Award Number: W81XWH-11-1-0793

TITLE: Beck PRIDE Center – An Effective Solution for Combat Injured Student Veterans

PRINCIPAL INVESTIGATOR: Dr. Susan Hanrahan

CONTRACTING ORGANIZATION: Arkansas State University
State University (Jonesboro), AR

REPORT DATE: September 2016

TYPE OF REPORT: Final

PREPARED FOR: U.S. Army Medical Research and Materiel Command
Fort Detrick, Maryland 21702-5012

DISTRIBUTION STATEMENT: Approved for Public Release;
Distribution Unlimited

The views, opinions and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy or decision unless so designated by other documentation.
One purpose of the study is to evaluate the effects of hippotherapy on motor performance in individuals with disabilities. Fifty veterans will be recruited and receive traditional physical therapy and physical therapy including hippotherapy. Measures will be taken after each session and analyzed. This study will also evaluate the impact of the Beck PRIDE Center on health and well being and quality of life. It will document veteran completion of referrals and engagement with care across six domain areas. It will develop a program implementation manual that can be distributed to other educational institutions.
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>4</td>
</tr>
<tr>
<td>Body</td>
<td>5</td>
</tr>
<tr>
<td>Key Research Accomplishments</td>
<td>21</td>
</tr>
<tr>
<td>Reportable Outcomes</td>
<td>22</td>
</tr>
<tr>
<td>Conclusion</td>
<td>23</td>
</tr>
<tr>
<td>References</td>
<td>24</td>
</tr>
<tr>
<td>Appendices</td>
<td>25</td>
</tr>
</tbody>
</table>
INTRODUCTION

1) One purpose of the study was to evaluate the effects of hippotherapy on motor performance in individuals with disabilities. Fifty veterans were recruited and received traditional physical therapy and physical therapy including hippotherapy. Measures were taken after each session and analyzed.

2) This study also evaluated the impact of the Beck PRIDE Center on health and well being and quality of life.

3) It documented veteran completion of referrals and engagement with care across six domain areas.

4) It developed a program implementation manual that was distributed to other educational institutions.

The significance of these areas of investigation furthered the model for civilian institutions to engage combat veterans with disabilities and their families on reintegration post employment.
Summary of Hippotherapy DoD work

A collection of single subject case studies were used to examine the effects of motor performance in subjects while using hippotherapy. The study used an A-B design in which treatment A was traditional therapy and hippotherapy, while treatment B was traditional therapy. Several veterans participated in the study with a variety of neurological and orthopedic issues. Neurological conditions included stroke and traumatic brain injury. Orthopedic issues included back, neck, knee, and shoulder pain. A coin flip determined if the veteran received Treatment A or Treatment B first. The following is a synopsis of the presentations and publication that resulted from this study.

For the hippotherapy project, forty eight veterans were referred and signed the consent form to participate. All veterans were referred through the Beck PRIDE Center. Twenty four veterans completed the study with some data points in Treatment A and Treatment B. Fourteen veterans completed both phases of the study. Ten completed only a portion of the second treatment in the study. These ten did not return for unknown reasons/unable to contact (10). Twenty four veterans only completed one phase of the treatment. Of these twenty four, one moved out of town and the other twenty three did not return due to illness(4), work schedule (1), deployment (1), and unknown reasons/unable to contact to reschedule (16). Treatment A and Treatment B lasted one hour. Participants were assessed after each session using a variety of scales to examine changes as a result of the therapy session based on their limitations. All sessions were cancelled after injury to the principal investigator on 4-1-16.

The results of the study, in some of the single subject studies, showed a greater response to hippotherapy combined with traditional therapy than to traditional therapy alone. While statistical significance was not found in all cases with all areas assessed, data plotting did reveal a change with hippotherapy combined with traditional therapy as opposed to traditional therapy alone.

In the case that a veteran with neurological deficits participated, improvements in functional ADLs were noted with greater improvements while participating in hippotherapy. The measures chosen for motor performance were components of the Functional Independence Measure Test (FIM), tests used included bed mobility, transitional movements, transfers, and gait. Improvements were less evident in the treatment with traditional therapy. In some cases FIM scores decreased after removing hippotherapy from the treatment. Figure 1 gives an illustration of an increase in FIM scores after the addition of hippotherapy to traditional therapy (Treatment B) after only participating in traditional therapy initially (Treatment A).
Figure 1: FIM Scores with Ambulation Veteran with a Traumatic Brain Injury

Figure 2 shows similar results in changes in FIM scores in the area of toilet transfers. Treatment A is only traditional therapy while Treatment B includes the addition of hippotherapy.

Figure 2: FIM Scores with Toilet Transfers Veteran with a Traumatic Brain Injury

In the two figures above using an exact binomial calculator, statistical difference is noted at the .05 level. When the celebration line is extended from the initial treatment, all the data points in the second treatment are above the predicted line, showing statistical significance in these two figures.
In the cases where orthopedic issues were addressed, improvements in range of motion and reductions in pain were noted with greater changes documented while participating in hippotherapy. The measures chosen for motor performance were changes in range of motion and self-reported measures of disability and function that were obtained with scales that included the Sheehan Disability Scale (SDS), Upper Extremity Functional Index (UEFI), Lower Extremity Functional Index (LEFI), Oswestry Low Back Pain Questionnaire (OLBPQ), and the Neck Disability Index (NDI).

In the case of a veteran with low back pain, scores on the Oswestry Pain Scale decreased in the initial sessions that included hippotherapy (Treatment A), however scores plateaued and slightly increased at times after hippotherapy was no longer offered in the study (Treatment B). Figure 3 demonstrates this trend.

![Figure 3: Oswestry Scores in Veteran with Low Back Pain](image)

In another study looking at a veteran with low back pain, a similar result was seen. Treatment A includes hippotherapy while in Treatment B, only traditional physical therapy was used. This can be seen in Figure 4.
In another case study that looked at a veteran with decreased function, the Sheehan Disability Scale was used. In this case it was seen that while a decrease in scores were noted with the inclusion of hippotherapy (Treatment A), scores then increased after hippotherapy was removed (Treatment B). This change can be seen in figure 5.

In an additional case that involved a veteran with shoulder issues, increased active range of motion was noted when hippotherapy was incorporated as opposed to traditional physical

Figure 4: Oswestry Scores in Veteran with Low Back Pain

Figure 5: Sheehan Disability Scale
therapy only. Table 1 gives an illustration to the improvement in range of motion after the inclusion of hippotherapy.

<table>
<thead>
<tr>
<th>Action</th>
<th>L AROM PRE</th>
<th>L AROM POST</th>
<th>R AROM PRE</th>
<th>R AROM POST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexion</td>
<td>148</td>
<td>176</td>
<td>142</td>
<td>178</td>
</tr>
<tr>
<td>Abduction</td>
<td>142</td>
<td>174</td>
<td>140</td>
<td>175</td>
</tr>
<tr>
<td>Extension</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>31</td>
</tr>
<tr>
<td>External Rotation</td>
<td>28</td>
<td>67</td>
<td>40</td>
<td>80</td>
</tr>
<tr>
<td>Internal Rotation</td>
<td>25</td>
<td>90</td>
<td>44</td>
<td>70</td>
</tr>
</tbody>
</table>

Table 1: AROM in Veteran with Shoulder Issues

Also in this veteran, a decrease in functional limitations was noted after the inclusion of hippotherapy to the traditional physical therapy program. Table 2 illustrates this.

<table>
<thead>
<tr>
<th>Outcome tool</th>
<th>Section</th>
<th>PRE</th>
<th>POST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheehan Disability Scale</td>
<td>Work/ School</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Social life</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Family life</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Days Lost</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Days Unproductive</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 2: Sheehan/UEFS in Veteran with Shoulder Issues

In some cases, the patients became disappointed when the horse was withdrawn and required strong encouragement to complete the data in the second phase of the program. After completion of the traditional treatment, the subjects were often eager to return to hippotherapy treatment. Thus, while hippotherapy produced effects that could be sustained over time, in these cases the decreased motivation and eagerness of participation and other external factors may have played a role in increasing disability levels during the traditional therapy portion of the study. Subjects ‘enthusiasm for horse-based therapy suggests that they would have responded
well to hippotherapy alone, but also demonstrated more willing participation in traditional therapy when combined with hippotherapy.

Subjects often after completing the study pursued additional interaction with equine based therapy. Several subjects enrolled in equine science courses at the university. Subjects also returned to the hippotherapy sessions to volunteer as assistance in hippotherapy sessions for other subjects. It is interesting to note that a majority of the veterans had limited exposure to horses before participating in the study.

Impact of the Beck P.R.I.D.E. Center on the Health, Well-Being, and Quality of Life for Veterans

As part of the Beck PRIDE Center’s *An Effective Solution for Combat Injured Student Veterans* project, a multi-faceted data collection plan was implemented to assess the impact of Beck PRIDE services on the health and well-being of the veterans it served, as well as their quality of life. As part of the data collection, project-end surveys were conducted to assess the perceived effectiveness of the program from the perspective of both the veterans it served and the various community members involved in the work of the center. A listing of data collection instruments, a brief description, and their administration timeframes is provided in the table below. More details about each instrument and the data obtained will be provided throughout this report.

Data Collection Instruments

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Description</th>
<th>When Administered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beck P.R.I.D.E. Intake Form</td>
<td>The Beck PRIDE Intake form collects information on a wide range of participant demographics and needs as they enter the program.</td>
<td>Upon Entry only</td>
</tr>
<tr>
<td>SF-12 Health Survey</td>
<td>The SF-12 measures participant functional health and well-being.</td>
<td>Upon Entry and at Follow-Up</td>
</tr>
<tr>
<td>Beck Pride Satisfaction Inventory (BPSI)</td>
<td>The BPSI measures the general satisfaction and quality of life of veterans.</td>
<td>Upon Entry and at Follow-Up</td>
</tr>
<tr>
<td>Quality of Life Index (QLI)</td>
<td>The QLI assesses quality of life by measuring the general satisfaction with, and perceived value of, different areas of life.</td>
<td>Upon Entry only</td>
</tr>
<tr>
<td>Project End Participant Survey</td>
<td>The Project End Participant Survey assesses participant satisfaction with, and perceived effectiveness, of the Beck P.R.I.D.E. Center.</td>
<td>End of the Project</td>
</tr>
<tr>
<td>Project End Community Agency Survey</td>
<td>The Project End Community Agency Survey assesses satisfaction with, and perceived effectiveness, of the Beck P.R.I.D.E. Center.</td>
<td>End of the Project</td>
</tr>
</tbody>
</table>

This report is organized around 3 main questions: (1) Who were the participants? (2) Why did they come to Beck P.R.I.D.E.? and (3) Did Beck P.R.I.D.E. make a difference in the lives of the
veterans it served? Each section will include relevant data from across the life of the grant period.

**WHO WERE THE PARTICIPANTS?**

**Demographics.** Across the life of the project, 157 veterans took part in Beck P.R.I.D.E. services, far exceeding the original goal of 100 veterans. In order to receive services from the Beck P.R.I.D.E. Center, veterans must have been in a present day conflict (from the Persian Gulf War to present day). Most participants had been deployed either 1 (55%) or 2 (33%) times, with the remaining veterans having been deployed 3 or more times. The most common locations for deployment were Iraq (67% of veterans) and Afghanistan (68% of veterans). Other locations included the Persian Gulf, Africa, and Kosovo. When entering the program, 9% were on active duty.

The majority of participants were male (93%) and Caucasian (74%). Participant ages ranged from 23 to 70 years old, with a mean age of 36 years. Reports of marital status showed that around one-half were married (49%), about one-quarter were single (24%), and 17% were divorced. Fifty-six percent of participants had been married once, 29% reported never being married, and 12% had been married twice. The majority of participants (59%) had at least 1 dependent and 30% were enrolled in college.

**Existing Issues/Problems.** Beck PRIDE participants reported a number of medical or physical issues when they entered the program. The majority of those issues appeared to be a result of their combat-related experiences and exposure to a war-zone environment. Of the participants who responded to the impairment items on the intake form, 79% reported suffering from mobility impairments (e.g., back, knee, or shoulder pain), 76% reported suffering from sleep problems (e.g. sleep apnea or insomnia), and 72% reported hearing impairments (i.e., hearing loss or tinnitus). Other major issues affecting returning veterans were Post-Traumatic Stress Disorder (PTSD) and Traumatic Brain Injury (TBI); about two-thirds of participants reported having PTSD (64%) and about one-third reported having TBI (28%). Fifty-four percent were receiving VA Compensation at the time of entry into Beck P.R.I.D.E., with an average disability rating of 52%.

To assess whether any additional problems existed with participants (e.g., with functional health, well-being, satisfaction with life, and quality of life), 3 data collection instruments were administered at intake: (1) the SF-12 Health Survey, (2) the Quality of Life Index, and (3) the Beck PRIDE Satisfaction Inventory. Results from each instrument are provided below.

*Functional Health & Well-Being (as measured by the SF-12, a short form Health Survey).* All 157 Beck PRIDE Center participants completed an SF-12 when they first enrolled in the study. The SF-12 is a self-report measure of an individual’s perceived health. The possible score range for the SF-12 is 0 (poor health) to 100 (excellent health), with 50 being considered the population mean (with a Standard Deviation of 10). The table below provides a breakdown of physical-, mental-, and overall health of the participants at intake based on the SF-12 domains.
As shown in the table above, and in the figures below, when entering the Beck P.R.I.D.E. project, the majority of participants fared much worse than the general population both physically and mentally. For example, only about one-fourth of participants fell into the “average” range in both the physical- and mental-domains of the SF-12, and over one-half of participants fell in the “below average” range.

**Quality of Life (as measured by the Quality of Life Index).** Each veteran who participated in the Beck PRIDE study was administered the Quality of Life Index (QLI) Generic III Version during the initial intake interview. The QLI is a 66-item inventory split into two parts: Part 1 contains 33 questions relating to general satisfaction (e.g., How satisfied are you with your health in general?), and part 2 contains 33 questions relating to values (e.g., How important to you is your health?). QLI items are rated on a six point Likert scale, with 1 being “very dissatisfied” or “very unimportant” and 6 being “very satisfied” or “very important.” Five scores are calculated for the QLI: (1) Overall Quality of Life score, (2) Health and Functioning subscale score, (3) Social and Economic subscale score, (4) Psychological/Spiritual subscale score, and (5) Family subscale score. The following table shows the mean quality of life scores for veterans participating in the study on whom we have complete data (N=151). The range of scores is from 0 to 30 (with higher numbers reflecting higher quality of life).
Quality of Life Index Subscale & Overall Scores at Intake
(N=151)

<table>
<thead>
<tr>
<th>Health &amp; Functioning Subscale</th>
<th>Number of Respondents</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean Score*</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>151</td>
<td>1.9</td>
<td>30</td>
<td>16.37</td>
<td>6.53</td>
</tr>
<tr>
<td>Social &amp; Economic Subscale</td>
<td>151</td>
<td>3.0</td>
<td>30</td>
<td>17.60</td>
<td>6.24</td>
</tr>
<tr>
<td>Psychological/Spiritual Subscale</td>
<td>150</td>
<td>0.0</td>
<td>30</td>
<td>17.91</td>
<td>6.68</td>
</tr>
<tr>
<td>Family Subscale</td>
<td>150</td>
<td>3.6</td>
<td>30</td>
<td>21.18</td>
<td>6.31</td>
</tr>
<tr>
<td>Overall Quality of Life Index Score</td>
<td>151</td>
<td>2.73</td>
<td>30</td>
<td>17.66</td>
<td>5.86</td>
</tr>
</tbody>
</table>

*Mean scores range from 0 to 30

The results from the QLI indicate that veterans came into Beck P.R.I.D.E. with a less than ideal view of their Quality of Life (mean of 17.66 on a scale from 0 to 30), especially when it comes to Health and Functioning concerns, Social & Economic concerns, and Psychological/Spiritual concerns. This is not surprising, however, due to the fact that so many reported having problems during their intake (e.g., mobility problems, hearing problems, PTSD).

Satisfaction with Life (as measured by the Beck P.R.I.D.E. Satisfaction Inventory). As veterans entered the Beck PRIDE study, they were administered the Beck PRIDE Satisfaction Inventory (BPSI). There are 2 sections of the BPSI: (1) Section 1 of the BPSI assesses the general satisfaction participants have in eight different domains of life and (2) Section 2 measures veteran satisfaction with the services provided by the Beck PRIDE Center (section 2 was administered at follow-up and will be discussed later in this report). Complete BPSI data are available for 156 participating veterans. Overall, it appears that when participants came to Beck P.R.I.D.E., they were only a little satisfied with most areas in their life, especially their Work Life. This may be due to the fact that they are experiencing so many issues, as discussed above. The table below shows the mean satisfaction scores for each domain on a scale from 1 (no satisfaction at all) to 4 (a great deal of satisfaction).

Beck PRIDE Satisfaction Inventory
Mean Scores at Intake - N=156

<table>
<thead>
<tr>
<th>LIFE DOMAIN</th>
<th>MEAN SCORE*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>2.55</td>
</tr>
<tr>
<td>Career Prospects</td>
<td>2.53</td>
</tr>
<tr>
<td>Social Life</td>
<td>2.48</td>
</tr>
<tr>
<td>Family Life</td>
<td>2.90</td>
</tr>
<tr>
<td>Health</td>
<td>2.55</td>
</tr>
<tr>
<td>Physical Activity</td>
<td>2.37</td>
</tr>
<tr>
<td>Recreational Activities</td>
<td>2.53</td>
</tr>
<tr>
<td>Work Life</td>
<td>2.12</td>
</tr>
</tbody>
</table>

*Range = 1 to 4
1 = No Satisfaction, 2 = A Little Satisfaction, 3 = Quite a Bit of Satisfaction, and 4 = A Great Deal of Satisfaction
WHY DID VETERANS COME TO BECK P.R.I.D.E.?
When first coming to Beck P.R.I.D.E., participants were asked what kind of assistance they were seeking. Many of the veterans came in seeking assistance for their education needs (e.g., educational advising), but also for career assistance and assistance with vocational rehabilitation. A listing of the various types of assistance veterans sought out is presented in the table below, along with the percentage of individuals requesting that assistance.

<table>
<thead>
<tr>
<th>Type of Assistance Sought</th>
<th>Percentage of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education Advising Assistance</td>
<td>51%</td>
</tr>
<tr>
<td>GI Bill Education Benefits Assistance</td>
<td>38%</td>
</tr>
<tr>
<td>Scholarship/Other Financial Aid Assistance</td>
<td>36%</td>
</tr>
<tr>
<td>Vocational Rehab Assistance</td>
<td>36%</td>
</tr>
<tr>
<td>Career Advising Assistance</td>
<td>33%</td>
</tr>
<tr>
<td>Testing/Placement/Assessment Assistance</td>
<td>20%</td>
</tr>
<tr>
<td>Tutoring/Mentoring/Study Skills Assistance</td>
<td>18%</td>
</tr>
<tr>
<td>Cultural/Social Enrichment Assistance</td>
<td>16%</td>
</tr>
<tr>
<td>Employment Services Assistance</td>
<td>12%</td>
</tr>
</tbody>
</table>

Most veterans appeared to be without existing social supports to help them when they came to Beck P.R.I.D.E. Although just over one-half of participants (55%) had been accessing services through a nearby VA facility (in Memphis, TN), very few appeared to belong to any community support organization (e.g., only 20% said they belonged to a community veteran organization, 13% said they belonged to the VFW Organization). Anecdotally, participants reported that they did not know how to receive benefits and services (e.g., they did not understand the paperwork or who to contact). As a result, Beck P.R.I.D.E. reached out to the 3 VA systems in the surrounding area to coordinate services and workshops for veterans. In addition, many veterans appeared to be lacking support from their family and friends (e.g., 50% said their spouse/lover was their support system, 38% said their parent[s] were their support system).

DOES BECK P.R.I.D.E. MAKE A DIFFERENCE FOR VETERANS?
One of the key aims of this project was to determine the extent to which Beck P.R.I.D.E. is effective for veterans. To assess that effectiveness, both intake and follow-up (about 6 months after they entered the project) interviews were conducted with participants to allow for a pre-post comparison of key indicators (e.g., functional health, quality of life). The interviews included the SF-12 (assessing functional health and well-being) and the BPSI (assessing satisfaction with, and quality of, life). Follow-up interviews were conducted with 53 participants. Overall, participants appeared to make some significant improvements after having received Beck P.R.I.D.E. services, especially in their mental health. Below is a more detailed summary of the findings.

Functional Health & Well-Being (as measured by the SF-12). As reported earlier, upon entering the Beck PRIDE Center project, veteran self-reports indicated that very few of them
fared better than the general population in both physical health and mental health. However, after having received services from Beck P.R.I.D.E., those reports improved quite a bit, some even significantly.

The figures below show that after having participated in the Beck PRIDE project, many participants were doing better **physically**. In fact, in the areas of General Health and Bodily Pain (higher scores indicate more freedom from pain), the changes were significant ($t_s > 1.7$, $p_s < .05$). In addition, many more participants reported being “At” the general population average in the Physical Health component at follow-up than at intake. This indicates a great improvements in Beck P.R.I.D.E. participants after having received services.

Similar to physical health (above), it appeared that only a few Beck PRIDE participants fared better in self-reported **mental health** than the general population upon entering the program. At follow-up, however, participant mental health appeared to have improved significantly based on the SF-12; the Mental Health Component Score increased from 36.62 to 39.98 ($t = 2.22$, $p < .04$). A couple of SF-12 mental health sub scores increased as well ($t_s > 2.1$, $p_s < .05$): Social Functioning and Mental Health. In addition, the percentage of veterans who fell “below average” in the mental health domains of the SF-12 when compared to the general population decreased from 75% to 64%, while the percentage of those falling “At” and “Above” average increased (18% to 23% and 8% to 13%, respectively). The figures below depict the positive changes that occurred in veterans’ mental health after receiving services from Beck P.R.I.D.E.
Satisfaction with, and Quality of, Life (as measured by the Beck P.R.I.D.E. Satisfaction Inventory). The table below shows the mean life domain satisfaction scores from the Beck P.R.I.D.E. Satisfaction Inventory intake interview (pre) and the follow-up interviews. Although no statistically significant differences in any of the domains from Intake to Follow-up were found (t's ranged from .00 to 1.64, all ps>.05), there was movement toward improved satisfaction with life for those on whom we have follow-up data. For example, at intake, the least satisfaction appeared to occur in the Work Life and Social Life domains, but after having been part of the Beck P.R.I.D.E. project, there appeared to be a trend toward higher satisfaction with both of those areas. The most satisfaction appeared to occur in the Family and Education domains of veterans’ lives (consistent with responses from intake).

<table>
<thead>
<tr>
<th>LIFE DOMAIN</th>
<th>PRE MEAN SCORE</th>
<th>FOLLOW-UP MEAN SCORE</th>
<th>DIFFERENCE IN MEANS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>2.58</td>
<td>2.67</td>
<td>.09</td>
</tr>
<tr>
<td>Career Prospects</td>
<td>2.50</td>
<td>2.50</td>
<td>0</td>
</tr>
<tr>
<td>Social Life</td>
<td>2.25</td>
<td>2.50</td>
<td>.25</td>
</tr>
<tr>
<td>Family Life</td>
<td>2.83</td>
<td>2.89</td>
<td>.06</td>
</tr>
<tr>
<td>Health</td>
<td>2.48</td>
<td>2.42</td>
<td>-.06</td>
</tr>
<tr>
<td>Physical Activity</td>
<td>2.42</td>
<td>2.35</td>
<td>-.07</td>
</tr>
<tr>
<td>Recreational Activities</td>
<td>2.39</td>
<td>2.40</td>
<td>.01</td>
</tr>
<tr>
<td><strong>Work Life</strong></td>
<td><strong>1.92</strong></td>
<td><strong>2.10</strong></td>
<td><strong>.18</strong></td>
</tr>
</tbody>
</table>

*Complete intake and follow-up data are available for only 52 participants

Another factor that impacts participant quality of life is their VA Compensation Rating. There were 23 veterans on whom we had both intake and follow-up VA Ratings. Although there was not a significant change, there was movement toward an increased rating (67% to 69%), which translates into increased benefits for veterans.

Satisfaction with Beck P.R.I.D.E. (as measured by the Beck P.R.I.D.E. Satisfaction Inventory and the Project End Surveys). Throughout the project, the Beck PRIDE Center offered eight types of services to veterans: Educational Assistance, Mental Health Counseling, Social Services, Community Referrals, Mentoring, Socialization, Career Planning, and Rehabilitative Services. During follow-up, Section 2 (Satisfaction with Services) of the Beck P.R.I.D.E. Satisfaction Inventory (BPSI) was administered. Overall, veterans were generally satisfied with Beck PRIDE Services, with the exception of a small percentage who found the Social Services and Community Referral services at Beck PRIDE being “poor” at follow-up. However, over one-half of veterans report all services are working “great.” The Rehabilitative and Education Assistance services had the highest ratings at follow-up with 82% and 81%, respectively. Social services had the lowest overall “great” rating (68%), which suggests that this domain may be in need of the most improvement. That being said, over two-thirds of participants rated Social Services as “great,” indicating that it was working well for most. The table below shows the results for the 53 veterans who completed the follow-up interview.
In an effort to get feedback from the participants about what they thought about Beck P.R.I.D.E., a Project End Participant Survey was sent out in May, 2016, to those who had participated in Beck P.R.I.D.E. services. In all, 20 veterans completed a survey. Of those, the majority agreed that Beck PRIDE was a helpful resource that (a) meets the needs of veterans, (b) helps veterans gain skills they need to be successful, and (c) is something they would recommend to others. When asked to what extent Beck P.R.I.D.E. services were helpful to them, the responses were very positive. Although only some respondents received any given service, 100% of those who reported receiving Education Assistance, Mental Health Counseling, Social Services & Community Referrals, Career & Business Planning, and Personal Rehabilitation Services said those services were “very helpful.” When asked about the ways in which Beck P.R.I.D.E. has helped them the most, one person said, “Attending the combat support group has been helpful, even though I was reluctant to address those issues…” Another veteran said it was helpful in that they had “…someone to talk to when no one else understands.” Others said that Beck P.R.I.D.E. helped them with educational issues: “…Getting back into college was an overwhelming task for me. Not only did they help me with all of the paperwork, but they also seen me through my program…” Another person said, “I don’t know how I would have managed to feel comfortable going back to school after so many years of being out of school without the help of the Beck Pride staff.”

A Project End Survey was also sent out to various community members who have worked with Beck P.R.I.D.E. to get a broader sense of the perceived effectiveness of the project. Twelve individuals from the community who work with Beck P.R.I.D.E. responded to the survey, all of whom had worked with the program for at least 2 years. Community partner responses echoed those from the participants: Beck P.R.I.D.E. is helpful, meets veterans’ needs, and is a resource they would recommend to any veteran needing assistance. Respondents said that the program serves as a “strong advocate for veterans’ needs and resources.” In addition, it is clear that its community partners think that Beck P.R.I.D.E. is an invaluable service that deserves more recognition. One respondent said, “It is Jonesboro, AR (sic) best kept secret that others should know about.” Another said, “I am honored to be a volunteer that is involved in the Beck Pride Center. The whole United States should know about this center.”
SUMMARY AND CONCLUSIONS
As reflected in this report, when veterans come to the Beck PRIDE Center, they are likely to have a host of physical or mental health issues, they are not totally satisfied with their lives, and they are in need of various types of assistance. They also tend to come in without a strong support system in place. Based on the results gained from the data collection throughout the project, it appears that the Beck PRIDE Center has been a valuable mechanism to assist those veterans by providing them with numerous types of assistance they need (e.g., education, career), and in turn it helps to improve critical aspects of their lives, both physically and mentally. This project also allowed Beck P.R.I.D.E. to learn some important lessons and provided some direction for future efforts. For example, the issues of moral injury and spirituality came to light during this project (what veterans had to do while deployed is sometimes incongruent with their spiritual beliefs), and needs to be an area of attention in the future. In addition, Beck P.R.I.D.E. is in a great position to impact rural veterans in the area. In order to get to one of the 3 major VA Systems in the surrounding area, veterans have well over one hour of travel time. Beck P.R.I.D.E.’s coordination and promotion of VA services has been a positive step in helping those from rural areas, but systematic data have not been collected on those elements of assistance. The general consensus about the Beck P.R.I.D.E. Center can be summed up by one participant’s comment…”I feel the Beck P.R.I.D.E. is an outstanding organization…One of the best [veteran] programs that is out there.”

Part of the reason that Beck PRIDE has been successful is because it has adapted its services in response to veteran needs. For example, as part of the expansion of assistance provided by the Beck PRIDE Center in response to specific needs and concerns, a number of services were initiated to broaden its activities. The following illustrates those projects completed by the Beck PRIDE Center for veterans:

- Beck PRIDE Center staff are involved in a veteran’s court initiative in partnership with the 2nd Judicial District, Memphis VA system, and MidSouth Health systems. The veteran mentors have been recruited from the Beck PRIDE Center program.
- A community education series has been developed and presented to 410 mental health professionals and clergy. The 5 Topics included Addictive Thinking, Improving Treatment Outcomes with Substance Abuse, Understanding Moral Injury, Suicide Awareness, and Understanding TBI and PTSD.
- A VA vocational-rehabilitation counselor is located at A-State after negotiations by Beck PRIDE Center staff.
- Completing applications for VA services, such as eBenefits, and for medical benefits, was part of the service provided. All interns and VA work study students have been trained in this process and the process for enhanced enrollment.
- Two eBenefits workshops were conducted for veterans and staffed by VA personnel.
- A research project with the A-State Physical Therapy Department utilizing Yoga to address chronic pain and PTSD symptoms was developed and is being currently offered for the 2nd time.
Individual Counseling for veterans and family members has been provided for those with no payor source or their copays have been covered.

Funds for medication for veterans outside the VA system has been provided as needed.

Gas money has been provided for veterans as needed, including trips to the VA for medical appointments when they are not eligible for travel pay due to the distance.

A veteran’s claim workshop at BPC has been offered at the Beck PRIDE Center three times this past year with support from the Arkansas Department of Veteran’s Services.

An additional two claims assistance programs were offered at the Beck PRIDE Center with support of the Disabled American Veterans Association.

VA work study students (generally 4 per semester) have been through orientation and given assignments. This provides financial support to the veteran along with job training.

A VA Caregivers support group has been offered for two semesters.

Interns from bachelors and masters level programs in social work, occupational therapy, physical therapy, and counseling work with veterans each semester. Preference is given to veterans to fill these positions.

Community Service groups in coordination with the Beck PRIDE Center have supported social programs for veterans and their families for each holiday and at the start of school.

The Beck PRIDE Center served on the founding committee of the VA/Clergy Partnership of Rural Veterans to coordinate services.

Support is offered to The Order of the Purple Heart Association and meetings are held at the Beck PRIDE Center.

The Disabled American Veterans Association is supported by the Beck PRIDE Center and their monthly meetings are held at the office.

Free tax services were offered to veterans for 2015 and will be repeated in 2016.

Financial workshops on budgeting and understanding student loans has been offered twice and will be repeated in the fall, 2016.

Anger management classes were offered to veterans.

The Arkansas Student Veterans Association (ASVO) is supported by the Beck PRIDE Center staff.

Financial support is given to veterans to attend leadership courses and small business classes.

Financial support was given to a veteran to allow him to compete in state and national university business competitions. He placed first in the nation.

Two Dental clinics for veterans with no access to VA dental care have been coordinated with a dental clinic. One veteran received $16,000.00 in dental care.

Hosted Town Hall meeting for veterans with the Memphis and Little Rock VA Health Systems.

Provided physical therapy assessments and speech testing for veterans and family members.

Provided equine assisted psychotherapy (individual and family sessions) for veterans.
Implementation Manual

As there was more focus on Veterans in academic institutions, our research group felt it was important to provide information on how our Center was developed. It was a piece that we wanted to share with other institutions nationwide as they considered Veterans programs and support on their campuses. Our goal was to develop a draft manual in year one of the project, send it out for review and modification in year 2 and disseminate the manual in year 3.

Some preliminary meetings were held in February through April, 2012 with staff and media personnel to discuss the project, conceptualize it and move it to a draft outline. A more formalized meeting was held on May 4, 2012 with Dr. JoAnn Kirchner, consultant and media personnel to discuss the design of the implementation manual. The research group spent time outlining the chronology of the Beck PRIDE Center’s development and operationalization with a discussion of what specific materials were necessary to collect for the manual. They met again on July 9th, 2012 where the manual contents were decided upon. Group members were assigned tasks for the compilation of the content. Another meeting occurred on August 10, 2012 to refine that content. A timeline was established for continued draft development followed by external review, final compilation and manual dissemination.

An early draft of the manual was reviewed on October 12, 2012 by members of the Beck PRIDE Center National Advisory Council. They were asked to review design and content. They noted that it might be preferred to put diagnostic tools and other forms/materials in an electronic file versus trying to provide appendices to the printed booklet. Based on that feedback, a second draft of the implementation manual was sent out April 1, 2013 to that same group plus other individuals who were familiar with and/or affiliated with the program. Suggestions were taken into account and incorporated into a third and final draft.

In 2014, the manual was submitted for cost analysis and printing. Production occurred and manuals were disseminated to hundreds of higher education institutions, policy makers, veterans groups, visitors, and other interested parties. The manual won the Gold Award in its category in the annual competition sponsored by the Council for Advancement and Support of Education, District IV. The manual is still being utilized today although the working timeline is now a little out of date. The higher education cover letter, manual and resource sheet are attached.
KEY RESEARCH ACCOMPLISHMENTS

- Non-military installations/institutions have the ability to successfully implement veterans reintegration programs with impactful personal outcomes.

- Additional data to support the effects of hippotherapy on motor performance in veterans with disabilities.
REPORTABLE OUTCOMES

Publications:

Presentations:


CONCLUSION

The Beck PRIDE Center has been a valuable mechanism to assist those veterans by providing them with numerous types of assistance they need. The diversity of assistance provided and the development of additional needs based offerings has moved the veterans forward toward their goal of reintegration.

Using hippotherapy as an intervention modality has improved functional outcomes for veterans. The ability to apply this method to a variety of physical and mental health issues offers versatility in patient care versus using more traditional therapies.
REFERENCES

Publication/Presentations noted on page 22.
The Effects of Hippotherapy on Motor Performance in Veterans with Disabilities: A Case Report

R L Aldridge Jr, A. Morgan, A. Lewis

Abstract
The purpose of this case report was to compare traditional physical therapy to hippotherapy combined with traditional physical therapy on the motor performance of a 34-year-old male military veteran with low back and neck pain. Hippotherapy, as a treatment strategy, uses the movement of a horse to improve the subject’s neuromuscular function and sensory processing through the motion of the horse in its variety of gait. Outcome measurements for this subject included the Sheehan Disability Scale, Oswestry Low Back Pain Questionnaire, and the Neck Disability Index. The combination of hippotherapy and traditional physical therapy resulted in greater improvements in disability scores on all three outcome measures compared to traditional physical therapy alone.

Key words: hippotherapy, veteran, low back pain, physical therapy, equine

Background
American Hippotherapy Association defines hippotherapy as a physical, occupational, and speech-language therapy treatment strategy that uses equine movement as part of an integrated intervention program to achieve functional outcomes. Using a horse in therapy was beneficial for many reasons. The horse’s pelvis demonstrated a three-dimensional movement pattern similar to a human’s pelvis while walking, which provides rhythmic and repetitive physical and sensory input to the client. The variability of the horse’s steps allows the therapist to evaluate the degree of input to the subject, and then use this movement in combination with other treatment strategies to reach desired therapy goals. The horses’ gait established a foundation for improving neurological function and sensory processing, which can be instrumental to a wide range of daily activities in addition to addressing functional outcomes and therapy goals. According to Meredith S. Bazaar, a licensed speech-language pathologist, board certified hippotherapy clinical specialist, sensory integration via hippotherapy, simultaneously addresses the vestibular, proprioceptive, tactile, visual, olfactory, and auditory systems. Therefore, movement of the horse helps accomplish speech, language, swallowing, cognitive, physical, and occupational goals that were established in therapy.

Rationale
Hippotherapy is useful in physical therapy. Horse-based therapy facilitates balance and posture control, increased strengthening and assists in an improved range of motion.
Current research demonstrates that hippotherapy is beneficial for those with developmental, skeletal, psychological, or neuromuscular conditions. Examples of such disabilities include cerebral palsy, arthritis, amputation, scoliosis, Down syndrome, traumatic brain injury, and spina bifida. Most commonly the patients were children, with lower extremity spasticity due to neuromuscular disorders receiving hippotherapy (e.g., cerebral palsy, spinal cord injury). Hippotherapy remained an experimental treatment for all diagnoses due to the limited quantity of published literature supporting its efficacy in individuals with disabilities.

Research Design

The researchers obtained approval for the hippotherapy study from the Arkansas State University Institutional Review Board. Participants are referred to the program either through self-referral, physician referral or through the Beck Pride Center. As not all participants present with comparable impairments, a single subject design permits reporting of outlying cases in the literature. Therefore, a single subject design examined the interactive effect of two or more treatments (control and treatment). In this study, the effectiveness of hippotherapy in conjunction with traditional physical therapy, the experimental treatment, was compared with the control treatment of traditional physical therapy in an individual patient. Several data points were collected after each treatment session to allow more accurate measurement of overall functional improvement. Sufficient data points permitted a publishable report based on the subject’s unique disability.

The risks associated with this study included but were not limited to falls, muscle injuries, and fractures. Therefore, subjects included must be 18 years of age or older and have a physician determined need for physical therapy. Individuals with severe horse allergies, unstable fractures, atlanto-axial instability (excessive movement at the junction between the first two cervical vertebrae), or the inability to balance in a seated position could not participate in the study.

After a licensed physical therapist determined that the subject was eligible for participation and obtained informed consent, the subject was randomly assigned to Treatment A via a coin flip. In this first treatment group, he received both hippotherapy and traditional physical therapy, each for one hour once per week. After 15 weeks in Treatment A, the subject moved to Treatment B, receiving traditional physical therapy twice a week for one hour. The study lasted for 30 weeks, and the same physical therapist oversaw the duration of the patient’s care in both groups. Three main outcome measures were collected after individual treatment sessions: the Sheehan Disability Scale (SDS; Sensitivity 0.83, Specificity 0.6912), the Oswestry Low Back Pain Questionnaire (OLBPQ; Sensitivity 0.76, Specificity 0.6313), and the Neck Disability Index (NDI; Sensitivity 0.74, Specificity 0.6614).

Case Presentation

The subject was originally referred to the study through the Beck Pride Center. He was a male with a history of low back pain, neck pain, and a moderate stutter secondary to post-traumatic stress disorder (PTSD). He has lived with all of his impairments since he was discharged from the service.

Intervention during a one hour hippotherapy session involved retrieving the horse from the pasture or stall; tacking the horse (putting on appropriate gear to ride, i.e. saddle, etc.); brushing and grooming the horse; mounting the horse via the use of mounting ramps; riding the horse facing forward,
backwards, and sideways; performing strengthening and stretching exercises; changing directions and speeds while on the horse; dismounting the horse via the mounting ramps; untacking the horse and returning the horse to the pasture or stall. Every session was performed by a licensed physical therapist, certified in hippotherapy as recognised by the AHA, along with a trained horse handler, and two trained side walkers. At the end of each session a licensed physical therapist evaluated the patient, and the patient completed a questionnaire evaluating improvement.

A traditional physical therapy session lasted approximately one hour and was the same during both experimental and control phases of the program. Intervention for the subject included stretching and strengthening exercises, manual therapy, educational training, and physical agents such as hot packs, cold packs, ultrasound, and electrical stimulation. At the end of each session, the subject was evaluated by a licensed physical therapist and then filled out a questionnaire evaluating improvement.

Measurements of motor performance were taken following each session. Evaluations included a range of motion, strength, balance, gait analysis, and posture. The results were analysed and compared to see if they are similar or different.

Tools used to measure changes as a result of treatment included a NeuroCom Balance Master, Gait Rite, Parotec Gait System, Lite Gait, Biodex, and functional scales. Other equipment utilised in treatments included an equine approved helmet, tack equipment- saddle, bridle, brushes, etc., gait belts, mounting ramps, Life System, and therapeutic exercise.

Examination Findings- Data and Analysis

The results of the three main outcome measures (SDS, OLBPQ, & NDI) were graphed and visual analysis was used to evaluate the graphs of the single subject data. Visual analysis was selected because, with basic information, outcomes can be accurately predicted using this method. Data trends for all three measures showed the subject’s marked improvement with the addition of hippotherapy to his treatment program. The subject reported decreased low back and neck pain following hippotherapy sessions. In addition, as therapy progressed the subject’s stutter, present at initial evaluation, became less frequent and eventually disappeared.

While all three measures showed numerical improvement, only the Sheehan Disability Scale reached statistical significance according to visual analysis (Figures 1 & 2). The Oswestry Low Back Pain Questionnaire and Neck Disability Index both demonstrated clinical significance by improving function more than the minimal clinically important difference (MCID, Oswestry=1515, NDI=9.514) and both scores decreased over 50%. The figures below represent the data collected from the Sheehan Disability Scale in the experimental and control phases of treatment. The dates of treatment are located on the x-axis and the results of the day’s measures are plotted on the y-axis. The rate of improvement is the slope. By looking at the slope, a trend, or direction of change, can be seen in the data.
Discussion

The subject showed a greater response to hippotherapy combined with traditional therapy than to traditional therapy alone. While he was a compliant patient, he became disappointed when the horse was withdrawn and required strong encouragement to complete the data in the Treatment B of the program. The traditional physical therapy treatments were comparable during both experimental and control sessions. After completion of the control data, the subject eagerly returned to hippotherapy treatment. Thus, while hippotherapy produced effects that could be sustained over time, in this case the decreased motivation and eagerness of participation and other external factors may have played a role in increasing disability levels during the control portion of the program.\textsuperscript{4,5,16}

Among other factors, the subject was a university student whose course load varied between the two semesters and who experienced external stressors during the last half of the program due to family dynamics. His enthusiasm for horse-based therapy suggests that he would have responded well to hippotherapy alone, but he also demonstrated more willing participation in traditional therapy when combined with hippotherapy.

While single-case design studies provide rich data, several limitations should be noted. The small sample size did not allow the results to be applied as freely to larger populations. The Hippotherapy Program treated a wide variety of diagnoses, which also limited the ability to aggregate data and generalise conclusions. Power was limited in the statistical data secondary to single case design. Despite power, both statistically significant and clinically relevant improvements were demonstrated in the individual case. Determining confounding factors is difficult in this study. Exclusion bias exists as there are several exclusion criteria due to using the equine center. Selection bias exists as subjects are primarily referred from the Beck Pride Center.

The Beck Pride Center was established in 2007 at Arkansas State University. Services offered by the center were designed to fill gaps in an underserved area and supplement, not duplicate, existing government benefits while providing support for United States Veterans returning from service and entering higher education.
education. Examples of services provided at little or no cost include physical rehabilitation, mental health counselling, advocacy, benefit assistance, and career or vocational development.

Acknowledgements
The authors gratefully acknowledge the contributions of Cory Lawson, Jenny Massey, Sabrina Benton, and Candace Chapman for their work in data collection and patient treatment. Financial support for the study was provided through grants from the U.S. Army Medical Research & Materiel Command (USAMRMC) and the Telemedicine & Advanced Technology Research Center (TATRC), at Fort Detrick, MD. Finally, we are grateful to the patient who gave his time to participate in this study.

Conclusion
The subject reported decreased disability with low back pain, decreased neck pain, and disappearance of stuttering following hippotherapy sessions. This evidence suggests that hippotherapy may result in physical benefits for some veterans. Hippotherapy has the potential to restore, maintain, and promote physical function as well as quality of life in aspects of disability, in some individuals. Further research is indicated.

Original Articles

References


---

**Abstract**

**Title of Presentation:** The Effects of Hippotherapy on a United States Veteran after a Stroke
Problem: The problem was to see what avenues in physical therapy might assist a United States Veteran from the Korean War after having a stroke. Few studies have addressed hippotherapy in individuals after a stroke. IRB approval was granted prior to the study and the participant signed informed consent.

Purpose of the Study: The purpose of the study was to investigate the effects of hippotherapy on a United States Veteran after a stroke as a medical diagnosis. Hypothesis is the addition of hippotherapy to a traditional physical therapy program will result in a greater functional improvement in an individual patient’s performance.

Methods: A veteran of the Korean War participated in this study. The individual participated in both hippotherapy based physical therapy (Treatment A) and traditional therapy (Treatment B). The Individual was evaluated individually in a single subject trial design. Results were compared to individual and no one else. The first treatment A was randomly assigned and lasted for fifteen weeks followed by crossing over to the alternate treatment B for fifteen weeks. Treatments were scheduled to occurred twice a week for both groups.

Results: The results of the study showed that the individual responded with greater effectiveness to hippotherapy as opposed to traditional therapy. The testing revealed that while some gains were noted in traditional therapy, greater improvements were noted while the individuals were involved in hippotherapy. During the initial evaluation, the physical therapist determined the impairments to be measured.

Data: For this individual, each measurement of impairment was illustrated in a graph. The X-axis was the dates of treatment and the Y-axis were measurements for that day. The data analyses compared the rate of improvement between the two groups. The rate of improvement was represented by the slope in the graph for each treatment group. For each measurement the slope for Treatment Group A and Treatment Group B was be compared. Using an exact binomial table statistical significance was determined for each variable measured.

Summary/Conclusion: Based on these results, hippotherapy should be considered a treatment option when dealing with individuals after a stroke. While not all measured areas demonstrate statistical significance, the rate of improvement was noted more significant in the graph individual in the study. While this study did show positive results with hippotherapy, additional studies should be preformed.
THE EFFECTS OF HIPPOTERPY ON MOTOR PERFORMACE AND FUNCTION IN UNITED STATES MILITARY VETERANS WITH LOW BACK PAIN

Purpose: To investigate if any differences are found in motor functioning and function when adding hippotherapy to a traditional physical therapy program with individuals with Low Back Pain.

Methods: The subjects included veterans from various branches of the United States Military. Treatment A consisted of the traditional physical therapy program with the addition of hippotherapy for 15 weeks. Treatment B consisted of a traditional physical therapy program for 15 weeks. Veterans were randomly selected to receive either Treatment A or B initially. A-B Single-Subject Repeated Measures Design

Outcomes: The initial results of this study showed that there were differences found when adding hippotherapy as an adjunct therapy to a traditional physical therapy program.

Conclusion: The addition of hippotherapy to a traditional physical therapy program seems to improve motor functioning in an adult with functional issues.

METHODS:

Two subjects volunteered to participate in this investigation through the Beck PREDIE Center. The study was approved by the University Institutional Review Board for human subjects. All subjects signed a written informed consent prior to testing.

Each subject received physical therapy for 30 weeks. Subjects either received physical therapy including hippotherapy or traditional therapy for fifteen weeks followed by the alternate treatment for fifteen weeks.

STATISTICAL ANALYSES:

After each treatment protocol, slope and trend lines for each treatment were established and compared.

RESULTS:

The slopes when compared for each participant Treatment A (therapy and hippotherapy) resulted in a greater decrease in pain and increase in function than Treatment B (therapy)
Roy Lee Aldridge Jr received a bachelor’s degree in Physical Therapy from The University of Tennessee in 1990 and an Advanced Physical Therapy degree in 2001 from The University of Tennessee. Roy received his Specialist Degree in 2004 and his Doctoral Degree in 2008 from Arkansas State University. Roy has been published and presented in the effects of hippotherapy.

- **Content description:**
  - **Title of presentation**
  THE EFFECTS OF HIPPOTHERAPY ON MOTOR PERFORMANCE AND FUNCTION IN UNITED STATES MILITARY VETERANS
  - **Abstract (with figures if appropriate) – Max. one page, any format.**
    - If research paper, include Intro, methods, results, discussion.
    - References only on second page.
  - **Hypothesis/Issue to be Addressed:** To investigate if any differences are found in motor functioning and function when adding hippotherapy to a traditional physical therapy program with individuals with Low Back Pain.
  - **Methods:** The subjects included veterans from various branches of the United States Military. Treatment A consisted of the traditional physical therapy program with the addition of hippotherapy for 15 weeks. Treatment B consisted of a traditional physical therapy program for 15 weeks. Veterans were randomly selected to receive either Treatment A or B initially. A-B Single-Subject Repeated Measures Design
  - **Observations/Outcomes:** The initial results of this study showed that there were differences found when adding hippotherapy as an adjunct therapy to a traditional physical therapy program.
  - **Conclusion:** The addition of hippotherapy to a traditional physical therapy program seems to improve motor functioning in an adult with functional issues.
  - **Brief statement describing how this presentation adds to the body of knowledge about hippotherapy and how it will be beneficial to participants. For example, how it assists with care, improvement of equine and HPOT.**
    - This presentation will reveal the latest endeavors in the use of hippotherapy on our veterans as they return home and address their physical needs
  - **Presentation process:**
    - **Presentation outline (include ideal time requested for effective presentation)**
      - 30 minutes
    - **2-3 Learning objectives**
      - Describe the process of a single subject research design
      - Describe the statistical analysis including slope and exact binomial scales
      - Describe the benefits of hippotherapy in veterans
    - **Describe presentation process (e.g. lecture with ppt, workshop, activities, simulation)**
      - Lecture with ppt

February 15, 2015
Arkansas State University is pleased to release a manual documenting our journey to provide support services on our campus for disabled veterans seeking our assistance. The Beck PRIDE Center for America’s Wounded Veterans opened in October, 2007 and has been an award winning, signature program since that time. The Department of Defense provided funding in 2010 to study the effectiveness of our program. Part of that project included development of an informational and resource manual to be shared with college campuses. The booklet and enclosed resource sheet contains a variety of materials that may be of value in the development of your own program or enhancing existing operations.

It has been a privilege to serve our veterans and their families. They are so grateful for our attention, but our staff are the ones who are rewarded with this work. The experiences continue to be very enriching and memorable.

I hope you will contact us should we be able to assist your work in anyway.

Please share this document with the individual on your campus who is or might consider doing work in this area.

Have a great academic year!

Sincerely,

Susan Hanrahan, Dean
College of Nursing and Health Professions

Enclosure
FOR INFORMATION PLEASE CONTACT:
Beck PRIDE Center
DHS, Room 110
State University, AR, 72467
(501) 975-2025
Arkana.edu/peckpride/

This research and development project was conducted by
Johnson State University, College of Nursing and Health Programs
and is funded, in part, by a grant from the Central Region of the
Department of Veterans Affairs (USCMIB) and the Mid-Atlantic Regional
Veterans Health Administration, Contract #DS08WI-11-D-00861.

The views, opinions and/or findings contained in this publication are
those of the authors and do not necessarily reflect the views of the
Department of Defense and should not be construed as an official
Department of Defense position, policy or decision. Additional author or
institutional endorsement is not implied.

"We often take for granted the very things
that most deserve our gratitude."
- Gandhi Gandhi

CHARLOTTE V. BECK

Since earning an Associate of Arts degree from Arkansas State University in 1950 and a Bachelor of Science in Nursing from the University of North Carolina in 1953, she has dedicated her professional career to the care of veterans and their caregivers.

During the 1960s, she was the first female to graduate from the State University System of Arkansas, where she served as a registered nurse and clinical instructor. She joined the Veterans Administration in 1968 as director of the Beck PRIDE Center, a program designed to improve the quality of life for veterans and their caregivers.

Today, the Beck PRIDE Center continues to provide valuable services to veterans and their caregivers. The center offers programs and services to help veterans and their families access resources, improve quality of life, and reduce stress.

The Beck PRIDE Center is dedicated to serving the needs of veterans and their caregivers. It is a testament to the strength and determination of Charlotte V. Beck, whose commitment to improving the lives of veterans and their families has made a lasting impact on the community.
To the PRIDEVets – Charlene and I thank you for the service of you and your families. WELCOME HOME!

America is forever grateful to you for your service. We cannot do everything, but we do hope in some small way we can help with your transition back to a future in the great USA. God bless all of you and the United States of America.
enrich:

A LETTER FROM TIM HUDSON, ADMINISTRATOR

February 2007

The month before...

Automated processes in the College of Nursing and Health Professions allow students to easily register for classes and sign-up for programs. A streamlined registration process provides a more efficient and effective method.

Connections between onboard professionals and program leaders in the College of Health & Wellness, business and the arts.

The College of Nursing and Health Professions, and other programs, are committed to the lives and families of the patients they serve.

The CFP has been accepted for accreditation by the Accreditation Council for Pharmacy Education, and the program is now fully accredited.

The month before...

Tim Hudson
mission:

MCSC PRESS CENTER FOR AMERICAS WOUNDED VETERANS

The innovative program provides cutting-edge career rehabilitation, social reintegration, and educational opportunities for severely wounded veterans and their families during the critical period. The center’s mission is centered around the concept of "Healing the Wounded." It offers comprehensive services to help severely wounded veterans and their families transition to civilian life. The center’s services include vocational, educational, and emotional support, as well as assistance with housing, employment, and other essential needs. The center’s goal is to empower severely wounded veterans and their families to achieve independence and self-sufficiency.

March 2007

This month, the mission of the Americas Wounded Veterans is to heal the wounded and prepare them for civilian life. The center provides vocational, educational, and emotional support to severely wounded veterans and their families. The center’s goals are to help veterans transition to civilian life, achieve independence, and self-sufficiency. The center offers a comprehensive range of services, including vocational, educational, and emotional support, as well as assistance with housing, employment, and other essential needs.

August 2007

This month, the Americas Wounded Veterans mission is to continue providing comprehensive support to severely wounded veterans and their families. The center will continue to offer vocational, educational, and emotional support, as well as assistance with housing, employment, and other essential needs. The center’s goals are to help veterans transition to civilian life, achieve independence, and self-sufficiency. The center will continue to provide a comprehensive range of services to severely wounded veterans and their families.
personal rehabilitation:

Upgrading to the Read FITT Code program, the DoD issued awarded multiple contracts on initial assessment and the service's new management tool to optimize, improve, and enhance treatment strategies for the personnel suffering from injuries and disabilities. The new program focuses on the integration of physical therapy, rehabilitation, occupational therapy, and vocational rehabilitation services to provide comprehensive care. The program is designed to improve functional mobility, enhance physical performance, and promote overall well-being.

The program is available to all DoD personnel, including active and retired military, DoD civilians, and DoD contractors. The program is designed to support the personnel in their recovery journey, providing them with the necessary tools and resources to return to their full potential.

The program includes a comprehensive assessment process, individualized treatment plans, and ongoing monitoring to ensure the personnel receive the best care possible. The program is designed to be inclusive, providing access to care for all personnel, regardless of their location.

The program is continuously evaluated to ensure the personnel receive the best care possible. The program is designed to be inclusive, providing access to care for all personnel, regardless of their location.
individual development:

The Black PRIDE Center exists as the network's individual development program that goes beyond the physical and mental needs of its members to encourage a successful, strategic path. These efforts are aimed at increasing participation in other veteran-orientated activities on campus, in the community, and with services to be leveraged by encouraging partnerships in alternative venues such as those held at the university and in the local communities. For example, "Black PRIDE Day" is an event that occurs every month at the Black PRIDE Center and is hosted by various veteran service organizations in the area. It is open to members and partners to share their experiences and support to veterans at colleges and universities, attended by local veterans, to generate awareness and to encourage participation in the organization's activities and events.

Recruitment activities are also incorporated with the ASU Veterans Student Association, which is a student veteran-led organization that was developed chiefly to serve the veterans of the Black PRIDE Center. The mission of ASU is to develop student veterans groups on college and university campuses, and continue to operate between existing groups. To connect student groups with resources, and have an advocate on behalf of student veterans at the state and national level. ASU activities include events focusing on service with other student organizations on campus, community service, education, and career development.
The German poet Johann Wolfgang von Goethe once stated, “You can easily judge the character of someone by the way he or she treats someone who can do absolutely nothing for them.” If this is true, then we all should be striving for the very same character exemplified by the staff at the Beck PRIDE Center at A-State. I for one came to this thinking I was able to do nothing for them or myself or my family. Their confidence in me was noticed the first time I sat with them and discussed my future. True character is found at the Beck PRIDE Center.

education:

College admission and registration can be very confusing and complex for the newcomer during the college admissions process. A successful and productive college education requires a solid foundation for the future. Our academic advisors and staff at the Beck PRIDE Center can assist with this process. We provide advice and assistance for new students and returning students who wish to continue their education. The Beck PRIDE Center supports students in their academic pursuits, helps them to achieve their goals, and provides ongoing support and encouragement. The center is dedicated to providing a supportive environment for all students, regardless of their background or circumstances. The center offers a variety of academic support services, including tutoring, study skills workshops, and personal and academic coaching. The center is committed to helping students achieve their academic goals and build a strong foundation for their future success.
facilities:

The Bank of America Center is not only a source of pride for veterans, but it is also a place for study, social interaction, and community activities. The Bank of America Center is located within the College of Nursing and Health Professions (CNHP) on the University campus. Initially, the program opened one small office on the first floor of the College of Nursing and Health Professions building. Later, it moved to two offices within the CNHP's social work department. In 2003, the center moved into the newly constructed Bank of America Center for Student Veterans and non-veteran supportive services for the full time and graduate students and veterans. The center is fully accessible for training, seminars, and conversations with staff members. The goal is to provide a safe space for training, meetings, and conversations with staff members. This room is a large open room with tables, chairs, and a large unit for veterans, where they can gather and socialize. There is also a small room where training and meetings are conducted. The room for training and meetings is located in the Bank of America Center.
awards:

THE ENTIRE STAFF BEHIND THE ARKANSAS PROGRAM IS NATIONALLY RECOGNIZED AS A SUPERIOR PROGRAM, AND THE STAFF HAS RECEIVED VARIOUS PRESTIGIOUS AWARDS.

- Sept. 15, 2003: President Bush signed House Bill 191, which allowed the Arkansas program to continue.
- U.S. Senator Mark Pryor (D) recognized the program for its efforts.

Recognized for its commitment to excellence in education, the program was awarded the "Outstanding Program" award by the National Association of Community Colleges.

National media coverage: "Excellence in Education" (www.einprogress.com) and "Outstanding Program" (www.arkansasprogram.com).

Sense of Community: "Home of Champions" (www.arkansasprogram.com) and "Outstanding Program" (www.arkansasprogram.com).
relationships:

The purpose of the Back to Work Center is to provide short- and long-term rehabilitation (physical and mental), educate family members on caregiving, account for post-service conditions, and more, all in an educational and research park for students and faculty. The Back to Work Center was also implemented to build and number relationships. The relationship between the veterans, the veterans and their families, and the staff with outside veteran organizations are continually important in support of personal development and therapeutic reconditioning. The center staff places itself on creating and maintaining relationships with local veteran providers and veteran organizations. The relationships within the Back to Work Center are vital to the success of the program.

May 2008

[Image of a soldier and child]
problem solving therapy:

The center uses problem solving therapy (PST) for treating the spectrum of life's problems. PST is a short-term, action-oriented intervention that uncovers a practice method for engaging unmet needs, help desire, behaviors, emotions, and intellectual problem solving. The empirical research for the treatment is available with new skills it successfully models in a variety of settings. The PST skills include increased emotional awareness, problem definition, goal setting, planning, planning and implementing plans, decision making, appropriate communication, follow through, and eventually the ability to evaluate their changes and outcomes. By successfully implementing these steps, and making them part of the personal skill set, vocational success is a step achieved with new personal, relational, and professional challenges. PST skills are less of usual emotional and behavioral changes than the emotional process to reframe one of the skills. The approach driven, but driven by emphasizing problem in the social or personal situations. Through the PST process, the community values with needs for psychotherapy, personal or educational variables has three forces addressed by direct solutions: (1) personal ethics specific to the situation. These problems are addressed, but not specific for the person. The scenarios reflect specific emotions that are a regular part of the personal, and the person's behaviors that is a regular part of the personal. The goal of this approach is to solve problems, and the person's behaviors, to assess one's self, and improve self-awareness.

| Problem | Academic process | Program | October 2002 | Occasion | The program | The university | The university
|---|---|---|---|---|---|---|---|
| Lunch with | Academic process | Program | October 2002 | Occasion | The program | The university | The university
| Program | Program | Program | Program | Program | Program | Program | Program

*The program can help people into two different career paths: one for social work and the other for psychology. The program focuses on introducing students to the field of psychology, with an emphasis on career development.*
DONATE HERE
Support Our Troops
Sponsored by
BECK PRIDE CENTER

supporting agencies:

Sponsors for the Beck PRIDE Center are not linked to members on the Arizona State University campus. Some members listed may be considered to be nonprofits, Beck PRIDE staff members determined the merits of such sponsors. These sponsors could include personal associations, individual development or educational centers. All of the supporting agencies for the Beck PRIDE Center include those sponsored agencies listed in the final version of the program. All Beck PRIDE agencies are part of the University of Arizona System. The Beck PRIDE agency is part of the Arizona State University System. The Beck PRIDE agency is part of the Arizona State University System.
staffing:

The Bo6 PE3A Center is currently staffed by two full-time employees with a background in social work who are actively engaged in the work. The Bo6 PE3A Center works with various organizations and agencies to provide services to community members. The center's mission is to create a supportive environment for veterans and their families, focusing on issues such as employment, education, and mental health. The Bo6 PE3A Center recognizes the importance of collaboration and partnerships to achieve its goals.

A key goal of the program is to provide a space for veterans and their families to connect and share experiences. The center offers a variety of programs and services, including vocational training, employment assistance, and peer support groups. These programs are designed to help veterans reintegrate into civilian life and improve their quality of life.

The Bo6 PE3A Center values diversity and inclusion, and its staff works to ensure that all community members feel welcome and supported. The center strives to create a welcoming environment for veterans and their families, offering a range of services to meet their needs.

In conclusion, the Bo6 PE3A Center is committed to providing a supportive and inclusive environment for veterans and their families. The center recognizes the importance of collaboration and partnerships to achieve its goals and provides a range of programs and services to support veterans in their transition to civilian life.
funding and research:

The Back PIR3S Center began in October 2004 with a $7 million gift from the Back family foundation. The center operates within the College of Nursing and Health Professions at West Virginia University. Much of the funding is provided through training programs, gifts, grants, cooperative agreements, and government funding. The Back PIR3S Center received a $13.5 million grant from the Canadian Health Laboratory to revamp a clinical lab. By December of 2006, the center received funding from a number of sources totaling $12.4 million, including a $7.0 million gift from Perdue Foundation (representing the fourth largest gift from a single philanthropist). The University Foundation is dedicated to providing institutional support to student initiatives. In October 2010, the center received $1.0 million from the Department of Defense for a research project assessing the effectiveness of the Back PIR3S Center as a model for military mental health. This research study is currently underway. Through this funding, the Back PIR3S Center is able to provide confidential and specialized services to veterans while evaluating the effectiveness of the program. Program outcomes are shared with the public to inform and improve the quality of care provided to veterans across the country. With this program's ongoing impact, the center supports their own mental health needs.
important facts:

More than 10,000 Arkansas Army National Guard and Army Reserve soldiers have served in combat at some point during their career. In addition, thousands of other Arkansas non-combat veterans represent every branch of service, many engaged in private sector work. Approximately one-fourth of those veterans left the service without a degree, often due to financial barriers.

The Jack Pulte Center is a nationally recognized, unique associate’s degree education program. It requires no prior education or test scores and provides the opportunity to gain an education at a lower cost and for those traditionally excluded from higher education.

Since 2007, more than 700 student veterans, plus their family members, have received financial assistance and are pursuing an education that has enabled them to continue their education, career, and family goals.

In June 2019, the program expands to include a Bachelor of Science in Business Administration, the first program in the state to target veterans who have served in the military but did not complete a degree.

October 2019
- New program expansion opens to all branches of the military.
- Veterans can now pursue a bachelor’s degree in business administration.
- Program begins accepting applications.

April 2017
- Program officially launched.
- First year of students begin.
- Veterans are eligible to participate.

November 2012
- Program officially begins.
- First cohort begins.
- Program expands to include additional options.
BUDDY GENE BECK

Buddy Beck graduated from A State with a Bachelor degree in Chemistry and then worked for the Boeing Company. He then attended the University of California, San Francisco, where he received his doctorate in Chemistry in 1976. He then served as an officer in the Army for 22 years and became the Chief of Staff for the Army's Special Operations Command. He is currently the President of the Army War College and serves on the Board of Directors of the Army War College Foundation.

Following his service, he founded a company in the semiconductor industry. He has worked for various companies in the field of technology and has been involved in the development of new technologies. He currently serves on the Board of Directors of the Defense Advanced Research Projects Agency (DARPA) and is a member of the National Academy of Engineering.

He and his wife, Diane, have four children and reside in San Diego, California. They are active in community affairs and support various organizations.
Below is a list of resources available at AState.edu/cpi/beckpride

**Forms**

- Intake: The intake form provides information for qualification, identification, contact, and referral services.
- Information and Referral (I & R): The I&R allows tracking of individuals that are outside the scope of services for the Beck PRIDE Center and where they were referred for services.
- Consent for Services: The consent for services provides a description of the Beck PRIDE Center program and gives consent for their participation.
- Informed Consent for Physical Therapy Research Project: A description of “The Effects of Hippotherapy on Motor Performance in Individuals with Disabilities” study and consent to be evaluated and participate.
- Volunteer Application and Agreement form: Brief overview of skills, past experiences, volunteering, contact information and time available.
- Beck PRIDE Center Brochure: Brief overview of the program and services.

**Special Program Materials**

- Beck PRIDE Center PowerPoint: An overview of the development of the Beck PRIDE Center and services offered by the center.
- Beck PRIDE Center Overview: Fact sheet detailing information in a quick format.

**Bob Hope Show Fundraiser Flyer**

**Arkansas Veterans Referral Guide**

**Surveys/Standardized Instruments**

- Beck PRIDE Satisfaction Inventory (BPSI)
- Ferrans and Powers Quality of Life Index Generic Version – 3D SF 12
- Your Health and Well-Being SF 12v2 Health Survey: Medical Outcomes Trust and QualityMetric Incorporated.

**Videos**

- Bob Hope Fundraiser video link – This video was the introduction to an evening fundraiser.

**Veterans Online Resources**

- Arkansas State University Quick Links
  - Arkansas State University Virtual Tour
  - Federal Student Aid Application
  - Arkansas State University Registrar’s Office - Veterans Representative
  - Enrollment Information for Student Veterans and Dependents of Veteran
  - Apply for Veteran’s Benefits: US Department of Veterans Affairs Article contributed by June Olser, Veteran Education and Accredited Online Colleges

**Military Education**

- Four Reasons to Choose your Military Education Benefit Carefully: from Military.com
- Army National Guard Tuition Assistance Program
- JARTC Military Transcripts
- Student Veterans with Disabilities: VA Vocational Rehabilitation Services Online Application
- Career Exploration and Job Analysis: O-Net Online

**U.S. Department of Defense - Military Health System**

- TRICARE Beneficiary Information
- Wounded Warrior Resource Center Website
- Warrior Care Website - Service Programs, DOD, Labor and VA Resources
- Veteran’s Information

**The National Archives**

- Military Research eVerifies - The National Archives: Military Personnel Records

**Arkansas Veteran Resources**

- ArkansasVeteran.com
- GoArborVet.com

**Mental Health Issues and Programs**

- Online assessment tools, resources locator for veterans, family members and providers
  - ebenefits.va.gov

**Arkansas State University**

- Jonesboro, Arkansas
List of Personnel

Susan Hanrahan
Susan Tonymon
Kelly McCoy-Edwards
Roy Aldridge

Nancy Clark
Margaret Horwatt
Sandra Worlow-Brown
Mary Williams

Lynda Nash
Daniel Smith

Charles Carter
Christin Eddinger
Kimberly James

Brianna Segraves
Wesley Gautreaux
Rachel Meredith
Randall Murray

Cory Lawson