse Owners (NHO)

Finally, novice horse owners were considered a recommendation to bridge the information gaps between IEs and GHOs by six IEs. novice horse owners are a vital part of our community. These individuals own horses yet do not have the background or experience to properly care for them. It is important that we ensure they have the tools they need to be successful horse owners.

During the interview, War Admiral discussed novice horse owners:

> You know the extension program has since the 1980s been preaching about body condition score, feeding by weight and not by volume, individualized nutrition plan, all of these things. But still, there are new people always continually coming into this industry, so we keep continuing to send out the same message, which is good because it is good information. But the challenge is making sure that all the right people get that information. (War Admiral, Interview 1, l. 72–77)

Likewise, Seattle Slew offered encouragement:

Encourage them, routinely. Give them encouragement and give them short, concise information that answers the questions you know they are going to have. Simple concise information that is straightforward without being over descriptive. The beautiful thing is we get new horse owners all the time. And we have to remember the new horse owner does not know what we know. They are brand new to this deal. They are a fabulous audience, and they are interested. (Seattle Slew, Interview 1, l. 124–125, 154-156)

Sir Barton argued their perspective:

I have spent the last 40+ years of my life, since about 1977, that is the business I have been in, the horse education business. It is a never-ending battle because once you think you are making progress, you have a whole new wave of horse owners. It is even more difficult now because so many horse owners are removed from the farm and ranch environment that people like me grew up in. I grew up on a farm and knew how to take care of animals. But we don't have that nowadays. So many people are getting into the horse business that have no concept of how to take care of large animals. So, that makes the education process even more difficult. (Sir Barton, Interview 1, l. 114–121)

Table 5 shows the five themes that emerged regarding recommendations.

Table 5

Industry Experts Emergent Themes for Gaining Knowledge Recommendations

Theme	Description
Communication Efforts (CmE)	• communication within the industry • talking to county extension agents • talking to horse extension specialists • talking to veterinarians
Self-Education (SE)	• reading science publications and breed association journals • practicing self-reflection • implementing self-questioning
Group-Education (GE)	• attending workshops • attending short courses
Technology (T)	• utilizing the extension agency mobile app • using social media • participating in online courses
Novice Horse Owners (NHO)	• seeking out novice horse owners to make sure they are getting the correct info

Table 6 shows recommendations for GHOs to gain knowledge from IEs. Similar to the emergent themes for areas of concern, superscript formatting was used on these themes to show how many topics were considered for recommendations for gaining knowledge. Additionally, superscript formatting was used on IEs to indicate how many topics within that recommendation were discussed during the interview. Self-education (SE), group education (GE), technology (T),

and novice horse owners (NHO) each had six IEs that discussed the importance of utilizing these methods to disseminate knowledge to GHOs.

Table 6

Coding Results of Industry Experts' Recommendations for General Horse Owners' Gaining Knowledge

	Informant [a]				
		Justify[3] American Pharoah[1] Citation[1]	Justify[2] Citation[2] Seattle Slew[2] Secretariat[2] Sir Barton[2] War Admiral[2]	Justify[1] Citation[1] Seattle Slew[1] Secretariat[3] Sir Barton[3] War Admiral[3]	Justify[1] Citation[1] Affirmed[1] Seattle Slew[1] Sir Barton[1] War Admiral[1]
	Justify[1] American Pharoah[4] Citation[4] War Admiral[2]	Affirmed[3] Secretariat[2] Sir Barton[1]			
Coding [b]	CmE[4]	SE[3]	GE[2]	T[3]	NHO[1]

[a] The superscript numeral equals the total number of sub-concepts addressed by informants

[b] The superscript numeral equals the total number of sub-concepts

Note. CmE = communication efforts, SE = self-education, GE = group-education, T = technology, NHO = novice horse owners

General Horse Owners

I interviewed twelve GHOs for this research study. Based on interviews with IEs, I formulated questions to help guide their interviews. From the collected data, five themes emerged, which helped achieve the research objectives. Additionally, GHOs enjoyed talking about their horses, both past and present, especially when able to use their equine counterparts as examples when answering questions concerning equine health care. GHOs was given a pseudonym of a horse previously inducted into the American Quarter Horse Association (AQHA) Hall of Fame.

Nutrition/Forage

Research Objective #3: Are GHOs aware of IEs knowledge, and if so, is adoption or rejection occurring?

To accomplish research objective #3, I asked GHOs questions concerning nutrition, forage, and yearly preventatives. I asked these questions since these were the areas of concern which a majority of IEs expressed in their interviews. I asked questions regarding areas of concern in chunks during the interviews for GHOs. First, I asked all nutrition-related questions, then all forage-related questions, and finally all yearly preventative-related questions.

During the last phase of data analysis of GHOs, I assigned a code based on a bimodal coding scheme (Yin, 2009) to indicate GHOs overall understanding concerning nutrition/forage. Based on this bimodal coding scheme, I grouped responses in themes and allocated a code based on both quality and depth of their responses or compatibility and elaboration when compared to IEs propositions from their interviews. I achieved research objective #3 by considering these four emergent themes: *compatible elaborate* (CE), *compatible growing* (CG), *incompatible* (I), and *nonexistent* (N). Table 7 demonstrates the four themes that

emerged for nutrition/forage and yearly preventatives which were used to determine knowledge gained by the GHOs and their compatibility of responses regarding expert propositions.

Table 7

General Horse Owners Emergent Themes for Forage/Nutrition and Yearly Preventatives

Theme	Description
Compatible Elaborate (CE)	Statements used industry experts' vocabulary when answering questions
Compatible Growing (CG)	Statements lack industry experts' vocabulary but are presented in a manner where general horse owners possess the knowledge
Incompatible (I)	Statements disagree with industry experts' stance on the topic being questioned
Nonexistent (N)	Response of "I don't know"

Table 8 shows coding results for identifying GHOs' nutrition/forage concerns. Comparable to IEs, superscript formatting for each theme was used to display how many sub-concepts were addressed by informants during the interview and scored *compatible elaborate* (CE) or *compatible growing* (CG). Colonel Freckles answered all seven questions regarding nutrition/forage correctly and received a score of seven. Additionally, Colonel Freckles was coded *compatible elaborate* because four of the seven responses used IEs vocabulary. Zippo Pine Bar also answered all questions correctly; however, five of the seven responses lacked IEs vocabulary, thus being coded CG^{7}. King P-234, Poco Bueno, Wimpy P-1, and Doc Bar were all coded CG^{6}. These individuals answered six out of the seven questions correctly; however, they had more questions that lacked IEs vocabulary than responses that included proper vocabulary.

Sonny Dee Bar, Cutter Bill, and Smart Little Lena were all coded CG[5]. These individuals answered five questions correctly but lacked having a majority of their questions that used IEs vocabulary. Skipper W and Hollywood Dun It were coded CG[4]. These individuals answered four questions correctly but still lacked having a majority of their responses that included proper IEs vocabulary. Finally, Mr. San Peppy was coded I[4]. This respondent answered more questions with statements that disagreed with IEs or answered, "I don't know."

Table 8

General Horse Owners Coding Results for Identifying Nutrition/Forage Concerns

	Informant					
			King P-234 Poco Bueno Wimpy P-1	Sonny Dee Bar Cutter Bill	Skipper W	
	Colonel Freckles	Zippo Pine Bar	Doc Bar	Smart Little Lena	Hollywood Dun It	Mr. San Peppy
Coding[a]	CE[7]	CG[7]	CG[6]	CG[5]	CG[4]	I[4]

[a] The superscript numeral equals the total number of sub-concepts addressed by informants.

Note. CE = compatible elaborate; CG = compatible growing, I = incompatible

Below demonstrates Colonel Freckles' ability to use IEs vocabulary when discussing nutrition and forage. In Colonel Freckles' response to the body condition of an ideal riding horse, the importance of horses not having a cresty neck/fat neck and thick throatlatch, along with

having a good hair coat were discussed. Colonel Freckles also stated horses should have a good hip on them, and a bright demeanor, which includes their head not hanging down. The strongest point of discussing body condition score was the fact Colonel Freckles stated a horse should have a strong top line, with no ribs or other bones showing, and adequate muscling. Colonel Freckles also stated the importance of horses looking comfortable while working, with no muscle wasting on older horses or so fat they have respiratory problems (Researcher's Journal, 2/12/21).

During the interview Colonel Freckles was asked if were considered forage animals. Colonel Freckles stated horses should be fed primarily forage, because that is how God made them. It was emphasized the fact that God made them to eat all day long, grazing all day long. However, Colonel Freckles did state their horses were stalled because the pasture is too small. But Colonel Freckles also stated the importance of food passing through a horse's stomach and gut constantly. Colonel Freckles also made a point to say this is why it is important to attempt to mimic what mother nature does, by offering free choice hay while the horses are stalled. Furthermore, because they are forage animals, Colonel Freckles said more forage than grain is fed, simply because that is what is best for them. Colonel Freckles also discussed the consequences of feeding a high grain diet being colic and expensive medical bills (Researcher's Journal, 2/12/21).

Then when asked questions concerning colic, Colonel Freckles recalled an experience with an old show horse, which was referred to as the dun horse. Colonel Freckles stated the dun horse was a chronic colicer that had a wide range of symptoms. The symptoms shared during the interview included the obvious of being off feed and looking around at his side, to stretching out to use the restroom, but not being able. Colonel Freckles also discussed how the weather changing drastically could also cause a horse to colic. Going back to the dun horse, Colonel

Freckles stated his colic was due to gas build up, which was caused by him being a cribber. Colonel Freckles also stated he had scar tissue in his gut from worm overload when he was young. Furthermore, Colonel Freckles was able to state the following causes of an impaction colic sand in their gut, dehydration (which can be caused by too much forage intake or not enough water intake). Finally, Colonel Freckles stated colic can also be caused by gas or a twisted colon (Researcher's Journal, 2/12/21).

Colonel Freckles was also able to discuss and share experiences concerning founder. Colonel Freckles has never experienced founder with a personal horse, but had experienced founder when helping a friend take care of a foundering horse. Colonel Freckles was also able to discuss the signs and symptoms of founder. Colonel Freckles discussed the signs and symptoms of heat in their feet, really sore feet, not wanting to put any weight on their front feet, physical stress, overeating, and improper feeding. During the interview it was also stated overeating can be caused by a horse breaking into a feed room or during the spring with the fresh grass and high nitrogen content. Finally, Colonel Freckles stated all of this results in rotation of the coffin bone (Researcher's Journal, 2/12/21).

On the other end of the spectrum was Mr. San Peppy, who was coded as an I^4. This was because most of their responses did not agree with IEs' stance on the topic being discussed or an answer of "I don't know" was given. When asked to discuss body condition of a riding horse, Mr. San Peppy was not able to use most of the terminology needed to describe how body condition score is determined. Mr. San Peppy expressed the ideal riding horse should be specifically the quarter horses that are used in team roping. Mr. San Peppy did mention that muscle should be visible; however, ribs should not be seen. Mr. San Peppy also mentioned the

withers as a means to determine age of a horse and should be used to determine the type of saddle to be used. (Researcher's Journal, 3/8/21).

Also, Mr. San Peppy's view of feeding both forage and concentrate were needed for survival did not agree with the stance of IEs. During the interview Mr. San Peppy discussed the importance of their roping horses being fed both grain and hay. During this time in the interview Mr. San Peppy stated talking to other people who also team rope, and sharing this method of feeding at their barn. (Researcher's Journal, 3/8/21).

Moreover, Mr. San Peppy lacked the ability to properly articulate the signs and symptoms of both founder and colic. Nor did Mr. San Peppy know that horses are not able to vomit, due to the makeup of their digestive system. Mr. San Peppy has never had a horse to colic. But, from what Mr. San Peppy understood about colic it is important to start looking at the horse's stomach and signs of it being bloated. Mr. San Peppy also stated horses that colic have a real lethargic reaction and are not feeling themselves. From the knowledge Mr. San Peppy has, colic could be caused by their diet, what they eat, and what is in the dirt. Mr. San Peppy also mentioned this was the reason the dirt is kept as clean as possible and they are careful what is fed. Mr. San Peppy also admitted they was not sure of the causes of founder or how to tell if a horse is foundering. Mr. San Peppy thought it was due to the horse overeating, getting bloated, and vomiting (Researcher's Journal, 3/8/21). Mr. San Peppy's responses demonstrate and inaccurate and incomplete understanding of these equine nutrition concepts.

Yearly Preventatives

Research Objective #3: Are GHOs aware of IEs knowledge, and if so, is adoption or rejection occurring?

Once again to help achieve research objective #3, I asked GHOs questions concerning nutrition, forage, and yearly preventatives. These topics and questions were asked based on interviews of IEs. Regarding GHOs' overall understanding concerning yearly preventatives, their responses were given a code based on a bimodal coding scheme (Yin, 2009). Research objective #3 was answered by considering these four themes: *compatible elaborate* (CE), *compatible growing* (CG), *incompatible* (I), and *nonexistent* (N). The responses from GHOs were assigned a code based on both quality and depth of their responses or compatibility and elaboration when compared to IEs propositions.

Table 9 shows GHOs coding for identifying yearly preventative concerns. Comparable to forage/nutrition coding for GHOs, superscripts on each coding scheme were used to display how many sub-concepts were addressed by informants during the interview and scored *compatible elaborate* (CE) or *compatible growing* (CG). A total of eight respondents, Colonel Freckles, Smart Little Lena, Hollywood Dun It, Wimpy P-1, Poco Bueno, Skipper W, Cutter Bill, and Sonny Dee Bar were coded CE^{7}. These individuals answered all questions correctly, scoring *compatible elaborate* (CE) or *compatible growing* (CG) on each, with more answers using IEs vocabulary than lacking proper vocabulary. King P-234 and Zippo Pine Bar scored CE^{6} and CE^{5}, respectively. Both GHOs answered questions during the interview which were incorrect and did not align with IEs' stance on the topic being discussed; however, both individuals answered more questions correctly than incorrectly. Doc Bar was coded CG^{7}. While this individual answered all questions correctly, more responses lacked IEs vocabulary than those that possessed the vocabulary. Finally, Mr. San Peppy was coded CG^{5}. This individual responded with "I don't know" to two of the seven questions.

Table 9

General Horse Owners Coding Results for Identifying Yearly Preventative Concerns

	Informant				
	Sonny Dee Bar Cutter Bill Skipper W Poco Bueno Wimpy P-1 Hollywood Dun It Smart Little Lena Colonel Freckles	King P-234	Zippo Pine Bar	Doc Bar	Mr. San Peppy
Coding [a]	CE^7	CE^6	CE^5	CG^7	CG^5

[a] The superscript numeral equals the total number of sub-concepts addressed by informants

Note. CE = compatible elaborate, CG = compatible growing

Eight individuals were coded CE^7. For these informants, all questions were answered correctly, and most responses used IEs vocabulary. When discussing yearly preventatives, Wimpy P-1 stated the importance of vaccines, a deworming program, and a dental plan. Wimpy P-1stated it is important to vaccinate your horses, because prevention is key. The small amount spent on vaccinations helps prevent major diseases and problems of the horse. Wimpy P-1 also stated the importance of having a deworming program is another good, cheap preventative that helps to maintain a healthy digestive system. Finally dental care is no different for the horse as it is for humans. Wimpy P-1 compared being in pain when humans eat equivalent to the horse

being in pain eating when a float is needed. Wimpy P-1 also stated if horses are hurting, they are not going to function at their fullest potential (Researcher's Journal, 2/14/21).

On the other end of the spectrum was Mr. San Peppy, who was coded, CG[5]. Even though Mr. San Peppy has more knowledge on the topic of yearly preventatives answers of "I don't know" on two of the seven questions were still given in this section. Coupling this with the fact Mr. San Peppy has owned horses for only six years shows there is still a need for basic horse knowledge in terms of equine health care. Mr. San Peppy stated they didn't do any vaccinations and that their horses only get doctored during a time of injury or illness. When asked about choosing not to give yearly vaccines Mr. San Peppy simply stated their veterinarian never recommended vaccines. Mr. San Peppy also stated their horses got dewormed every month with a paste and rotated. Mr. San Peppy stated the reason for rotating was so the horse cannot get immune to a particular dewormer and it becomes ineffective. When discussing dental care, Mr. San Peppy did mention it was important to float their teeth for competing purposes and for putting a bit in their mouth. Mr. San Peppy stated they only way you notice a horse is in need of a float is by putting a bit in their mouth and loping around the arena (Researcher's Journal, 3/8/21). Mr. San Peppy's answers again demonstrated an inaccurate and incomplete understanding of these topics.

Interviews with GHOs, revealed that a majority were adopting IEs knowledge. This was evident by their responses regarding nutrition/forage and yearly preventatives. Additionally, GHOs were not only adopting IEs knowledge but they were also able to incorporate IEs vocabulary into their daily lives when discussing these topics. Additionally, it appeared Mr. San Peppy was the only individual interviewed who consistently rejected IEs knowledge. However, based on his responses of "I don't know," his rejection is passive instead of active. When

coupled with his relative lack of experience in the equine industry, his responses show the importance of our IEs to continue to reach out and educate novice horse owners.

Gaining New Knowledge

Research Objective #4: Where are GHOs currently obtaining their equine health care knowledge, and where would they prefer to obtain their equine health care knowledge?

Research objective #4 was achieved when I asked GHOs questions regarding the way they gain new knowledge. I asked the following question to GHOs: Where and from whom do you get your equine information?

Smart Little Lena discussed how they acquired equine information from trainers because trainers are a great source of information. Smart Little Lena also stated having a friend who is a veterinarian and valuing her judgement and opinion. Finally, Smart Little Lena emphasized nothing beats experiences in this industry (Researcher's Journal, 2/12/21). Doc Bar gets information from the vet. (Researcher's Journal, 2/13/21).

While Hollywood Dun It gains knowledge from individuals and then also reading information which is important to the current situation. Hollywood Dun It stated the importance of always come back first to the vet. Then Hollywood Dun It will read. It was during this time in the interview Hollywood Dun It then discussed an example of their mare getting injured and having to be placed in rehab boots. Hollywood Dun It did not know what rehab boots were and the veterinarian stated Hollywood Dun It needed to go and research possible options. Hollywood Dun It called companies which make rehab boots and talked to them, while taking notes. Each phone call resulted in Hollywood Dun It learning something new, which required more research, and this was how learning took place (Researcher's Journal, 2/13/21). Zippo Pine Bar explained the importance of how utilizing trainers, veterinarians, and other horse owners to obtain equine

information. Especially someone who has already dealt with a similar situation or had a similar experience. Zippo Pine Bar using Google if no one was available to ask personally. (Researcher's Journal, 2/14/21).

Table 10 shows responses of GHOs to questions concerning how they gain their knowledge in the equine industry. All 12 informants stated they gain their equine health care knowledge from their veterinarian. Moreover, 58.3% (seven informants) stated they garner information from other general horse owners who they trust. Additionally, 8.3 % (only one individual) stated their information is received from an equine dentist and reading journals or magazines.

Table 10

Number and Percentage of General Horse Owners Resource Preference for Gaining New Knowledge

Resource	n	%
Veterinarian	12	100%
Other Horse Owners	7	58.3%
Internet	4	33.3%
Trainer	3	25.0%
Farrier	2	16.7%
Journals/Magazines	1	8.3%
Equine Dentist	1	8.3%

Note. Informants could have stated more than one resource during the interview.

To accomplish the final research objective, I asked GHOs the following question: What delivery method would you prefer to gain the information you need?

Skipper W prefers to see hands-on demonstrations, and watch videos (Researcher's Journal, 2/26/21). When asked to rank delivery methods discussed earlier in the interview, face-to-face was ranked first, followed by online classes, and finally reading material at the bottom of the list (Researcher's Journal, 2/26/21). Cutter Bill expressed the ability to learn better when talking in a one-on-one setting where questions can be asked. Cutter Bill did not like to be in a large seminar or read through large research papers (Researcher's Journal, 2/28/21).

Sonny Dee Bar also preferred to ask questions in a conversational atmosphere with a veterinarian, farrier, or equine dentist. Sonny Dee Bar has read information independently and looked up needed material on the internet (Researcher's Journal, 3/6/21). King P-234 prefers to gain information via social media and watching videos. King P-234 also stated they enjoy going to clinics when time allows. King P-234 discussed in the interview the ability to talk to other horsemen during these clinics, which allows for the opportunity to learn from someone at a higher level in this industry. (Researcher's Journal, 3/8/21).

Table 11 shows responses of GHOs to questions concerning how they prefer to gain knowledge in the equine industry. According to my interviews, 75% (9 of 12 individuals) stated they had the most up-to-date information concerning equine health. Only 16.7% (two individuals) stated they use self-education, technology, and group-education to gain new knowledge, and 33.3% (four individuals) stated they use communication education. Attending workshops (91.7%) and attending online courses (83.3%) ranked as the most preferred method for GHOs to gain new knowledge.

Table 11

Number and Percentage of General Horse Owners Preferred Method for Gaining New Knowledge

Resource	n	%
Attend Workshops	11	91.7%
Attend Online Courses	10	83.3%
Up to Date	9	75%
Communication Efforts	4	33.3%
Technology	2	16.7%
Group-Education	2	16.7%
Self-Education	2	16.7%

Summary of Results

For this qualitative research study, I asked IEs to discuss topics of concern they felt horse owners needed to know. Overwhelmingly, IEs stated nutrition management, forage management, and yearly preventatives. GHOs were then asked questions in their interviews based on these areas of concern and the topics discussed within each area. After interviews of GHOs were conducted, I noticed a developing theme—GHOs were knowledgeable about the topics concerning nutrition management, forage management, and yearly preventatives and most were able to hold conversations about these topics while using IEs vocabulary. Finally, GHOs acquire most of their knowledge from veterinarians and other horse owners; not once was extension stated as a way to get the desired information from GHOs. Moreover, GHOs were willing to attend workshops and online courses to get needed information regarding equine health care.

CHAPTER V

DISCUSSION AND CONCLUSION

The goal of this qualitative research study was to explore the information gaps in the equine industry, specifically regarding equine health care between the recommendations by industry experts (IEs) and the adoption of those practices by general horse owners (GHOs). Specifically, this study sought to bridge the knowledge gap in equine health care between IEs and GHOs in hopes to provide more knowledge to each and improve the industry as a whole. This case study examined perspectives and information gathered from both IEs and GHOs concerning equine health care. The 20 participants in this research study were 12 GHOs and 8 IEs, respectively.

As previously reported in Chapter 4, several themes emerged from the analysis of the data collected for this study. Based on the research objectives that guided this study, there were emergent themes presented for each research objective. Each theme also included subthemes that emerged during the data analysis process.

Specifically, this research study discovered the following regarding equine health care:

- GHOs know about nutrition/forage, but most cannot express their knowledge using IEs vocabulary.
- GHOs are familiar with yearly preventatives and can express their knowledge using IEs vocabulary.
- Most GHOs acquire information from their veterinarian or other GHOs.

Overall, this research study found there was a disconnect within the horse industry between IEs and GHOs; however, this disconnect was a break in communication that was much different than I anticipated. IEs stated that GHOs needed to maintain specific equine health care

knowledge that GHOs did not have, likely because most of the participants in this study were not novice horse owners. Ultimately, this research study determined that these GHOs did possess the necessary equine health care knowledge.

Knowledge Gap Theory

The knowledge gap theory uses knowledge as an equivalent to wealth in a social system (Tichenor et al., 1970). Based on this reasoning those individuals in a lower status lack the resources necessary to compete with their higher status counterparts, in terms of gaining new knowledge. As a result, those individuals in a lower status see a gap between themselves and their higher status counterparts, and thus knowledge is not gained in this part of the social system.

This research, however, did not find these results between IEs and GHOs. Instead, this research found the knowledge gap theory reversed. A majority of the GHOs knew the material that IEs felt was needed to be good horse owners informed in health care. While most could not use the vocabulary of IEs regarding nutrition and forage, they were able to express the knowledge they possessed. Additionally, most GHOs were able to express their knowledge using IEs vocabulary when discussing yearly preventatives in the interview. IEs believed that GHOs not only needed to possess this knowledge about equine health care, but also lacked this knowledge. In this case, IEs were unaware of the degree of knowledge that GHOs possess. This has ultimately created a break in communication where IEs focus their efforts on novice horse owners rather than more experienced horse owners. As a result, IEs have continued to publish and release the same type of basic information, rather than new and more advanced information that would be needed by more experienced horse owners. While releasing the same type of information is warranted for novice horse owners, it is not beneficial to GHOs who have years of

experience as horse owners. Experienced GHOs have stored information relating to horse health based on their personal experiences. If only previously released knowledge continues to be released for the sake of novice horse owners and no advanced information is released for GHOs with experience, then no new knowledge will be gained within this sector of the industry, except individually as personal experiences warrant. Perhaps results of this study would have been different if the GHOs were novice horse owners.

Diffusion of Innovations Theory

Considering knowledge as innovation and utilizing Rogers' diffusion of innovation theory (2003), this research study showed knowledge from IEs was not only being diffused into the system, but it was also being adopted. This is evident by the number of GHOs who scored *compatible elaborate* or *compatible growing* when asked specific equine health-related questions. Furthermore, knowledge was rarely rejected within the system. The only time knowledge was rejected was regarding GHOs administering yearly vaccinations.

However, it should be noted this is conflicting in some regard to the results from Perry-Hill and Prokopy (2015). Their study showed IEs felt GHOs did not have the knowledge needed in terms of environmental management; however, the GHOs did indeed have this knowledge, but were actively rejecting the innovation. This study showed similar results in terms of IEs. In this study IEs in the East Texas area were unaware of the knowledge possessed by regional GHOs. However, the GHOs in East Texas were not only aware of this knowledge but were also utilizing this knowledge. This shows contrasting results from Perry-Hill and Prokopy's (2015) research study as their GHOs reported rejecting the knowledge about environmental management. Moving forward, IEs can use this information to make informed decisions on what new knowledge to disseminate into the GHOs' sector of the industry. IEs can also use this

information, coupled with GHOs conversations, to aptly identify GHOs who would be classified as laggards or novice horse owners. This will allow IEs to share basic equine health care knowledge. At the same time, IEs will be able to recognize those GHOs who understand and utilize the basics to help them grow as GHOs and disseminate specific health information with regard to their circumstances and current horses owned.

Obtaining and Gaining New Knowledge

Like the findings of Whitaker (1977), this study determined GHOs were getting their information from two primary sources: their veterinarians and other GHOs who they trust. On some level, this showed that GHOs in East Texas are reaching out to IEs when a problem or question arises. However, it also suggested what interviewed IEs were afraid of and advised against—asking other GHOs for information concerning equine health care. While some GHOs lack knowledge in the equine health field, other GHOs do possess knowledge concerning this subject matter. Part of the struggle when obtaining new information is sorting through the copious amounts of information that can easily be acquired and determining which is a research-based fact, fiction, or merely a fad. Therefore, GHOs should be obtaining their equine health care knowledge only from trusted sources, such as IEs, trusted opinion leaders and research-based instructional materials. Furthermore, Whitaker (1977) revealed that GHOs were concerned and needed more information regarding the topics of diseases and nutrition. These were also the same topics our IEs stated GHOs needed to know in 2020—over 40 years since Whitaker's research study. However, this study showed that these GHOs already knew this information, which continues to solidify the fact that better communication is needed in the equine health care industry, particularly as it relates to understanding and targeting particular audiences.

Studies have shown to educate adult learners it is important to ensure their needs and preferences are met throughout the learning process (Conner et al., 2018). Therefore, to close this knowledge gap in equine health care between IEs and GHOs, IEs must provide necessary and important information to GHOs, and must also disseminate this information in a manner that is palatable to GHOs. Therefore, more adult education programming related to equine science is needed. This study demonstrated a majority of GHOs preferred to attend workshops or online courses. This concurred with the findings of Collins et al. (2012); they reported that GHOs preferred to learn in a group-type learning environment. Moreover, this study also discovered findings similar to Whitaker's (1977) that GHOs wanted to attend workshops and short courses, but time constraints and scheduling were a concern; therefore, night sessions over important topics were more ideal. Repeatedly, GHOs in this study expressed their willingness to attend group education in the form of workshops, clinics, and short courses, but time and scheduling conflicts were also expressed. It should also be noted that such workshops should focus on particular and specific audiences. In this case, more experienced GHOs would benefit from more advanced information to continue their education, rather than focus on basic information needed by first-time and new horse owners.

Because this study was conducted during the Covid-19 pandemic, offering and attending face-to-face workshops has been nonexistent to limited, at best. Therefore, IEs should focus their time and energy on online courses, specifically online courses that allow participants to work at their own pace and during times that are beneficial to them. Because most GHOs have a full-time job not in the equine industry, this allows GHOs the freedom to gain new knowledge, which is important to them, at their pace and on a convenient schedule. This form of communication between IEs and GHOs allows knowledge to be disseminated and gained in both asynchronous

and synchronous manners. This in turn allows individuals in the equine industry to break through barriers and become more advanced and independent learners, which is the recommendation of adult learners across all genres from Lin et al. (2017). Moreover, IEs should use social media platforms as a method of communication with GHOs (Lofgren et al., 2015; Rambe, 2012), as this would allow GHOs to feel more connected to IEs while also giving them the ability to communicate safely during the pandemic. In their interviews, equine extension specialists expressed the use of social media, specifically Facebook and YouTube, as new forms of communication since 2016. These digital education outlets need to be used to their fullest potential, which would allow for the Extension service to reach more GHOs. As previously stated, utilizing shared educational resources on the computer network has become a common trend globally (Lin et al., 2017). Similar research studies also documented that the use of online interactive educational tools is beneficial in providing information to improve horses' health and management decisions (Pulec et al., 2016). It is no longer good enough to post infrequently and only release knowledge-based material, but instead there needs to be active communication between both IEs and GHOs on the social media sites. This will allow the Extension service to disseminate information while opening lines of communication to GHOs to a point where they are comfortable talking and asking questions to IEs. This also creates an opportunity for extension programming to be seen as an industry expert by GHOs. It was surprising that extension was not mentioned by this group of GHOs, which suggests that there are opportunities to impact this audience. Similarly, Anderson et al. (2021) reported that online extension program delivery has become a common mechanism for disseminating information related to educational resources. Veterinarians also need to adopt these same practices, but perhaps on a

smaller scale, by posting helpful or informative website links or frequently asked questions (FAQs) on their websites.

Implications

The results of this qualitative research study have implications for the equine industry, especially for the health care of equines. The findings of this study also raise recommendations that warrant further research for the equine industry. This research study also has possible methodological, practical, and theoretically implications.

Even though case studies are not considered generalizable, conducting more research case studies such as this will help support other IEs and GHOs in the equine health care industry, which presents a methodological implication. Case study design is appropriate when exploring a bounded system likely to reveal specific findings not generalizable to other research settings (Merriam, 2009). However, according to Guba and Lincoln (1989), the results of a study can be transferable, as long as the context of the comparison is similar. Lastly, conducting more case studies in areas across our state and nation contributes to the available and current literature about equine health care that may be more regionally nuanced.

Practical implications of this research study suggest that knowledge gaps in the equine industry should be further explored to discover other potential gaps in information among IEs and GHOs. Relevant literature implies that bridging any potential gaps could hold tremendous benefits (Akinsola & Dehinbo, 2013). Another practical implication is that additional research be conducted to contribute to narrowing knowledge gaps between IEs and GHOs in hopes of improving the industry as a whole. This includes research on breeding/reproduction, and both cardiovascular and musculoskeletal fitness related to riding and training. As previously stated, internet-enabled agricultural knowledge support platforms have possible resources that can be

applied to improve and transform (Akinsola & Dehinbo, 2013). Incorporating internet-enabled agricultural knowledge support platforms into the equine industry will allow another avenue for educational opportunities to occur for both IEs and GHOs.

Theoretical implications connect knowledge gap theory (Tichenor et al., 1970) and Rogers' diffusion of innovation theory (2003), And offer unique perspectives concerning the knowledge gaps in equine health care between IEs and GHOs. Most GHOs were able to convey their knowledge concerning nutrition/forage and yearly preventatives. Furthermore, most were able to utilize IEs vocabulary when discussing and answering questions concerning yearly preventatives. This exhibits not only the knowledge GHOs possess, but also their ability to answer questions and convey their knowledge on the topic of equine health care. These theoretical implications warrant further exploration of the information gaps in the equine industry, specifically regarding equine health care between the recommendations by IEs and the adoption of those practices by GHOs. Additional theoretical implications were based on understanding how the theoretical underpinnings of knowledge gap theory and diffusion of innovation theory can be used to further understand other types of information gaps present in the equine industry.

Recommendations for Future Research

It was evident after the completion of this study that the GHOs in this study are not getting their information from the Extension service. Instead, GHOs are gathering information from veterinarians, farriers, and fellow GHOs. GHOs did not list the Extension service as a source for gaining knowledge or gathering information, even though there were two GHOs who had worked for the Extension service in East Texas. Why are GHOs not seeing the Extension service as an industry expert in this area, especially when one of their main priorities is to

disseminate research-based knowledge? Further research needs to be conducted to determine why GHOs do not see the Extension service as a knowledge and information source in equine care.

In terms of future research, the industry needs to explore if knowledge being adopted is regionally dependent or statewide. Therefore, similar qualitative and quantitative studies need to be performed across the state of Texas. Moreover, future research needs to utilize GHOs with less than five years of ownership.

Conclusion

This qualitative research study bridged the knowledge gap in equine health care between IEs and GHOs by exploring the information gaps that exist within the equine industry. Through the perspectives of IEs and GHOs, I was able to gain an insight of their thoughts and beliefs regarding their personal experiences with equine health care. Through data collection and analysis, themes and subthemes continuously emerged from the data. These emergent themes and subthemes unveiled primary topics of concern for IEs and GHOs alike. This research study revealed that experienced East Texas GHOs are adopting and implementing IEs knowledge and recommendations concerning equine health care. Experienced GHOs are able to express their knowledge using IEs vocabulary when discussing yearly preventatives. It also revealed that GHOs are obtaining their equine health care knowledge from their local veterinarian and other GHOs whom they trust.

Although this research study was based on the theoretical framework of knowledge gap theory (Tichenor et al., 1970), the results of my research were not supported by this theory. Contrary to what knowledge gap theory suggests, this research study found that IEs were unaware of the knowledge possessed by GHOs which has led to a breakdown in communication

and potential issues between these two sectors in the equine industry. Along with knowledge gap theory, this study was also theoretically anchored on the framework of diffusion of innovations theory (Rogers, 2003). Based on the theoretical underpinnings of this theory, this research study considered knowledge as innovation and demonstrated that knowledge from IEs was not only being diffused into the equine industry, but it was also being adopted by GHOs.

In order to progressively continue to close the gap between IEs and GHOs, it is (a) imperative that IEs are aware of the knowledge gained by GHOs, (b) essential that IEs disseminate information in a way that meets the needs of GHOs, and (c) important that GHOs utilize IEs when gaining knowledge. Continued research into horse care, especially health care, is necessary as we continue to improve the equine industry.

REFERENCES

Abe, P., & Jordan. N. A. (2013). Integrating social media into the classroom curriculum. *About Campus, 18*(1), 16–20.

American Horse Council. (2017). *Economic impact of the United States horse industry*. https://www.horsecouncil.org/resources/economics

Anderson, K. P, Pulec, K. E., Skelly, C. D., Wright, A. D., & Greene, E. A. (2021) Reach versus impact: Comparing webinars and online short courses for educational outcomes. *Journal of Extension, 58*(1). https://tigerprints.clemson.edu/joe/vol58/iss1/15

Akinsola, O. S., & Dehinbo, J. O. (2013). *Internet enabled platform for bridging South African emerging farmers' knowledge gap* [Conference proceedings]. International Multi Conference of Engineers and Computer Scientists, Hong Kong. http://www.iaeng.org/publication/IMECS2013/IMECS2013_pp391-396.pdf

Anfara, V., Brown, K., & Mangione, T. (2002). Qualitative analysis on stage: Making the research process more public. *Educational Researcher 31*(7), 28–38. https://journals-sagepub-com.srv-proxy1.library.tamu.edu/doi/pdf/10.3102/0013189X031007028

Baxter, P., & Jack, S. (2008). Qualitative case study methodology: Study design and implementation for novice researchers. *The Qualitative Report, 13*(4), 544–559. https://eds.a.ebscohost.com/eds/pdfviewer/pdfviewer?vid=3&sid=f37dceec-f92f-4a26-86e4-14d606410746%40sessionmgr4006

Berg, B. L., & Lune, H. (2012). *Qualitative research methods for the social sciences* (8th ed.). Pearson.

Birkenholz, R. J., & Maricle, G. L. (1991). Adult education in agriculture: A national survey. *Journal of Agricultural Education, 32*(4), 19–24. https://www-jae-online-org.srv-

proxy1.library.tamu.edu/attachments/article/746/Birkenholz,%20R%20&%20Maricle,%20G_Vol32_4_19-24.pdf

Block, L., Jesness, R., & Schools, M. P. (2013). *One-to-one learning with iPads: Planning and evaluation of teacher professional development.* College of Education, Leadership & Counseling, University of St. Thomas Minnesota.

Boone, H. N., Gartin, S. A., Wright, C. B., Lawrence, L. D., & Odell, K. S. (2002). Adult education philosophies practiced by agricultural education teachers in Pennsylvania, Virginia, and West Virginia. *Journal of Agricultural Education, 43*(3), 37–48. https://www-jae-online-org.srv-proxy1.library.tamu.edu/index.php/back-issues/34-volume-43-number-3-2002/368-adult-education-philosophies-practiced-by-agricultural-education-teachers-in-pennsylvania-virginia-and-west-virginia

Briones, R. L., & Janoske, M. (2013). Mentoring 2.0: How PR educators use social media to create and maintain relationships with students. *International Journal of Continuing Engineering Education and Lifelong Learning, 23*(1), 18–32.

Chizari, M., & Taylor, W. (1991). Agriculture teachers' perceptions of adult education programs: An examination of critical educational needs, obstacles faced, and support needed. *Journal of Agricultural Education, 32*(2), 23–28. https://www-jae-online-org.srv-proxy1.library.tamu.edu/attachments/article/762/Chizari,%20M%20&%20Taylor,%20W_Vol32_2_23-28.pdf

Christley, R. M., & Perkins, E. (2010). Researching hard to reach areas of knowledge: Qualitative research in veterinary science. *Equine Veterinary Journal, 42*(4), 285–286. https://beva-onlinelibrary-wiley-com.srv-proxy2.library.tamu.edu/doi/epdf/10.1111/j.2042-3306.2010.00074.x

Collier, D. S. & Stoneham, S. J. (1997). Gastro-esophageal ulceration in man and in horse: Semblance and dissemblance. *Equine Veterinary Journal, 29,* 410-412. https://beva-onlinelibrary-wiley-com.srv-proxy2.library.tamu.edu/doi/epdf/10.1111/j.2042-3306.1997.tb03149.x

Collins, J. A., Moore, S. J., Hanlon, A., Wall, P. G., McKenzie, K., & Duggan, V. (2012). Use of qualitative methods to identify solutions to selected equine welfare problems in Ireland. *Veterinary Record, 170*, 442–445.

Colman, G. P. (1968). Innovation and diffusion in agriculture. *Agricultural History Society*, *42*(3), 173–188. https://www.jstor.org/stable/3741695

Conner, N. W., Dev, D., & Krause, K. (2018). Needs assessment for informing extension professional development trainings on teaching adult learners. *Journal of Extension, 56*(3),1-7. https://tigerprints.clemson.edu/joe/vol56/iss3/25/

Creswell, J. W. (2007). *Qualitative inquiry and research designs: Choosing among five approaches* (2nd ed.). Sage.

Creswell, J.W. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Sage.

Denzin, N. K., & Lincoln, Y. S. (2000). *Handbook of qualitative research.* Sage.

Denzin, N. K., & Lincoln, Y. S. (2003). Introduction: The discipline and practice of qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Strategies of qualitative inquiry* (2nd ed., pp. 1–45). Sage.

Dionne. R. M., Vrins, A., Doucet, M. Y., & Pare, J. (2003). Gastric ulcers in Standardbred racehorses: Prevalence, lesion description and risk factors. *Journal of Veterinary Internal*

Medicine, 17, 218–222. https://onlinelibrary-wiley-com.srv-proxy2.library.tamu.edu/doi/epdf/10.1111/j.1939-1676.2003.tb02437.x

Glaser, B. G., & Strauss, A. L. (1999). *The discovery of grounded theory: Strategies for qualitative research.* Aldine de Gruyter.

Guba, E., & Lincoln, Y. (1989). *Fourth generation evaluation*. Sage.

Hartmann, K. S., Liburt, N. R., Malinoski, K. (2017). Rutgers equine science center industry needs assessment survey 2016. *Journal of Equine Veterinary Science, 48,* 1–8. www-sciencedirect-com.srv-proxy2.library.tamu.edu/science/article/pii/S0737080616302295?via%3Dihub

Karim, S. (2012). Dynamic assessment of L2 learners' reading comprehension processes: A Vygotskian perspective. *Science Direct,* 321–328.

Kentucky Equine Research. (2012). *Survey reports of horse ownership.* https://ker.com/equine

Kim, J. H. (2015). *Understanding narrative inquiry: The crafting and analysis of stories as research.* Sage.

Knowles, M. S. (1962). *The adult education movement in the United States.* Holt, Rinehart, and Winston.

Knowles, M. S. (1975). *Self-directed learning: A guide for learners and teachers.* Association Press.

Knowles, M. S. (1984). *Andragogy in action.* Jossey-Bass.

Kvale, S., & Brinkmann, S. (2008). *InterViews: Learning the craft of qualitative research interviewing.* Sage.

Leece, R. & Campbell, E. (2011). Engaging students through social media. *Journal of the Australian and New Zealand Student Services Association, 38,* 10–11.

https://eds.a.ebscohost.com/eds/pdfviewer/pdfviewer?vid=27&sid=f37dceec-f92f-4a26-86e4-14d606410746%40sessionmgr4006

Lin, M. H., Chen, H. C., & Liu, K. S. (2017). A study of the effects of digital learning on learning motivation and learning outcome. *Journal of Mathematics Science and Technology Education, 13*(7), 3554–3564.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry.* Sage.

Lofgren, E. A., Shultz, A. M., & Shea Porr, C. A. (2015). Social media and equine science: The effect LinkedIn on in-class engagement of equine higher education students. *North American College and Teachers of Agriculture Journal, 59*(3), 208–212. https://eds.a.ebscohost.com/eds/pdfviewer/pdfviewer?vid=31&sid=f37dceec-f92f-4a26-86e4-14d606410746%40sessionmgr4006

Long, R. E., & Morgan, A. C. (2010). The elements of two-year equine degree programs in the mid-western U.S.: A Delphi study. *North American Colleges and Teachers of Agriculture Journal, 54*(2), 1–10. https://eds.a.ebscohost.com/eds/pdfviewer/pdfviewer?vid=33&sid=f37dceec-f92f-4a26-86e4-14d606410746%40sessionmgr4006

McClure, S. R., Glickman, L. T. & Glickman, N. W. (1999). Prevalence of gastric ulcers in show horses. *Journal of American Veterinary Medical Association*, 215, 1130–1133.

Merriam, S. B. (1998). *Qualitative research and case study applications in education*. Jossey-Bass.

Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation.* Jossey Bass.

Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research: A guide to design and implementation* (4th ed.). Jossey Bass.

Mendez, D. H., Buttner, P., Kelly, J., Nowak, M., & Speare, R. (2017). Difficulties experienced by veterinarians when communicating about emerging zoonotic risks with animal owners: The case of Hendra virus. *BMC Veterinary Research, 13*, 56–67. https://eds.a.ebscohost.com/eds/pdfviewer/pdfviewer?vid=38&sid=f37dceec-f92f-4a26-86e4-14d606410746%40sessionmgr4006

Murray, M. J. (1992). Gastric ulceration in horses — 91 cases (1987–1990). *Journal of American Veterinary Medical Association, 201*, 117–120.

Murray, M. J., Grodinsky, C., Anderson, C. W., Radue, P. F., & Schmidt, G. R. (1989). Gastric ulcers in horses: A comparison of endoscopic findings in horses with and without clinical signs. *Equine Veterinary Journal Supplement, 7*, 68–72.

Parker, R. (2008). *Equine science* (3rd ed.). Thomson Delmar Learning.

Pathak, H. S., Brown, P., & Best, T. (2019). A systematic literature review of the factors affecting the precision agriculture adoption process. *Precision Agriculture, 20*, 1292–1316. https://eds.a.ebscohost.com/eds/pdfviewer/pdfviewer?vid=43&sid=f37dceec-f92f-4a26-86e4-14d606410746%40sessionmgr4006

Perry-Hill, R., & Prokopy, L. (2015). Improving environmental management on small-scale farms: Perspectives of extension educators and horse farm operators. *Environmental Management, 55*, 31–42. https://eds.a.ebscohost.com/eds/pdfviewer/pdfviewer?vid=46&sid=f37dceec-f92f-4a26-86e4-14d606410746%40sessionmgr4006

Pulec, K. E., Skelly, C. D., Brady, C. M., Greene, E. A., & Anderson, K. P. (2016). Effectiveness of webinars as educational tools to address horse industry issues. *Journal of Extension, 54(3).* https://tigerprints.clemson.edu/joe/vol54/iss3/4

Rambe, P. (2012). Constructive disruptions for effective collaborative learning: Navigating the affordances of social media for meaningful engagement. *Electronic Journal of E-Learning, 10*(1), 132–146. https://eds.a.ebscohost.com/eds/pdfviewer/pdfviewer?vid=50&sid=f37dceec-f92f-4a26-86e4-14d606410746%40sessionmgr4006

Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). Free Press.

Rossman, G. B., & Rallis, S. F. (2003). Learning in the field: An introduction to qualitative research. Sage.

Sebastian, D., Ali, S., Ivo, B., Jan, M. L., & Helmut, K. (2012). Determinants of physicians' technology acceptance for e-health in ambulatory care. *International Journal of Medical Informatics, 81*(11), 746–760.

Strauss, A. L. (1990). Systematic coding in qualitative research. *BMS: Bulletin of Sociological Methodology, 27*(1), 52–62.

Texas Agrilife Extension (2015). *What is the contribution of cattle to the Texas and U.S. economy?* https://pathtotheplate.tamu.edu/topics/beef/what-is-the-contribution-of-cattle-to-the-texas-and-u-s-economy/

Texas A&M University. (2015). *Texas equine industry study: Horse economic impact.* https://equine.tamu.edu/txeiseconomicimpact/#:~:text=In%20this%20case%2C%20the%20original,%2D%20and%20part%2Dtime%20jobs

Tichenor, P. A., Donohue, G. A., & Olien, C. N. (1970). Mass media flow and differential growth in knowledge. *Public Opinion Quarterly, 34*(2), 159–170. https://eds.a.ebscohost.com/eds/pdfviewer/pdfviewer?vid=60&sid=f37dceec-f92f-4a26-86e4-14d606410746%40sessionmgr4006

Tight, M. (2002). *Key concepts in adult education and training* (2nd ed.). Routledge Falmer.

Wang, G., Lu, Q., & Capareda, S. C. (2020). Social network and extension service in farmers' agricultural technology adoption efficiency. *PLoS ONE 15*(7), 1–14. https://doi.org/10.1371/journal.pone.0235927

Whitaker, D. D. (1977). *Investigation of adult education related to equine science in the state of Montana* [Unpublished master's thesis]. Montana State University. https://scholarworks.montana.edu/xmlui/handle/1/11064

Yin, R. K. (2003). *Case study research: Design and methods* (3rd ed.). Sage

Yin. R. K. (2009). *Case study research: Design and methods* (4th ed.). Sage.

APPENDIX A

Informed Consent Form

Title of Research Study: Bridging the Gap Between Equine Experts and General Horse Owners: A Qualitative Study

Investigator: Dr. Julie Harlin

Funded/Supported By: This research is funded/supported by Texas A&M University.

Why are you being invited to take part in a research study?

You are being asked to participate because you are either an industry expert or a general horse owner.

What should you know about a research study?

- Someone will explain this research study to you.
- Whether or not you take part is up to you.
- You can choose not to take part.
- You can agree to take part and later change your mind.
- Your decision will not be held against you.
- You can ask all the questions you want before you decide.

Who can I talk to?

If you have questions, concerns, or complaints, or think the research has hurt you, talk to the research team: Dr. Julie Harlin at 979-862-3014 or j-harlin@tamu.edu or Michaelle Blake at 936-234-1992 or mcoker24@tamu.edu

This research has been reviewed and approved by the Texas A&M Institutional Review Board (IRB). You may talk to them at at 1-979-458-4067, toll free at 1-855-795-8636, or by email at irb@tamu.edu., if

- You cannot reach the research team.
- Your questions, concerns, or complaints are not being answered by the research team.
- You want to talk to someone besides the research team.
- You have questions about your rights as a research participant.
- You want to get information or provide input about this research.

Why is this research being done?

The interview for which you are being asked to participate in, is a part of a research study that is focused on bridging the gap between horse owners and equine industry experts. The researcher is specifically interested in equine health care. The purpose of this study is to gain a better understanding of the knowledge gaps which exist in the equine industry and how these gaps can be closed.

How long will the research last?

Your participation in this study will consist of an interview lasting approximately 45 minutes to one hour. You will be asked a series of questions concerning horse health and how you obtain this information. You are not required to answer the questions. You may pass on any question that makes you feel uncomfortable. At any time, you may notify the researcher that you would like to stop the interview and your participation in the study. There is no penalty for discontinuing participation.

How many people will be studied?

We expect to enroll about eight to 11 industry experts and 10 to 15 general horse owners. Each participant will be interviewed individually.

What happens if I say "Yes, I want to be in this research"?

The interview process will last approximately 45 minutes to one-hour in length and contain questions about horse health care and how you get your information on this topic. This interview will be done either face-to-face or on zoom because of Covid-19. The choice is yours on how you would like to be interviewed. Face-to-face meetings will be audio recorded and zoom meetings will be recorded. During the interview process you will interact with the interviewer only, depending upon answers the interviewer may contact you for follow-up questions. The research will be completed at your place of work or another suitable location. The research will take place from October 2020 to February 2021 at a time which is convenient for both you and the interviewer.

What happens if I do not want to be in this research?

You can leave the research at any time and it will not be held against you.

What happens if I say "Yes", but I change my mind later?

You can leave the research at any time and it will not be held against you. Your interview and responses will not be used as part of the study.

Will being in this study help me in any way?

The benefit of your participation is to contribute information to the equine industry and ways to close the gap which exists in the equine community.

What happens to the information collected for the research?

Efforts will be made to limit the use and disclosure of your personal information, including research study and other records, to people who have a need to review this information. We cannot promise complete privacy. Organizations that may inspect and copy your information include the TAMU HRPP/IRB and other representatives of this institution.

Optional Elements:

The following research activities are optional, meaning that you do not have to agree to them in order to participate in the research study. Please indicate your willingness to participate in these optional activities by placing your initials next to each activity.

I agree	I disagree	
_____	_____	The researcher may audio or video record me for use in scholarly presentations or publications. My identity may be shared as part of this activity, although the researcher will attempt to limit such identification. I understand the risks associated with such identification.
_____	_____	The researcher may contact me in the future to see whether I am interested in participating in other research studies by the principal investigator of this study.

Signature Block for Capable Adult

Your signature documents your permission to take part in this research.

Signature of subject	Date
Printed name of subject	
Signature of person obtaining consent	Date
Printed name of person obtaining consent	

APPENDIX B

Sample Email Invitation for Industry Experts

Dear _____,

Please let me take a moment to introduce myself, my name is Michaelle Blake Coker and I am a doctoral student at Texas A&M University. I am currently completing my research which involves closing the gap in the equine industry between horse experts (like yourself) and general horse owners, particularly concerning horse health. I am contacting you today, to see if you would be interested in participating in the study. Participation will involve a 45 minute to one-hour face-to-face interview or zoom meeting (due to Covid-19), your choice. Interviews will be audio-recorded and zoom meetings will be recorded as well. During this time, we will discuss horse health and the possible issues surrounding this topic, along with ways to disseminate information to general horse owners. If you are interested in participating, please respond to this email. Thank you for your time and have a wonderful day!

Sincerely,

Michaelle Blake Coker

APPENDIX C

Sample Invitation Email for General Horse Owners

Dear _____,

Please let me take a moment to introduce myself, my name is Michaelle Blake Coker and I am a doctoral student at Texas A&M University. I am currently completing my research which involves closing the gap in the equine industry between horse experts and general horse owners (like yourself), particularly concerning horse health. I am contacting you today, to see if you would be interested in participating in the study. Participation will involve a 45 minute to one-hour face-to-face interview or zoom meeting (due to Covid-19), your choice. Interviews will be audio-recorded and zoom meetings will be recorded as well. During this time, we will discuss horse health and the possible issues surrounding this topic, along with ways you gain information on this topic. If you are interested in participating, please respond to this email. Thank you for your time and have a wonderful day!

Sincerely,

Michaelle Blake Coker

APPENDIX D

Sample Invitation Phone Call for Industry Experts

Hello! My name is Michaelle Blake Coker and I am a doctoral student at Texas A&M University.

How are you today?

Do you possibly have a few minutes so I can discuss my current research with you?

My research involves closing the gap in the equine industry between horse experts (like yourself) and general horse owners, particularly concerning horse health. I am contacting you today, to see if you would be interested in participating in the study. Participation will involve a 45 minute to one-hour face-to-face interview or zoom meeting (due to Covid-19), your choice. Interviews will be audio-recorded and zoom meetings will be recorded as well. During this time, we will discuss horse health and the possible issues surrounding this topic, along with ways to disseminate information to general horse owners.

Could I possibly answer any questions you have right now?

Would you be interested in participating in the study?

If Yes- Great! Can we set up an interview time and place, while we are both on the phone?

Before I go let me give you my email address for contact purposes: mcoker24@tamu.edu

What is your email address?

Thank you so much and have a great day!

APPENDIX E

Sample Phone Call Invitation for General Horse Owners:

Hello! My name is Michaelle Blake Coker and I am a doctoral student at Texas A&M University.

How are you today?

Do you possibly have a few minutes so I can discuss my current research with you?

My research involves closing the gap in the equine industry between horse experts and general horse owners (like yourself), particularly concerning horse health. I am contacting you today, to see if you would be interested in participating in the study. Participation will involve a 45 minute to one-hour face-to-face interview or zoom meeting (due to Covid-19), your choice. Interviews will be audio-recorded and zoom meetings will be recorded as well. During this time, we will discuss horse health and the possible issues surrounding this topic, along with ways you gain information on this topic.

Could I possibly answer any questions you have right now?

Would you be interested in participating in the study?

If Yes- Great! Can we set up an interview time and place, while we are both on the phone?

Before I go let me give you my email address for contact purposes: mcoker24@tamu.edu

What is your email address?

Thank you so much and have a great day!

APPENDIX F

Interview Schedule for Industry Experts

Part 1-Background

1. What is your current job title?
2. What are your job responsibilities?
3. Do you own any horses?
4. What do you do with your horses?

Part 2-Topics of Concern

1. What topics or concerns relating to equine health care, do you feel general horse owners need to know?
2. Is there anything else you would like to add or share about any of the topics discussed?

Part 3-Recommendations

1. You have given me some concerns. How do you feel we can educate general horse owners about these issues?
2. How do we ensure all horse owners are good horse owners?

APPENDIX G

Interview Schedule for General Horse Owners

Part 1-Background

1. What is your highest degree earned and what is it in?
2. How many horses do you currently own?
3. How long have you owned horses?
4. What do you do with your horses?
5. What do you most enjoy about owning your horse?
6. What is the most difficult part of horse ownership for you?
7. In a worst-case scenario, if you had an emergency with your horse, would you have concerns about being able to afford the cost or reach appropriate care quickly?

Part 2-Nutrition/Forage

1. When you think about making the right decisions on feeding your horse, what concerns or objectives do you have?
2. Can you please tell me about your feeding program?
    a. Can you please tell me how you determine if your horse is fleshy and fit (Body Condition Score, (BCS))?
    b. Can you describe what an ideal riding horse should look like, untacked (BCS=5)?
3. Based on your feeding program do you feel horses should be fed primarily forage or concentrates (grain)? Why?
    a. Can you explain, how you determine what type of hay to buy for your horses?

i. Why do you choose to feed that type of hay?

ii. Do you believe you have a good source of hay that meets the needs of you and your horse? Why or why not?

4. Have you ever experienced one of your horses colicing? Can you describe the signs and symptoms of colic?

    a. When you think about one of your horses colicing, how do you feel? Why do you feel that way?

    b. Did you find out what caused your horse to colic? Do you know what can cause colic?

5. Have you ever experienced one of your horses foundering? Can you describe the signs and symptoms of founder?

    a. When you think about one of your horses foundering, how do you feel? Why do you feel that way?

    b. Did you find out what caused your horse to founder? Do you know what can cause founder?

Part 3-Yearly Preventatives

1. Can you please explain your yearly preventative program for your horses?

    a. Why do you believe it might be important to vaccinate your horse?

    b. Why do you choose not to vaccinate?

2. Can you please explain your deworming program for your horses?

    a. Why do you believe it might be important to deworm your horses?

    b. Why do you choose not to have a deworming program?

3. Can you please explain your dental care routine for your horses?

    a. Why do you believe it might be important to have routine dental care for your horses?

    b. Why do you choose not to get your horse's teeth floated?

Part 4-Gaining and Obtaining New Knowledge

1. Do you believe you have the best and most up-to-date information on care for your horse? Why or why not?

2. Are there barriers that keep you from getting the most helpful information on the care of your horse? Please explain.

3. What types of information related to horse care do you think you need more of as a horse owner?

4. What delivery method would you prefer to gain the information you need?

5. Where and from whom do you get your equine care information?

6. Would you be willing to go to workshops to learn about equine health care?

7. Would you be willing to participate in online learning classes to learn about equine health care?

8. How would you like to receive your equine health care information?