Abstract

Purpose: To advance hippotherapy and therapeutic riding professions by increasing awareness about the programs, the staff backgrounds, and the business aspects of a hippotherapy and therapeutic riding program.

Methods: An online survey was created and sent through email to 100 hippotherapy/therapeutic riding facilities across the United States using SurveyMonkey, an online survey design tool.

Results: The results of the survey indicate that therapeutic riding is the most prevalent program across the United States, compared to hippotherapy, therapeutic driving and therapeutic vaulting. The survey results also indicate that there is therapist involvement in these types of programs, including physical therapists, occupational therapists, and speech and language pathologists. Research is also being completed, as indicated by the survey results, by several responding programs.

Conclusion: Hippotherapy and therapeutic riding programs are spread throughout the United States. Although there is a lack of research supporting the effectiveness of these types of alternative therapy programs, as reported by Borzo in 2002, research is being completed to support the use of these programs. By increasing awareness about hippotherapy and therapeutic riding, perhaps we will provide not only more options for therapy, but also more opportunities for individuals who have disabilities.

HIPPOTHERAPY AND THERAPEUTIC RIDING AWARENESS

by

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List of Illustrative Materials

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Introduction

As the realm of medical intervention and treatment continues to grow, two complementary interventions that are fighting for recognition and acceptance into the medical realm are hippotherapy and therapeutic riding. Hippotherapy is a treatment method used by therapists that utilizes the movement of a horse to address specific goal areas during therapy. Therapeutic riding is similar to a typical horseback riding lesson in which specific riding skills are taught and learned; however, therapeutic riding involves teaching children and young adults, who have disabilities, specific riding skills using a modified teaching technique and a modified riding environment. Formal definitions and descriptions of hippotherapy and therapeutic riding will be provided later on in this paper.

According to the American Hippotherapy Association (AHA), few physicians know about these interventions; therefore, it is seldom to see a prescription written for these interventions or hear of a physician providing knowledge about hippotherapy and therapeutic riding to his/her patients (Benjamin, 2000). This research is just a small step in aiding therapists and North American Riding for the Handicapped Association (NARHA) certified riding instructors around the world in providing evidence-based research on the benefits and effectiveness of hippotherapy and therapeutic riding.

The items that will be discussed throughout this paper include: (1) the history of hippotherapy and therapeutic riding; (2) the presentation of several articles that discuss how hippotherapy and therapeutic riding are used, the populations that hippotherapy and therapeutic riding serve; (3) the benefits of these interventions; (4) a self-designed survey; (5) the results of the survey; and (6) an interpretation and explanation of the results.

History of Hippotherapy & Therapeutic Riding

Hippotherapy, as defined by the American Hippotherapy Association (AHA), is "the use of the movement of the horse as a tool by physical therapists, occupational therapists, and speech-language pathologists to address impairments, functional limitations, and disabilities in patients with neuromusculoskeletal dysfunction" (Benjamin, 2000). Hippotherapy comes from the Greek word "hippos," meaning horse. During treatment, the horse is used as a tool to help improve a client's neuromotor function, to help achieve the client's optimal level of function, and to improve the client's quality of life. The reported benefits of hippotherapy include improved and/or increased motor coordination, muscle tone, postural alignment, stiffness/flexibility and strength, balance, respiratory function, cognitive function, speech/language production functions, and sensory processing (Benjamin, 2000, p.1). Other improvements that are often reported but not measured by standardized tests include improved self-esteem and an overall increase in quality of life.

Before a physical therapist, occupational therapist, or speech/language pathologist can develop and run a hippotherapy program, he/she must meet standards created by the AHA and the North American Riding for the Handicapped Association (NARHA). The criteria to become a therapist who uses hippotherapy include being a licensed therapist, having received training in the principles of hippotherapy, equine movement, and equine psychology, being a registered NARHA instructor, maintaining current professional and general liability insurance, and someone who passes the Hippotherapy Clinical Specialist Examination (Benjamin, 2000, p. 2). Once the exam is passed the therapist is then referred to as a Hippotherapy Clinical Specialist (HPCS).

The difference between hippotherapy and therapeutic riding is that hippotherapy programs must be implemented by a therapist, an occupational therapist, a physical therapist, or a speech and language pathologist. Therapeutic riding programs are implemented by NARHA certified therapeutic riding instructors. Hippotherapy incorporates therapy goals and therapy-based treatment sessions, while therapeutic riding programs incorporate the teaching of specific horseback riding skills, such as using the reins to turn.

Therapeutic riding is an alternative intervention, taught by NARHA certified therapeutic riding instructors, that uses a horse's movement to simulate human walking in a special-needs individual's body. The horse's movement improves the child's balance, body symmetry, muscle tone, and head and neck control. Other benefits include improvements in motor skills, self-esteem, concentration, problem-solving skills, and daily living skills (American Quarter Horse Foundation, 2007). The use of therapeutic horseback riding in the medical field can be traced as far back as the second century. One of the first recordings of it was from Galen in c129 to c200. Galen made several references to horseback riding during the recovery stage of illness (Bain, 1965). Dr. Francis Fuller, in 1776, dedicated a chapter to the use of horseback riding in the treatment of his patients. Dr. Fuller's patients had a variety of disabilities, most of which affected the loco-motor system, or the gross motor system, as we know it today (Bain, 1965, p.263). Then, in 1875, the first research study of horseback riding in treatment was developed and published by Chassaigne in Paris, France. Chassaigne prescribed horseback riding as treatment for several patients and came to the conclusion that riding was most beneficial to those who had neurological disorders. He emphasized that

improvements were made in posture, balance, joint movement, muscle control, and morale, following active and passive riding movements (Bain, 1965, p.263). The first two therapeutic riding centers evolved in Copenhagen, Denmark by Mrs. Ulla Harpoth, a physical therapist, and in Oslo, Norway by Mrs. E. Bedtker, also a physical therapist, in the late 1940's (Bain, 1965, p.263-264). According to Bain, in 1957 in Langford, England, a horseback riding program was established within the hospital grounds by Miss Tronson (Bain, 1965, p.264). The basic exercises used included standing in the stirrups, starting from a seated position bend backwards until the head touches the horse, followed by bending forward from a seated position and touching the horse's neck and/or mane (Bain, 1965, p.264). These basic exercises are similar to what occurs to date at The Root Farm, which includes standing in the cossicks (stirrups) or the surcingle (a harness that fits around the horse's belly and has two handles on top for the rider to hold onto), laying back until head and back are against the horse, and giving the horse a hug by bending forward from a seated position. In 1965 the first North American therapeutic riding center was established in Toronto, Canada. Four years later, in 1969, the North American Riding for the Handicapped Association (NARHA) was founded in support of riders from both the United States and Canada (Lechner, et. al, 2003). In the early 1970's, the Hawthornes established one of the largest therapeutic riding centers in Los Angeles, California.

To date, there are several therapeutic riding and hippotherapy facilities throughout the United States, The Root Farm (Verona, NY), Valley View Vaulters (Los Angeles, CA) and the Lazy H Therapeutic Riding Academy (Bernville, PA) just to name a few, and also in Europe. There are even therapeutic riding programs that aid injured soldiers

who have returned from the war in Iraq. Two of these programs are located in the vicinity of Arlington, Virginia; one is part of Fort Meyers Army Base (Tapper, 2006) and the other is part of the Walter Reed Army Medical Center (Manning, 2006).

However, as reported by Borzo in 2002, there are a couple factors that are impeding acceptance and recognition of hippotherapy and therapeutic riding as medical interventions. Those factors include limited but mounting evidence and reimbursement concerns. As stated by Dr. White, in Borzo's report, "The lack of evidence-based research is hindering further acceptance" (Borzo, 2002, p.2). Heart-warming stories told by parents and children who have disabilities are not enough to convince physicians and other skeptics of the benefits of hippotherapy. Unfortunately, one reason for the lack of evidence-based research is that researchers have yet to develop a specific tool to measure hippotherapy's impact objectively (Borzo, 2002, p.3). "There is insufficient scientific data in peer-reviewed medical literature to support the effectiveness of hippotherapy for the treatment of patients with CP or other motor dysfunction," stated by Aetna Inc. in Borzo's report, regarding their reimbursement policies (Borzo, 2002, p.3). Therefore, further research and a specific tool, designed to measure the effects of hippotherapy on children who have disabilities, is needed in order for hippotherapy to be accepted as a medical intervention.

The purpose of this study is to advance hippotherapy and therapeutic riding professions by increasing awareness about the programs, the staff backgrounds, and the business aspects of a hippotherapy and therapeutic riding program.

Review of the Literature

Goals of Hippotherapy & Therapeutic Riding

The goal of hippotherapy and therapeutic riding has been and continues to be, to improve the overall physical and mental functioning of those with disabilities, using horses. The following research studies and articles represent the benefits of hippotherapy and therapeutic riding that include, but are not limited to, enhanced motor coordination, improvements in muscle tone, increased trunk control, improvements in stiffness/flexibility and strength, increased balance, better respiratory function, increased cognitive function, improvements in speech and language functions, and increased sensory processing. The following articles will also describe what assessments and technologies are being used to try to test the efficacy of these alternative and unique therapies.

The next six articles discuss hippotherapy and therapeutic riding effects on posture, spasticity, balance and equilibrium in children who have cerebral palsy, and in one article, children who have sustained a spinal cord injury.

Bertoti (1988) conducted research with children who had cerebral palsy. Bertoti claimed that this was the first objective measure provided supporting the effectiveness of therapeutic horseback riding on posture in children with cerebral palsy. The purpose of this study was to measure postural changes in children who have cerebral palsy after a 10-week therapeutic riding program. Two pre-tests were conducted, followed by 10 weeks of therapeutic riding, which was proceeded by a posttest. During the pre and post-tests, a postural assessment, designed by Bertoti, was completed. The goal of this study was to note significant improvements in the children's posture. Bertoti, however, hypothesized that no significant improvements in posture would be seen before or after

the therapeutic riding program. Eleven children between the ages of two years and four months and nine years and six months were studied, using the pre and post-tests, and scored by means of a postural assessment tool. Significant improvements in tone and balance were noted and shown to be statistically significant, resulting in improved levels of optimal function, proving Bertoti's hypothesis false.

Benda, Grant, and McGibbon (2003) published their research article about muscle symmetry in children with cerebral palsy after equine-assisted therapy (hippotherapy). This study had a dual purpose: 1) to determine if an eight-minute hippotherapy session could produce changes in muscle activity and (2) to compare the effects of symmetrical sitting practice on a stationary barrel following an eight-minute time period versus symmetrical sitting practice on a moving horse following an eight-minute time period. Their research design included a pre and post-test, using 15 participants ranging from 4 to 12 years of age. In order for the children to participate, they needed to meet the inclusion criteria of having spastic cerebral palsy. The children were randomly selected to receive either eight minutes of hippotherapy or eight minutes astride a stationary barrel, during which, electromyography was used to measure muscle activity. Muscle activity was measured in the trunk and upper legs during sitting, standing, and walking before and after each intervention. The results showed significant improvement in symmetry of muscle activity in both muscle groups after the eight-minute hippotherapy session. The children's muscle activity symmetry improved by 65% following their eight-minute hippotherapy session. No significant improvements were noted in the children who sat astride the barrel after the eight-minute time period. The children who sat astride the barrel actually showed significant negative effects in muscle activity symmetry;

therefore, proving that an eight-minute hippotherapy session can produce positive changes in the symmetry of muscle activity.

Haehl, Giuliani, and Lewis (1999) created a study to understand the influence of a horse's movement on a child diagnosed with cerebral palsy. The purpose of this study was to investigate the influence of hippotherapy on the postural control and coordination of two children who have cerebral palsy. This study was also designed to investigate the effectiveness of hippotherapy in improving the children's function as measured by the Pediatric Evaluation of Disability Inventory (PEDI). The PEDI assesses the functional capabilities and performance of children between the ages of six months and seven and a half years (Mulligan, 2003, p.41). The three components of the assessment tool include self-care, mobility, and social function (Mulligan, 2003, p.41). The study was completed in two phases, phase I included the testing of two typically developing children to assess postural control, coordination, and overall function using the PEDI. Phase two of the study included the testing of two children, both diagnosed with cerebral palsy, to assess postural control, coordination, and overall functioning using the PEDI. The goal of the study was to see an increase in postural control and improvement in coordination and functional performance. The population consisted of a nine-year-old child and a four-year-old child. A pre-test was conducted in each child's home in which the PEDI was completed through an interview with the caregiver. The hippotherapy was conducted once a week for 12 weeks. During this time the children went through a five-minute warm-up, followed by a series of activities that placed the children in various positions that required increasing amounts of assistance with postural control, and ended with a five-minute cool down. While one child's hippotherapy sessions lasted 20 minutes, the

other child's hippotherapy sessions lasted 40 minutes. The reason for the difference in the length of time was related to the specific type of cerebral palsy, one child had a mixed diagnosis of spastic and athetoid quadriplegic cerebral palsy and the other child had a diagnosis of spastic diplegic cerebral palsy. Another reason for the time difference was related to the amount of physical assistance that the children needed, one needing more than the other. The children's postural control, coordination, and overall functioning were assessed using the PEDI and each of the scores was compared to the scores from phase I of this study. Results of this study showed an increase in postural coordination in both the children diagnosed with cerebral palsy, as well as an increase in postural control. However, this may have been due to the assistance received by the side walkers. Although improvements in posture were seen, there were no significant changes made in gross motor functions, according to the PEDI. This implies that the PEDI may not be as sensitive as is needed to measure the subtle changes of postural control and coordination that occur over a short amount of time, or that no changes occurred. The clinical implications of this study suggest that changes in postural control and coordination are directly related to hippotherapy; however, as suggested by the results of this study, the PEDI is not the most superlative assessment tool to use to measure these changes.

Hammer, Nilsagard, Forsberg, Pepa, Skargren, and Oberg (2005) designed a study to investigate the effects of therapeutic riding and hippotherapy on individuals who have multiple sclerosis (MS). In Sweden, the term therapeutic riding is used, whereas in the United States, the term hippotherapy is used. The purpose of this study was to examine the effects of hippotherapy on balance, gait, spasticity, functional strength, coordination, pain, Self-Rated Level of Muscle Tension (SRLMT), activities of daily

living (ADL's), and Health-Related Quality Of Life (HRQOL) in patients who have MS. The research design was a single-subject experimental design (SSED) type A-B-A, which allowed the researchers to follow individual responses. The baseline phase, A1, was the pretreatment phase, which lasted three to five weeks. The second phase, B, was the intervention phase, which lasted 10-11 weeks. Finally, the post-treatment phase, A2, lasted three to four weeks. Each hippotherapy session lasted 30 minutes and was tailored to each participant's needs and ability to ride. The hippotherapy consisted of exercises that were comprised of trunk rotation components, maintaining balance, and riding without visual input. Exercises from a physical therapist were also included, such as weaving in and out of cones and riding diagonals. Results showed that the variable showing the most improvement was balance, in eight of the eleven subjects. The other variables that showed improvement were gait velocity, in one participant, and improved spasticity, in one participant. According to the results, no improvements were made in functional strength and coordination. According to the SRLMT scale, three participants' level of muscle tension improved while three other participants reported a decrease in pain. According to the statistics, ADL scores improved slightly for four participants. For HRQOL, 28 positive changes were reported by participants and recorded while 16 negative changes were also reported by participants and recorded. These results suggest that hippotherapy is most beneficial in improving balance and HRQOL in patients who have MS. Overall, the hippotherapy had a positive impact on the participants; however, further research is needed to prove these results.

Seven researchers, Lecher, Feldhaus, Gudmundsen, Hegemann, Michel, Zach, and Knecht (2003), of Switzerland came together to develop a study that focused on the effects of hippotherapy on spasticity in patients with spinal cord injuries. The purpose of the study was to assess spasticity before and after hippotherapy and to determine the short-term effects of hippotherapy on the spasticity. The sample size consisted of 32 patients with spinal cord injuries who ranged in age from 16 to 72 years old. The levels of injury ranged from C4 to T12. The participants in this study were evaluated from June 1996 to November 1997 and again from June 1999 to May 2001, in a longitudinal study. A pre-test preceded the hippotherapy sessions and a post-test followed the hippotherapy sessions. On average, each participant attended eleven hippotherapy sessions before the post-test was conducted. Each participant was evaluated based on hip flexion and extension, abduction and adduction, knee flexion and extension, and ankle dorsi- and plantar flexion. The assessment used to evaluate the participants was the Ashworth Scale, which required the physical therapist to grasp the body part gently and move it quickly through a pattern of movements (Neistadt, 2000). Results revealed that out of a total of 351 hippotherapy treatments, 327 of the sessions led to a lower score on the Ashworth Scale immediately following the hippotherapy sessions, which means that the hippotherapy led to a significant decrease of muscle tone in the lower extremities of the participants. As a result, group scores on the Ashworth Scale were significantly lower than the group scores recorded before the hippotherapy sessions. The clinical implications of this study suggest that hippotherapy is beneficial in decreasing spasticity of the lower extremities of patients who have spinal cord injuries.

MacPhail, Edwards, Golding, Miller, Mosier, and Zwiers (1998) developed a study to investigate trunk postural reactions in children with and without cerebral palsy while they participate in a therapeutic riding program. The purpose of this study was to determine if children who have CP would demonstrate normal equilibrium, or righting, reactions when riding, such as returning to an upright position from leaning to the right or left. The goal of this study was for children who have CP to achieve normal equilibrium reactions. Thirteen children, between the ages of five and 12, six with CP and seven typically developing children, formed the population. Therapeutic riding sessions lasted one hour for 10 sessions, during which each participant rode the same horse at the same gait/walking speed. During the first session parents were asked to complete a questionnaire about their child's age, riding experience, and functional abilities. In order to examine lateral movement of the trunk, each child wore a dark colored shirt with florescent yellow markers that were placed on their shirts over their C7 and L5 vertebrae. Black markers were also placed over the two rear hip joints of the horse. This enabled the researchers to determine the horse's pelvic movement in the frontal plane. All participants were instructed to hold onto the surcingle, a piece of equipment that fits around the horse's belly, without the seat of a saddle, that also has two handles for the rider to hold onto, those who had CP also required two side walkers as an additional source of stability. Each participant was videotaped from the posterior view, so that the fluorescent markers could be seen. The averaging of trunk displacement was determined and plotted using raw digitization and a specialized computer program. The computer program allowed the plotting and averaging of trunk displacement, of the children who had no diagnosis, individually and collectively. Due to the variability between

participants, the data was not averaged collectively, but plotted as a group for typically developing children and individually for the children who had CP. Trunk movements were measured by "the magnitude of lateral trunk displacement and the pattern of trunk movement across the stride of the horse" (MacPhail, Edwards, Golding, Miller, Mosier, and Zwiers, 1998, p. 145). The values for the participants with no diagnosis (ND) were used as a baseline for assessing normal equilibrium reactions in the participants who had CP. The results showed that normal equilibrium reactions were seen 65 to 75% of the time in children who had diplegic CP, while normal equilibrium reactions were only seen 10 to 35% of the time in children who had quadriplegic CP. This indicates that children diagnosed with CP, especially those who had quadriplegic CP, had more difficulty controlling trunk movement and maintaining a sufficient base of support while riding. Clinical implications of this study suggest that therapeutic riding has little or no effect on normal equilibrium reactions in children who have CP. It was determined however, that kinematical analysis is a sufficiently sensitive tool for assessing rider response and pelvic motion of the horse. According to MacPhail, Edwards, Golding, Miller, Mosier, and Zwiers, although these results show an insignificant amount of change, it does not mean that therapeutic riding has no effect on other variables and should be further investigated.

The following five articles will discuss how hippotherapy and therapeutic riding affects functional performance as measured by the GMFM and the PEDI, with a specific emphasis on gross motor function and functional mobility.

Casady and Nichols-Larsen (2004) developed a study to determine the effect of hippotherapy on children with cerebral palsy. The purpose of this study was to evaluate the effect of hippotherapy with children who have cerebral palsy using the Gross Motor

Function Measure (GMFM) and the Pediatric Evaluation of Disability Inventory (PEDI) over a 30-week period of time. The primary objective of this study was to conclude whether hippotherapy had a positive effect on functional performance in young children with cerebral palsy. A convenience sample was gathered consisting of 11 children, diagnosed with cerebral palsy, between the ages of two and six years old; however, one participant missed two consecutive sessions and was therefore, dropped from the study, leaving a sample size of ten. Casady and Nichols-Larsen used a quasi-experimental approach to demonstrate pretreatments, treatment, and post-treatment changes in development. Two pre-tests were conducted before the start of the hippotherapy, during which each participant was evaluated with both the GMFM and the PEDI. Next, the hippotherapy was conducted once weekly, for 45 minutes, for a total of ten weeks. One week subsequent to the end of the hippotherapy the first post-test was completed. Ten weeks later, the second post-test was completed to determine how long the affects of hippotherapy lasted. Results showed statistically significant changes in the mean of the PEDI total score, GMFM total score, the PEDI social score, and the GMFM crawling/kneeling scores after the hippotherapy treatment. Unfortunately, no significant change in function was noted during the non-treatment phase; however, this may have been due to the small sample size or similar gross motor goals among participants. The authors also noted what they thought were limitations of their study. These limitations included the inconsistency of other therapies, the hippotherapy was conducted during summer months which did not coincide with school therapy services, there was no contact between the school therapists and the therapists running the hippotherapy, and four participants only engaged in hippotherapy. The clinical implications of this study

suggest that when improvements are made in postural control, improvements may also been seen in motor skills. They also explained an interesting research implication. "If treatment with the movement of the horse primarily influences function by improving postural control and balance, then research that uses an impairment level outcome measure for balance reactions or posture may determine more precise effects of hippotherapy" (Casady, Nichols-Larsen, p. 171).

MacKinnon, Noh, Larviviere, MacPhail, Allan, and Laliberte (1995) created a study involving the therapeutic benefits of horseback riding and children who have cerebral palsy. The purpose of this study was to investigate the physical and psychosocial, or emotional, benefits that children who have cerebral palsy gain from therapeutic riding. The goal so this study was to be able to report improvements in posture, fine and gross motor control, ADL's, perceived self-adequacy, socialization, and overall behavior in the children. Nineteen children between the ages of four and 12 years old, who were diagnosed with mild to moderate cerebral palsy, formed the population for this study. Two groups were formed, "mild" and "moderate", which were then randomized into control (nine children) and experimental (10 children) groups. The experimental group participated in a 26-week, one-hour weekly therapeutic riding program. The experimental group was then split into children who had mild cerebral palsy and children who had moderate cerebral palsy. The groups then received the therapeutic riding sessions separately. Outcomes of the experimental group were analyzed by comparing the scores of the pre and post-tests and the scores of the pre and post-tests of the control group. The results indicated that no improvements were seen in gross motor control, posture, or ADL's. Results from the Peabody assessment indicated a

significant difference in grasp between the moderate-experimental group and the moderate-control group. According to the Child Behavior Checklist (CBC), children who had mild cerebral palsy improved while children who had moderate cerebral palsy deteriorated. The outcomes of this study suggest that therapeutic riding has little or no effect on improving physical and psychosocial functioning of children who have cerebral palsy. However, it is believed that the majority of physical change occurs in children who are under the age of six; therefore, a younger sample population may yield the desired outcomes of this study. In conclusion, the study suggests that therapeutic riding has little or no effect on children who have cerebral palsy.

McGibbon, Andrade, Widener, and Cintas (1998) created a study to investigate the effects of hippotherapy on children who have spastic cerebral palsy. The purpose of this study was to examine the effects of an eight-week hippotherapy program on the following variables in five children who have spastic CP: energy expenditure during walking, gait dimensions of stride length, velocity, cadence, and on performance on the GMFM. The goal of this study was to see improvement in overall mobility and function as measured by the GMFM. The population consisted of five children, ages nine to 11, who had spastic CP. Two pre-tests were conducted eight weeks apart, followed by an eight-week intervention period, which was then followed by a post-test. Assessments that were used were a timed 16-meter walk, to measure gait, velocity, cadence, and stride length, the Energy Expenditure Index (EEI), and the GMFM to measure gross motor function. The hippotherapy sessions were conducted twice a week for 30 minutes, for a total of 16 sessions. The hippotherapy objectives were to achieve muscle relaxation and elongation, to achieve optimal postural alignment and independent sitting balance, and to

perform active exercises using the trunk and extremities. The active exercises included reaching for knees and ankles, reaching to parts of the horse, partial standing position in the stirrups, and standing in the stirrups with no hands. Statistical improvements were seen in the EEI values and in the GMFM scores for all children. However, no statistically significant improvements were seen in the stride dimensions. Each child showed significantly decreased energy expenditure after the eight weeks of hippotherapy, as measured by the EEI. This suggests that there is an increase in efficiency during walking for children who have CP. This correlates with the results of this study in that each child showed statistically significant improvements, after hippotherapy, on the GMFM in walking, running, and jumping. Parents also reported that their children seemed more willing to walk, walked longer, and wanted to walk all the time since the end of the hippotherapy. The clinical implications of this study suggest that by improving trunk balance, coordination, strength, and mobility, the energy expenditure during walking will decrease and efficiency during walking will increase. Although the sample size of this study was small, the results indicate a direct relationship between gross motor function and energy expenditure and hippotherapy. In conclusion, this study suggests that hippotherapy has a positive effect on children who have spastic cerebral palsy.

Quint and Toomey (1998) developed a study to examine the effects of the Brunel Active Balance Saddle (BABS), a mechanical horse with a saddle, in children who have cerebral palsy. The purpose of this study was to investigate the influence of the movement of a walking horse, simulated by BABS, on the pelvic mobility of children who have CP. Quint and Toomey's goal was to increase the children's pelvic range by

having the children in group A sit astride BABS, and the children in group B sit astride a static saddle, for 10 minutes, 10 times a day, for four weeks. Thirteen pairs of children, between the ages of nine and 16, formed the population and groups A and B for this study. Within each pair, one child was assigned to BABS and the partner was assigned to the static saddle. A pre-test, measuring each child's pelvic range, was given before the intervention, which was followed by a post-test. During each 10-minute session, the children received aid to transfer on and off of BABS or the static saddle and to stay on as needed. The speed of BABS was recorded in order to determine its effect on the range of pelvic movement. Photographs of the children's range of pelvic movement were also taken from a lateral view, to assist in determining the effects of BABS and the static saddle. Each photograph demonstrates maximum anterior pelvic tilt and maximum posterior pelvic tilt, while the children were in a seated position with their hips, knees, and ankles each at a 90-degree angle. The final method to assist in determining the effects of BABS or the static saddle was to place adhesive markers on the anterior superior iliac spine, on the greater trochanter, and on the lateral femoral condyle. The results, according to group, show that in group A, none of the children had a pelvic range greater than 40 degrees before the intervention; however, seven children did demonstrate a pelvic range of 40 degrees or greater following the intervention, as measured by the post-test. In group B, four children had a pelvic range of 40 degrees or greater before the intervention, which increased to eight following the intervention, as measured by the post-test. Overall, statistically significant improvements were seen in both groups, indicating that the BABS and static saddle had a positive influence on the pelvic mobility of children who have CP. However, some of the children, who had previous riding

experience, reported that although the movement of BABS felt similar to a horse, there were elements of riding missing. The reported missing elements included the warmth of the horse, which is more irregular and requires more alertness than BABS. From an occupational therapy standpoint, this indicates that sensory input plays a major role in how hippotherapy is perceived and what benefits are associated with this type of therapy. The children's perceptions also need to be taken into consideration when choosing a therapy and according to this population, hippotherapy seems as though it would be a very good fit. Overall, the indirect clinical implications of this study suggest that hippotherapy has a positive influence on children who have cerebral palsy and should continue to be researched.

John Sterba (2002) developed a study to determine the effect of horseback riding therapy on the gross motor function of children with cerebral palsy. The purpose of the study was to conclude if therapeutic riding over a period of 18 weeks would affect the Gross Motor Function Measure (GMFM), the assessment, and results. The sample population consisted of 17 children, nine females and eight males, diagnosed with cerebral palsy, who were four years old or older. A developmental pediatrician who performed a health history and a physical examination completed the screening process. The primary assessment, which was used, was chosen for its high levels of validity, reliability, and responsiveness. The GMFM is designed to measure gross motor functions in children with cerebral palsy and consists of 88 items, such as walking, running, jumping, and climbing (Mulligan, 2003) (needs to be moved to where first mentioned). Other assessments used included the Gross Motor Function Classification System (GMFCS) to determine the degree of disability, and the Children's Functional

Independence Measure (WeeFIM) to determine the children's level of independence in self-care, sphincter control, transfer ability, locomotion, communication, and social cognition. The treatment, horseback-riding therapy (HBRT), was given over a period of 18 weeks. Each participant was evaluated with the GMFM six weeks before the HBRT, six weeks into the HBRT, and six weeks following the end of the HBRT. Results concluded that children with mild to severe cerebral palsy clinically improved overall gross motor function, specifically walking, running, and jumping. These improvements persisted even after the HBRT had ended. Although there was some improvement on the WeeFIM, it was not a significant amount and did not persist after the HBRT had ended.

Winchester, Kendall, Peters, Sears, and Winkley (2002) designed a study to investigate the effects of a therapeutic riding program in children who have a variety of diagnoses resulting in developmental delays. The purpose of this study was to investigate the effects of a seven-week therapeutic riding program, on gross motor function in pediatric patients who have developmental delays, using the GMFM. The apparent goal of this study was to improve gross motor function in the children. The population included seven children, who were between the ages of two and 12. An interesting inclusion criterion was that each child had to be able to sit unassisted for a minimum of two minutes. This was intriguing due to the fact that in hippotherapy, side-walkers are required to provide support when needed, instead of creating an opportunity for a child to struggle. Throughout this study, only one child was receiving additional physical therapy. A pre-test was conducted one week prior to the start of the intervention. During this pre-test, the GMFM was administered in two sessions so as not to tire the children and give them reason to be uncooperative. Gait speed was also measured, if the children

were ambulatory, using a times 10-meter walk. Two post-tests were then administered. The first was conducted one week following the end of the therapeutic riding program and the second was administered seven weeks after the end of the program. The intervention consisted of one-hour sessions for seven weeks. Each intervention session emphasized muscle relaxation and stretching; optimal postural alignment; independent sitting and standing; active exercises; facilitating righting reactions; and following commands given by the instructor. Because the children were assessed on different dimensions of the GMFM, the scores were converted to a percentage of total points. Statistically significant changes were seen in performance in post-test one, scores increased by 20.1 percent. However, no significant changes were seen in performance in post-test two, which was seven weeks later. Unfortunately, for the five children who were ambulatory, no significant changes were seen in gait speed. Results of this study indicate that the therapeutic riding program had a positive effect on children who had CP in that statistically significant changes were seen in gross motor function. These results are consistent with the results documented by McGibbon who reported that significant improvements were seen in GMFM dimension E (walking, running, jumping) in children who had CP. These results also suggest that improvements in gross motor function are maintained even after the therapeutic riding has ended. Clinical implications of this study suggest that therapeutic riding is an effective form of alternative therapy for children who have CP. However, further research is needed to provide empirical evidence to other professionals in the medical field.

These next two articles looked at how hippotherapy and therapeutic riding affect children who have disabilities other than cerebral palsy, such as emotional and sensory

difficulties.

Candler (2003) examined the impact of a one-week summer camp on individuals and the occupations important to them in their family contexts. The purpose of this study was to investigate the effectiveness of a summer camp using an occupational performance perspective. Occupational performance outcomes were measured using the Canadian Occupational Performance Measure (COPM). The purpose of the therapeutic riding at this camp was to teach riding skills for enjoyment, and improvement in socialization, posture, balance, and quality of life. These goals fell into the category of recreation/leisure, according to the Occupational Therapy Practice Framework (OTPF). Twelve children, between the ages of five and 13, who had been diagnosed with sensory modulation disorder, were used to create the population for this study. In order to measure the effectiveness of the program, the researcher felt it necessary to modify the COPM by labeling the self-care section self-care/horse care, productivity became instruction time, and leisure became free time. The COPM was administered by an occupational therapist in the campers' homes two weeks prior to the start of camp. Each camper, along with his/her parents, was asked to identify three goals to be addressed during camp. Campers participated in therapeutic riding as well as sensory diets, created by the occupational therapist on staff, throughout the camp. One week following the end of camp the campers and their parents were asked to rate the campers' performance and satisfaction related to their goals. This was to be done based on their behavior and overall performance since the end of camp. Results demonstrated that 10 of the 12 campers, and their parents, reported an increase of two or more points, two points being statistically significant, on one or more of their goals. This indicated that the campers

and their parents' perceptions of the campers' performance increased. However, bias within the parents and campers and the lack of identification of what contributed to the positive change, must be taken into consideration when reviewing the results. The clinical implications of this study suggest that summer camps that involve therapeutic riding and occupational therapy have a positive impact on the performance and satisfaction of those involved.

Glazer, Clark, and Stein (2004) developed a study to determine whether the children, parents, and volunteers would view the hippotherapy program as encouraging the grieving process and personal development. The purpose of this study was to investigate the impact of a six-week hippotherapy program for grieving children. The goal was that the hippotherapy program would encourage the children to go through the grieving process and gain in personal growth. The population consisted of five children, between the ages of four and 14, who had recently experienced the death of a loved one. Parents or family members who brought the children to the first session were asked to attend each session and reflect on what the child did and said during riding time and to write these things down in a journal. At the end of each riding session the children were asked to explain what they learned from their relationship with the horses and how they were going to be able to use what they learned in their every day life. The three categories that emerged from the analysis of the group sessions included, confidence building, trust building, and communication. Results demonstrated that "the children gained in confidence, trust, and communication skills. Their communication with others as well as with the horses increased and there was evidence of transfer from the behaviors learned with the horses to home" (Glazer, Clark, and Stein, 2004, p.174). A few things to

consider when reviewing the results are the small sample size, the inability of the researchers to do member checks relating to the accuracy of interpretations, and the six-week time frame of the hippotherapy program. The clinical implications of this study suggest that hippotherapy is not only beneficial to children who have physical disabilities but also to children who have psychosocial and emotional disabilities. Further research is needed to prove the effectiveness of hippotherapy for children who have psychosocial and emotional disabilities, but the future of this type of treatment looks extremely hopeful.

The following three articles demonstrate and explain the direct link between hippotherapy and occupational therapy.

Bracher (2000) was able to make the connection between therapeutic horseback riding and occupational therapy. She explains that therapeutic horseback riding is "the use of the horse to assist people to overcome a wide range of problems arising in any or all of the three areas of their being, namely the mentality, the physical body and the emotions,"(Bracher, p. 276). Occupational therapy terms such as 'meaningful' and 'purposeful activity' are relevant to therapeutic riding in that they involve a person's interests with interaction and manipulation of his/her environment. Bracher discussed two models of practice that are used in therapeutic riding, the Model of Human Occupation (MoHo), and the model of Sensory Integration (SI). Bracher also explained that further research is needed to support the use of therapeutic riding and its effects on physical function as well as psychosocial function. By developing and clarifying the link between occupational therapy and therapeutic riding, Bracher has helped to open another door in the occupational therapy field.

Byam and Simmons (2005) wrote an article to describe how hippotherapy fits into occupational therapy while continuing to reflect the theoretical background of occupational therapy. The authors explain the Person-Environment-Occupation (PEO) Model and how this frame of reference (FoR) applies to the emerging field of hippotherapy. The PEO Model was created to examine and explain the relationship between a person, his/her environment, and his/her occupations. According to Byam and Simmons they feel that, "the greater the overlap among the person, environment, and occupation, the greater the occupational performance," (Byam and Simmons, 2005, p.14). This model encourages occupational therapists to view their clients holistically and to consider their individual relationships with their environments. The PEO Model is also a good fit with hippotherapy in that it is meant for a variety of populations. When working with pediatric clients, their occupations, mainly play, are still important to take into consideration when planning interventions. Games such as blowing bubbles and singing often motivate these younger clients, therefore, improving participation in the intervention while improving motor skills at the same time. As for an older population, playing games such as basketball on the horse while moving is motivating while working on improving eye-hand coordination and motor planning. Hippotherapy is also a great form of alternative therapy to focus on the relationship between a person and his/her environment. The PEO Model includes the following contexts, culture, physical, social, and organizational. The environment involved in hippotherapy allows the intervention to focus on client goals and interests, and therefore, promotes occupations. Included in the environment is the horse itself, which is a motivating because it gives its rider a sense of accomplishment and self-esteem. A major principle of occupational therapy is to help the

client reach his/her optimal level of function, which can be accomplished by improving the level of self-esteem, motivation, and confidence. Byam and Simmons felt that "by motivating a client to interact with the horse and participate in therapy activities, intervention outcomes improve," (Byam and Simmons, 2005, p. 16). Along with the PEO Model, Byam and Simmons briefly discussed the collaboration that takes place between the occupational therapists, parents, family members, teachers, and any other professionals who see the children on a regular basis. This team collaborates to create goals that will enhance the children's development and skills. Overall, from Byam's and Simmons' article, hippotherapy is a good fit with occupational therapy, especially when the PEO Model is used as a frame of reference to guide the occupational therapist's practice and intervention process.

Ciani and Perr (2005) wrote an article to describe how equine-assisted therapy (EAT) fits into occupational therapy. EAT can be defined as an alternative therapy that provides a movement challenge to individuals by using the movements of the horse's gait. The goals of EAT are to improve a rider's balance, proprioception, motor coordination, visual motor integration, and attention span. Unfortunately, there are no standardized assessments to measure the effectiveness of EAT, like there are in traditional occupational therapy. The clinicians involved in EAT are forced to rely on non-standardized methods such as observations, client reports, and family reports to document each clients' progress. Ciani and Perr recognized the importance of documentation and collaborated with participants, and formed a team, to create suggestions as to what they felt should be included in EAT documentation. The team's suggestions included having a multiple page form with the first page pertaining to the

client, treatment sessions, and long-term goals. The team felt that page two should consist of progress in performance components for occupational and physical therapists. The third page would be for speech therapists so that they could include speech goals. Finally, the team created a scoring method, zero to 40 percent would be scores as skill emerging, 40 to 60 percent would be scored as moderate proficiency, 60 to 80 percent would be scored as skill nearly mastered, and 80 to 100 percent would be scored as skill mastered. Overall, Ciani and Perr found that the participants preferred a more detailed form of documentation that could be modified and tailored to each of their clients. This article, along with Bracher's, and Byam and Simmons' articles explain and describe how hippotherapy and occupational therapy fit with each other. These articles have also focused on two frames of reference, MoHo and the PEO Model, and how they are used to guide the therapists' practice and intervention development. In conclusion, these past three articles have directly linked hippotherapy and occupational therapy and have expressed how improvements can be seen and made. The articles suggest that hippotherapy is an alternative therapy that demonstrates positive results and should continue to be investigated.

The purpose of this study is to advance the hippotherapy and therapeutic riding professions by increasing the awareness about the programs, the staff backgrounds, and the business aspects of a hippotherapy and therapeutic riding program. The benefits of completing this research survey include: (1) increasing awareness about hippotherapy and therapeutic riding programs; (2) encouraging other therapists to become involved in these types of programs, and (3) allowing more opportunities for clients to participate in

these programs to help improve their balance and equilibrium, self-esteem, cognitive function, verbal and non-verbal communication skills, mobility and social interaction.

Methods

Design

A research survey design was selected for this thesis. The reason I chose to complete this type of research survey is that it obtained the best information possible in a broad way and it is the most common descriptive method of research. As reported in Babbie, 1990, survey research is logical, deterministic, general, parsimonious, and specific all at the same time. The questions that were created by this researcher permitted this researcher to receive the answers she was looking for all in one tool instead of several tools. Several tools could mean that a researcher would encounter higher costs and greater lengths of time to complete each tool. By utilizing this type of survey, the costs and length of time needed to complete the survey were reduced because the survey was sent online, through SurveyMonkey (an online survey tool), via email. The survey was sent to 100 hippotherapy and therapeutic riding facilities through SurveyMonkey via email. The research study survey was approved by the Institutional Review Board at Utica College.

Survey Recipients

An email survey was sent to 100 hippotherapy and therapeutic riding facilities. Hippotherapy and therapeutic riding facilities were located online through an extensive web search. The keywords used for the search included hippotherapy facilities, therapeutic riding facilities, NARHA, AHA, hippotherapy programs, and therapeutic

riding programs. The survey recipients were required to have a hippotherapy program or a therapeutic riding program at their facility. Also, each facility was required to be located within the United States. One hundred and two facilities met the criteria, but were not easily located. Two facilities, however, did not provide an email address; therefore, the survey was sent to 100 facilities. Survey recipients were instructed in the introductory paragraphs to contact this researcher, via email or telephone, if they had any questions, concerns, or difficulties with the survey.

Instruments

The instruments utilized in this research study include SurveyMonkey and a self-designed survey. SurveyMonkey is an online tool designed to facilitate the survey process by: (a) assisting in formatting a survey; (b) sending the survey, via email, to the previously selected facilities; (c) tracking responses as they are returned; (d) maintaining confidentiality by compiling the responses as they are returned; (e) transforming the number of responses into percentages; and (f) creating graphs. "SurveyMonkey has a single purpose: to enable anyone to create professional online surveys quickly and easily," (http://surveymonkey.com/, 2006). SurveyMonkey also enabled this researcher to send reminders to those survey recipients who had not completed their survey one week after its arrival via email. Special features of SurveyMonkey include its ability to track and collect responses as well as compile and analyze the data as it is received. These features made SurveyMonkey a user-friendly and valuable research tool.

The survey consisted of 49 questions that were created by this researcher and two Utica College occupational therapy professors, Sally Townsend (Occupational Therapy Program Director), and Nancy Hollins (Occupational Therapy faculty member). The

organization and design of the survey were completed by this researcher with the help of SurveyMonkey.

Procedures

This researcher first completed a literature review of current and past hippotherapy and therapeutic riding programs. Next, 100 hippotherapy and therapeutic riding facilities across the United States were identified via the internet. Then, an online survey tool was selected based on its capabilities, cost, time efficiency, and ease of use. The survey questions were then developed by this researcher, in consultation with Sally Townsend and Nancy Hollins. Next, the survey was sent by this researcher, through SurveyMonkey via email to 100 facilities. Responses were then viewed periodically on a weekly basis. After one week, automated reminders were sent through SurveyMonkey via email. Then, this researcher, along with Sally Townsend and Nancy Hollins completed a data analysis using SurveyMonkey. Lastly, this researcher interpreted the results of the data analysis, in consultation with Sally Townsend and Nancy Hollins.

Data Analysis & Results

The hippotherapy and therapeutic riding survey was sent to 100 hippotherapy and therapeutic riding facilities across the United States. Out of 100 facilities, 31% responded. With extensive research using the internet, hippotherapy and therapeutic riding programs were researched via the programs' websites and located across the United States. The responding programs are located in various urban and rural areas

across the United States; therefore, there is no apparent geographical response bias among the respondents. The 31 respondents were located in various states across the United States; California (four), Colorado (one), Delaware (one), Florida (one), Illinois (one), Kentucky (one), Maryland (one), Michigan (two), New Jersey (five), New York (five), Oregon (one), Pennsylvania (four), Texas (one), Virginia (two), Washington (1). Approximately 38% of the respondents who completed this survey were employees, while 31% reported that they were the owner, and another 31% chose the "other" option. One possible reason for these results may be hypothesized that not all of the owners had time to complete the survey. The initial analysis was conducted by SurveyMonkey, which reported the results in frequency and percentage tables for each individual question. Additional analysis using cross tabulation of certain questions was conducted by importing the data first into an Excel spreadsheet and then into SPSS statistical software. The survey questions fell into three broad categories. Each category, program information, background information, and business making, is reported and discussed below.

Program Information

The first grouping of 19 survey questions addressed general programmatic information such as the populations that are served by each responding program, the size of each responding program, and the type of programming that is available at each facility.

Programming:

Table 1.

What service(s) does your facility offer? (check all that apply)	Response Percent	Response Count
Hippotherapy	54.8%	17
Therapeutic Driving	19.4%	6
Therapeutic Riding	**90.3%**	28
Therapeutic Vaulting	19.4%	6
Other: (please list)	32.3%	10
Other (please specify)		10

Table 1 indicates that therapeutic riding is the most commonly offered program among the 31 respondents with 90.3% responding that they offer this program. However, of the 31 facilities that responded, 20 (64.5%) offer more than one program. Of the 11 programs that offer only one program, all 11 offered therapeutic riding. The least commonly offered programs, according to the respondents, include therapeutic driving (19.4%) and therapeutic vaulting (19.4%).

Population:

Table 2.

What populations are served? (check all that apply)	Response Percent	Response Count
children (12 years or younger)	**96.7%**	29
teenagers (13-19 years of age)	90.0%	27
young adults (20-30 years of age)	86.7%	26
adults (31-55 years of age)	73.3%	22
older adults (56 years or older)	60.0%	18

Table 2 indicates that children, 12 years of age or younger, are the primary population served by the programs that responded to this survey. Two programs reported that they did not serve children. However, this table also indicates that 19 facilities serve

clients of all ages, from the young to adults and older adults and most (29 facilities) serve more than one age group. Two facilities offered programming for only one age group and that was children, 12 years of age or younger.

Size of the Program:

Table 3.

How many participants are typically enrolled in your program(s)?	Response Percent	Response Count
1-10	6.7%	2
11-20	13.3%	4
21-50	30.0%	9
more than 50	50.0%	15

Table 3 reveals that 50% (15 facilities) of the responding programs have more than 50 participants enrolled at a time. Thirty percent (nine facilities) reported having 21-50 participants enrolled at a time, while 13.3% (one facility) reported having 11-20 participants and 6.7% (six facilities) reported having one to 10 participants at a time.

In addition, 76.7% (23 facilities) of the respondents reported that there are 21 or more participants involved in their program(s) each week. It was also reported that 36.7% (11 facilities) of the respondents had 101 or more participants enrolled in their program(s) in 2006.

Diagnoses:

Table 6.

What are the most common diagnoses you encounter at your facility? (check all that apply)	Response Percent	Response Count
Physical Disabilities (e.g. spinal cord injury)	76.7%	23
Neurological disorders (e.g. Cerebral Palsy)	**96.7%**	29
Mental Illness (e.g. Schizophrenia)	26.7%	8
Mental Retardation	70.0%	21
Behavioral disorders (e.g. Oppositional Defiant Disorder)	50.0%	15
Other: (please list)	53.3%	16
Other (please specify)		16

As seen in Table 6, 96.7% (29 facilities) of the respondents reported that neurological disorders (e.g. C.P.) are the most common diagnoses that are encountered at these facilities; however, physical disabilities and mental retardation were not far behind with 76.7% (24 facilities) and 70% (21 facilities) respectively. The diagnosis categories however do overlap, for example respondents could have reported C.P. as both a neurological and a physical disability. These diagnostic categories are not totally exclusive. Of the diagnoses, least encountered were diagnoses related to mental illness with 26.7% (eight facilities).

Twelve of the 16 respondents that answered "other" reported that autism was the most common diagnosis that they encounter. Other diagnoses that were indicated included Attention Deficit Disorder (one facility), Attention Deficit Hyperactivity Disorder (one facility), at risk youths (one facility), Conduct Disorder (one facility), Pervasive Developmental Disorder (two facilities), Sensory Integrative Dysfunction (two facilities), Sensory Processing Dysfunction (one facility), Sexual and Physical abuse (one

facility), and Stroke (1 facility), were among the most common diagnoses seen at their facilities.

Program Goals & Documentation:

Table 7.

What are the most common goal areas addressed? (check all that apply)	Response Percent	Response Count
Balance	100.0%	30
Coordination	93.3%	28
Gross motor function	86.7%	26
Fine motor function	66.7%	20
Social interaction	90.0%	27
Sensory integration	83.3%	25
Other: (please list)	36.7%	11
Other (please specify)		12

Table 7 indicates that although balance is the most common goal, (100%) of the programs, there are several other goal areas being addressed by the 31 responding programs such as: coordination, gross motor function, fine motor function, social interaction, sensory integration, life skills, horsemanship skills, language skills, strengthening. There were no facilities that reported only one goal area is addressed. The average number of goals per program, as referenced by Excel, is five**.** The least common goal area addressed is fine motor function (66.7%, 20 facilities). A cross tabulation between diagnoses and goals was completed using SPSS Excel and will be discussed later on in this paper.

According to survey results, 63.3% (19 facilities) of the respondents implement measurable goals, while 23.3% (seven facilities) implement non-measurable goals, and 13.3% (four facilities) implement another form of goals. There may be several hypothetical explanations for this finding, two examples are: (1) it was hypothesized that

this may be due to the impact of insurance. The facilities who implement measurable goals could be keeping strict documentation for insurance purposes. A cross tabulation of this explanation was inconclusive because of the low number of respondents. Five facilities reported that they received third party reimbursement and two of those facilities reported that they wrote measurable goals. (4) It may just be the backgrounds, experience, and the preferences of instructors that determine the type of goals that are written. There was no possibility of exploring this explanation given the questions asked in this survey. Three of the 30 responding programs added that in therapeutic riding programs, goals may not be measurable and that parents set the standard and may have a goal that their child will have fun.

The respondents were also asked if goals change as the participant ages. While 58.6% (17 facilities) reported that the goals sometimes change, 41.4% (12 facilities) reported that the goals always change. Further study is needed to determine whether or not this may be due to the type of client, length of program, or other factors.

One way to develop specific goals, as learned in this researcher's course of study, is to use an assessment tool during a screening and/or evaluation process. Of the 31 respondents 51.7% (12 facilities) reported that they use specific assessment tools, while 48.3% (17 facilities) reported that they do not use a specific assessment tool. However, this is contraindicated by the 32.1% of responding programs who reported using program-designed assessment tools and another 32.1% who reported using self-designed assessment tools. A possible explanation for these percentages is that the programs use more than one tool. This survey asks about the use of two specific assessment tools based on personal experience with a hippotherapy program in Verona, NY. Of the two,

the Bruininks-Oseretsky Test of Motor Proficiency/Bruininks-Oseretsky Test of Motor Proficiency 2 (BOT/BOT 2) is not used by any of the responding programs and the Gross Motor Function Measure 88/Gross Motor Function Measure 66 (GMFM 88/GMFM66) is used by 7.1% (two facilities) of the responding programs. It is interesting to note that not one of these facilities use the BOT/BOT 2, which is a common test of motor skill and balance and is frequently used in the physical and occupational therapy field.

When asked how services are documented, 70% (21 facilities) of the respondents reported that they use program-designed progress notes, 20% (five facilities) reported using standardized progress notes, 6.7% (two facilities) reported using another form of documentation, and 3.3% (one facility) reported that they do not use documentation. These results indicate that 26 of these responding facilities track their participants' progress through the use of written documentation.

Reimbursement:

The number of insurance companies that recognize hippotherapy and therapeutic riding as interventions continues to grow, as reported by Borzo in 2002. There are a few insurance companies who do cover hippotherapy and therapeutic riding, according to the responding programs. The results of this survey indicate that 16.7% (five facilities) of the respondents reported that third party payers typically pay for their service(s). Of the insurance companies that do cover hippotherapy and therapeutic riding, **91.7% or 16.1%** (11 or five facilities) of respondents stated that the third party payer requires a physician prescription before hippotherapy or therapeutic riding is approved. It is interesting to note that as our healthcare system moves closer to direct access, the need for physicians' prescriptions may decrease; however, it is unclear whether this trend will carry over into

hippotherapy and therapeutic riding.

Parents are typically reported as the responsible payment party. Parents are the highest number of responses because children are the highest number of clients. Private pay is the lowest number of responses for older adults because older adults represent the lowest number of clients. According to the survey, 63.3% (19 facilities) of respondents stated that the parents of their participants typically pay out-of-pocket for their service(s). However, four facilities receive grants from outside resources to reduce the cost of service(s). A cross tabulation between who typically pays for services and the number of therapists was completed using an SPSS Excel spreadsheet and will be discussed later on in this paper.

Table 14.

What type of facility are you?	Response Percent	Response Count
For profit	13.8%	4
Non-profit	86.2%	25

Table 14 reveals that 86.2% (25 facilities) of the respondents stated that their facilities were non-profit organizations, a finding consistent with the high percentage of reliance of private pay. Of the four facilities (13.8%) that reported for-profit status, two also reported receiving third party reimbursement.

Research Base:

Table 17.

Does your facility base its program(s) on research and/or evidence-based practice?	Response Percent	Response Count
Yes	59.3%	16
No	40.7%	11

Table 17 reveals that 59.3% (16 facilities) of the responding programs reported that their program(s) is based on research and/or evidence-based practice, while 40.7% (11 facilities) of the respondents reported that their program(s) is not based on research and/or evidence-based practice. While somewhat discouraging, this finding is most likely due to the lack of research regarding these interventions as noted in the literature review. Another possible explanation is that service providers lack knowledge regarding research. According to the American Hippotherapy Association (AHA), although the general consensus states that more research is needed, 37.9% (11 facilities) of the respondents reported that they or their staff members are currently involved in researching their own program. Approximately 40% (11 facilities) reported being involved in researching other programs similar to their own. These results indicate that there may be some interest in completing research.

Discussion

Based on the survey results, therapeutic riding is more prevalent than the other types of programming (e.g. hippotherapy, etc.). It can be hypothesized that this may be due to the most prevalent population being served is children 12 years of age or younger. It is also reasonable to hypothesize that it may be due to the number of therapeutic riding instructors employed at these types of facilities. This indicates that although this is not a therapy, more and more parents with children who have disabilities are seeking alternative treatments.

Occupational therapy and physical therapy are also professions that are on staff and provide services at hippotherapy and therapeutic riding facilities. Both occupational therapists and physical therapists that provide services reimbursed through third party

payers, tend to use specific assessment tools and have fairly strict guidelines for documentation. The survey results suggest that hippotherapy, therapeutic riding programs (and therapeutic vaulting, etc.) are not yet at this level of professionalism. It may be that until these characteristics are more prevalent, hippotherapy and therapeutic riding will not get the same recognition as occupational and physical therapy. However, as more literature and research become available, it is reasonable to say that third party payers will be more accepting of these types of interventions.

More information is needed to provide a more comprehensive description of hippotherapy and therapeutic riding programs. For example, a description of specific programming to know how these programs are packaged (e.g. length and frequency of sessions) would prove beneficial. It is not possible, however, to provide this information based on the survey questions asked and the responses provided.

Background Information

The second grouping of 19 survey questions addressed the background of each facility's staff members, how many therapists and therapeutic riding instructors are employed at each facility, and general training and horse information. The results and summary discussion of those results are reported below:

Staffing:

Table 20.

Category #2: Background information What are the backgrounds of your facility's staff members? (check all that apply)	Response Percent	Response Count
Occupational Therapist	43.3%	13
Physical Therapist	50.0%	15
Speech and language pathologist	16.7%	5
Therapeutic riding instructor	**90.0%**	27
Horse trainer	56.7%	17
Knowledgeable horse background	83.3%	25
Facility manager	46.7%	14
Specialization in the populations you serve	50.0%	15
Other	26.7%	8

Table 20 indicates that 90% (27 facilities) of the responding programs stated that their staff members have a therapeutic riding instructor background. Table 20 also indicates that 50% (15 facilities) of staff backgrounds are in physical therapy and 43.3% (13 facilities) of staff backgrounds are in occupational therapy. It's interesting to note that respondents indicated their staff backgrounds in physical and occupational therapy; however, the number of therapists employed at each facility, indicated in questions 21, 22, 23, and 24, are inconsistent with the staff backgrounds. Questions 21, 22, 23, and 24 asked each facility the number of physical therapists, occupational therapists, speech and language pathologists, and other therapists that they have on staff. As seen in the tables mentioned above, there does not seem to be a great deal of therapy involvement in any facility. Table 20, on the other hand, indicates that there is a lot of therapy involvement in hippotherpay and therapeutic riding.

Table 21.

How many occupational therapists are employed at your facility?	Response Percent	Response Count
0	50.0%	13
1-2	38.5%	10
3 or more	11.5%	3

Table 21 indicates that 50% (13 facilities) of the 31 responding programs do not have an occupational therapist on staff, while 38.5% (10 facilities) reported having one or two occupational therapists on staff. Another 11.5% (three facilities) of the respondents reported having three or more occupational therapists on staff.

Table 22.

How many physical therapists are employed at your facility?	Response Percent	Response Count
0	46.4%	13
1-2	35.7%	10
3 or more	17.9%	5

Table 22 reveals that 46.4% (13 facilities) of the 31 responding programs do not have a physical therapist on staff, while 35.7% (10 facilities) reported having one or two physical therapists on staff. Approximately 17.9% (five facilities) of the respondents reported having three or more physical therapists on staff.

Table 23.

How many speech and language pathologists are employed at your facility?	Response Percent	Response Count
0	78.6%	22
1-2	21.4%	6
3 or more	0.0%	0

Table 23 reveals that 78.6% (22 facilities) of the 31 respondents reported that they do not have a speech and language pathologist on staff, while 21.4% (six facilities)

reported having one or two speech and language pathologists on staff.

The following results, as shown in Figure 1 below, indicate that 78.6% (22 facilities) of the respondents reported that they did not have any additional therapists on staff, other than the therapists mentioned above, physical, occupational, and speech and language. Of the 31 responding programs, 14.3% (four facilities) reported having one or two other therapists on staff, while 7.1% (two facilities) reported having three or more other therapists on staff.

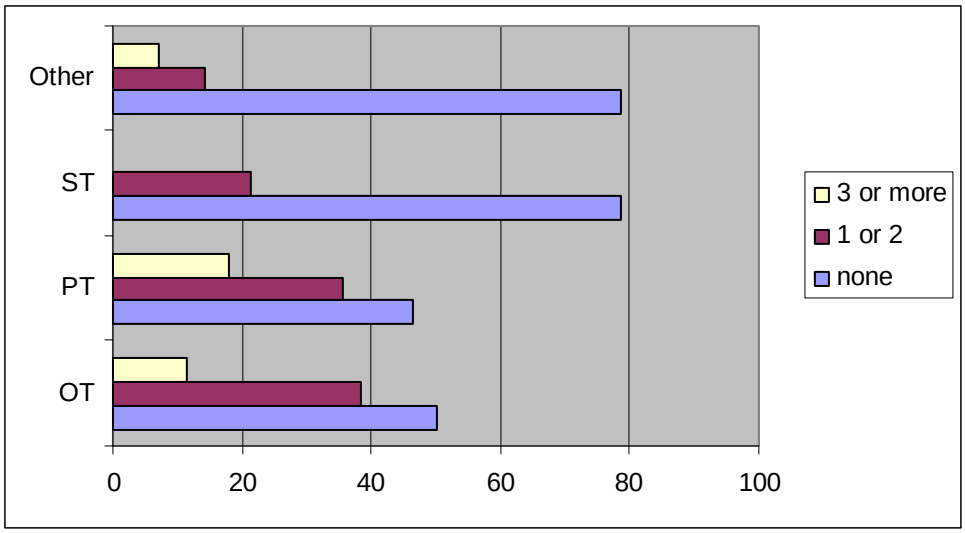

Figure 1. Findings of the number of therapists on staff in hippotherapy and therapeutic riding programs. Results are reported by percentage of facilities answering, Other = other therapists on staff; ST = speech and language pathologists; PT = physical therapists; OT = occupational therapists.

Table 25.

How many full-time therapeutic riding instructors are employed at your facility?	Response Percent	Response Count
0	57.1%	16
1-2	39.3%	11
3 or more	3.6%	1

Table 25 indicates that 57.1% (16 facilities) of the responding programs reported not having any full-time therapeutic riding instructors, while 39.3% (11 facilities)

reported having one or two full-time therapeutic riding instructors.

Table 26.

How many part-time therapeutic riding instructors are employed at your facility?	Response Percent	Response Count
0	27.6%	8
1-5	48.3%	14
6-10	24.1%	7

Table 26 indicates that 48.3% (14 facilities) of the 31 responding programs reported having one to five part-time therapeutic riding instructors on staff, while 27.6% (eight facilities) reported they did not have any part-time therapeutic riding instructors. Approximately 24% (seven facilities) reported having six to ten part-time therapeutic riding instructors on staff. It is hypothesized that one possible explanation for this response is that the facilities or programs themselves do not require full-time positions. A limitation of the study, to be discussed later, is that the survey did not ask about typical programming (e.g. number of clients per group, hours per session, or groups per day).

Table 27.

Total the years of experience of your facility's therapist(s). (e.g. If therapist A has 5 years and therapist B has 2 years, the total would be 7).	Response Percent	Response Count
0	17.4%	4
1-5	13.0%	3
6-10	17.4%	4
11 or more	52.2%	12

Table 27 reveals that of the 31 responding programs, 52.2% (12 facilities) reported that their facility's therapists' total years of experience totaled 11 or more years, 17.4% (four facilities) reported their years of experience totaled six to 10 years, another 17.4% (four facilities) reported their years of experience totaled zero, and 13% (three

facilities) reported their years of experience totaled one to five years. The results in this area lack precision because the survey did not ask for the exact number of therapists at a facility but gathered data in terms of categorical data. Because of this, no direct average of years of experience could be calculated. The results would suggest that the therapists who are employed at these facilities have several years of experience in their profession, but this cannot be stated absolutely.

Table 28.

Total the years of experience of your facility's therapeutic riding instructor(s). (e.g. If instructor A has 7 years and instructor B has 4 years, the total would be 11).		
	Response Percent	Response Count
0	7.4%	2
1-5	7.4%	2
6-10	22.2%	6
11 or more	63.0%	17

Table 28 reveals that 63% (17 facilities) of the 31 respondents reported that their facility's therapeutic riding instructors' total years of experience totaled 11 or more years. Approximately 22% (six facilities) reported their years of experience totaled six to 10 years, 7.4% (two facilities) reported their years of experience totaled one to five years, and another 7.4% (two facilities) reported their years of experience totaled zero years. It is unclear of the explanation for this finding; however, two possible explanations are probable: (1) the therapeutic riding instructors may have been in their profession a long time; or (2) there are just so many therapeutic riding instructors employed at each facility that their years of experience totals 11 or more years. The two facilities that reported zero years are most likely new facilities.

Table 29.

How did your facility's therapist(s) or therapeutic riding instructor(s) become involved in hippotherapy or therapeutic riding? (check all that apply)	Response Percent	Response Count
Through their profession	55.6%	15
Through hobbies/interests	**74.1%**	20
Through community experience	29.6%	8
Other	18.5%	5

Table 29 indicates that of the 31 responding programs, 74.1% (20 facilities) reported that their therapists and/or therapeutic riding instructors became involved in hippotherapy and therapeutic riding due to their hobbies and interests. However, this table also indicates that 55.6% (15 facilities) of these therapists and therapeutic riding instructors became involved in hippotherapy and therapeutic riding through their profession. Another 29.6% (eight facilities) reported that they became involved through community experience, while 18.5% (five facilities) reported other. The responding programs were asked to check all answers that applied for this question; therefore, it is reasonable to believe that a combination of professional interest and personal interest led the staff members of the responding programs into the hippotherapy and/or therapeutic riding professions.

Table 30.

What are the therapist(s) or therapeutic riding instructor(s) credentials?	Response Percent	Response Count
North American Riding for the Handicapped Association certified	**69.0%**	20
American Hippotherapy Association certified	24.1%	7
Other	6.9%	2

Table 30 indicates the 69% (20 facilities) of the responding programs, reported that their therapists and/or therapeutic riding instructors have been credentialed through the North American Riding for the Handicapped Association (NARHA), while 24.1% (seven facilities) have been credentialed through the American Hippotherapy Association (AHA). Another 6.9% (two facilities) reported that their therapists and/or therapeutic riding instructors have been credentialed through other means. However, the AHA is no longer providing Hippotherapy Clinical Specialist credentials; the AHA has given over this process to NARHA. This recent change in the organization in which credentials are received has an effect on these results because this change has just recently occurred. Therefore, depending on what year therapists became Hippotherapy Clinical Specialists, their credentials may have come from the AHA or from NARHA.

According to the 31 responding programs, 75.9% (22 facilities) reported that 76-100% of their staff members lived in the area prior to the start of their facility, while 13.8% (four facilities) reported that zero to 25% of their staff members lived in the area prior to the start of their facility. Approximately 10% (three facilities) reported that 51-75% of their staff members lived in the area prior to the start of their facility. The intent of this question was to determine if the staff members had lived in the area prior to being hired or if they moved into the area upon hire; however, it is difficult to determine.

While most of the facilities' staff members lived in the area prior to the start of the facility, 93.1% (27 facilities) reported the zero to 25% of their staff members moved into the area upon hire. Meanwhile, 6.9% (two facilities) reported that 26-50% of their staff members moved into the area upon hire. The combination of these two questions indicates that while a large percentage of staff members have always lived in the area, a

small percentage of staff members were willing to move into the area to become involved in hippotherapy and/or therapeutic riding programs.

Expenses:

Table 33.

What is the largest expense to the facility? (answer one)	Response Percent	Response Count
Staff pay	32.1%	9
Horses	10.7%	3
Horse feed, water, and general care	**42.9%**	12
Veterinary & blacksmith services	7.1%	2
Program equipment other than direct horse related items (e.g. stationary barrel)	3.6%	1
Horse equipment (e.g. saddle, bridle)	0.0%	0
Technologies (e.g. computer, audio equipment)	0.0%	0
Utilities	3.6%	1

Table 33 indicates that 42.9% (12 facilities) of the responding programs reported that the largest expense to their facility was horse feed, water, and general care, while the second largest expense was staff pay. Approximately 32% (nine facilities) of the responding programs reported hat staff pay was the largest expense, while 10.7% (three facilities) reported that horses are the largest expense. Another 7.1% (two facilities) of the responding programs reported that veterinary and blacksmith services were the largest expense, 3.6% (one facility) reported that program equipment other than direct horse related items was the largest expense, and another 3.6% (one facility) reported that utilities were the largest expense. It is interesting to note here that horse equipment and technologies accounted for zero percent of the facilities' reported expenses.

Challenges:

Table 34.

What is the most challenging aspect of providing hippotherapy and/or therapeutic riding at your facility?	Response Percent	Response Count
Documentation of goals and program(s)	6.9%	2
Meeting population demands/needs	27.6%	8
Meeting community demands/needs	13.8%	4
Advertising	6.9%	2
Research	3.5%	1
Animal training	3.5%	1
Animal care	0.0%	0
Staff training	3.5%	1
Other	**34.5%**	10

Table 34 reveals that 34.5% (10 facilities) of the responding programs chose the "other" option when asked to explain the most challenging aspect of providing hippotherapy and/or therapeutic riding. However, 27.6% (eight facilities) reported that the most challenging aspect of providing one or both of these programs is meeting the population demands/needs. Animal care accounted for zero percent of the most challenging aspects of providing hippotherapy and/or therapeutic riding programs.

Horses:

Table 35.

What breed of horse is most common at your facility?	Response Percent	Response Count
Draft breeds (e.g. ponies, Percherons, Clydesdales)	14.3%	4
Warmbloods	7.1%	2
Morgans	0.0%	0
Donkeys	0.0%	0
Mules	0.0%	0
Other: (please list)	**78.6%**	22
Other (please specify)		24

Table 35 indicates that 78.6% (22 facilities) of the responding programs chose the "other" option when asked what breed of horse is most commonly used in their program(s). Approximately 14% (four facilities) of the responding programs reported using draft breeds, such as Percherons and Clydesdales, while 7.1% (two facilities) reported using Warmbloods. There were no facilities that reported using Morgans, donkeys, or mules. However, this is contraindicated by the two facilities who reported, under the "other" option, using Morgans in their programs. The following is information reported by the responding programs that chose the "other" option. These respondents reported that other breeds such as Andalousians (one facility), Arabians (five facilities), Appaloosa (one facility), cross breeds (six facilities), Haflingers (one facility), Hannovarians (one facility), Icelandics (one facility), Morgans (two facilities), Norwegian Fjords (three facilities), Paints (one facility), Quarter horses (20 facilities), Saddlebreds (one facility), Thoroughbreds (four facilities), and were most common.

In addition to caring for their horses, each facility must train their horses. When the facilities were asked how long a horse is trained before being introduced to program

staff, 60% (18 facilities) of the respondents reported horses are trained three to eight weeks before being introduced to program staff. Approximately 33% (10 facilities) of the respondents chose the "other" option, while 3.3% (one facility) reported they train their horses for several months, and another 3.3% (one facility) reported training their horses for a year or more before being introduced to program staff.

The facilities were also asked how long their horses were trained before being introduced to clients. Of the responding programs, 73.3% (22 facilities) reported that they train their horses three to eight weeks before being introduced to clients. Another 20% (six facilities) of the respondents reported training their horses for several months before being introduced to clients and 6.7% (two facilities) chose the "other" option.

Each facility was also asked how many horses are used during each session. Approximately 40% (12 facilities) of the respondents reported using one to two horses per session, while 33.3% (10 facilities) reported using three to five horses per sessions. Of the responding programs, 26.7% (eight facilities) of respondents reported using six or more horses per session. This indicates that the size of each session at each facility varies; therefore, the number of horses used during each session also varies.

Discussion

The 31 responding programs have a variety of staff backgrounds, ranging from therapeutic riding instructors and therapists to staff members who have a knowledgeable horse background. However, the survey results indicate that there are more therapeutic riding instructors. It may be hypothesized that t a possible explanation for this is the large number of therapeutic riding facilities. It is also reasonable to believe that there is high demand within the communities for therapeutic riding programs and instructors, as

indicated by 13.8% of the responding programs that reported meeting community demands/needs was the most challenging aspect of providing hippotherapy and/or therapeutic riding.

Therapists and therapeutic riding instructors alike are becoming involved in these programs through hobbies and interests, through their professions, and through community experiences. Although more than three quarters of staff members have lived in the area prior to the start of the facility, a small percentage of staff members were willing to move into the area upon hire. That act in and of itself demonstrates the level of passion and caring that staff members of hippotherapy and/or therapeutic riding programs have for what they do and the populations they help. It may also be hypothesized that the staff members' passion and level of caring is what drives them to continue in their programs instead of the pay.

Four-legged staff members also play a very big role in hippotherapy and therapeutic riding programs. The most commonly used breed of horse for these programs are draft breeds and draft crosses, such as Clydesdales and Percherons. A possible explanation for this is their calm demeanor and easy going personalities. Although they are large in size, draft breeds are often gentle giants. However, not all participants are able to ride draft breeds, like children who have C.P. for example. Because C.P. can affect the amount of range of motion in joints, not all children who have C.P. are able to abduct their legs enough in order to sit on draft breeds that have wide backs. Therefore, 20 facilities also mentioned that they use Quarter Horses. Quarter Horses also tend to have a calm demeanor and easy going personality, but they are not as large as draft breeds and their backs are not as wide.

Surprisingly, horse feed, water and general care are the largest expense to hippotherapy and therapeutic riding facilities, according to 42.9% of the responding programs. This indicates that program and horse equipment is not as expensive as once thought. However, a possible explanation for the general care of horses being the largest expense is perhaps due to the number of horses at each facility. It is reasonable to believe that the more horses at a facility, the larger the expense of general care.

Business Making

The third grouping of nine survey questions addressed how the facility and its program(s) were developed, how many staff members, including the owner, had lived in or moved into the area to develop the program(s), and whether or not a written curriculum was used as a base for the program(s). The results and summary discussion of those results are reported below:

Table 40.

Please answer questions 40 and 41 if you answered owner to question 39, if you answered employee, skip to question 42. If you answered owner, to question 39, have you...

	Response Percent	Response Count
Always lived in the area	81.8%	9
Moved into the area to develop a program	18.2%	2

As noted previously, the respondents were both employees and owners. Table 40 reveals that of the 31% of respondents that answered owner, 81.8% (nine facilities) of them have always lived in the area, while 18.2% (two facilities) moved into the area to develop a program.

Table 41.

If you answered owner, to question 39, do you have a business background?	Response Percent	Response Count
Yes	30.0%	3
No	60.0%	6
Other	10.0%	1

Table 41 indicates that of the respondents who are owners, 60% (six facilities) reported they do not have a business background, while 30% (three facilities) reported that they do have a business background. There was also another 10% (one facility) who chose "other".

Table 13.

How did your facility make the decision to implement a hippotherapy program, therapeutic riding program or both? (check all that apply)	Response Percent	Response Count
Based on staff background	50.0%	14
Based on community need	60.7%	17
Based on the facility's mission	46.4%	13
Based on staff interests	32.1%	9
Other	28.6%	8

Table 13 indicates that 60.7% (17 facilities) of the respondents decided to implement a hippotherapy program and/or a therapeutic riding program based on community need. The table also suggests that many of these facilities were developed based on their staff background 50% (14 facilities).

Table 42.

How are your facility and its services marketed? (check all that apply)	Response Percent	Response Count
Community flyers	62.1%	18
Newspaper listings	55.2%	16
TV commercials	10.3%	3
Community events	**75.9%**	22
School systems	48.3%	14
Local physician offices	51.7%	15
Other: (please list)	48.3%	14
Other (please specify)		15

Table 42 indicates that 75.9% (22 facilities) of the responding programs market their service(s) through community events, while 62.1% (18 facilities) market their service(s) through community flyers. The least popular method or marketing services was reported to be TV commercials with only 10.3% (three facilities). Other methods used, according to the respondents, include field trips (one facility), fundraisers (two facilities), group presentations (one facility), internet (one facility), support group organizations (one facility), and word of mouth (four facilities).

Table 43.

Is your facility self-supporting?	Response Percent	Response Count
Yes	**61.5%**	16
No	38.5%	10

Table 43 indicates that 61.5% (16 facilities) of the responding programs reported being self-supporting, while 38.5% (10 facilities) reported they are not self-supporting. This indicates that 10 facilities may receive support from outside agencies or organizations.

Table 44.

What was the basis for developing your program? (answer one)	Response Percent	Response Count
Love of children/adults	3.5%	1
Love of horses	13.8%	4
Passion for helping others	**55.2%**	16
Other	27.6%	8

Table 44 reveals that 55.2% (16 facilities) of the respondents reported that the basis for developing their program(s) was a passion for helping others. Another 27.6% (eight facilities) of the responding programs reported the "other" option, while 13.8% (four facilities) reported that the basis for developing their program(s) was a love of horses, and another 3.5% (one facility) reported that the basis for developing their program(s) was a love of children/adults. However, there is not a clear distinction between these two options and it is therefore difficult to say how these motivations interact with business decisions.

Table 45.

Who decided to offer hippotherapy and/or therapeutic riding at your facility?	Response Percent	Response Count
The owner	**34.6%**	9
Executive director	**34.6%**	9
Other staff members	0.0%	0
Community members	0.0%	0
Other	30.8%	8

Table 45 indicates that 34.6% (nine facilities) of the respondents reported the owner decided to offer hippotherapy and/or therapeutic riding, while another 34.6% (nine facilities) reported that the executive director made this decision. Another 30.8% (eight facilities) of the responding programs chose the "other" option.

Of the 31 responding programs, 73.1% (19 facilities) reported that their facility's program(s) is not based on a written curriculum, while 26.9% (seven facilities) reported that their facility's program(s) is based on a written curriculum. Although, 58.8% (10 facilities) of these respondents reported that they would be interested in developing a written curriculum. The remaining respondents, 41.2% (seven facilities), reported that they would not be interested in a written curriculum.

Even though many responding programs have chosen not to base their program(s) on a written curriculum, 26.9% (seven facilities) reported that their program(s) is based on a written curriculum. Of the respondents who do have a written curriculum, 63.2% (12 facilities) chose the "not applicable" option when asked who developed the curriculum. The results also indicate that 42.9% (three facilities) of the responding programs reported that they have "borrowed" their curriculums from somewhere else; while another 42.9% (three facilities) reported that their curriculums were developed by staff members. Approximately 14.3% (one facility) of the respondents reported that the owner developed their curriculum.

Discussion

During the developing phase of any program, decisions must be made. The responding programs reported that the final decision to develop their program(s) came from the owner and/or the executive director. The basis for developing their program(s) was a passion for helping others. It is reasonable to hypothesize that several owners, executive directors, and staff members had a passion for horses as well and they found a way to incorporate both passions in one program. It is also reasonable to believe that hobbies and interests played a large role in making the decision of what type of

program(s) to offer.

Marketing is another factor that plays a large role in how well these programs are known. The most popular method of marketing, according to 76% of the responding programs, is through community events. This suggests that community events have a large turnout, therefore creating numerous opportunities for hippotherapy and therapeutic riding programs to advertise. The least popular method of marketing is TV commercials. A possible explanation for this is that TV commercials are time consuming and tend to be associated with large expense.

The survey also asked if the programs were based on written curriculums. While 73% reported that they did not have a written curriculum, 26.9% reported that they did have a written curriculum. However, it was interesting to see that of the 73% that reported not having a written curriculum, 58.8% reported that they would be interested in developing one for their program(s). It is reasonable to hypothesize that hippotherapy and therapeutic riding programs are seeking ways to enhance their programs through documentation. A possible explanation for this is that it is nice to be able to provide future participants with information regarding the background of the facility and what the program was based on.

The respondents were also asked to add any additional information that they felt would be helpful to others. This information can be found in Appendix A.

Limitations

The limitations of this survey incorporate the internet, as well as personal choices made by two facilities, office hours of one facility, and SurveyMonkey the online survey

tool that was used. Because an online survey was chosen, the internet was used to send the survey through email, via SurveyMonkey. One hundred hippotherapy and therapeutic riding facilities were sent a survey and of the 100 facilities, 22 facilities did not receive an email due to fatal errors, as reported by Verizon email. Two different facilities chose to opt out of the survey after they read the introduction to the survey in the email. Also, one facility's office was closed until June 27, 2007, which means that the survey had been closed for three days prior to this office receiving the email.

SurveyMonkey, the online survey tool that was used to create and deliver the survey, also made errors during the data analysis phase of this survey, which made transferring the data from the analysis into an SPSS Excel spreadsheet more difficult. For example, in question three, how many participants are typically enrolled in your program(s), the respondents were asked to choose one answer from the following: (1) 1-10; (2) 11-20; (3) 21-50; and (4) more than 50. When SurveyMonkey performed the data analysis, it read the answers as calendar dates: (1) January 10th; and (2) November 20th. The answers, three and four, were not interpreted this way because of their numerical value. Nancy Hollins, in consultation with this researcher, made this discovery while attempting to transfer the data from SurveyMonkey's data analysis into an SPSS Excel spreadsheet. This occurred with questions four, five, 21, 22, 23, 24, 25, 26, 27, 28, and 38.

Recommendations

A recommendation that can be made from this survey includes adding more information about certain questions. Also, additional questions could be added to provide

further detailed information.

Conclusion

It can be concluded from the survey results that hippotherapy and therapeutic riding programs are continuing to thrive across the United States. Although 63.3% of the responding programs reported that parents are typically the responsible payment party, 16.7% reported that third party payers typically pay for their services. This research is just a small step in advancing the hippotherapy and therapeutic riding professions within the medical realm. The purpose of this research was to increase the awareness regarding hippotherapy and therapeutic riding so that individuals who have disabilities have more options to choose from when seeking treatment.

UTICA COLLEGE

Institutional Review Board

Approval Memorandum

TO: Townsend, S.

Approval Date: 6/11/2007

Student: Glassmoyer, C.

Title: Hippotherapy and Therapeutic Riding Awareness

Approval Status: Exempt- other

Anticipated End Collection: 6/30/2007

Your proposal has been reviewed and carries the approval status indicated above. You must comply with any conditions noted below. Note that you may only begin data collection if you have been given approval status. Please contact Brandy Gray (e-mail: bgray@utica.edu) when you have completed data collection, or if the anticipated end of data collection will be later than noted above. If there are any concerns or questions that participants have about their rights as research participants, please have them contact me (phone: x3311; e-mail: ldorow@utica.edu). Best wishes for successful completion of your project!

Acceptance Conditions:
Please add information regarding the IRB contact at UC to the consent letter.

Laura Dorow

Laura Dorow
Chair IRB
2006-2007 Academic Year

ID: 284

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