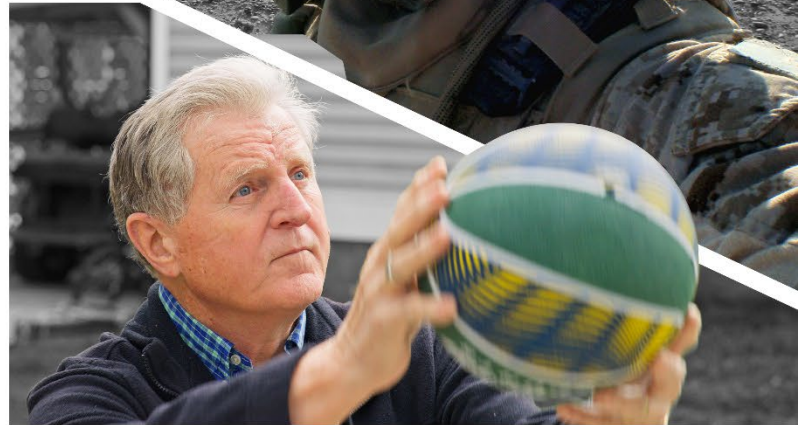
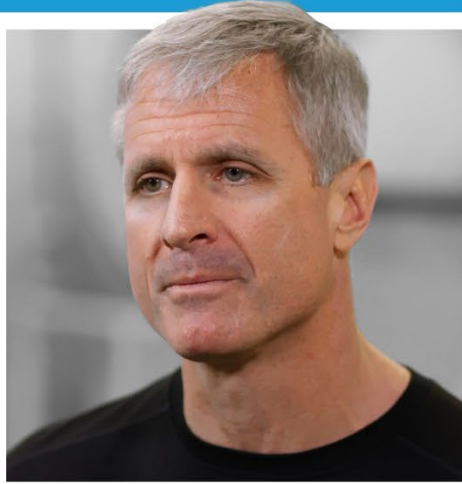
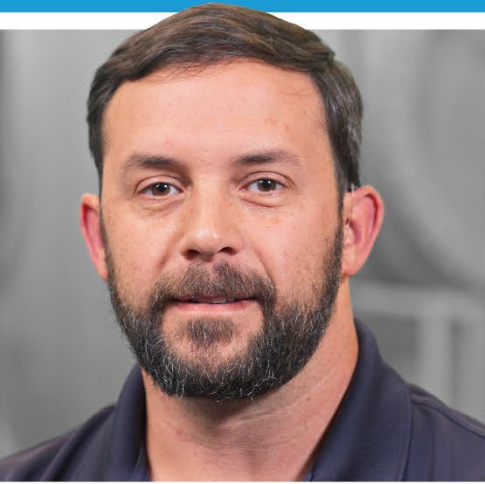


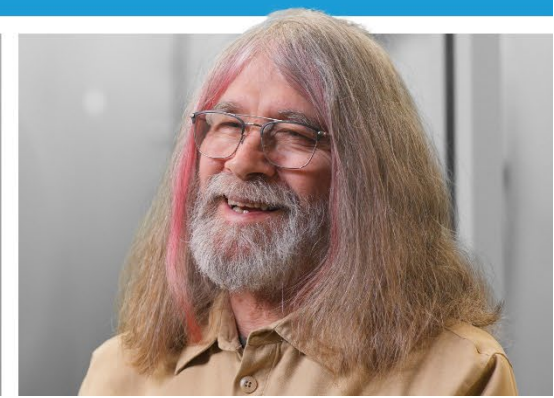
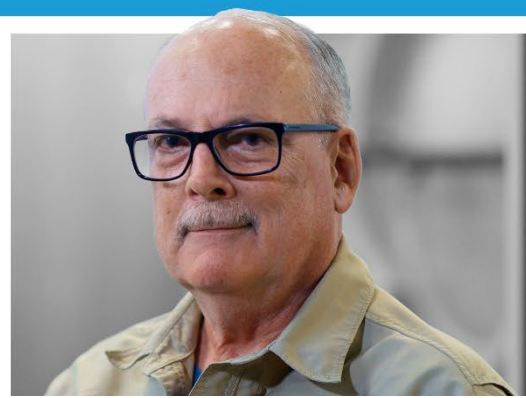
# REPORT TO THE NORTH CAROLINA LEGISLATURE ON THE FISCAL YEAR 2023 & 2024:

## Military Veteran Hyperbaric Oxygen Therapy (HBOT) Program



**HBOT4  
HEROES**

 Extivita





# NORTH CAROLINA MILITARY HBOT PROGRAM REPORT: FY 2023 & 2024

For: Members of the NC Legislature

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**To the Esteemed Members of the North Carolina Legislature,**

As the Executive Director of HBOT4Heroes, a registered 501(c)(3) nonprofit, I am honored to present our third annual report on the Military Hyperbaric Oxygen Therapy (HBOT) Program. Over the past year, our mission to provide life-saving treatment to veterans suffering from PTSD and other war-related injuries has delivered transformative and consistent results, as reflected in the attached report.

Since 2023, HBOT4Heroes has coordinated hyperbaric oxygen therapy through state funding and private donations, treating over 140 veterans to date and offering them renewed purpose. Our outreach has identified thousands of veterans in desperate need of this therapy - many struggling since Vietnam or subsequent conflicts. These efforts reveal a growing demand for accessible, effective care for TBI - and PTSD - related injuries. Despite our successes, the number of veterans on our waiting list continues to grow.

Program results demonstrate remarkable improvements in treated veterans, including reduced PTSD symptoms, better cognitive function, and decreased suicidal ideation. Testimonials from veterans and families underscore HBOT's life-changing impact:

<https://hbot4heroes.org/testimonials/>.

We have also pursued federal funding through the VA, but this has proven an unfounded bureaucratic challenge. While most hospitals provide HBOT for FDA-cleared uses like non-healing wounds - reducing amputations by 40% - the VA avoids adopting this practice, often resulting in avoidable amputations. Given this resistance, it is unlikely the VA will address PTSD with HBOT without an act of congress, despite peer-reviewed trials and the enclosed report demonstrating its efficacy. This federal failure highlights the urgent need for state leadership, as North Carolina has demonstrated by setting a national example in addressing these unmet needs.

To meet rising demand, we have issued an RFP to expand clinics capable of delivering HBOT. This competitive process will eliminate barriers to care and reduce veteran suicides. To sustain this initiative, we respectfully request \$10 million in state funding over the next two years, enabling treatment for 2,500 veterans and expanding access via state-of-the-art multi-seat HBOT chambers.



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This program honors our veterans by providing the care they deserve. With your partnership, North Carolina can continue leading the way, saving lives and restoring futures.

Thank you for your steadfast support and consideration.

Edward R. di Girolamo, PE  
Executive Director

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## Tab A - Program Results

### Introduction

Since 2021, Extivita-RTP has been providing Hyperbaric Oxygen Therapy (HBOT) as a therapeutic intervention for military personnel experiencing traumatic brain injury (TBI), post-traumatic stress disorder (PTSD), depression, suicidal ideation, and anxiety. Recognized for its ability to enhance oxygen delivery, reduce inflammation, and support brain repair, HBOT offers a proven approach to addressing the complex health challenges faced by this population.

This report presents an analysis of data collected through standardized test batteries, providing critical insights into the impact of HBOT on symptoms and quality of life for these service members. By evaluating outcomes over multiple years—spanning FY 2021, FY 2022, and the current evaluation, the report contributes to the growing body of evidence supporting HBOT as an effective treatment for military-related injury.

Findings consistently demonstrate that HBOT is a highly effective intervention for military personnel experiencing post-concussion syndrome, depression, anxiety, PTSD, and suicidal ideation. Each cohort has shown significant improvements in key metrics, particularly in post-concussion symptoms and anxiety. This consistency underscores HBOT's reliability as a treatment option, offering meaningful mental health and quality-of-life benefits for veterans and service members. Additionally, HBOT serves as a valuable suicide prevention strategy and a critical tool for enhancing military force retention.



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## Test Battery Description

### Neuropsychological self-assessment tests:

These tests are administered to determine the effects of hyperbaric oxygen therapy (HBOT) on symptoms and quality of life among military personnel with mTBI and PTSD. These tests measure the number and severity of the veteran's symptoms prior to the beginning of therapy and after 40 HBOT treatments. Tests include the Automated Neuropsychological Assessment Metrics (ANAM) and three additional self-reported questionnaires: the Post Concussion Symptom Checklist (PCSS), Posttraumatic Stress Disorder Checklist (PCL-M), the Patient Health Questionnaire-9 (PHQ-9) and the Generalized Anxiety Disorder-7 (GAD-7). These latter four self-reported questionnaires are also given after completing 20 HBOT sessions.

1. **ANAM- Automated Neuropsychological Assessment Metrics-** is an FDA cleared computer-based neurocognitive assessment tool patented by the U.S. Army. ANAM is used by DOD to establish the brain baseline capability of all military personnel prior to deployment. ANAM has a three-decade long history of use in basic and applied research as well as in clinical practice. Over 350 peer-reviewed publications demonstrate its effectiveness in assessing cognition and measuring cognitive change. ANAM is used to measure the cognitive effects of stressful, extreme, or hazardous conditions; to quantify the effects and progression of neurological and other medical disorders; and to measure the effects of mild traumatic brain injury and sports concussion on cognitive function. In this application, a Core battery set was used, comprising 7 neurocognitive performance-based tests, as well as subtests reflecting mood scores. ANAM is used to assess the likelihood that a change in symptom reporting is reliable and clinically



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meaningful compared to military personnel sample as well as their own pre-treatment baseline.

2. **Post-concussion syndrome (PCS)** is a collection of symptoms that can include cognitive, physical, and psychosocial complaints. It has been estimated that 10-15% complain of persistent post concussive symptoms which can last from months to years after injury and result in sometimes progressive, long term debilitating effects.

**The Post-Concussion Symptom Scale (PCSS)** is a self-reported questionnaire widely used by health care professionals to document the intensity and impact of symptoms after a concussion. It consists of a list of 22 symptoms for which the applicants rate the intensity from 0 (none) to 6 (severe). A total score is then calculated, with a maximum of 132 points possible. Research has shown that the PCSS questionnaire can accurately detect meaningful changes in a patient's condition (responsiveness) and is used by clinicians and researchers to evaluate change over time in patients with persistent symptoms after concussion (1). It consistently provides similar results when used more than once, and its questions effectively measure the same aspect of health. A change of 12.3 points in the score is the smallest change that indicates a real difference in symptoms. Additionally, a change of 26.5 points in the score is significant enough to be considered significant for a patient's health (1).

3. It is recognized that there is an association of modern warfare with TBI and PTSD. **The PTSD Check List military version (PCL-M)** is a 17 item self-report instrument developed by staff at the Veterans Administration National Center for PTSD, to measure symptom severity, symptoms in response to "stressful military experiences" within the





past month. A total symptom severity score (range = 17-85) can be obtained by summing the scores from each of the items that have response options ranging from 1 "Not at all" to 5 "Extremely." It can be self-administered and completed in approximately 5-10 minutes. Its 17 items are based on criteria from the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-V). It can be used to screen individuals for PTSD and make provisional diagnosis. For this purpose, this checklist is used to monitor changes in PTSD symptoms during and after HBOT treatment. Evidence suggests that a 5-10-point change represents reliable change (i.e., change not due to chance) and a 10-20-point change represents clinically significant change (3). According to studies, The PCL-M, which is specifically designed for military service members, is a well-established and reliable tool. It is effective in measuring the severity of PTSD symptoms and can accurately detect changes in these symptoms over time (3,4).

4. **Patient Health Questionnaire-9 (PHQ-9)** is a reliable, valid, rapid and effective tool for detection as well as for monitoring the severity of depression (5). It has been widely used in community-based settings, in the general population, and among people with physical diseases. PHQ-9 is self-administered, which scores each of the 9 items/criteria (for depression) from 0 (not at all) to 3 (nearly every day.) PHQ-9 scores of 5, 10, 15, and 20 represented mild, moderate, moderately severe, and severe depression, respectively. Scores range from 0-27. Research suggests that a change of 3.7 points, or about 23%, is considered a meaningful improvement or change in a person's condition. (5,6).

a. The ninth question (Q9) of the Patient Health Questionnaire (PHQ-9) specifically addresses passive



thoughts of death or self-injury, making it a critical indicator for evaluating suicidal ideation. Research has demonstrated that the PHQ-9 is an effective tool for identifying military personnel at risk of suicide, underscoring its value in clinical settings for early intervention and monitoring (7,8).

5. **The Generalized Anxiety Disorder-7 (GAD-7)** is a validated, self-reported questionnaire widely used to assess and monitor anxiety severity. This tool is particularly relevant in the context of use in patients with history of TBI and PTSD, as anxiety frequently coexists with these conditions and significantly impacts quality of life. The GAD-7 consists of 7 items, scored from 0 ("Not at all") to 3 ("Nearly every day"), with total scores ranging from 0 to 21, categorizing anxiety as mild (5), moderate (10), or severe (15). It is a reliable tool with strong internal consistency (Cronbach's alpha = 0.92) and excellent validity, correlating highly with established anxiety measures (9,10). Clinicians value the GAD-7 for its sensitivity (89%) and specificity (82%), making it effective for detecting anxiety and tracking changes over time. A reduction of 4 points or more on the GAD-7 is considered clinically significant, reflecting meaningful improvements in patient symptoms (10). The GAD-7 assessment was added to the list of evaluations in FY2022; however, findings from that year were not reported to maintain consistency with prior annual reports. As a result, data from 16 of the 86 participants who completed HBOT before FY2022 is unavailable, leaving 70 data points for GAD-7 analysis and reporting.



## ANAM Data Analysis

The data provided in Figures 1-3 in this analysis are a combination of the 2021 data set of 16 subjects, the 2022 data set of 16 subjects and the 2023/2024 data set of 54 subjects. This makes a total of 86 data sets. Subjects were tested with the Automated Neuropsychological Assessment Metrics (ANAM) prior to treatment with HBOT and tested again at the conclusion of the treatment regimen. An Analysis of Variance (ANOVA) was calculated and the results showed that the three data sets were not significantly different from each other ( $p > .05$ ). It is therefore possible to combine the groups for analysis.

The following analysis was performed using all 86 of the subjects from 2021, 2022, 2023 and 2024 datasets.

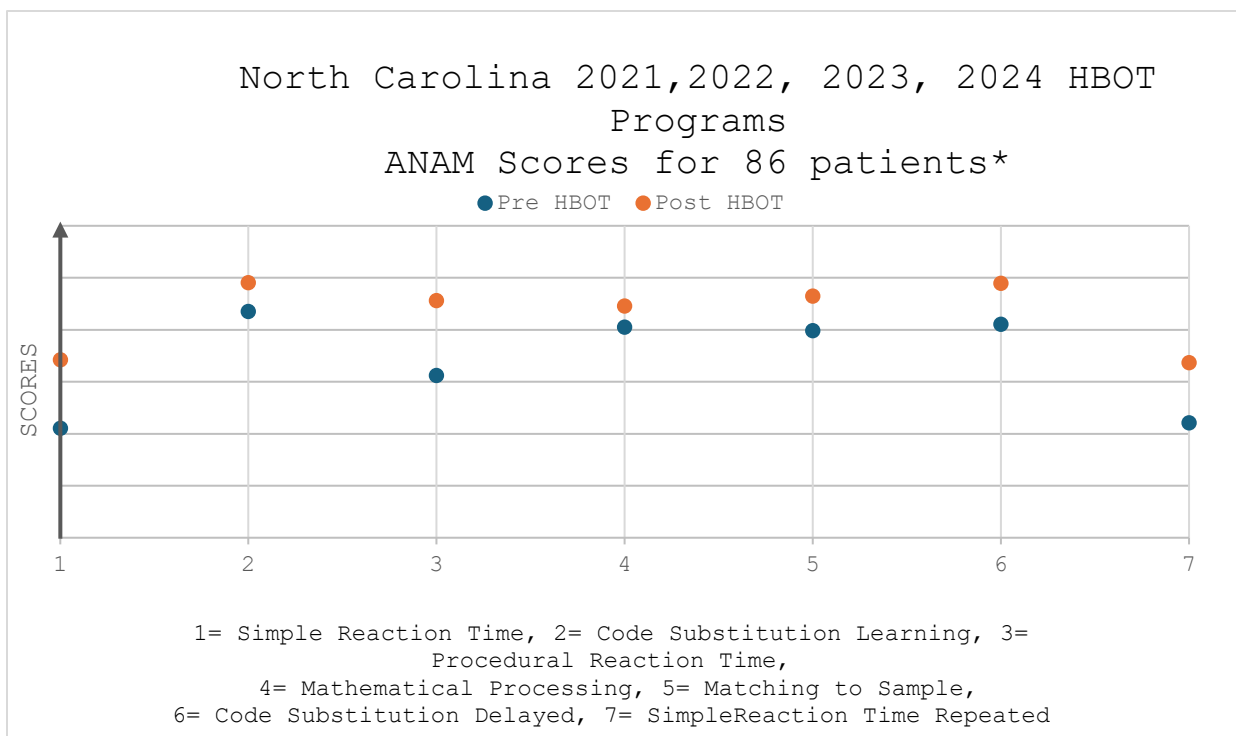


Figure 1



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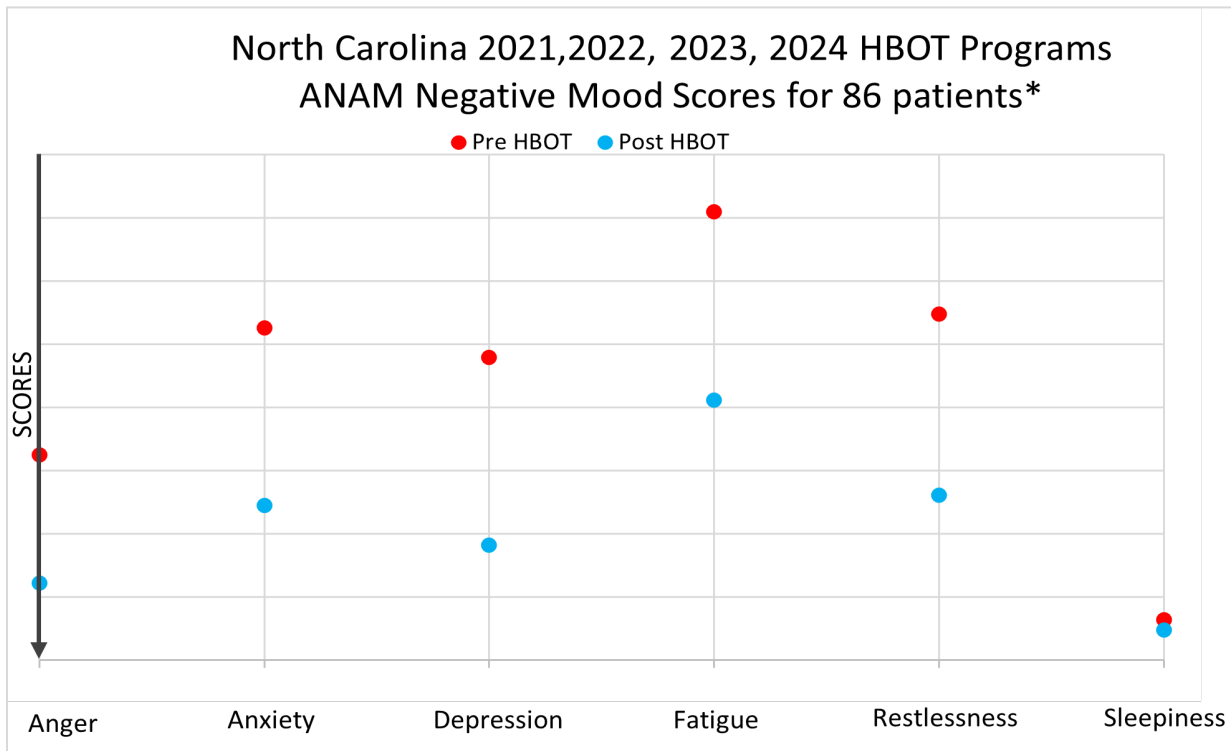


Figure 2

All 86 veterans experienced a decrease in negative mood indicators shown in figure #2 above. This outcome taken together with an increase in positive mood shown in figure #3 below, is correlated with reduced suicidality.

\*Data through September 30, 2024



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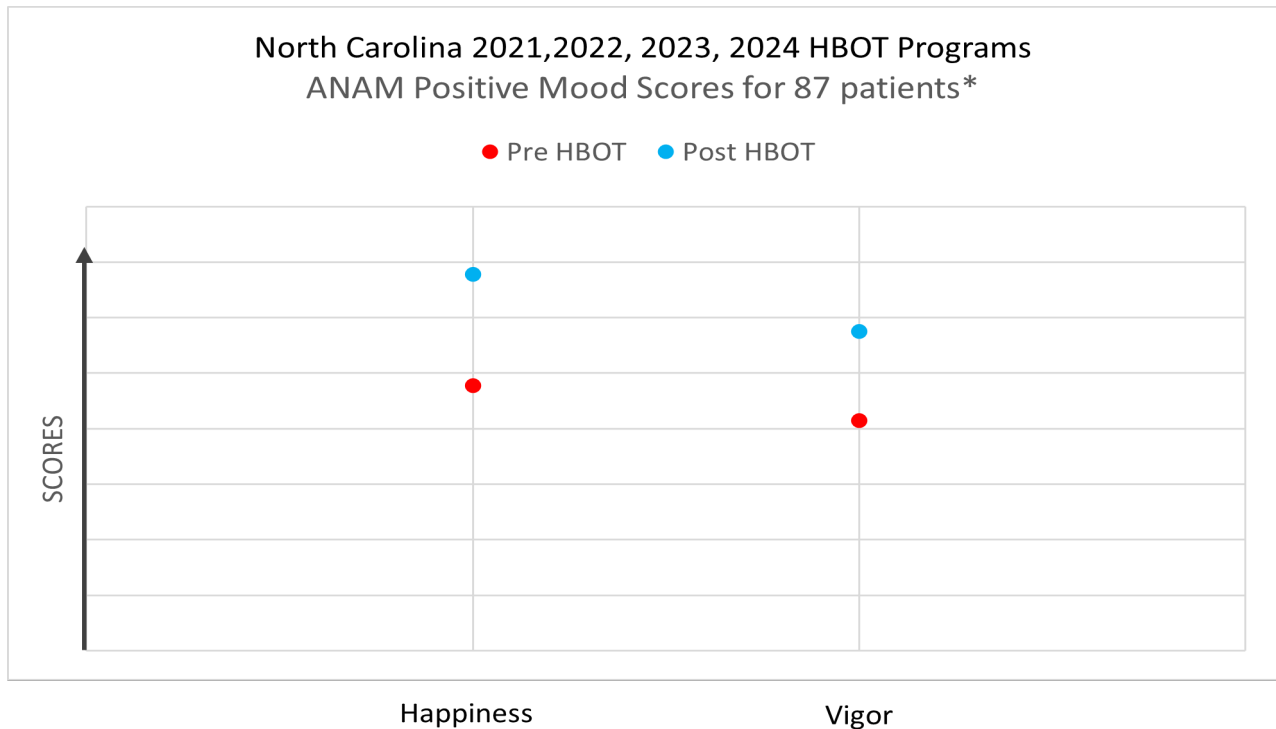


Figure 3

\* All 16 Veterans experienced an increase in positive mood as shown in Figure #3 above: this outcome taken together with a decrease in negative

\* All 86 Veterans experienced an increase in positive mood as shown in figure 3 above. This outcome taken together with a decrease in negative mood indicators as shown in figure 2, is correlated with reduced suicidality.

\* Data through September 30, 2024

**COMBINED ANAM ANALYSIS RESULTS FOR 86 PATIENTS**

This is a report of 86 military personnel who were treated by HBOT; each had a pre-assessment (Baseline) prior to beginning HBOT treatment and a post-assessment after HBOT. The tests and mood measures that are given in the ANAM tests are listed in Table 1. Examining Table 1 shows that there was improvement in all scores from pre to post assessments across all ANAM tests. Especially significant is the improvement in negative emotions such as anxiety, depression and anger scores. Lower scores indicated less anxiety, depression and anger.



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This is important given the work of Stanley, Harch et al and Shytle et al. which reported that there was a compelling relationship between the presence of depression, anger and suicide (11-13). All three studies showed that a higher presence of depression and anger with a history of TBI was associated with more suicidal thoughts and attempts. Reported Post HBOT reduced suicidality resulted from reduced anger and depression and other negative emotions along with increases in positive emotions. The pre and post assessments showed reduced suicidality indicators with improved positive mood (Happiness and Vigor) and less negative mood (Anger, Anxiety, Depression, Restlessness and Fatigue).

Data from the 86 North Carolina HBOT program patients also showed improvement in cognitive performance, in improved attention and concentration along with improvement in reasoning tasks. This improvement was especially noted in Simple Reaction Time, Code Substitution – Learning, Procedural Reaction Time, Code Substitution – Delayed and Simple Reaction Time Repeated.

A paired samples test was conducted; the results are presented in Table 2. This test measures the significance of the difference of the individual test items between the two assessments (pre and post). Items that are bold in Table 2 indicate a significant difference ( $p < .05$ ) from the pre-assessment as shown in the column Test Significance in Table 2. All the fifteen (100 %) test scores (Table 2) were significantly improved between pre and post HBOT therapy. The greatest improvement was in self-reported mood. The post treatment showed improvement in mood with less negative emotions and improvement in positive emotions. Better sleep, less restlessness, less depression, and more general happiness were reported.



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The data below was used to construct the preceding charts labeled figure 1-3

Table 1 Data from the Pre and Post ANAM assessment			
(n=87)	Mean	Std. Deviation	Std. Error Mean
Pre Simple Reaction Time	71.01	27.978	3.017
Post Simple Reaction Time	84.20	24.154	2.605
Pre Code Substitution - Learning	93.49	16.952	1.828
Post Code Substitution - Learning	99.06	16.348	1.763
Pre Procedural Reaction Time	81.21	27.937	3.013
Post Procedural Reaction Time	95.56	20.697	2.232
Pre Mathematical Processing	90.45	22.239	2.398
Post Mathematical Processing	94.53	22.393	2.415
Pre Matching to Sample	89.79	18.693	2.016
Post Matching to Sample	96.42	17.121	1.846
Pre Code Substitution - Delayed	91.02	16.132	1.740
Post Code Substitution - Delayed	98.93	18.034	1.945
Pre Simple Reaction Time - Repeated	72.05	26.708	2.880
Post Simple Reaction Time - Repeated	83.63	22.947	2.474
Pre Anger	16.2470	20.42326	2.20230
Post Anger	6.1047	11.60460	1.25136
Pre Anxiety	26.2915	24.30790	2.62119
Post Anxiety	12.2417	14.70700	1.58590
Pre Depression	23.9341	25.52291	2.75221
Post Depression	9.1090	14.48477	1.56193
Pre Fatigue	35.4651	21.80356	2.35114
Post Fatigue	20.5755	19.82310	2.13758
Pre Happiness	47.7714	24.70476	2.66398
Post Happiness	67.7970	23.39017	2.52223
Pre Restlessness	27.3903	23.15053	2.49639
Post Restlessness	13.0497	16.35907	1.76404
Pre Vigor	41.4086	24.59369	2.65201
Post Vigor	57.5578	27.21200	2.93435
Pre Sleepiness	3.19	1.324	.143
Post Sleepiness	2.35	1.387	.150



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Table 2  
Paired Samples of the ANAM Throughput and Mood Scores

Degrees of Freedom=85	Paired Differences*					Analysis Results (t)	Test Significance*
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference			
				Lower	Upper		
<b>ANAM Tests</b>							
Simple Reaction Time	-13.186	26.612	2.870	-18.892	-7.481	-4.595	<.001
Code Substitution - Learning	-5.570	10.434	1.125	-7.807	-3.333	-4.951	<.001
Procedural Reaction Time	-14.349	20.148	2.173	-18.668	-10.029	-6.605	<.001
Mathematical Processing	-4.081	15.080	1.626	-7.314	-.848	-2.510	.014
Matching to Sample	-6.628	13.392	1.444	-9.499	-3.757	-4.590	<.001
Code Substitution - Delayed	-7.907	14.268	1.539	-10.966	-4.848	-5.139	<.001
Simple Reaction Time - Repeated	-11.581	23.962	2.584	-16.719	-6.444	-4.482	<.001
<b>ANAM Mood Scales</b>							
Anger	10.14233	18.34496	1.97819	6.20916	14.07549	5.127	<.001
Anxiety	14.04977	19.80007	2.13510	9.80462	18.29491	6.580	<.001
Depression	14.82512	21.63626	2.33310	10.18629	19.46394	6.354	<.001
Fatigue	14.88965	20.78628	2.24144	10.43306	19.34624	6.643	<.001
Happiness	-20.02558	23.93777	2.58128	-25.1578	-14.89331	-7.758	<.001
Restlessness	14.34070	18.00618	1.94166	10.48016	18.20123	7.386	<.001
Vigor	-16.14919	24.37101	2.62799	-21.3743	-10.92403	-6.145	<.001
Sleepiness	.837	1.517	.164	.512	1.163	5.117	<.001

\* Paired Difference test provides a comparison of the Pre and Post testing to determine whether significant change has occurred.

\*\* test significance is statistically defined as less than .05



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## Additional Test Analysis

Report on Findings from 86 Military Personnel Undergoing 40 HBOT Sessions (2021–2024)

### Evaluation Description

From 2021 to 2024, 86 military personnel underwent 40 sessions of Hyperbaric Oxygen Therapy (HBOT). Participants completed the PCS, PCL-M, PHQ-9, and GAD-7 assessment forms to evaluate symptoms related to traumatic brain injury (TBI), PTSD, depression, anxiety, and suicidal ideation. Assessments were conducted at three intervals: before starting HBOT, after 20 sessions, and upon completing 40 sessions, to measure progress.

### Key Data Highlights

1. All 86 participants demonstrated significant improvement in most tested categories.
2. Suicidal ideation, assessed through PHQ-9 Question #9, showed a 57% reduction in severity, underscoring HBOT's role in addressing this critical symptom.

### The Significance of Addressing Suicidal Behavior in Veterans

The Veterans Administration, in a study by Hostetter et al., reported that veterans diagnosed with both PTSD and TBI are at an elevated risk of suicide, being twice as likely to take their own lives compared to others (14). Veterans with TBI frequently face coexisting psychiatric conditions—such as depression, bipolar disorder, substance abuse disorder, and anxiety disorder—which are established risk factors for suicide (14).

Further research by the U.S. Department of Veterans Affairs, Kennedy (2019), Borinuoluwa (2022), and Loignon et al. (2020) highlights the high prevalence of comorbid PTSD and depressive disorders among service members with mild traumatic brain injury (mTBI) (14-17). These conditions are strongly linked to impaired executive function, mood disorders, poor functional outcomes, and increased suicide risk (18).



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Emerging clinical studies reveal that inflammation is a critical factor in suicidal ideation. Elevated levels of inflammatory markers such as interleukin-6 (IL-6), tumor necrosis factor-alpha (TNF- $\alpha$ ), and C-reactive protein (CRP) disrupt mood regulation and cognitive processing, directly increasing the risk of suicide (19-24). Brundin et al. (2016) and Vasupanrajit et al. (2022) identify neuroinflammation as pivotal in the pathophysiology of suicidal behavior, especially in individuals with PTSD and depression (23,24).

The Patient Health Questionnaire (PHQ-9) was utilized as the key tool for screening the severity of depression in these groups. Its ninth question (Q9) specifically asks about passive thoughts of death or self-injury, making it a significant indicator of suicidal ideation. Studies have shown that the PHQ-9 can effectively identify military personnel at risk of suicide, making it a valuable tool in clinical settings (32,33).

### **HBOT's Role in Addressing These Challenges**

Hyperbaric Oxygen Therapy (HBOT) provides a promising solution by reducing inflammatory markers, alleviating neuroinflammation, and enhancing oxygen delivery to damaged brain tissues (26,27, 34,35). HBOT also stimulates neuroplasticity, promoting brain repair and improved cognitive function (26,27). Research by Harch et al. (2012) and Efrati & Ben-Jacob (2014) supports HBOT's ability to alleviate depression, PTSD, and related psychological impairments, offering a transformative, non-invasive approach to suicide prevention (27,28).

### **Consistent Findings Across Evaluations**

The findings from FY 2021, FY 2022, and the current evaluation consistently demonstrate that HBOT is a highly effective intervention for military personnel experiencing post-concussion syndrome, depression, anxiety, PTSD, and suicidal ideation. Each cohort showed significant improvements in key metrics, particularly in post-concussion symptoms and anxiety. This consistency underscores HBOT's reliability as a treatment option, offering meaningful mental health and quality-of-life benefits for veterans and service members.



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Additionally, HBOT serves as a valuable suicide prevention strategy and a critical tool for military force retention.

### Why Use Median and Mean Scores?

To provide a comprehensive understanding of treatment effectiveness, both median and mean scores were analyzed:

- **Median Scores:** Represent the midpoint of the data set, unaffected by extreme values, and highlight the most typical participant outcomes (30).
- **Mean Scores:** Reflect the overall group trend, including outliers, offering a broader view of progress (31).

Together, these metrics confirm substantial improvements across the majority of participants while capturing the overall trend of treatment effectiveness.

### Key Findings

#### 1. Post-Concussion Symptom Scale (PCS):

- Median improvement: 69%. Mean improvement: 58%.
- Outcome: HBOT substantially alleviated persistent post-concussion symptoms, promoting recovery in cognitive and physical functioning.

#### 2. Patient Health Questionnaire (PHQ-9 - Depression):

- Median improvement: 68%. Mean improvement: 58%.
- Outcome: Depression symptoms showed marked improvement, with participants reporting better mood and mental health.
- **Suicidal Ideation (PHQ-9, Question 9):**
  1. Among participants with pre-existing suicidal ideation, severity decreased by 57%.
  2. Outcome: These results highlight HBOT's role in reducing suicidal thoughts, likely through its anti-inflammatory and brain-healing effects.



### 3. PTSD Checklist for Military (PCL-M):

- Median improvement: 37%. Mean improvement: 36%.
- Outcome: PTSD symptoms showed moderate yet meaningful progress across participants.

### 4. Generalized Anxiety Disorder Scale (GAD-7):

- Median improvement: 75%. Mean improvement: 55%.
- Outcome: Anxiety symptoms demonstrated the greatest improvement, underscoring HBOT's exceptional ability to enhance emotional well-being.
- *\* To maintain consistency in reporting, GAD-7 data points were excluded from the figures below because the GAD-7 assessment form was only introduced in 2022, resulting in 70 out of 86 participants completing the form (FY2022-2024). However, the available data from these 70 participants has been analyzed and is presented in this section.*

## Conclusion

HBOT has proven to be a highly effective intervention for addressing post-concussion syndrome, depression, anxiety, PTSD, and suicidal ideation among military personnel. The consistent results across multiple evaluations reinforce HBOT's potential to significantly improve mental health and overall quality of life for veterans and service members.

## Recommendations for Legislative Action

1. Expand funding and access to HBOT programs for military personnel and veterans, particularly for those with TBI, PTSD, depression, and anxiety.
2. Integrate HBOT into standard care protocols for service members as a non-invasive, evidence-based treatment.
3. Support further research to refine HBOT protocols and assess long-term outcomes.



Providing HBOT to military personnel offers a unique opportunity to improve recovery outcomes, reduce healthcare costs, and enhance the lives of those who have served our country. Legislative support is crucial to ensuring this therapy is available to those who need it most.

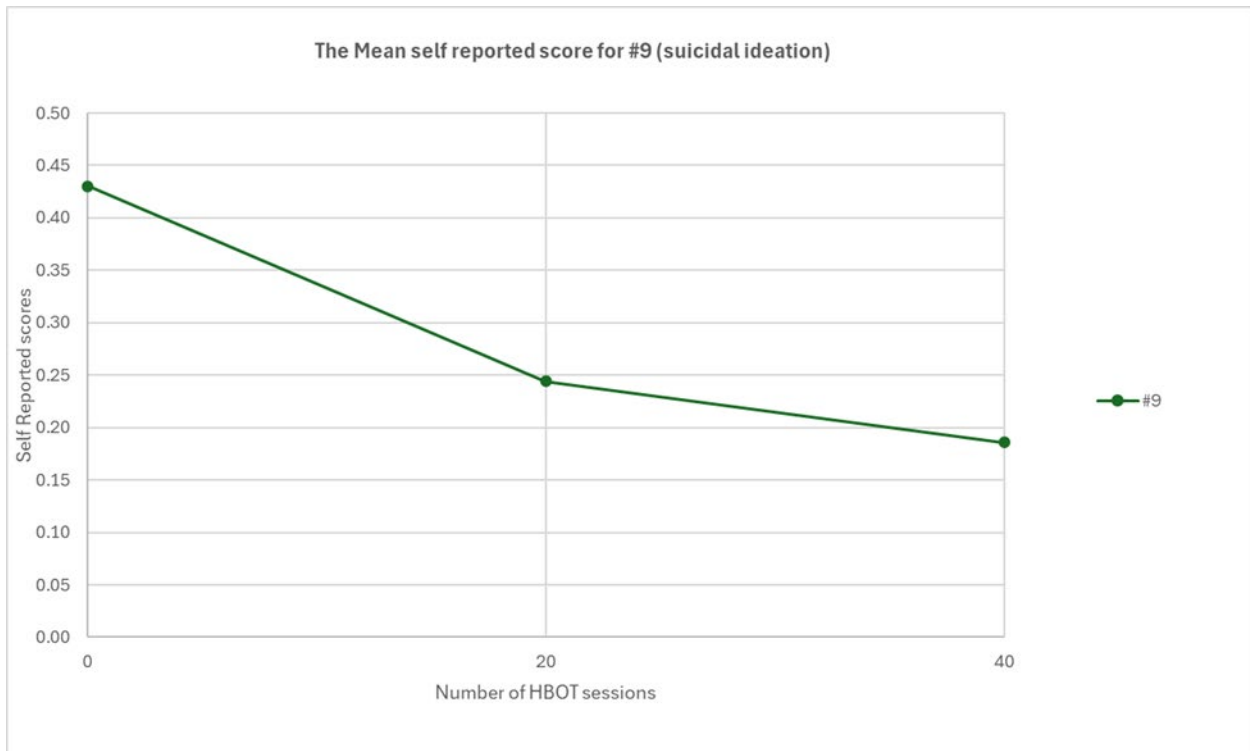


Figure 1 2021-2024 Data



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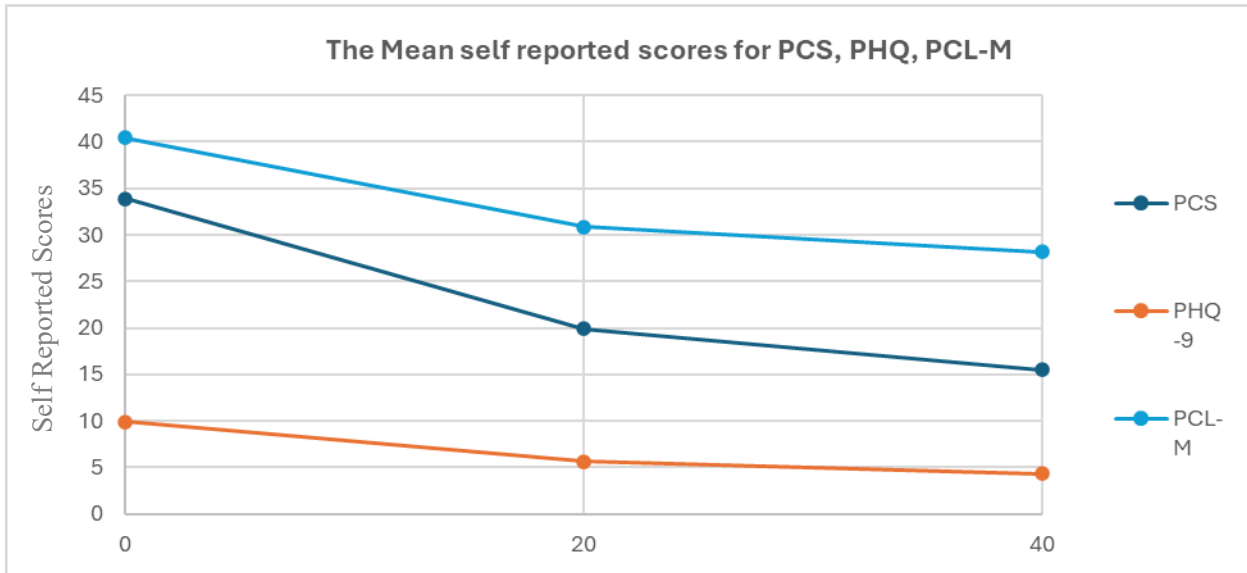


Figure 2 2021-2024 Data

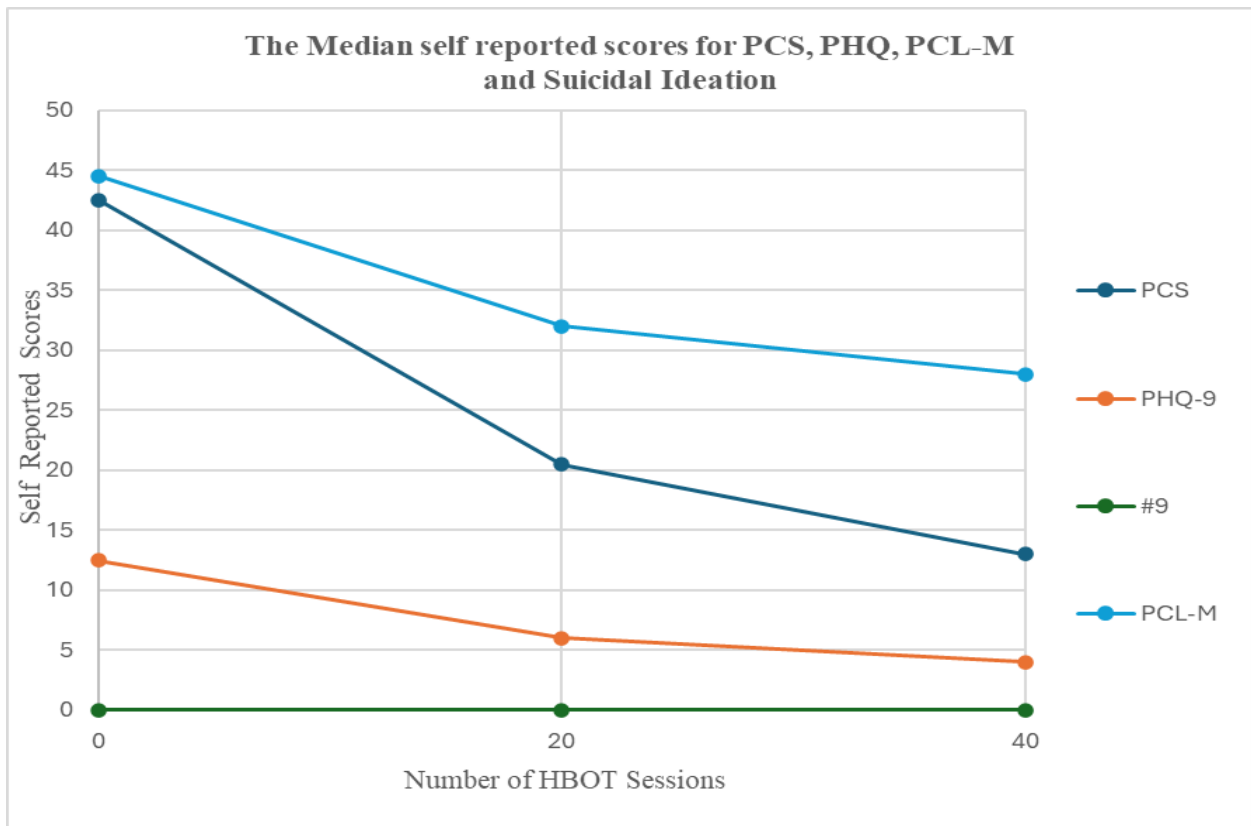


Figure 3 2021-2024 Data



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## Veteran Testimonials

The heart of HBOT4Heroes' mission is reflected in the powerful stories of the veterans we serve. These individuals, who have bravely served our country, often return home carrying the invisible wounds of war, including PTSD and other challenges. Through the NC HBOT for Veterans Program, they have experienced life-changing relief and healing with Hyperbaric Oxygen Therapy (HBOT).

In this section, we present nine testimonials from veterans who have directly benefited from HBOT4Heroes' programs. These stories highlight the profound impact of this innovative therapy, from restoring mental clarity to renewing hope and purpose. Each account demonstrates the critical importance of our continued efforts to expand access to HBOT for veterans in North Carolina and beyond.

These testimonials are not just narratives of individual recovery—they are a testament to the effectiveness of HBOT as a tool to combat the crisis of veteran mental health and well-being. As you read their words, we hope you'll see the undeniable value of sustaining and enhancing this program to reach more of our nation's heroes.



---

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**Veteran Testimonial:** Eugene Allen, U.S. Navy, Retired Aviation Fire Control Technician (AQCS)



*"The anger issues that I have... they've abated quite a bit. So it makes life a little easier, not only for me, but for my wife, because I'm her caregiver."*

**Summary:**

Eugene Allen, a retired U.S. Navy Aviation Fire Control Technician, shared his challenges with anxiety, anger issues, and mood swings, which affected his relationship with his wife, who also suffers from PTSD and cognitive issues. After completing 40 dives of Hyperbaric Oxygen Therapy (HBOT), Eugene noticed significant improvements, including reduced anger and chronic pain, such as arthritis and back pain. These changes have made caregiving for his wife less stressful and improved their overall quality of life. Eugene's experience highlights the life-changing potential of HBOT for both veterans and their families.

See Eugene's full story here:

<https://hbot4heroes.org/testimonial/eugene-allen/>



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**Veteran Testimonial: Gene Smit, U.S. Air Force, Retired Lieutenant Colonel**

*"I would recommend it 110% because it's really helped me, and I think it'll help [them]."*

**Summary:**

Gene Smit, a retired U.S. Air Force Lieutenant Colonel, flew 148 missions as a navigator during the Vietnam War. Over the years, he faced numerous physical challenges, including arthritis, chronic pain, and multiple joint replacements. After completing 23 Hyperbaric Oxygen Therapy (HBOT) sessions, Gene reported a significant reduction in pain levels, from a 7 to a manageable 2 or 3. He praised the ease of entering the program and the outstanding support of the staff. Gene's experience underscores the effectiveness of HBOT in improving the quality of life for veterans dealing with chronic pain.

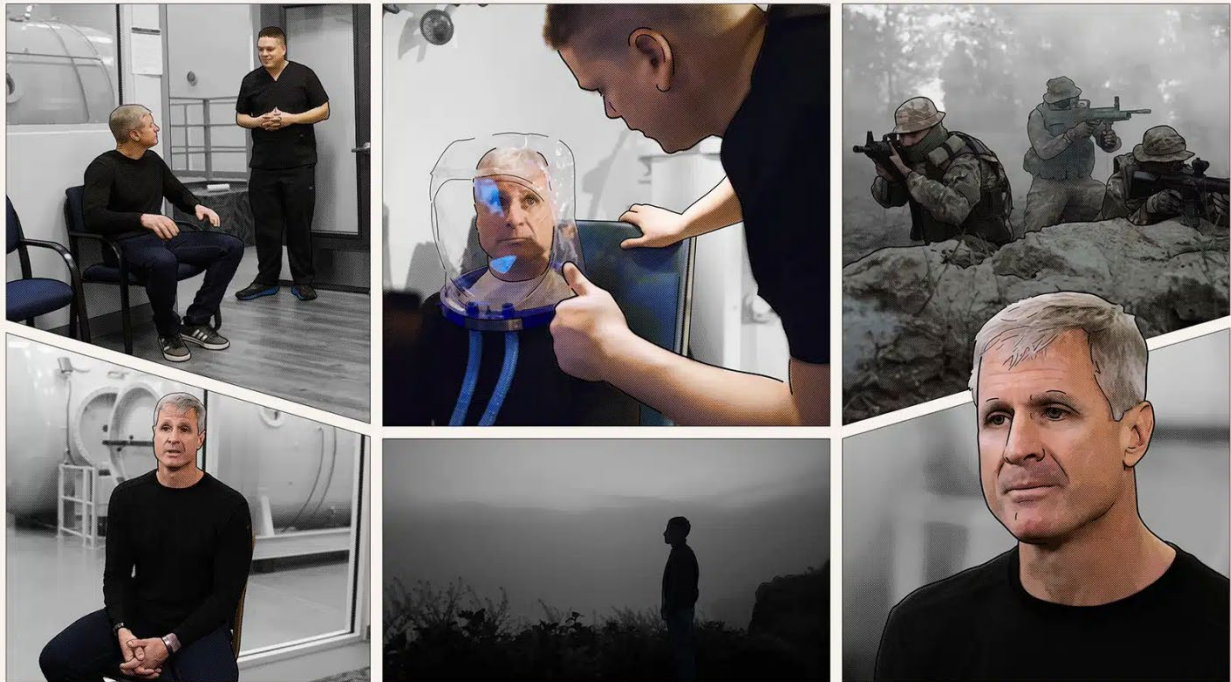
Read Gene's full story here: <https://hbot4heroes.org/testimonial/gene-smit/>

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**Veteran Testimonial:** Tim Coderre, U.S. Marine Corps, Retired Corporal;  
Army National Guard, Retired Sergeant



*“When you sign up for the military, you agree to a specific time, but the effects sometimes last a lifetime... HBOT will help heal the damages that have been done.”*

**Summary:**

Tim Coderre, a former U.S. Marine and Army National Guard veteran, experienced numerous physical and emotional challenges due to combat exposure, including traumatic brain injuries (TBI), anxiety, irritability, and chronic pain. After completing 40 dives of Hyperbaric Oxygen Therapy (HBOT), Tim saw significant improvements in his anxiety, emotional regulation, and physical pain. He praised HBOT for addressing the root causes of his issues without relying on medication, giving him a renewed sense of well-being. Tim emphasized the unique benefits of HBOT, calling it a transformative solution for veterans.

Read Tim’s full story here: <https://hbot4heroes.org/testimonial/tim-coderre/>



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**Veteran Testimonial:** Joshua Roberts, U.S. Army, Retired Lieutenant Colonel



*"I felt like I wasted way too many years trying to figure things out. Nobody's going to take care of your body except for you, and you've got to put that effort towards it."*

**Summary:**

Joshua Roberts, a retired U.S. Army Lieutenant Colonel and Green Beret, served 27 years as a combat engineer, infantryman, and special forces operator. After enduring numerous deployments, combat injuries, and exposure to environmental hazards, Joshua faced both physical and mental challenges. Through Hyperbaric Oxygen Therapy (HBOT), he experienced significant improvements, including reduced brain fog, better communication with his family, and a sense of emotional balance. Joshua highlights HBOT as a vital tool for healing and encourages others to invest in their health for themselves and their loved ones.

Read Joshua's full story here:

<https://hbot4heroes.org/testimonial/joshua-roberts/>



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**Veteran Testimonial: George Goodhue**

**Branch/Title:** U.S. Marine Corps, Retired



*"The benefits are phenomenal. When you're out there playing with your grandchildren, chasing balls with the dog, and just feeling great, it means everything to you."*

**Summary:**

George Goodhue, a U.S. Marine Corps veteran, sustained multiple traumatic brain injuries (TBIs) during his service and faced significant physical challenges, including chronic pain and reduced mobility. After completing Hyperbaric Oxygen Therapy (HBOT), George experienced remarkable improvements, such as regaining neck mobility, alleviation of ankle pain, and an overall enhancement in his quality of life. HBOT not only helped with his physical recovery but also gave him the opportunity to reconnect with his family and grandchildren, bringing joy and vitality back into his daily life.

**Read George's full story here:**

<https://hbot4heroes.org/testimonial/george-goodhue/>



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**Veteran Testimonial:** Joseph Houle Sr., U.S. Marine Corps, Retired Sergeant Major and Joseph Houle Jr., U.S. Marine Corps, Retired Master Sergeant



“I have not had a bad dream since I’ve been here. And I’m dreaming, sleeping soundly, and feeling better every day.” - Joseph Houle Sr.

“The first week, I saw the most improvement—from the neuropathy in my foot to my balance and sleeping. It’s been amazing.” - Joseph Houle Jr.

**Summary:**

Joseph Houle Sr., a retired Sergeant Major with over 30 years of service, and his son, Joseph Houle Jr., a retired Master Sergeant with 22 years of service, both experienced significant physical and emotional challenges from their time in the U.S. Marine Corps. Together, they endured combat deployments, chronic pain, neuropathy, and sleep disturbances. Through Hyperbaric Oxygen Therapy (HBOT), they saw remarkable improvements in balance, pain reduction, and sleep quality. Joseph Sr. began dreaming and sleeping soundly for the first



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time in years, while Joseph Jr. noticed immediate relief from neuropathy and better overall mobility. Both believe HBOT is an essential tool for healing, not only for veterans but for all first responders and service members facing similar challenges.

See their full story here: <https://hbot4heroes.org/testimonial/joseph-houle-sr-and-jr/>



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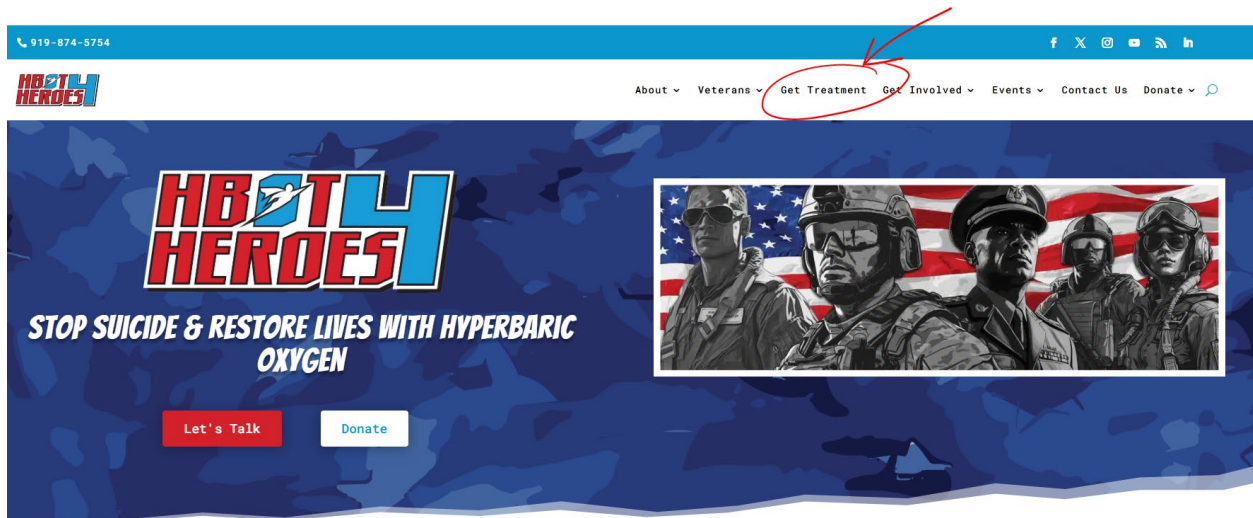
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## Tab B - HBOT Program and Protocol

Veterans interested in receiving treatment through the HBOT4Heroes program must begin by completing an application form and providing documentation to verify eligibility. Veterans can start the process by visiting the HBOT4Heroes website and clicking on the “Get Treatment” button. This page provides detailed information and a clear first step for applying to the program.



### Eligibility Requirements:

- Veterans must submit a completed application form and a copy of their DD214 to verify an honorable discharge.
- Active-duty service members can submit a copy of their military ID instead.

### Application and Approval Process:

1. Veterans submit their application via email to [mills.lebo@extivita.org](mailto:mills.lebo@extivita.org).
2. Once approved, applicants are notified of their acceptance and placed on a waitlist.
3. Approved veterans are prompted to register in the patient portal and complete a medical history form to expedite the process.



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**Medical Consultation and Clearance:** During the consultation, Extivita’s medical provider reviews the veteran’s medical history and conducts a comprehensive physical examination to determine eligibility for HBOT. Veterans who are medically cleared will be issued a prescription for oxygen therapy and undergo baseline testing to document the severity of their symptoms before beginning therapy.

**Prioritization and Waitlist:** While the goal is to minimize wait times to 2-3 months, veterans experiencing suicidal ideations within 60 days of their application are prioritized and bypass the waitlist to ensure urgent care.

A screenshot of the “Get Treatment” page on the HBOT4Heroes website is included to provide a visual guide to the application process. This streamlined approach ensures veterans understand the steps required to access this life-changing therapy.

**VETERANS, START HERE!**

The screenshot shows a web form with the following fields and elements:

- Your Name (Required):** Two input boxes for 'First' and 'Last'.
- Your Email (Required):** One input box.
- Your Phone Number (Required):** One input box.
- Which branch of the military do/did you serve in? (Required):** One input box.
- What years did you serve? (Required):** One input box.
- Please list some reasons you are considering HBOT. (Required):** A large text area with a character count of 0 of 600 max characters.
- I would like to receive exclusive updates, inspiring stories, and opportunities to support our cause.
- Submit** button.



While HBOT4Heroes is dedicated to serving our veteran community, we understand that many others can also benefit from this therapy. If you’re a civilian seeking treatment, our preferred clinic, Extivita-RTP, provides a range of affordable therapies designed to promote healing and well-being.

[Visit Extivita](#)



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## Treatment Protocol

Hyperbaric Oxygen Therapy (HBOT) is conducted in a pressurized, multi-seat hyperbaric chamber under strict medical supervision. The protocol is designed to maximize safety and effectiveness for patients undergoing treatment. Key elements include:

- **Duration of Each Session:** Each treatment lasts approximately 90 minutes in total, with 60 minutes of oxygen therapy administered at 2.0 atmospheres absolute (ATA) pressure.
- **Medical-Grade Oxygen:** Patients receive 100% medical-grade oxygen for therapeutic purposes.
- **Supervision and Monitoring:**
  - A qualified attendant is present inside the chamber throughout the session.
  - Treatment is externally monitored by a trained Hyperbaric Chamber Technician to ensure safety and effectiveness.
- **Complete Treatment Course:** The full protocol includes 40 sessions.
- **Frequency:** Sessions can be scheduled 1-2 times per day, with a minimum of 4 hours between treatments within a 24-hour period.
- **Vital Signs Monitoring:** Patient vital signs are checked before each therapy session to confirm readiness for treatment.
- **Nutritional Support:** A daily oral amino acid supplement is provided to assist with detoxification during the HBOT protocol.

This comprehensive treatment protocol ensures patients receive safe, consistent, and effective therapy tailored to their needs.



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## State of the Art Hyperbaric Oxygen Therapy Clinic





Extivita-RTP, located in Durham, NC on the edge of Research Triangle Park (RTP), is a medical clinic which operates one of the largest, private, Hyperbaric Oxygen Therapy (HBOT) centers in the United States. The Extivita team is dedicated to extending and improving patients' quality of life by providing scientifically proven integrative therapies. The outpatient clinic houses two state-of-the-art multi-seat Hyperbaric Oxygen Chambers, a Nutritional IV Clinic, Infrared Sauna, Pulsed Electromagnetic Field Therapy, Neurofeedback Therapy, and Premium Supplements. A medical director oversees Extivita's operations, and the team is committed to treating patients successfully. Extivita-RTP's integrative therapies have effectively and consistently demonstrated a significant improvement in a patient's quality of life.



Our state-of-the-art HBOT chambers are designed to elevate patient experience while delivering effective treatment. Uniquely engineered to accommodate multiple patients simultaneously, these chambers offer a spacious and comfortable environment for therapy sessions. Each patient has access to their own individual seat, ensuring personal space and comfort throughout the treatment.

Understanding the importance of relaxation and engagement during therapy, each seat is equipped with a dedicated tablet. This innovative feature allows patients to immerse themselves in a world of entertainment during their session. Whether it's catching up on their favorite Netflix shows, browsing the web, or enjoying other online content, these tablets provide a distraction-free and enjoyable experience, making the time spent in therapy both therapeutic and enjoyable.

## Tab C - Amplifying Information and Evidence

### House Bill 50: Authorizes HBOT for TBI/PTSD Injured Military

#### Introduction to House Bill 50

In 2019, the North Carolina General Assembly passed **House Bill 50**, formally titled the **North Carolina Veterans Traumatic Brain Injury and Posttraumatic Stress Disorder Treatment and Recovery Act**. This legislation marked a significant step forward in supporting veterans, authorizing licensed medical professionals to prescribe Hyperbaric Oxygen Therapy (HBOT) as a treatment for Traumatic Brain Injury (TBI) and Post-Traumatic Stress Disorder (PTSD).

Recognizing HBOT as a proven therapy for inflammation and brain injuries, this act established a framework for providing innovative and effective care to veterans residing in North Carolina. House Bill 50 ensures that eligible veterans can access this life-changing treatment under the care of authorized medical professionals.

The following pages include a full copy of **House Bill 50**, as ratified on July 18, 2019, providing the legislative foundation for the NC HBOT for Veterans Program. This act reflects North Carolina's commitment to improving the lives of those who have served our nation.



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**STATE OF  
NORTH  
CAROLINA**



**Department of The  
Secretary of State**

**To all whom these presents shall come, Greeting:**

**I, Elaine F. Marshall**, Secretary of State of the State of North Carolina, do hereby certify the following and hereto two (2) sheets to be a true copy of Session Law 2019-175, House Bill 50, of the 2019 Legislative Session, entitled

**AN ACT AUTHORIZING CERTAIN MEDICAL PROFESSIONALS TO  
PRESCRIBE HYPERBARIC OXYGEN THERAPY FOR VETERANS  
WITH TRAUMATIC BRAIN INJURY AND POSTTRAUMATIC STRESS  
DISORDER.**

ratified on the 18<sup>th</sup> day of July, 2019, by

**The General Assembly of North Carolina**

the original of which is now on file and a matter of record in this office.

**In Witness Whereof**, I have hereunto set my hand and affixed my official seal.

**Done in This Office**, at Raleigh, this the 15<sup>th</sup> day of August, 2019.



*Elaine F. Marshall*  
Secretary of State

GENERAL ASSEMBLY OF NORTH CAROLINA  
SESSION 2019

SESSION LAW 2019-175  
HOUSE BILL 50

AN ACT AUTHORIZING CERTAIN MEDICAL PROFESSIONALS TO PRESCRIBE HYPERBARIC OXYGEN THERAPY FOR VETERANS WITH TRAUMATIC BRAIN INJURY AND POSTTRAUMATIC STRESS DISORDER.

Whereas, hyperbaric oxygen therapy is a recognized and accepted treatment for wound care and inflammation disorders; and

Whereas, traumatic brain injury and posttraumatic stress disorder are recognized to result from brain injuries and subsequent inflammation; Now, therefore,

The General Assembly of North Carolina enacts:

**SECTION 1.** This act shall be known and may be cited as the "North Carolina Veterans Traumatic Brain Injury and Posttraumatic Stress Disorder Treatment and Recovery Act of 2019."

**SECTION 2.(a)** G.S. 122C-455 through G.S. 122C-464. Reserved for future codification purposes.

**SECTION 2.(b)** Article 6 of Chapter 122C of the General Statutes is amended by adding a new Part to read:

"Part 5. Traumatic Brain Injury and Posttraumatic Stress Disorder Services for Veterans.

**"§ 122C-465. Definitions.**

As used in this Part, the following definitions apply:

- (1) Authorized medical professional. – A doctor of medicine, nurse practitioner, physician assistant, or doctor of osteopathy licensed to practice in this State.
- (2) Hyperbaric oxygen therapy treatment. – Treatment with a valid prescription from an authorized medical professional in either a hyperbaric chamber approved by the United States Food and Drug Administration (FDA), or a device with an appropriate FDA-approved investigational device exemption.
- (3) Veteran. – A person who served on active duty, other than for training, in any component of the Armed Forces of the United States for a period of 180 days or more, unless released earlier because of service-connected disability, and who was discharged or released from the Armed Forces of the United States under other than dishonorable conditions.

**"§ 122C-465.1. Hyperbaric oxygen therapy treatment authorized.**

(a) No person other than an authorized medical professional shall prescribe hyperbaric oxygen therapy treatment to a veteran for the treatment of traumatic brain injury or posttraumatic stress disorder. Any authorized medical professional who prescribes hyperbaric oxygen therapy treatment to a veteran for traumatic brain injury or posttraumatic stress disorder shall do so in a manner that complies with the standard approved treatment protocols for this therapy.

(b) Any veteran residing in North Carolina who has been diagnosed with a traumatic brain injury or posttraumatic stress disorder by an authorized medical professional may receive hyperbaric oxygen therapy treatment in this State."





**SECTION 2.(c)** G.S. 122C-465.2 through G.S. 122C-465.5. Reserved for future codification purposes.

**SECTION 3.** This act becomes effective October 1, 2019.

In the General Assembly read three times and ratified this the 18<sup>th</sup> day of July, 2019.

s/ Carl Ford  
Presiding Officer of the Senate

s/ Tim Moore  
Speaker of the House of Representatives

s/ Roy Cooper  
Governor

Approved 12:12 p.m. this 26<sup>th</sup> day of July, 2019

## Program Resources

North Carolina Military Family HBOT Program

FY 2025 – FY 2026 Budget Request

HBOT Therapy * (\$6,550 x 1527 Veterans)	\$10,000,000
Total Request	\$10,000,000

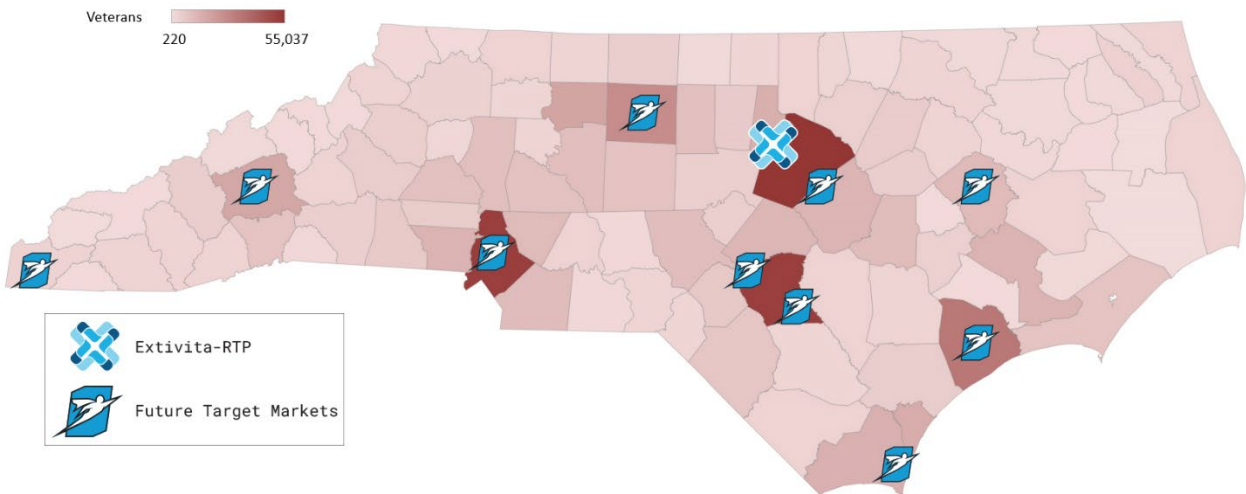
*\*HBOT Therapy cost per Veteran*

40 Hyperbaric Oxygen Therapy Treatments	\$6,000
Provider Consultation	\$150
Equipment	\$250
Testing	\$150
Total	\$6,550

## HBOT4Heroes Expansion Plans

To address the needs of North Carolina's more than 640,000 veterans and provide improved access to treatment, HBOT4Heroes will expand its presence into key veteran population centers throughout the state.

Veterans in North Carolina by county



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## Preventing Suicide

### NATIONAL/DOD/VA ACTIONS

Military suicide rates have remained unaffected by U.S. suicide prevention strategy over the course of the past 20 years. Specifically, in the past six years there have been 15 published “suicide prevention” strategies, directions or goals. Included in these are documents provided by Congress, the White House, CDC, NIH, DoD and several military services (36-47). The CDC, in the 2024 National Strategy for Suicide Prevention (37) and the Veterans Administration in the 2023 National Suicide Prevention annual report (44) have confirmed this result.

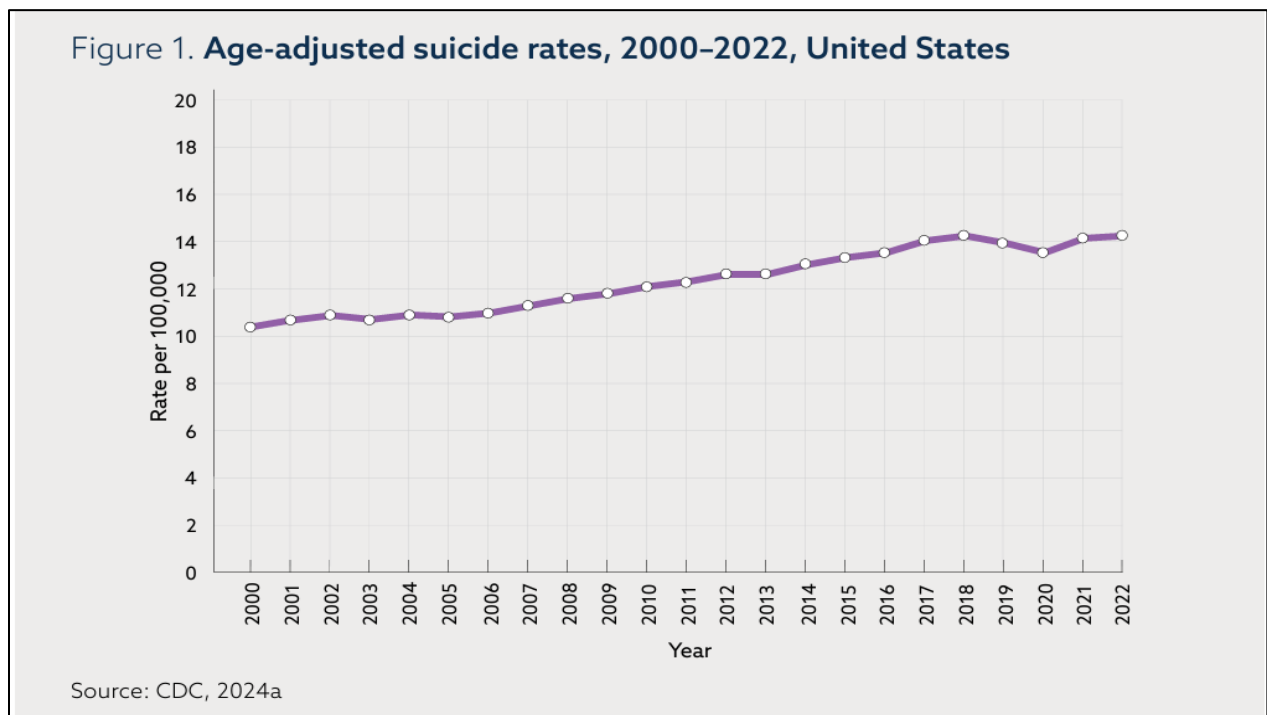


Figure 1. Source (37, Pg. 3)



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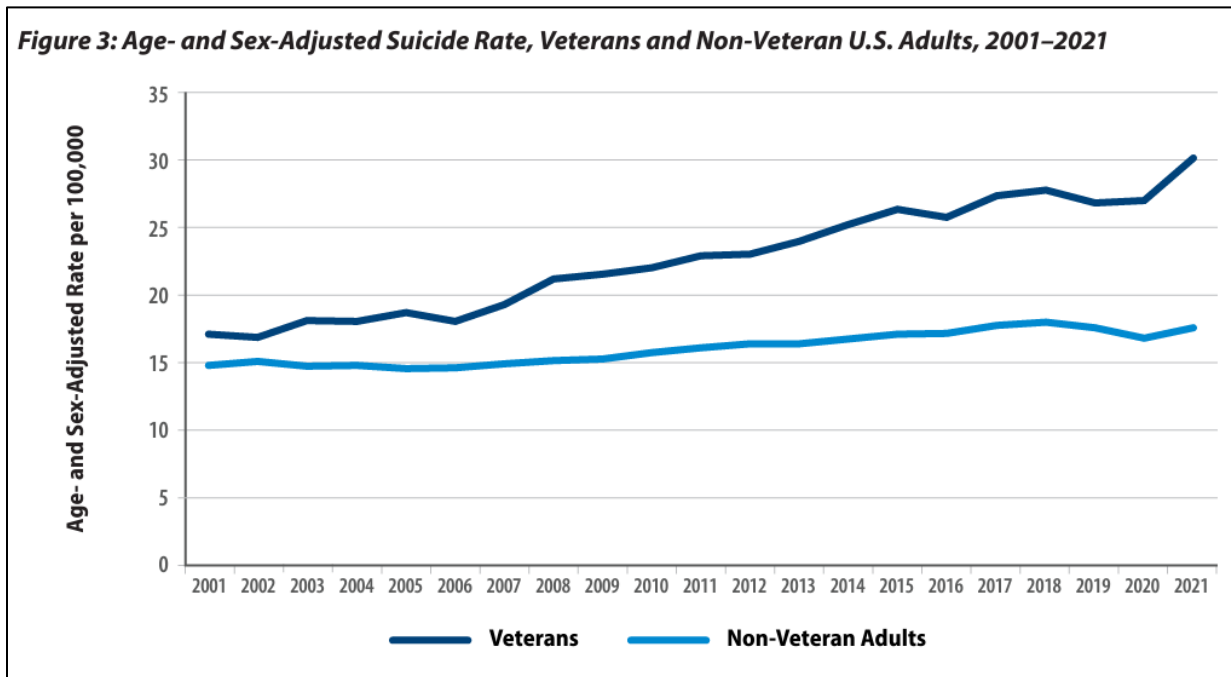


Figure 2. Source (44, Pg. 17)

The collective content of the above documents is based on the premise that suicide is a “mental health” problem. This mental health focus provides the basis for specified treatment protocols, including those contained in the VA/DoD Clinical Practice Guideline for Management and Rehabilitation of Post Acute TBI (46) which offers pharmaceutical therapies intended to alter or mitigate TBI/PTSD injury symptoms. These protocols have remained essentially the same over the course of the past several decades, resulting in unchanged and unaltered military suicide rates, while failing to recognize brain injury as a cause of these debilitating symptoms.

**CAUSE(S) OF SUICIDE UNADDRESSED**

This current government documentation, perpetuating past protocols, raises the question: do we know, or have any scientific evidence for what is causing military suicide? In particular, why do military personnel continue to take their lives at a far greater rate than their civilian counterparts? In addition, among this military personnel group, the Veterans Administration reported in 2019 that



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veterans suffering “moderate or severe TBI were 2.45 times more likely to die by suicide than those veterans without a TBI diagnosis” (49). If military service and TBI are causes of suicide, where is the evidence to support this claim? And what are the other causes associated with either of these categories of military suicide? Whatever the causes, they are unaddressed in any of the above cited government documents. What the sustained suicide rates over the past 20 years do point to, is that current protocols used to treat military “mental health” and its symptoms, has not altered the desire, or the outcome, of these military personnel to take their own lives.

An example of the above-described government publications can be found in the 2024 CDC National Strategy for Suicide Prevention (37). In this document, one of the top CDC strategies, “Community-Based Suicide Prevention” includes the following:

- Effective broad-based collaborative partnerships.
- Comprehensive community-based suicide prevention.
- Reduced access to lethal means.
- Support prevention for people with suicide-centered lived experience.
- Integrate suicide prevention into the workplace culture.
- Implement research-informed suicide prevention

These “strategies” provide the framework for 25 CDC recommended actions. However, none of the 25 actions are either related to a cause of suicide, or, what the anticipated impact of implementing the individual action might have on national or military suicide/suicide rates.

### **SECDEF SUICIDE PREVENTION REPORT TO CONGRESS**

In response to the Congress, the Secretary of Defense established the Suicide Prevention and Response Independent Review Committee (SPRIRC) to comprehensively review clinical and non-clinical suicide prevention and response programs (43). The committee reported “suicide among service members is complex; thus, simple or singular strategies will not work.” The report included the following 20 of 23 “High Priority Recommendations”:



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- 7 regarding firearms acquisition, safety and handling.
- 7 on suicide prevention education and training.
- 3 regarding military pay delays.
- 1 on modernizing the military promotion system.
- 1 regarding receiving enough sleep and shift changes.
- 1 covering alcohol abuse.

The report provides no scientific evidence or alternative rationale for any of these 20 recommendations; nor does it offer the causes of military suicide, which are being addressed by each of these recommendations.

### **HBOT HEALS TBI/PTSD INJURIES WHILE PREVENTING SUICIDE**

In 2019 the North Carolina legislature passed House Bill 50 authorizing hyperbaric oxygen therapy (HBOT) for military suffering TBI or PTSD injuries. In 2021, 2022 and 2023 the legislature provided a combined \$1.25 million to treat these injured military families. This legislative leadership combined with private donations, the work of the CEO of The Steel Network (TSN) and the Extivita HBOT clinic, has now produced clear and compelling evidence that HBOT repairs TBI/PTSD injuries while preventing suicide. This evidence, contained in Tab A of this report, is summarized here:

- ANAM, PHQ-9 and other testing data from 86 TBI/PTSD injured active duty and veteran military personnel. The data was gathered before and after each patient received a regimented HBOT protocol, as prescribed and witnessed by medical professionals.
- Personal testimony from a number of these personnel, who had experienced suicide attempts, suicide ideation or related impulses, and who have confirmed these desires/symptoms were eliminated or rendered no longer compulsive after receiving HBOT.
- Personal testimony of spouses or close partners to the treated patients, confirming the results reported in the test data and patient interviews.



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## HBOT HEALS TBI INFLAMMATORY RESPONSE

The following research has focused on the cascade of inflammatory responses to TBI:

In Brundin, Erhardt and others (49) a comprehensive review of literature was conducted regarding “The Role of inflammation in suicidal behavior”. A result of this work was that “the triggers of the inflammatory changes documented in suicidal patients may be attributed to.....traumatic brain injury”.

In Serafini, Pompili and others (50) the study abstract states “There is growing evidence that inflammatory mediators play a critical role in the pathophysiology of both major depression and suicidal behavior”. In addition, the study reported “The presence of major depressive disorder (MDD) with suicidal ideation/attempts was associated with differences in inflammatory cytokine profile”.

In Schimmel, Acosta and Lozano a study on “Neuroinflammation in traumatic brain injury: A chronic response to an acute injury” (51); the study reported that the TBI injury causes impact prompting “multiple cell death processes”, “secondary cell death mechanisms” and “inflammation accompanying chronic TBI”; “one hallmark of both acute and chronic TBI is neuroinflammation”.

In Courtet, Giner and others, “Neuroinflammation in Suicide: Toward a comprehensive model” (52) the association of “inflammatory markers with suicide vulnerability were examined. The latter study reported “the perception of threat” that leads suicidal individuals to contemplate suicide may activate biological stress responses, including inflammatory responses.”

Both the Mayo clinic and Johns Hopkins report use of HBOT for a variety of inflammatory injuries including inflammatory bowel disease (IBD), nonhealing wounds, radiation tissue damage and bone and tissue infections causing death.

In addition to the studies above, which describe the connection between inflammation and suicide, the following science amplifies test



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results from the 86 military patients treated by Extivita; these results are provided in Tab A of this report.

A review of literature finds that a decrease in emotional distress is associated with a reduction in suicidality in military traumatic brain injured (TBI) veterans. Harch et al. (2017) used a group of 30 veterans with a history of TBI (11). Subjects were given a detailed evaluation including neurocognitive testing questionnaires and SPECT imaging. Follow up testing at the conclusion of treatment with HBOT showed improvement in cognitive performance as well as a decrease in emotional distress. Individuals also reported having less suicidality; 83% of subjects with suicidal ideation and 75% of subjects with panic attacks experienced a reduction or cessation in suicidal ideation or panic attacks after treatment; "Veterans also experienced a significant reduction in suicidal ideation and reduction in psychoactive medication use."

The Shytle et al. article is a series of three case studies with use of HBOT. In these three studies there was commonality in the findings (12). First, there were significant cognitive deficits as well as emotional distress present at the pretreatment assessment. Following treatment, the post treatment assessment showed a unanimous improvement in cognition as well as a decrease in emotional distress. This was particularly noted in case number two, which initially reported moderate levels of suicidality and had a complete remission of suicidality following HBOT treatment.

In the Stanley et al. study, a total of 149 military service members were referred for evaluation/treatment of a suspected head injury (13). Self-report measures included the Suicidal Behaviors Questionnaire-Revised (SBQ-R), Automated Neuropsychological Assessment Metrics (ANAM), anger and depression subscales, and Behavioral Health Measure-20 depression subscale. Findings indicated suicidality was associated with anger and depression and that the reduction in emotional distress showed a reduction in suicidality.



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## Tab D - Program Team

### HBOT4Heroes

Edward di Girolamo, PE – Executive Director

Patricia Mueller, CPA – Treasurer

Steven Scoba – Secretary

Dr. Edward Fogarty, MD – Board Member

Dr. Xavier Figueroa, Ph. D. – Board Member

James Hooker, CDR (Ret), USN – Veteran Ambassador

Kristy Andrews – Development Manager

David Buzzard – Development Manager

### Extivita-RTP

Dr. James Stevens, MD, CAQSM, ABAARM, FAAFP – Medical Director

Elena Schertz, NP – Clinic Manager

Sarah Fragnito, MBA – Clinic Manager

Jackie Faz, LPN – Safety Director

Mills Lebo – Veteran Service Coordinator

Michael Merzke, SGM (Ret), USA, MBA – Program Manager

### Meyers Neuropsychological Services

James Meyers, Psy.D., ABN, ABPdN – ANAM Consultant



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## Tab E – Request for Proposals (RFP)

**Issuing Organization:** HBOT4Heroes.org

**Title:** Provision of Hyperbaric Oxygen Therapy and Complementary Therapies for North Carolina Veterans

**Date Issued:** 12-1-2024

**Response Due Date:** 1-15-2025

### I. Purpose

HBOT4Heroes.org seeks qualified clinics in North Carolina to provide state-funded therapy for NC resident veterans. This initiative aims to deliver comprehensive care that addresses conditions such as post-concussion syndrome (PCS), post-traumatic stress disorder (PTSD), depression, anxiety, and suicide prevention. The selected clinics will offer Hyperbaric Oxygen Therapy (HBOT) and related therapies in compliance with the terms outlined in this RFP.

### II. Scope of Services

The selected provider(s) must deliver the following services to veteran patients:

#### 1. Hyperbaric Oxygen Therapy (HBOT)

- 40 therapy sessions at 2 atm. for 90 minutes each, with two intermittent air brakes.
- Multi-place HBOT chamber with a minimum oxygen purity of 92%.
- Maximum allowable charge per HBOT session: \$150.00.

#### 2. Neurofeedback Therapy

- Integrated with the HBOT treatment schedule. \$850.00

#### 3. Provider Consultations

- Initial and ongoing consultations by a qualified provider to tailor the treatment plan and monitor progress.



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#### 4. Assessment and Testing Pre and Post Treatment Protocol

- Pre- and post-treatment ANAM Testing (Automated Neuropsychological Assessment Metrics).
- Post-treatment subjective assessment forms to evaluate outcomes, including:
  - PCS (Post-Concussion Symptom Scale)
  - PCLM (PTSD Checklist for DSM-5)
  - PHQ (Patient Health Questionnaire)
  - GAD (Generalized Anxiety Disorder Assessment)
  - Suicide risk assessment.

#### 5. Additional Therapies Availability

- Nutritional IV therapy
- Pulsed Electromagnetic Field (PEMF) therapy.

#### 6. Personal Equipment Supply

- Provision of any necessary personal equipment to the patient for HBOT and complementary therapies.

#### 7. Medical Oversight

- A chief medical officer or medical director with a minimum of 5 years of HBOT experience.
- An on-site healthcare provider available during all therapy sessions.

### III. Eligibility Criteria

1. Clinics must be in North Carolina.
2. Clinics must demonstrate the ability to comply with FDA and state regulations for HBOT and related therapies.
3. Clinics must have operational multi-place HBOT chambers and certified oxygen delivery systems.



4. Clinics must employ staff with appropriate certifications and experience, including a medical director with 5+ years of HBOT experience.
5. Clinics must adhere to data privacy standards, including HIPAA compliance.

#### **IV. Proposal Submission Requirements**

Proposals must include the following:

1. Clinic Information: Name, address, contact details, and clinic history.
2. Staff Qualifications: Resumes of the medical director and key personnel.
3. Facilities Overview: Details of HBOT chambers, equipment, and other therapy facilities.
4. Proposed Services and Costs: Breakdown of services offered and confirmation of adherence to the \$150/session cap for HBOT.
5. Compliance Documentation: Proof of FDA and state regulation compliance.
6. Data Management Plan: Description of how the clinic will securely manage patient data, including ANAM testing and assessment forms.
7. References: At least three references from previous or current healthcare partnerships.

#### **V. Evaluation Criteria**

Proposals will be evaluated based on:

1. Compliance with the required scope of services.
2. Qualifications and experience of staff.
3. Quality and safety of facilities and equipment.
4. Cost-effectiveness and adherence to the \$150/session HBOT cap.
5. Demonstrated commitment to serving veteran populations.



6. References and prior performance.

**VI. Submission Deadline and Contact Information**

All proposals must be submitted by 1-15-2025 to:

**HBOT4Heroes.org**

**Contact:** Kristy Andrews through email at: [KAndrews@hbot4heroes.org](mailto:KAndrews@hbot4heroes.org)

**VII. Additional Information**

- Proposals may be subject to negotiation to ensure alignment with HBOT4Heroes' objectives.
- North Carolina State funding is exclusively for the treatment of North Carolina resident veterans when available.
- HBOT4Heroes reserves the right to accept or reject any or all proposals.

This RFP encourages collaboration and aims to standardize HBOT and complementary therapies statewide for veterans. Please direct any questions to Kristy Andrews, [KAndrews@hbot4heroes.org](mailto:KAndrews@hbot4heroes.org)



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## Tab G – Supporters

### Strengthening Our Mission Through Private Funding

In addition to the critical support provided by the North Carolina State Legislature, HBOT4Heroes actively secures private funding from corporate sponsors, community organizations, and individual donors. This diverse financial backing not only demonstrates widespread belief in our mission but also strengthens our ability to expand access to Hyperbaric Oxygen Therapy (HBOT) for veterans.

Private sponsorships enable us to cover essential costs, such as equipment, operational expenses, and outreach efforts, while also providing flexibility to innovate and respond to emerging needs. By combining state funding with private contributions, we can maximize our impact and ensure that no veteran is left behind in their journey to recovery.

The following page highlights some of our key supporters, showcasing their generous support and collaboration in helping us serve North Carolina’s veteran community. This partnership model reflects a shared commitment to healing, hope, and honoring those who have served.

- The Steel Network
- Extivita
- HBOT News Network
- Burt Family Foundation
- Applied Science International
- Basnight & Sons
- FDR Engineers
- Atticus
- Camrett Logistics
- LifeSpan Homes
- Go 2 Girls
- The Community Foundation of NC East
- Fortuna
- The Kolappa Family
- Triple J Produce
- Mike Weeks Agency
- John R Jenkins Trust In Honor of Frank C. Allred
- Infuse Wellness
- Camp Southern Ground
- EmergeOrtho Charitable Fund
- Geico Local Offices, Cary, Garner & Raleigh



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