

**Increasing Primary Care Provider Use of the Adult Self-Report Scale (ASRS) v1.1 and
Confidence in Screening Adults for Attention-Deficit Hyperactivity Disorder (ADHD)**

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Abstract

Phase II Site(s): Joint Expeditionary Base Little Creek, Branch Health Clinic Boone, Virginia Beach, VA

Project Title: Increasing Primary Care Provider Use of the Adult Self Report Scale v1.1 and Confidence in Screening Adults for Attention-Deficit Hyperactivity Disorder

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Background or Problem/Issue: Many primary care providers are not confident identifying adults with attention deficit hyperactivity disorder (ADHD) due to its nuanced clinical manifestation, nor using screening tools to aid in identification. Remaining undiagnosed and untreated leaves patients at high-risk for developing comorbid conditions such as anxiety, depression, persistent suicidal ideation, and post-traumatic stress disorder. Increasingly, referrals for adult ADHD management are being denied in military treatment facilities (MTFs), making it imperative for primary care providers to be equipped with knowledge and evidence-based screening tools to care for this population.

Clinical Question or Purpose: To develop, implement, and evaluate the impact of an educational intervention for healthcare providers with the goal of increasing use of an adult ADHD screening tool, the Adult ADHD Self Report Scale (ASRS) v1.1, and increasing providers' confidence in screening for ADHD in adults.

Project Design: An educational intervention for healthcare providers, consisting of a PowerPoint presentation and a live demonstration using the ADHD screening tool, was conducted at Branch Health Clinic (BHC) Boone. A pre- and post- knowledge check was completed prior to and two months after the intervention to assess provider confidence. Through retrospective chart review, rates of screener use during two months prior to and two months after the intervention were

assessed.

Organizational Impact/Implications for Practice: The number of providers who identified as fully confident in screening adults for ADHD increased from 10% to 60%. Screening tool use increased from 5.3% to 23.8%. Confident providers consistently using evidence-based screening tools can reduce or prevent complications in patients who would have remained undiagnosed.

Increasing Primary Care Provider Use of the Adult Self-Report Scale (ASRS) v1.1 and Confidence in Screening Adults for Attention-Deficit Hyperactivity Disorder (ADHD)

Adult attention deficit hyperactivity disorder (ADHD) has a nuanced clinical manifestation, and many providers in primary care are less comfortable identifying and diagnosing adults with ADHD compared to other psychiatric disorders, such as anxiety and depression (Anbarasan et al., 2020). ADHD affects U.S. service members at higher rates (7.6-9.0%) than the general population (2.5-8.4%) (American Psychiatric Association [APA], 2022; Kok et al., 2019). Providers in primary care military treatment facilities (MTFs) do not always use screening tools to aid in identification, leaving many undiagnosed and untreated. Without treatment, ADHD in military members has grave associations with depressive disorders, persistent suicidal ideation, post-traumatic stress disorder, generalized anxiety, and bone and stress fractures (Adams et al., 2020; Howlett et al., 2018; Nock et al., 2018). Many are referred to Mental Health services for evaluation, but increasingly, referrals for adult ADHD management are being denied. Primary care providers are perfectly situated to intervene with familiarization and use of a validated screening tool, such as the six-item Adult ADHD Self-Report Screening Scale (ASRS). Through an educational intervention, providers will increase their use of a screening tool and be more confident in screening adults for ADHD. Subsequently, this increased identification can ensure proper care is delivered, reduce risks for associated comorbidities, and leave a positive lifelong impact on each identified service member (Adler et al., 2018; Howlett et al., 2018).

Problem Synthesis

According to the Diagnostic and Statistical Manual of mental disorders (DSM-V), for a diagnosis of ADHD to be made, an adult must display symptoms of inattention, impulsive

behavior, and hyperactivity for six months or greater and cause significant impairments in multiple settings (APA, 2022). These symptoms must also have been apparent before 12 years of age (APA, 2022). ADHD is commonly diagnosed in childhood, and approximately 60% of childhood cases continue into adulthood (Hackett et al., 2020; Jain et al., 2017). Inattentive symptoms most commonly persist into adulthood as only 5% of adults meet criteria for predominantly hyperactive ADHD (Anbarasan et al., 2020; Hackett et al., 2020; Stanton et al., 2018). Though many cases are diagnosed in childhood, evidence suggests the condition can have adult onset (Kok et al., 2019). Individuals with predominantly inattentive ADHD and high intelligence who live in a structured environment are able to cope with their symptoms, but the once benign symptoms start causing impairments when self-management demands of adulthood increase (APA, 2022; Kok et al., 2019). Adult impairments manifest differently compared to those in childhood, causing missed work deadlines, difficulty setting priorities, and discord within family units (Jain et al., 2017). Symptoms may also manifest as decreased self-motivation, poor problem-solving skills, emotional dysregulation, labile mood, and over-reactive emotions (Anbarasan et al., 2020).

There are unique reasons many service members with ADHD who enter the military are largely unidentified. Prospective service members may be afraid to disclose a prior diagnosis, as ADHD is a disqualifying medical condition for entry into the armed forces (Sayers et al., 2021). Though a waiver process exists, withholding a previous ADHD diagnosis is incentivized, and only an estimated 35% of this cohort is identified during their entrance physicals (Sayers et al., 2021). Furthermore, service members may present with unique manifestations, such as inattentiveness while studying for advancement exams, or being reprimanded for forgetfulness, carelessness, or chronic lateness (Shura et al., 2016). Because untreated ADHD is associated with

potentially disabling comorbidities, it is paramount that the gap in identification be closed with a standardized approach.

Relevance to Military Nursing

Military nurse practitioners commonly work in primary care, playing a large role in initial identification of health conditions (Harrison, et al., 2020). The role of military nurse practitioners has traditionally advanced faster than in the civilian world, and their scope of practice within military medicine continues to evolve and expand (Lewis et al., 2016). Their expanding role within the military primary care setting makes nurse practitioners ideal agents to close gaps identifying service members for diagnosis and treatment of ADHD and prevent comorbidities.

Using an average of the estimated prevalence rates of ADHD in the military, 28,427 members have ADHD in the U.S. Navy alone (Cancian, 2020; Kok et al., 2019). While ADHD is a waiverable medically disqualifying condition for entry into the military, sailors diagnosed after six months on active duty are eligible for retention per Navy standards (Austin, 2022; Department of the Navy [DON], 2018). Sailors must be able to complete the duties of their office, grade, rank, and rating while receiving medically maximized treatment for ADHD (Austin, 2022; DON, 2018). Despite this, the majority of these members continue to not be identified and are left at risk of developing complications of untreated ADHD.

In the active duty population, one of the most profound implications for ADHD identification is its association with suicidal ideation (SI). According to Nock et al. (2018) Army soldiers with untreated ADHD were more likely to have persistent SI, lasting greater than one year following a combat deployment, compared to their counterparts without an ADHD diagnosis. Further investigation dispelled a direct correlation by linking increased depressive episodes as a correlating factor (Howlett et al., 2018). ADHD retained an indirect correlation,

increasing the risk of major depressive episodes following a combat deployment (Howlett et al., 2018). Identification and treatment of ADHD as a secondary prevention measure reduces the risk of major depressive episodes and would subsequently minimize the incidence of persistent SI (Howlett et al., 2018). In fact, a member's resilience to depression increases the earlier ADHD treatment can begin (Katzman et al., 2017; Oddo et al., 2018).

Another important consideration in active duty members is the association between untreated ADHD and post-traumatic stress disorder (PTSD). U.S. Army veterans with untreated ADHD are more likely to develop PTSD and experience more severe symptoms after exposure to combat (Adams et al., 2020; Howlett et al., 2018). Most significantly, symptoms of inattention were closely linked to re-experiencing symptoms found in PTSD, to include nightmares, flashbacks, or intrusive thoughts (Adams, et.al., 2020). The association of PTSD symptom severity and inattentive ADHD symptoms suggests adequate medical treatment of inattentive symptoms would decrease PTSD severity.

Untreated pre-deployment ADHD has also been linked to future generalized anxiety disorder (Howlett et al., 2018). Hyperactivity and impulsivity are correlated to generalized anxiety and panic disorder (Stanton et al., 2018). Treatment of preexisting ADHD has been associated with protective factors against the severity of generalized anxiety disorder (Katzman et al., 2017).

The use of methylphenidate, a medication used to treat ADHD, has raised concerns about increased bone fractures and stress fractures in deployed environments due to its effects on bone mineral density. However, methylphenidate dosage and the occurrence of either stress fractures or bone fractures were found to have an inverse relationship (Schermann et al., 2018, 2019). Methylphenidate use in military members with ADHD stratified the risk of bone and stress

fractures lower than military members without ADHD (Schermann et al., 2018; 2019). Preventing stress fractures in deployed environments through proper identification and treatment of ADHD would reduce medical evacuations and maintain military lethality (Mission: Readiness, 2014)

In addition to reviewing the literature, we performed a needs assessment. Within our assigned clinic, Branch Health Clinic (BHC) Boone, there were over 200 referrals to mental health for ADHD in 2020. In the military system all in-house specialties have the right to first refusal. This means all referrals placed by primary care must first be reviewed by the military employed specialist to be approved, denied, or deferred to the civilian network. We were unable to determine how many referrals were placed specifically for adult patients; however, nearly all adult ADHD referrals were being denied and returned to the provider noting “assessing, diagnosing, and treating ADHD is within the scope of practice of primary care”. If by chance, a referral was approved, it was deferred to the civilian network where locally there was at least a three month wait for an initial appointment. Furthermore, we found there was no standardized assessment tool used by the clinic to screen and assess adult ADHD.

Anecdotally, we observed only some providers using screening tools to assess adult ADHD. Other providers were unsure how to use them or unaware a screening tool existed. Those that did use a screening tool had inconsistent methods of documentation with some documenting “positive ADHD screener,” writing the name of the screener used, or scanning the screening tool into the medical record. Overall, providers were hesitant to screen, diagnose and treat adult ADHD.

The needs assessment findings paired with the high incidence of ADHD in military members lead to profound negative sequelae. In order to achieve the benefits ADHD treatment provides military members, it is paramount that members are identified using a standardized

approach. No such approach exists at BHC Boone, which serves active duty members, and prompts investigation into best practices for adult ADHD screening in primary care.

System or Clinical Question

In adult primary care, what is the effect of education on the Adult ADHD Self-Report Scale (ASRS) v1.1, compared to no education, on provider confidence in screening for ADHD and provider screening rates?

Search Strategy/ Results

Using PubMed, Embase, CINAHL, and PsychINFO databases, three different sets of terms were searched. Searches were filtered to include studies from Jan 2016 to present. These sets were [1] ("ADHD" or "attention deficit hyperactivity disorder" or "attention deficit-hyperactivity disorder" or "ADD" or "Attention Deficit Disorder") and (adult) and ("screening tool" or screener); [2] (ADHD or attention deficit hyperactivity disorder or attention deficit-hyperactivity disorder or "ADD" or Attention Deficit Disorder) and (military or "service member*") and [3] (ADHD or Attention deficit disorder or attention deficit hyperactivity disorder or Attention deficit-hyperactivity disorder) and (Primary care or primary care provider or primary care physician) and (diagnosis or assessment or evaluation) The inclusion terms used were “ADHD”, “attention deficit hyperactivity,” “adult, primary care,” “diagnosis,” “eval,” “screen,” “pcp,” and “pcm.” The exclusion terms used were “children,” “pediatrics,” “Swiss,” “Korean,” “Chinese,” “Korea,” “China,” “Switzerland,” “Swedish,” and “Sweden.” Many of the exclusion terms were used to assist in excluding studies completed on foreign populations too dissimilar from the U.S. military population. Eight hundred five articles were screened overall, with 85 being a full text review. Eight articles citing different screening tools were included in the final solution. Refer to Appendix A for the PRISMA diagram and Appendix B for the Evidence Table.

Solution Synthesis

Although psychiatric interviews remain the gold standard for diagnosis, assessment of ADHD in service members also relies on self-reported symptoms (Shura et al., 2017). Formal diagnosis in both the military and general populations include a variety of objective and subjective measures, such as retrospective evaluation of previous academics, work performance, and medical records for a complete clinical picture (Emser et al., 2018; Shura et al., 2017).

Objective measurements include neuropsychological tests of attention and reaction time. They are primarily used by mental health specialists if a clear diagnosis is not apparent (Kameg and Fradkin, 2021). Though such tests can play a part in diagnosis, they are lengthy, require special training for providers, and are not practical for use in a standard primary care appointment (Emser et al., 2018). With this in mind, primary care providers need to be equipped with brief, accurate, and easy to use screening tools to recognize individuals who may require further evaluation.

There were concerns within the literature and anecdotally at BHC Boone clinic that screening tools relying on patients self-reporting symptoms cause over-reporting and increased false positives rates (Lovett and Jordan, 2019). Lovett and Jordan (2019) examined the effects of providing education on screening tools versus no education when administering ADHD screening in college students, a population with a perceived tendency to seek out stimulant medication to improve academic performance. Neither the ASRS v1.1 nor the Conners Adult ADHD Rating Scale had symptom over-reporting further supporting the screening tools themselves do not promote false self-report symptom severity (Lovett and Jordan, 2019).

The American Academy of Family Physicians (AAFP) lists many tools for the evaluation of ADHD, including self-report screeners, interviews, and quality of life assessments (Loskutova

et al., 2021). These tools vary in number of items and require different amounts of direct time commitment from the provider. Because focused interviews can be lengthy and difficult to complete in a single visit, primary care providers can utilize a validated screening tool initially and have the patient follow-up for a further in depth interview as needed. Luckily, self-report scales have shown validity and test-retest reliability (Brevik et al., 2020). The 25-item Wender Utah Rating Scale (WURS), for example, was found to have significant discriminatory properties for concentration problems and being easily distracted; however, compared to other tools it takes longer to complete (Brevik et al., 2020). Tests that are similar in length, such as the 26-item Conners' Adult ADHD Rating Scale Self Report Short Version take approximately ten minutes to complete and an additional ten minutes to score (Hines et al., 2012).

One of the most commonly used validated tools is the 18-item ADHD Self-Report Symptom Checklist, which identifies ADHD symptoms nearly as well as the WURS (Brevik, et al., 2020). In addition to symptom identification, the checklist can also assess symptom frequency, measure symptom burden, (Jain et al., 2017; Silverstein et al., 2019) and inventory a patient's symptom profile (Adler et al., 2019). For ease, adult ADHD Self-Report Symptom Checklist is divided into parts A and B, with Part A being the screening tool and Parts A and B used together to assess symptom severity (Chamberlain et al., 2021).

The six-item Adult ADHD Self-Report Scale (ASRS) v1.1 is a truncated version of the ADHD Self-Report Symptom Checklist that takes most patients less than one minute to complete (Hines et al., 2012). It is validated for primary care and performed similarly to the full-length version in both mental health specialties and the general population noting a decent sensitivity (68.7%) and high specificity (99.5%) (Brevik et al., 2020; Hines et al., 2012).

Recently, the Adult ADHD Self-Report Scale v1.1 was updated to reflect changes between DSM-IV and DSM-V. It has also replaced two questions previously focused on DSM criteria with items assessing executive function, which is often impaired in adults with ADHD, and highlights symptom interference in daily life (Shaw et al., 2017; Uston et al., 2017). The resulting six-item World Health Organization Adult ADHD Self- Report Screening Scale for DSM-5 (ASRS-5) is easier to administer and score than lengthier scales. Its focus shifts from clinical impairment and instead emphasizes patient reports of symptoms that interfere with day-to-day functioning (Shaw, et.al., 2017). Importantly, it has a high sensitivity (91%), a fairly high specificity range (74%-96%) and has adequate validity for use in the general population (Lundin et al., 2019; Ustun et al., 2017).

Similar to the ASRS v1.1, the ASRS-5 is validated for use in primary care (Anbarasan et al., 2020). The screening tool itself is free to use; however, a proprietary scoring system is not openly published, making it difficult to implement as a widely used standard tool.

After taking into account the various screening tools, the ASRS v1.1 appeared to be the most promising tool for use in a primary care clinic caring for an active duty population. Additionally, our needs assessment noted some providers were already using the ASRS v1.1. Its brevity, scoring and interpreting ease, and established availability within our primary care clinic solidified our decision to use the ASRS v1.1.

Focus Areas

Our literature review and needs assessment revealed a gap in the identification of adult ADHD within the military population, which has disproportionately higher prevalence rates compared to the general population. Members are left unrecognized, untreated, and at increased risk of work performance degradation and negative consequences from associated comorbidities.

Through an educational intervention designed to standardize ASRS v1.1 use among providers and support staff, we hoped to increase use of the screening tool as well as increase provider confidence using the tool. Educating providers on ADHD manifestations in adults, the impact of ADHD on military members, and on proper use of the screening tool could lead to sustainable results and address our long-term goal and begin to close the gap identifying service members with ADHD. Ultimately, increased screening and provider confidence ought to have a domino-like effect leading to command-wide practice change, reduced need for specialty referrals, decreased patient comorbidity burden, and increased member productivity.

Business Case Analysis

There are 24,000 active duty service members enrolled in the three Family Medicine Clinics of Navy Medicine Readiness and Training Command (NMRTC) Portsmouth, to which BHC Boone belongs. There are an estimated 3,854 officers and 20,146 enlisted members using the officer to enlisted ratio listed by the Naval History and Heritage Command (2020). Approximately 320 officers and 1,672 enlisted members will be affected by ADHD in these facilities, and 80% of those affected are expected to have at least one coexisting mental health condition (Katzman et al., 2017; Kok et al., 2019).

Monetary productivity loss is one of the greatest areas that can be improved with increased identification of members affected by ADHD. Productivity is reduced by an average of 5.11% in untreated persons with ADHD (Doshi et al., 2012). According to FederalPay.org (n.d.), an average E-5 makes \$30,499.20 annually, and an average O-3 makes \$54,176.40 annually. This translates to an average annual productivity loss of \$1,558.50 and \$2,768.41, respectively. A total average of \$3,491,703.20 per year is retained when these members are accurately screened, diagnosed, and treated (Doshi et al., 2012).

Additional benefits exist but are much harder to quantify with monetary value. Treatment of coexisting depression and anxiety can be optimized in the estimated 188 officers and 984 enlisted members likely to have at least one comorbidity. A positive impact on the mental health of service members enables increased capabilities of their respective units and increased success of military operations at large. As the need for referrals decreases, it cuts costs spent on specialty care as well as eliminates long wait times which presumptively would increase patient satisfaction.

Project costs are minimal, limited to supplies necessary for training and implementation. These costs are estimated at \$1,000 for printer ink, paper, and handouts for staff and patient rooms. Project management costs for the two active duty Family Nurse Practitioner students is estimated at \$13,707.20 (Defense Finance and Accounting Service, 2021). This figure includes four hours of pay per week for 10 months and accounts for preparation, implementation, analysis, and dissemination of results. A total cost of \$14,707.20 is expected for implementation of the project with a net gain ranging between an estimated \$3,476,996 and \$7,335,442.66. For a complete breakdown, please refer to the Business Case Analysis in Appendix C.

Organizing Framework

For this project, the Model for Evidence-Based Practice Change was utilized due to its use of process improvement principles and evidence-based strategies to promote a new practice (Appendix D) (Rosswurm & Larrabee, 1999; Melnyk & Fineout-Overholt, 2019). The aim is to achieve adoption of a standard screening tool for ADHD recognition in primary care clinics using the six steps outlined in the model. Because of the negative implications of untreated ADHD in military members, we recognized the need for increased use of a screening tool and increased provider confidence in screening tool use in primary care.

Project Design

General Approach

Prior to the start of our project, there was no standard screening tool being utilized at BHC Boone. Usual practice varied widely depending on each individual provider. Analysis of current evidence revealed multiple ADHD screening tools validated for primary care settings, with the ASRS v1.1 most appropriate to implement in this primary care clinic.

This evidence-based project (EBP) was designed as a process improvement to implement the ASRS v1.1 as the standard tool to assess adult ADHD and improve provider confidence using the ASRS v1.1 through an educational intervention. The educational intervention included a PowerPoint presentation instructing the staff on the proper use, scoring, interpretation, and documentation of the ASRS v1.1. This was followed by a live demonstration having a randomized staff member complete the ASRS v1.1 screening tool with the instructor walking through scoring and interpretation of the screener. Comparison of provider confidence was assessed using pre- and post- intervention knowledge check questionnaires. ASRS v1.1 use was determined by a retrospective chart audit with a two month pre- and post- intervention period. At the end of the implementation period, results of the project were analyzed, and shared with stakeholders. The results then prompted discussions to adapt, adopt, or reject the practice change. If adapted or adopted, the screening process will be integrated into practice by a written policy or other permanent process, creating a uniform standardized approach to adult ADHD identification within primary care at NMRTC Portsmouth. If integration continues to be successful, it can also be adopted in other military facilities. See Appendix E for a copy of the ASRS v1.1 (Figure 1), knowledge check questionnaire (Figure 2), and tables used in data collection (Figures 3 and 4).

Setting and Population

The setting for this project was a branch primary care clinic of NMRTC Portsmouth, VA, Branch Health Clinic (BHC) Boone. During the implementation of the project, BHC Boone had three physicians, four nurse practitioners, six physician assistants, and one independent duty corpsman. The provider makeup was a mix of active duty, contract civilian, and general schedule (GS) civilians. The patient population of interest was made up of adult dependent, active duty, and retiree patients.

Procedural Steps

Prior to implementation Uniformed Services University of the Health Sciences (USUHS) approval was obtained. Subsequently, this evidence-based project was granted a letter of exemption by the Institutional Review Board (IRB) committee of NMRTC Portsmouth. Once the exemption was granted, the stakeholders, to include the department head, senior medical officer, and clinic manager of BHC Boone were briefed on the EBP justification, project design, and expected outcomes. We crafted the educational PowerPoint presentation and knowledge check questionnaire, both informed by our literature review. Prior to presenting the educational intervention to providers and support staff, a knowledge check questionnaire was administered to assess baseline confidence screening and managing adult ADHD. The knowledge check also included free text questions about which screening tool providers used, if any. One free text question also investigated what perceived barriers there were to screening.

The educational PowerPoint was delivered in person to support staff and providers separately, allowing staff to ask questions specific to their clinic roles. The education included information about manifestations of adult ADHD, implications in the military population; and military policy on recruitment, retention, and deployment restrictions. Education on

administration, scoring, interpretation, documentation, and coding of the ASRS tool were presented in detail. Additionally, the DSM-V diagnostic criteria were presented. All staff members had access to the PowerPoint slides after the presentation.

Staff were shown the ease of scoring the ASRS v1.1 (Part A). The screening tool includes a Likert-like scale for each question and each positive answer is shaded in gray. A score of 4 or more positive answers indicates a positive screen (Chamberlain et al., 2021). Additionally, Part B, the second part of the symptom checklist, was introduced so staff would have an additional tool for assessment of symptom severity and as a follow-up tool to assess if treatment provided to the patient was effective (Chamberlain et al., 2021). It was important at this point to note that the ASRS v1.1 should be used as a screening tool and scores alone should not be used for diagnosis.

One key point detailed was the use of Current Procedural Terminology (CPT) code 96127, which when used can be for a brief emotional or behavioral assessment completed by the patient, and can be applied to other commonly used screeners in addition to the ASRS v1.1, such as the Post-traumatic Stress Disorder checklist (PCL-5), the Patient Health Questionnaire-9 (PHQ-9), and the Generalized Anxiety Disorder-7 (GAD-7). The CPT code can be used twice per patient encounter as long as it is associated with different international classification of diseases (ICD)-10 codes.

We also reviewed ICD-10 codes that could be used if the ASRS v1.1 was used, and no diagnosis was made during the encounter. These included the codes for: Encounter for screening examination for mental health and behavioral disorders, unspecified (z13.30), Encounter for screening examination for other mental health and behavioral disorders (z13.39), and Encounter for screening for other disorders (z13.89).

The educational session ended with a live demonstration of the ASRS v1.1 screening tool. A volunteer from the audience was chosen to complete the ASRS screening tool in real time so the staff could witness the length of time it took to complete. To maintain the staff member's privacy, they were asked to not provide truthful answers when answering the screening questions. We scored and interpreted the screening tool in real time as well, showing the length of the entire process. Additional resources were provided to assist staff members in the next steps of possible diagnosis and management.

For nine days after the educational intervention, the team identified which scheduled patients would be good candidates for the screening tool based on the reason for visit. This was to further prepare them to identify these patients independently.

The project spanned four months, separated into pre- and post- intervention periods. The measures of provider confidence were collected using the knowledge check questionnaire, comparing the one we administered prior to the educational PowerPoint to one we administered two months after implementation. Screening tool use was calculated using retrospective chart audits, comparing how frequently the tool was used during the two months prior to and the two months following the educational intervention.

For our chart reviews, we had to specify criteria to be included in our data. With the help of the facility's data analysts, we identified charts of patients between the ages of 18 and 64 coded with one of the ICD-10 codes associated with ADHD (F90.0, F90.1, F90.2, F90.8, or F90.9) or with the CPT code 96127, indicating that a behavioral assessment tool was used. ADHD ICD-10 codes were utilized to capture ASRS v1.1 use in previously diagnosed or newly diagnosed ADHD. The CPT code was used to capture patients with a negative ASRS v1.1 or patients with a positive ASRS v1.1, but not diagnosed with ADHD. Since CPT code 96127 is coded for use of

other screening tools, we only collected data from charts assessing adult ADHD.

BHC Boone was scheduled to transition to a new electronic health record (EHR). We collected all data prior to the roll-out of the new EHR to ensure no data was lost.

The Procedural Timeline can be found in Appendix F.

Data Analysis Plan

A total of 232 charts with the appropriate coding were identified. Virtual encounters were excluded as there was no mechanism to have a patient complete the screening during this type of encounter. Pediatric patients were also excluded as we were interested in adult ADHD screening. Finally, one chart was excluded as it could not be determined if the encounter was an in-person or virtual encounter. In total, 57 charts pre-intervention and 63 charts post-intervention were included and reviewed.

Descriptive statistics were used to evaluate ASRS v1.1 usage rates. The retrospective chart review collected data on patients screened in the two months prior to and following the educational intervention to determine the impact compared to no educational intervention. We planned to use Fisher's exact test to determine the association between ASRS v1.1 usage and the pre- and post-intervention periods.

Additionally, the number of providers confident in screening adults for ADHD was evaluated. Each provider was given a knowledge check prior to and after the implementation period. The results of the pre-and post-intervention knowledge checks were analyzed using Mann-Whitney U. Please see Appendix G for Data Analysis Plan.

Potential Barriers

As with any changes in practice, there were barriers and limitations to successful

implementation. We anticipated some providers would resist the introduction of a screening tool they were unaccustomed to using. In order to gain buy-in from the staff, we educated providers, nursing, and support staff on the evidence surrounding the ASRS v 1.1's efficacy and ease of use during face-to-face training. Providers and support staff were separated into two different cohorts in order to provide each group with a setting where they could ask questions relevant to their specific roles within the clinic. We recommended using the screening tool during check-in or initial interview with the technician in order to be least disruptive to clinic flow.

Time constraints were perceived by providers and staff, as indicated in pre-intervention knowledge checks. We pointed out other screeners, such as the PHQ-9 and GAD-7, are frequently used during a standard clinic appointment, and it generally takes that same amount of time to complete as the ASRS. Implementation feasibility was also supported within the literature. We further attempted to mitigate the perception of this barrier with the live demonstration of ASRS v1.1 use.

Incorrect scoring could result from errors in tabulation or incorrect input into the electronic health record. During initial training we emphasized the need for careful manual entry of scores. As an extra safeguard, providers were encouraged to review screening results with their patients during encounters to address any apparent errors.

Differences in how providers code encounters or complete documentation potentially impacted our results. Though education was given on proper use of the ICD-10 codes in an attempt to standardize charting, this may explain discrepancies between screening tool use rates and providers' reporting consistent use. Documentation of the screener was a cumbersome process because a set template was not available in the electronic health records. The screener

was converted into a free text document and supplied to providers to use as a narrative format. This was to accommodate workflows disrupted from using the centralized scanner to scan the tool into the encounter. With NMRTC Portsmouth's new EHR paper screeners are more easily scanned into the chart and the ASRS screening tool template is available for use.

Virtual encounters did not allow for paper screeners to be utilized as there was no mechanism for patients to receive a questionnaire during this type of encounter. This decreased the number of encounters we could include in our data analysis. While this barrier could not be avoided during the duration of our project, the newly implemented electronic health record's patient portal may allow the ASRS to be sent to patients prior to their scheduled virtual appointments.

Mishandling was another potential barrier. Screening tool forms may not have always been collected from the patient, given to the provider, or scanned after completion.

Sustainment and Dissemination Plan

After data analysis, we disseminated our findings to the USUHS faculty and NMRTC leadership via presentations to inform on our results, lessons learned, possible next steps, and to thank everyone for all efforts made. Staff had an opportunity to provide feedback and ask questions about the successes, challenges, and areas of improvement. Results were disseminated to USUHS leadership and peers during research week with a poster presentation. Additionally, our project was selected for dissemination as a poster presentation at the TriService Nursing Research Program (TSNRP) Research and Evidence-based Practice Dissemination Course and as a podium presentation at the American Association of Nurse Practitioners National Conference. Lastly, we plan to submit our manuscript for journal publication.

HIPAA Concerns/Ethical Considerations

All personnel handling printed screening tools completed mandatory Health Insurance Portability and Accountability Act (HIPAA) training. Each screening tool was labeled with the least amount of patient data possible to maintain privacy. Once completed and entered into the patient chart, they were discarded appropriately in the HIPAA compliant disposal bin. A concern existed for improper placement of these printed screeners.

Staff members were encouraged to ask the patients for their completed screening tools, minimizing the risk of misplacement by the patient.

Charting in the electronic health record also posed a HIPAA concern as patient information could be left on the computer screen and unattended by a staff member. Staff members were instructed to close their charts or exit their screens when documentation on or review of patient information was completed. In order to safeguard against violations, staff were educated on the importance of maintaining HIPAA compliance. Finally, we were available throughout the day to answer any concerns about mishandling screeners and were present to correct any witnessed deficiencies.

Project Results

Upon data review, 250 charts were identified; however, 49 were pediatric encounters and excluded from analysis. The remaining 202 charts were further limited to include in-person encounters only, leaving $n=130$. The pre-intervention period included 57 encounters and the post-intervention period included 63 encounters. Variables were accounted for using Fisher's exact test of association; including initial or follow-up appointment, patient duty status, and provider employee type. These variables were found to have $p>0.05$, indicating no statistical association with intervention periods. This suggests the identified charts within the intervention periods were

composed of similar patients and providers. We found ASRS v1.1 use increased from 5.3% to 23% ($p < 0.005$) using fisher's exact test of association. This shows an association between the screening tool use rates and the intervention periods, suggesting our intervention did in fact lead to increased ASRS v1.1 use.

Eighteen support staff and 10 providers completed the pre-intervention knowledge check, and the same 10 providers completed the post-intervention knowledge check. The data were tested for normality using the kolomogorov-smirnov test, and all were found to be non-parametric ($p < .001$). Because the post data was only from the providers, the pre data was compared between providers and support staff. None of the responses between providers and support staff were found to be significantly different. The provider pre and post data were compared, and no answers were found to be significantly different. All knowledge check analysis was conducted using Mann-Whitney U at the 95% level of confidence, and all responses had a p value > 0.05 . Please see appendix H for all results.

Analysis of the Results

The findings from our two data sets showed our educational intervention inspired positive practice change among participating providers, with higher self-rated confidence and consistent use of the primary care validated ASRS v1.1, which further aligns their practices with current evidence-based literature.

While the comparison of the pre- and post-intervention knowledge check answers were not found to be statistically significant, scores improved for all questions. The significance may have been impacted by a small sample size ($n=10$). Specifically, the percentage of providers reporting the highest level of confidence, a five out of five, screening for adult ADHD increased from 30% to 60%. Providers reporting consistent screener use, noting a five out of five rating, also increased

from 70% to 90%. Post-intervention, the majority of providers specifically named the ASRS v1.1 as the adult ADHD screener they used, while pre-intervention, few providers named any specific screening tool. This further suggests positive impacts in the providers despite lack of significance during statistical analysis.

Using data gathered from retrospective chart reviews, analysis revealed our educational intervention was successful in increasing ASRS v1.1 use. While the increases were found to be statistically significant, a post-intervention ASRS v1.1 usage rate of 23% still leaves room for improvement. As noted by the knowledge check, providers reported consistently using a screening tool, however, usage rates are still low at 23%. An explanation for this discrepancy could be poor or incorrect provider documentation. This is confounded by knowledge check anonymity and not tracking usage rates of each participating provider. Thus, we cannot associate a specific provider's answers with his or her specific usage rate.

Organizational Impact

Current literature has highlighted the impact of how early treatment can have on reducing or preventing grave comorbidities associated with ADHD. In conjunction with our results, these findings support the recommendation for ongoing education on adult ADHD screening and a standard screening process in all primary care clinics of NMRTC Portsmouth. The senior nurse of NMRTC Portsmouth echoed this and wishes to have the ASRS v1.1 be standard for use assessing adult ADHD in outpatient family medicine clinics. The literature is quite clear that standardization of adult ADHD screening would increase identification, thus leading to increased diagnosis and treatment. Broadly, the positive impacts include less healthcare costs and burden from decreased specialty care referrals and decreased patient comorbidities. These positive impacts most importantly increase the overall readiness and resilience of military members and

their families enabling them to successfully complete future military missions.

Future Directions for Research and Practice

Though we have completed our project, the work is not over. Our results can form the foundation for future quality improvement projects. For example, quality assurance/quality improvement projects can be developed to identify and correct any documentation deficiencies that may exist, which was a potential limitation in our data analysis.

For BHC Boone specifically, we identified the Department Head as the clinic champion, and recruited her to maintain an enthusiasm for the screening process ensuring providers continue to screen for adult ADHD. There is also potential for future projects to focus not only on addressing screening adults for ADHD but also on treatment strategies and long-term management.

Conclusion

We have made strides in our initial goals regarding adult ADHD screening. At BHC Boone, providers are more confident in screening adults for ADHD and more providers are consistently delivering evidence-based care using a primary care validated adult ADHD screening tool. As the clinical scope of military nurse practitioners continues to expand, they will play an ever-increasing role in adult ADHD screening

Though not directly measured, we can make some inferences of wider impact based on the combination of current literature and the results of our project. Increased identification of adults with ADHD in primary care decreases the need for many referrals to Mental Health, which can eliminate long wait times and increase patient satisfaction with their healthcare. With increases in provider confidence and increased screening, we infer that more patients are identified for subsequent diagnosis and treatment. This is especially important for military members because

we have gleaned from the literature that treatment decreases risks for a plethora of comorbid conditions. Medically optimized, service members not only have improved quality of life, but they can stay well-trained and productive, contributing to an operational ready military. ADHD screening in adults is just one part of a comprehensive management plan, and we remain hopeful for the impact future evidence-based projects can bring.

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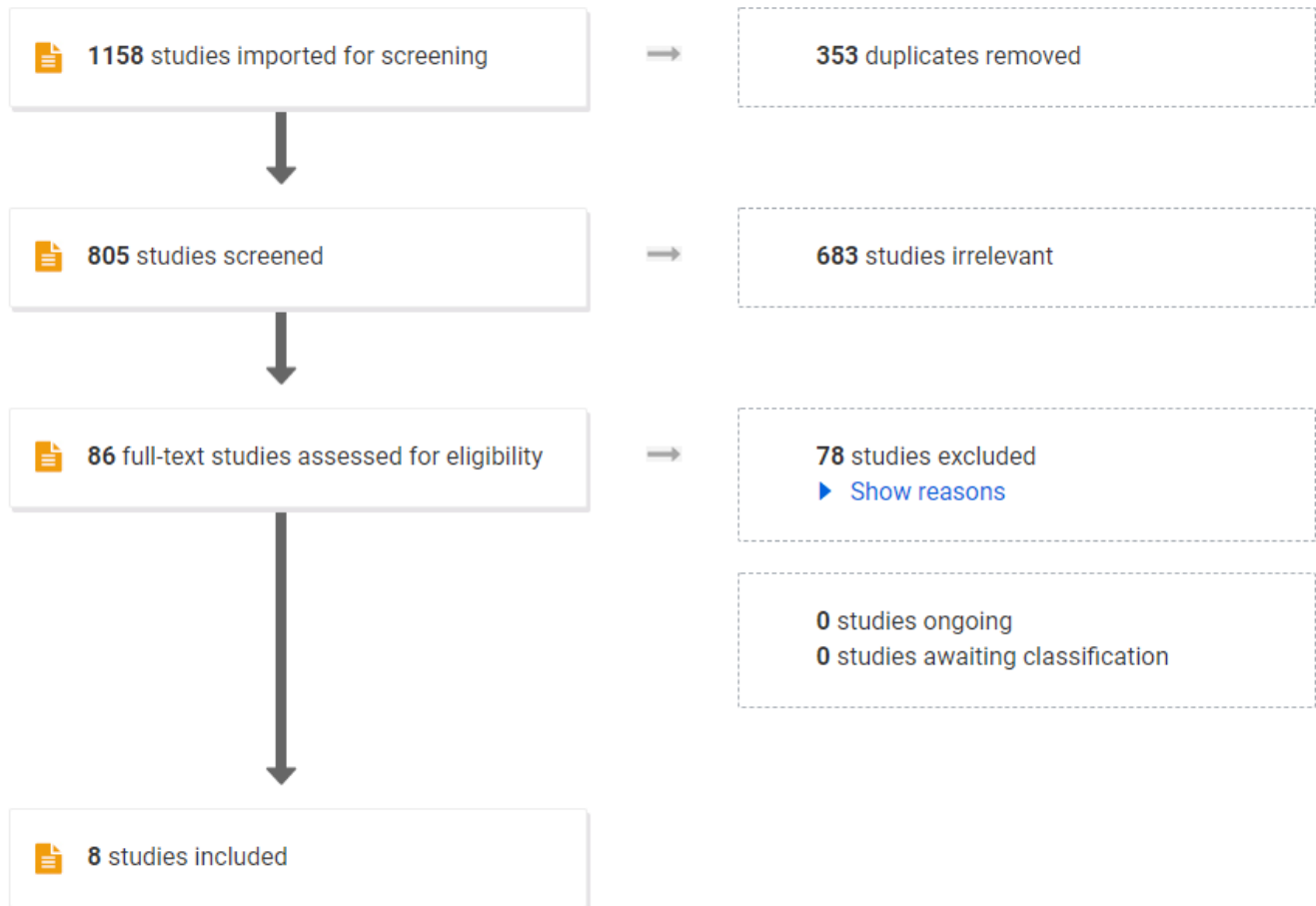
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Appendices

Appendix A: PRISMA Diagram



Appendix B: Evidence Table

1st Author, Publication year	Study Purpose/ Aims	Research Questions/ Hypotheses	Study Design	Total sample size (initial and final)	Sampling plan	Independent variables and level of measurement	Dependent variables and level of measurement	Statistical analyses
Adler, 2019	1. to estimate adult ADHD self-report scale (ASRA v1.1) symptom checklist normative scores in the US population by determining mean scores on the checklist 2. to evaluate overall ADHD symptom burden among US adults with ADHD	1. The study will be able to establish normative reference group that clinicians can reference when using the ASRS v1.1	A sample of people from a national survey completed the ASRS v1.1 and results were analyzed to determine the symptom burden of those diagnosed with ADHD and to establish normative values for the US population	A total of 22,397 respondents (final and initial)	A sample of respondents of the 2012 and 2013 US National Health and Wellness survey were contacted and asked to perform the ASRS v1.1. All had to be 18 or older and provide informed consent	IV: The ASRS v1.1 symptom checklist, nominal	DV: the scores of the population with ADHD and the scores of the general population, ratio	Standard deviations were used for continuous variables. Frequencies and percentages were used for categorical variables. Differences by sex and age in scores were analyzed with independent samples t-tests and one-way ANOVA with post-hoc paired comparisons.

Brevik et al, 2020	1. establish the construct and content validity of the Norwegian translations of the WURS and the ASRS using principal component analysis 2. examine the psychometric properties of the WURS and the ASRS in a large clinically diagnosed adult ADHD patient sample and population controls 3. to compare the utility of these instruments to aid the clinical ADHD diagnosis.	1. To validate the Adult ADHD Self-Report Scale (ASRS) and the Wender Utah Rating Scale (WURS) in a sample of adult attention-deficit/hyperactivity disorder (ADHD) patients and population controls.	Two groups were recruited in Norway in 2004; one with a diagnosis of ADHD, recruited from a national registry with the control sample randomly selected from the Medical Birth Registry of Norway. Both groups were administered the 25-item Wender Utah Rating Scale (WURS) and the 18-item ADHD self-report screener to measure the accuracy in the two populations	The study included n = 646 clinically assessed adult ADHD patients and n = 908 controls, resulting in a total sample of 1,554 participants.	The group with ADHD was recruited from a national registry diagnosed in Norway from 1997 to May 2005. The control sample randomly selected (ages 18-40) from the Medical Birth Registry of Norway and were asked to consent for participation	IV; The WURS and ASRS scales for ADHD; nominal	The sensitivity, specificity, and area under the curve for each of the scales; ratio	A Principal Component Analysis (PCA) with Varimax rotation was run to establish how each of the items in the screeners contributed to certain components. The likelihood ratios for positive tests and negative tests and Diagnostic Odds Ratio were calculated to test the diagnostic test's overall accuracy. Cronbach's alpha was calculated to measure internal consistency in the resulting factors of the WURS and ASRS.
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Hines, et. al. 2012	1. To analyze the efficacy of the ASRS v1.1 in a primary care setting 2. evaluate how willing individuals with a positive ASRS-V1.1 would be to participate in a more in-depth ADHD assessment tool using the Conners' Adult ADHD Rating Scale Self Report–Short Version (CAARS-S:S), a 26-question survey	1. to determine if the ASRS v1.1 is an appropriate tool in the primary care setting	Participants were randomly asked to participate in the survey, and if agreed, were administered the ASRS v1.1. Positive screens and a random selection of negative screens were then asked to complete the longer CAARS-S:S survey.	Initial: 200 agreed to participate. 30 tested positive on the ASRS v1.1 and asked to take the CAARS S:S. 25 of the 30 agreed to take the CAARS-S:S. Of the 171 who tested negative 35 were randomly asked to take the CAARS-S:S, and 30 accepted	The sample came from 8 primary care practices, adults ages 18-65. Patient were chosen randomly based on their appointment times and asked to participate while they waited in the waiting room.	The ASRS v1.1 and CAARS tools; nominal	Scores from the ASRS v1.1 and the CAARS S:S ratio	Sensitivity and specificity were estimated by contingency table analysis, and comparisons among the clinics were evaluated using the Fisher exact test. The data were analyzed using SAS 9.1
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Lovett, 2019	To investigate whether administering ASRS v1.1 followed by generic feedback would affect college students' symptom reports and cognitive performance	Accurate feedback regarding ADHD screener results to those without ADHD would influence them to increase self-reported symptoms	Students randomly assigned to control group or experimental group. Experimental group received WHO ASRS v1.1 and were given feedback on results of the screener. Both groups then completed a battery of cognitive tasks and a long-form symptom rating scale.	The study included 157 college students	Students were chosen from an introductory psychology course at a mid-sized public university in the Northeast United States. Student's were given less than 2% on their final class grade for participation. Students with reported ADHD were excluded, and students who had extreme scores, indicated low effort, were excluded.	IV: ASRS v1.1 with feedback on results; nominal	DV: Students with positive screeners diagnosed with ADHD; ratio	t tests for diagnostic tests, and level of concern over possibly having ADHD. No significant difference between control and experimental group. $P < 0.05$. Levene tests performed showing all variables had equal variance. gender was statistically insignificant $p = 0.25$.
Silverstein, 2018	To examine the test-retest reliability of the DSM-IV Adult ADHD Self-Report Scale (ASRS) v1.1 Screener in adults without ADHD. (6 question screener)	Verify test-retest accuracy of the ASRS v1.1	Participants were screened with the ASRS v1.1, then they had a telephone interview day zero to 21 with the semi structured interview Adult ADHD Clinical Diagnostic test and the second screening of the ASRS v1.1 at the	The study included 106 patients	Adults aged 18–60, inclusive, being seen for office visits were recruited in the waiting room of a large primary care practice affiliated with NYU Langone Medical Center as part of a study to update the	IV: Participant responses; ordinal	DV: ASRS v1.1 scores; Interval	The first and second administration scores evaluated by Cronbach's alpha. Spearman correlation examining relationship between the two administrations. Intraclass correlation coefficient used to confirm correlation. McNemar–Bowker test was also conducted to test for

			same time to examine the test-retest ability of the ASRS v1.1		ASRS Screener for DSM-5			significant change between administrations. All tests were two tailed and used p value = <0.05
Silverstein, 2019	To validate the Adult ADHD Self-Report Scale (ASRS) and Adult ADHD Investigator Symptom Rating Scale (AISRS) expanded version, including executive function deficits, and emotional dyscontrol items. Also, to present ASRS and AISRS pilot normative data.	Is the ASRS and AISRS valid	Data was extracted from two different studies, combined, and synthesized together assessing the scales. Data extracted from original research and applied to a new scale was only done when the prompt for the new scale was verbatim to the original scale's prompt.	Initial and final n=297. All participants selected for initial two studies were included	The first study used convenience sample recruited through print, radio, and referral from health care professionals to receive a free Adult ADHD evaluation at the adult ADHD program of the New York University Langone Medical Center. The second study used convenience sampling of Adults aged 18–60 being seen for	IV: Participant responses; ordinal	DV: ASRS v1.1 scores; Interval	For both the ASRS and the AISRS, internal consistencies were calculated with Cronbach's alpha. Item-total correlations were calculated for the EFD and EC items. All tests were two-tailed and used p value = <.05

					office visits were recruited in the waiting room of a large primary care practice affiliated with NYU Langone Medical Center			
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Stanton, 2018	To explain the structure of adult ADHD symptoms and how they correlate to internalizing and externalizing psychopathologies	No specific predictions regarding the relations for ADHD dimensions. However, generally expected that inattentive symptoms would show stronger relations with internalizing psychopathology and psychosocial impairment ; conversely, expected hyperactivity and impulsivity to be more associated with externalizing psychopathology and bipolar disorder	A large sample of outpatients from the Rhode Island Methods to Improve Diagnostic Assessment and Services with ADHD were selected and given the 18-item ASRS v1.1 to complete. They were also assessed for a wide range of other psychiatric disorders. The results from the ASRS v1.1 were analyzed and correlated with the comorbidities that were also assessed.	Initial and final sample of adult outpatients (N =1,094).	The sample was taken from a group of research participants from the Rhode Island Methods to Improve Diagnostic Assessment and Services	IV: Participant responses; ordinal	DV: correlation of specific symptoms to various comorbidities , ratio	1. examined prevalence rates, mean scores, and std deviations for all disorders examined 2. examined differences in prevalence rates for participants diagnosed versus not diagnosed with ADHD 3. conducted independent t tests to examine differences in mean scores on psychosocial indicators for participants with and without ADHD diagnosis 4. use of fit tests (mean square error of approximation (RMSEA), Bentler's comparative fit index (CFI), the Tucker–Lewis Index (TLI), the weighted root mean squared residual (WRMR) and chi square to examine which specific symptoms correlated with which disorders
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Ustun, 2017	1. to update the ADHD self-report screener according to DSM-V criteria 2. to improve the operating characteristics of the World Health Organization ADHD self-report scale for screening	None specified	Subsamples of participants in two general populations (one household survey and one managed care survey) who previously completed the full 29-question self-report screener were administered a diagnostic interview for DSM-V adult ADHD. A new screening scale was designed by a machine-learning algorithm with limited questions and its accuracy was tested in an independent clinical sample of patients at New York University Langone Medical Center Adult ADHD Program	The household sample was 119 and the managed care sample was 218. Data from these original samples were used for the NYU Langone sample. The clinical sample was n = 193 and the controls were n = 107	Sampling was based on mass media recruitment and referrals (clinical sample) assessed between Jan 26, 2011 and sept 7, 2012; controls were from primary care waiting rooms near the campus, assessed between sep 16, 2015 and Feb 26, 2016	The World Health Organization Adult ADHD Self-Report Scale; Nominal	The sensitivity, specificity, and positive predictive value of the revised ASRS; ratio	Development of the new screening tool was done using a machine-learning algorithm RiskSLIM using a best-fitting logistic regression model using a fixed number of screening questions as well as optimal integer scoring of every response, predicting clinical outcomes. The household and managed care samples were pooled and the data from this pool was transformed to obtain the best model. coefficients were applied to both the general population and clinical samples to calculate sensitivity, specificity, and positive predictive value.
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Appendix C: Business Case Analysis

BUSINESS CASE ANALYSIS
Proposed Title for Project/Initiative/Opportunity to Improve
Increasing Primary Care Provider use of the Adult Self Report Scale (ASRS) and confidence in screening adults for Attention-Deficit Hyperactivity Disorder (ADHD)
Opportunity Statement (<i>Description of proposed project/initiative/opportunity to improve</i>)
Attention Deficit Hyperactivity Disorder (ADHD) affects U.S service members at higher rates (7.6-9.0%) than the general population (2.5-8.4%) (American Psychiatric Association [APA], 2022; Kok et al., 2019). Left untreated, ADHD in the military has grave associations with persistent suicidal ideation, post-traumatic stress disorder, generalized anxiety and depressive disorders (Adams et al., 2020; Howlett et al., 2018; Nock et al., 2018). Identification and treatment of ADHD symptoms can improve the prognostic outcome for associated comorbidities (Ustun et al., 2017). Currently, primary care clinics at Navy Medicine Readiness and Training Command Portsmouth do not have a consistent process to screen for ADHD. Our goal is to provide education on adult ADHD and implement a standardized evidence-based screening practice that aligns with the Defense Health Agency and the Quadruple Aim vision to improve health, decrease costs and enhance patient satisfaction (Gilbert, 2018).
Business Opportunity/Objectives (<i>Prioritize listing – macro and micro objectives</i>)
Macro Objectives: 1) Increase use of ASRS V1.1 for adult ADHD assessment in a primary care setting 2) Increase provider confidence level in screening for ADHD Micro Objective: 1) Educate staff on manifestation of ADHD in adults and military implications 2) Educate all clinical staff on how to score and interpret ASRS v1.1 3) Complete retrospective chart reviews to compare screener use before and after education 4) Assess provider confidence level screening for ADHD prior to and after education

Potential Impact of the Initiative/Project (*Identify outcome metrics & benchmarks/and how objectives align with Quadruple Aim, Value Based Care, and HRO goals*)

Readiness/Improving Health: Decreased impairment due to ADHD and associated comorbidities, increasing readiness to deploy

Cost: Decreased costs from lost productivity

Experience of Care: Patient is able to be seen, screened, and have a more focused plan of care in one clinic visit as opposed to needing to waiting several months for initial mental health appointment

Value-based care: Improved health outcomes as patients will need less appointments and decreased impairment from comorbidities will increase efficiency and patient satisfaction

HRO: Education will provide increased opportunity for continued learning and training to clinic staff and increased teamwork among clinic staff members (Lorange, 2018)

Alternatives (courses of action) chosen for Analysis

1. Conduct an educational intervention implementing a standard screening tool to increase screening rates and increase provider confidence in screening adults for ADHD
2. Administer screener to each active duty Service Member upon check-in.
3. “*Status Quo*”: Continue to screen as per provider preference

Analysis of Alternatives

Alternative 1:	Conduct an educational intervention implementing a standard screening tool to increase screening rates and increase provider confidence in screening adults for ADHD
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Pros

Cons

- Screening can be completed by patient at check-in or during interview with tech - Provider has access to scores prior to entering exam room, and can address scores with patient during the visit - Integrates and normalizes ADHD screener into practice	- Potential for HIPAA breach if forms not handled properly - Potential for errors due to incorrect input of scores into EMR - Increase in referrals to mental health due to persistent provider discomfort
Alternative 2:	Administer screener to each active duty Service Member upon check-in.
Pros	Cons
- Will increase screening of active duty patients - Requires less time and preparation to implement - Decreases likelihood of missing ADHD as potential diagnosis	- Screening all active duty patients takes time and can disrupt clinic flow - More likely to burden provider workload with false positive results - Could increase referrals to mental health due to false positive results
Alternative 3:	<i>“Status Quo”</i> : Continue to screen as per provider preference
Pros	Cons
- Providers will not need to learn to use any new tools - Does not cost any money	- No improvement in the recognition and management of ADHD - No improvement in provider confidence screening adults for ADHD - No standardized process among providers
Assumptions	

- We will receive approval from the IRB
- There will be stakeholder buy-in from NMRTC Portsmouth Family Practice Clinics
- The screening tools will not negatively impact clinic workflow
- HIPAA will be maintained
- We have the rights to use available screening tools
- Patient satisfaction will increase because they will not necessarily have to wait for Mental Health referral for initial management
- Education will increase provider confidence in recognizing ADHD

Recommendation and Rationale

Recommendation

Conduct educational intervention aimed to increase screening tool use and increase provider confidence in screening adults for ADHD

Rationale

Screening tools can be quickly administered and scored, and providers have access to the results prior to entering the exam room. Positive scores can be immediately addressed by the provider. The educational intervention provides information on manifestations of ADHD in adults and implications in military members, and proper use and scoring of the screening tool.

Value Based Care - Investment Required by the Organization and the Associated "VALUE" or \$ GAINED.

$$\text{Value} = \frac{\text{Quality} + \text{Service}}{\text{Cost}}$$

I. *Quality projected based on: (Figures underlined represent highest estimated impact)*

	According to Doshi (2012), the reduction in productivity per individual with untreated ADHD ranges from 0.3%-9.92%, an average of 5.11%. With an average income of \$67,521 (US Census Bureau, 2021), each individual loses \$209-\$6,699 annually in productivity. According to federalpay.org (n.d.), an average E5 makes \$30,499.20 annually. Loss of productivity from untreated ADHD would result in a loss of \$1,558.50, using the average loss of 5.11%. (<u>9.92%=\$3,025.52</u>) An average O3 makes \$54,176.40. Loss of productivity due to untreated ADHD would result in a loss of \$2,768.41 using the average loss of 5.11% (<u>9.92%=\$5,374.30</u>) The prevalence of ADHD in the military ranges from 7.6%-9.0% (an average of 8.3%) of all members. According to the Naval History and Heritage Command (2020), the strength of the US. Navy force, last tabulated in 2010, was 320,050 members with 51,390 Officers and 268,660 enlisted. Sewell's Point, Little Creek, and Fleet and Family Clinic have 24,000 active duty members. Using the same officer to enlisted ratio, there are approximately 3,854 officers and 20,146 enlisted members. 8.3% of officers estimates that 320 are affected, leading to an overall	<i>Losses in the general population: \$209-\$6,699 annually per individual with ADHD</i> Avg Loss of \$1,558.50 per E5 Loss of \$2,768.41 per O3	
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\$885,891.20/yr productivity lost (<u>9%=347 affected totalling \$1,864,882.10/yr</u>) 8.3% of Enlisted members estimates that 1,672 are affected, leading to an overall \$2,605,812/yr productivity lost (<u>9%=1,813 affected totaling \$5,485,267.76/yr</u>) A total of \$6,778,432.64 in lost productivity per year. (<u>Max Estimated: \$7,349,807.15/yr</u>) Up to 80% of people with ADHD have at least one mental health comorbidity (Katzman, 2017). An average of 256 officers and 1,338 enlisted members have such comorbidities. (<u>Max Estimated: 278 officers and 1,450 enlisted</u>) The average rate of depression in those with ADHD is 36.05%, affecting an estimated 92 officers and 482 enlisted members. (<u>Max Estimation: 100 officers and 523 enlisted</u>) The average rate of anxiety in those with ADHD is 37.5%, affecting an estimated 96 officers and 502 enlisted members (<u>104 officers and 544 enlisted</u>) Patient Safety Related Benefit: - Decreased persistent SI - Decreased likelihood for developing severe PTSD symptoms	Average estimated loss of \$885,891.20 from all affected officers Average estimated loss of \$2,605,812 from all affected enlisted Average total estimated loss of \$3,491,703.20, with estimated maximum loss of \$7,350,149.86 in lost productivity in active duty members empaneled to the three Family Medicine Clinics of NMRTC Portsmouth.
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- | | | | |
|--|---|--|--|
| | <ul style="list-style-type: none">- Decreased impairment of depression and anxiety symptoms- Decreased chance of stress fractures and bone fractures | | |
|--|---|--|--|

	Financial Benefit: - Increased workplace productivity	Average Estimate: \$3,491,703.20/year (Max Estimate: \$7,350,149.86/yr)	
	Operational Readiness Benefit - Decreased comorbidities and overall increased health of Service Members		
	Total	\$3,491,703.20/year	
<i>II. Service projected based on:</i>			
	Social Impact/Benefit - Greater productivity in the workplace and greater success in career	<i>Increased capabilities and lethality</i>	
	Patient Satisfaction/Benefit - Able to be screened appropriately by primary care manager further supporting a diagnosis without having to wait for specialty referral	<i>Increased efficacy and increased positive ICE comments</i>	
	Provider Satisfaction/Benefit - Increased ability to identify members with ADHD to care holistically for comorbidities	<i>Potentially less referrals to specialty care for diagnosis (number of referrals pending)</i>	
	Total	\$0	

III. Cost projected based on:

	Program Design and Development - Ink, paper, education materials - Training staff	\$ 1,000	
	Project Management - Monitoring completed algorithms	\$ 13,707.20 for 10 months	
	- Chart Audits - 2 FNP students (one O-3 and one O-4) complete 4 hrs/wk for 2 weeks) - O-3: \$6022.80/ 2 paychecks / “80 hour work week” x 4 hours: \$150.57 - O-4: 7684.20/ 2 paychecks / “80 hour work week” x 4 hours: 192.11 Total: \$342.68 per week x 2 weeks: \$685.36 (Defense Finance and Accounting Service, 2021)		
	Total	\$ 14,707.20	

IV. PROJECTED VALUE :

	Quality Revenue Gained	\$3,491,703.20/year (\$7,350,149.86/year)	
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	<i>Cost to Organization</i>	<i>\$14,707.20</i>	
	<i>Total</i>	<i>\$3,476,996</i> <i>(\$7,335,442.66)</i>	

Risks and Mitigation Plan

Risks	Plan
1. Non-compliance with tool	1. Educate providers and technicians of the efficacy and ease of ASRS v1.1. Recommend use of tool during times it will least disturb clinic flow (ie at check-in or during interview with technician)
2. Incorrect scoring (human error)	2. As part of initial education, emphasize careful manual entry of scores, have provider review score with patient during the visit
3. Increasing number of inappropriate referrals	3. Educate this is a screening tool and clinician judgment ought to be utilized prior to initiating referral to mental health
4. Mishandling of paper screening tools	4. Education will include consideration of HIPPA concerns and provide recommendations that providers and support staff communicate frequently about patients so screening tools are appropriately administered and collected
5. Missing patients who meet screening criteria	5. Education will include manifestations of ADHD in adults so providers are aware of patients that may exhibit these signs and symptoms that could prompt screening;

		educational PowerPoint will be available to all staff as reference	
Implementation Plan			
Phase 1:	Gather evidence and choose screening tool best suited for clinic		
Milestone Description:	- Review evidence available about effects of unrecognized and untreated ADHD on quality of life and on comorbidities, specifically for Service members - Complete literature review and choose screening tool to educate staff on administration, scoring, interpretation, and documentation		
Deliverables		Due Date	Accountable Person
Organization, categorization, and critique of systematic reviews, meta-analyses, well-designed studies, and expert opinion articles Copies of adult ADHD screening tool		September/ October 2022	- USU/Navy Medicine Readiness and Training Command - Portsmouth FNP student group
Resources Needed			
The Learning Resource Center, research databases, time to accomplish review of evidence			
Expected Level of Benefit			

Baseline evidence to provide background information to stakeholders		
A efficient and easy to use tool will be presented to staff during educational intervention, making it easier to screen adults for ADHD		
Phase 2:	Dissemination of findings with key stakeholders	
Milestone Description:	- Meet with Board/ leadership to discuss Business Case and available evidence - Approval to proceed with project proposal	
Deliverables	Due Dates	Accountable Person
A professional presentation highlighting relevant findings	October 2022	USU/Navy Medicine Readiness and Training Command Portsmouth FNP student group
Resources Needed		
Materials to complete a cohesive presentation time to complete presentation, schedule of stakeholders		
Expected Level of Benefit		
Proposal presented will highlight the importance and viability of the project and aid in the decision to progress with project as recommended		
Phase 3:	Develop Provider Knowledge Check Questionnaire and Educational PowerPoint	

Milestone Description:	- Develop knowledge check to gather baseline data from providers about current clinic practice, knowledge of ADHD screening tools, and confidence in screening for ADHD in adults - Create PowerPoint educational presentation on ADHD manifestations in adults, military implications, and proper use and documentation of adult ADHD screening tool	
Deliverables	Due Dates	Accountable Person
Provider knowledge check Completed presentations	October 2022	USU/Navy Medicine Readiness and Training Command Portsmouth FNP student group
Resources Needed		
Time to develop knowledge check; time to review literature that would inform questions used in the questionnaire. Time to develop cohesive PowerPoint presentation		
Expected Level of Benefit		
Proper and thorough development of educational materials give best chance of successful project implementation and maximal patient benefit Knowledge checks can be compared before and after education intervention to determine impact on provider confidence		
Phase 4:	Conduct educational intervention for providers and support staff	
Milestone Description:	Education to all providers and support staff on use of ASRS v1.1	

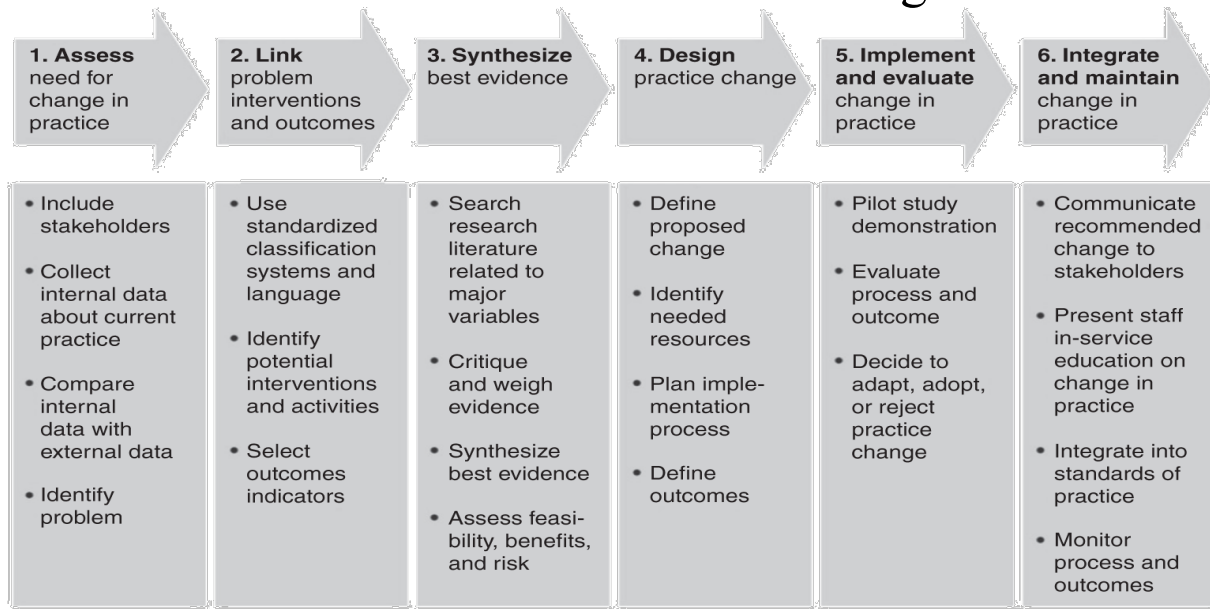
Deliverables		Due Dates	Accountable Person
Digital copy of presentation and additional resources - Laminated screening tools for reference - Copies of ADHD diagnostic criteria		October 2022	USU/Navy Medicine Readiness and Training Command Portsmouth FNP student group
Resources Needed			
Scheduled time to complete education with staff and administer knowledge checks			
Expected Level of Benefit			
Increase provider and staff baseline knowledge of adult ADHD and its implications Provide a resource (adult ADHD screening tool) that will be useful in patient encounters			
Phase 5:	Evaluate effectiveness of educational intervention on screening tool use and provider confidence in screening adults for ADHD		
Milestone Description:	- Increased use of screening tool Increased provider confidence in use of screening tool		
Deliverables		Due Dates	Accountable Person
- Poster and PowerPoint presentation of outcomes		Ongoing, but scheduled dissemination during following months: February 2023 April 2023	USU/Navy Medicine Readiness and Training Command Portsmouth FNP student group

	May2023 June 2023	
Resources Needed		
- Time to prepare post-project presentation for leadership, USUHS faculty, and peers - Time to present outcomes to command leadership		
Expected Level of Benefit		
- Adoption of new clinic work-flow once formal project completed; increased confidence in screening for ADHD in adults helping to close gap in identification and decrease severity of comorbid conditions		

NOTE: Modified from Harvard Business Review Press. (2011). *Pocket mentor: Developing a business case*. Boston: Author (pp 82-85).

Appendix D: Organizing Framework

Model For Evidence Based Practice Change



Appendix E: ASRS v1.1, Knowledge Check, data collection tables

Figure 1: ASRS v1.1

Adult ADHD Self-Report Scale (ASRS-v1.1) Symptom Checklist						
Patient Name	Today's Date					
Please answer the questions below, rating yourself on each of the criteria shown using the scale on the right side of the page. As you answer each question, place an X in the box that best describes how you have felt and conducted yourself over the past 6 months. Please give this completed checklist to your healthcare professional to discuss during today's appointment.		Never	Rarely	Sometimes	Often	Very Often
1. How often do you have trouble wrapping up the final details of a project, once the challenging parts have been done?						
2. How often do you have difficulty getting things in order when you have to do a task that requires organization?						
3. How often do you have problems remembering appointments or obligations?						
4. When you have a task that requires a lot of thought, how often do you avoid or delay getting started?						
5. How often do you fidget or squirm with your hands or feet when you have to sit down for a long time?						
6. How often do you feel overly active and compelled to do things, like you were driven by a motor?						
Part A						
7. How often do you make careless mistakes when you have to work on a boring or difficult project?						
8. How often do you have difficulty keeping your attention when you are doing boring or repetitive work?						
9. How often do you have difficulty concentrating on what people say to you, even when they are speaking to you directly?						
10. How often do you misplace or have difficulty finding things at home or at work?						
11. How often are you distracted by activity or noise around you?						
12. How often do you leave your seat in meetings or other situations in which you are expected to remain seated?						
13. How often do you feel restless or fidgety?						
14. How often do you have difficulty unwinding and relaxing when you have time to yourself?						
15. How often do you find yourself talking too much when you are in social situations?						
16. When you're in a conversation, how often do you find yourself finishing the sentences of the people you are talking to, before they can finish them themselves?						
17. How often do you have difficulty waiting your turn in situations when turn taking is required?						
18. How often do you interrupt others when they are busy?						
Part B						

Figure 2: Knowledge Check**Knowledge Check**

1. I feel confident identifying adults with symptoms of ADHD.
1. Strongly Disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly Agree
2. I consistently use a validated screener when evaluating adult patients for ADHD.
1. Strongly Disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly Agree
3. I feel confident using a validated adult ADHD screener.
1. Strongly Disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly Agree
4. If you use an adult ADHD screener, which do you use? (Free Text)

5. I feel confident diagnosing and treating adults with ADHD.
1. Strongly Disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly Agree
6. What barriers exist that prevent you from using an ADHD screener from being incorporated into the clinic workflow?

Appendix F: Procedural Timeline

Procedural Timeline: Increasing Primary Care Provider use of the Adult Self Report Scale (ASRS) and confidence in screening adults for Attention-Deficit Hyperactivity Disorder (ADHD)

Project Year 1 (2022)												
Activity/Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
USUHS VPR Submission and Approval					X							
Site IRB Submission and Approval									X			
Project Planning -Task 1: Stakeholder engagement meetings -Task 2: Develop PowerPoint to present to clinic staff - Task 3: Set up location and time for training to be conducted - Task 4: Select two-month time frame for implementation - Task 5: Develop knowledge check questionnaire						X	X	X	X			

[illegible]

[illegible]

Appendix G: Data Analysis Plan

DATA ANALYSIS PLAN

	Variable Name		Variable Description and type of measure	Data Source	Possible Range of Values	Level of Measurement	Time Frame for Collection	Statistical Test	Decision Rule
Population	IV	Educational Intervention	Description: PowerPoint presentation on adult adhd and ASRS v1.1 Type: process measure	Attendance Sheet	0 = did not attend 1 = did attend	Nominal	4 months	None	NA
	DV	ASRS v1.1 usage	Description: # of patients assessed with the ASRS v1.1 outcome measure	EHR	0-infinity	Ratio	4 months	Fisher's exact test	Does ASRS v1.1 use statistically increase in the post-intervention period?

		Variable Name	Variable Description and type of measure	Data Source	Possible Range of Values	Level of Measurement	Time Frame for Collection	Statistical Test	Decision Rule
Population	IV	Educational Intervention	Description: PowerPoint presentation on adult adhd and ASRS v1.1 Type: process measure	Attendance Sheet	0 = did not attend 1 = did attend	Nominal	4 months	None	NA
	DV	Provider confidence self-reported	Description: Self-reported confidence screening for adult ADHD Outcome measure	Knowledge Check	1-5	Ordinal	4 months	Mann-Whitney U	Did provider confidence increase in the post-intervention period?

Appendix H: Results

Knowledge Check: Pre=20, Post=10.

Respondents consisted of 10 Staff and 10 Providers, of which only the Providers completed PRE and POST surveys. The data were tested for normality using the Kolmogorov-Smirnov test, and all were found to be non-parametric, $p < .001$, and the non-parametric Mann-Whitney test was utilized when comparing groups.

Because the POST data was only from the Providers, the PRE data was compared between Providers and Staff, and the none of the responses to any of the five questions were found to be significantly different. Therefore all the PRE data was compare to the POST data, and only Q5- I feel confident diagnosing and treating adults with ADHD was found to be significantly different, $p = .019$.

Question	PRE (n=20)			POST (n=10)			Mann-Whitney P-Value
	Mean	Median	Std Dev	Mean	Median	Std Dev	
Q1 I feel confident identifying adults with symptoms of ADHD.	3.9	4	0.67	4.3	4	0.67	0.131
Q2 I consistently use a validated screener when evaluating adult patients for ADHD.	3.9	4	0.79	4.5	5	0.71	0.061
Q3 I feel confident using a validated adult ADHD screener.	3.8	4	0.85	4.4	5	0.84	0.067
Q4 If you use an adult ADHD screener, which do you use. (Free Text)	1.5	1.5	0.51	1.2	1	0.44	0.253
Q5 I feel confident diagnosing and treating adults with ADHD.	3.2	3	1.07	4.2	4	0.79	0.019

Question	Staff - Pre			Provider - Pre			Mann-Whitney <i>P</i> -Value
	Mean	Median	Std Dev	Mean	Median	Std Dev	
Q1 I feel confident identifying adults with symptoms of ADHD.	3.9	4	0.88	3.8	4	0.42	0.912
Q2 I consistently use a validated screener when evaluating adult patients for ADHD.	4.0	4	0.67	3.8	4	0.92	0.739
Q3 I feel confident using a validated adult ADHD screener.	3.8	4	0.92	3.7	4	0.82	0.796
Q4 If you use an adult ADHD screener, which do you use. (Free Text)	1.6	2	0.52	1.4	1	0.52	0.46
Q5 I feel confident diagnosing and treating adults with ADHD.	2.8	3	1.09	3.5	4	0.97	0.182

Question	Provider - Pre			Provider - Post			Mann-Whitney <i>P</i> -Value
	Mean	Median	Std Dev	Mean	Median	Std Dev	
Q1 I feel confident identifying adults with symptoms of ADHD.	3.8	4	0.42	4.3	4	0.123	0.123
Q2 I consistently use a validated screener when evaluating adult patients for ADHD.	3.8	4	0.92	4.5	5	0.089	0.089
Q3 I feel confident using a validated adult ADHD screener.	3.7	4	0.82	4.4	5	0.089	0.089
Q4 If you use an adult ADHD screener, which do you use. (Free Text)	1.4	1	0.52	1.2	1	0.606	0.606
Q5 I feel confident diagnosing and treating adults with ADHD.	3.5	4	0.97	4.2	4	0.143	0.143

Chart Review

n=250; however 49 (16.6%) were pediatric and excluded, resulting in n=202

There were 15 collected during the Intervention training, those will be excluded from Pre – Post comparison.

Employer Type * Period Crosstabulation

			Period			
			Pre-Intervention	Intervention	Post-Intervention	Total
Employer Type	AD	Count	17	1	17	35
		% within Period	19.1%	6.7%	17.3%	17.3%
	GS	Count	23	4	38	65
		% within Period	25.8%	26.7%	38.8%	32.2%
	CTR	Count	49	10	43	102
		% within Period	55.1%	66.7%	43.9%	50.5%
Total		Count	89	15	98	202
		% within Period	100.0%	100.0%	100.0%	100.0%

Fisher's Exact test of association $p=.274$

Which Screener * Period Crosstabulation

			Period		Total
			Pre-Intervention	Post-Intervention	
Which Screener	No Screener	Count	85	83	168
		% within Period	96.6%	84.7%	90.3%
	ASRS	Count	3	15	18
		% within Period	3.4%	15.3%	9.7%
Total		Count	88	98	186
		% within Period	100.0%	100.0%	100.0%

Fisher's Exact test of association $p<.006$

Screen Used * Period Crosstabulation

			Period		Total
			Pre-Intervention	Post-Intervention	
Screen Used	None	Count	86	82	168
		% within Period	96.6%	84.5%	90.3%
	Y	Count	3	15	18
		% within Period	3.4%	15.5%	9.7%
Total		Count	89	97	186
		% within Period	100.0%	100.0%	100.0%

Fisher's exact test of association $p = .006$

Duty Status * Period Crosstab

		Period			Total
		Pre-Intervention	Intervention	Post-Intervention	
Duty Status	AD	Count	45	6	46
		% within Period	50.6%	40.0%	46.9%
	Dep	Count	41	9	50
		% within Period	46.1%	60.0%	51.0%
	Ret	Count	3	0	2
		% within Period	3.4%	0.0%	2.0%
	Total	Count	89	15	98
		% within Period	100.0%	100.0%	100.0%

Fisher's Exact test of association $p = .839$

Employer Type * Duty Status Crosstab

				Duty Status		
AD				Dep	Ret	Total
Employer Type	AD	Count	22	13	0	35
		% within DutyStatus	22.7%	13.0%	0.0%	17.3%
	GS	Count	25	37	3	65
		% within DutyStatus	25.8%	37.0%	60.0%	32.2%
	CTR	Count	50	50	2	102
		% within DutyStatus	51.5%	50.0%	40.0%	50.5%
Total		Count	97	100	5	202
		% within DutyStatus	100.0%	100.0%	100.0%	100.0%

Fisher's Exact test of association $p=.149$

Appendix I: Team Mentor (Committee Membership) Agreement Form



Daniel K. Isenoy, Graduate School of Nursing
DNP Project Team Mentor (Committee Membership) Agreement Form

DOCTOR OF NURSING PRACTICE PROJECT DNP Project Clinical Question and Team Mentor (Committee Membership) Agreement Form

Graduation Year:

Name(s) of DNP Project Student Team:

1. LCDR Michelle Barba Phase II Site: AGCNS ☐ FNP ☒ PMHNP ☐ RNA ☐ WHNP ☒
2. LTJr Lisa Blingoff Phase II Site: AGCNS ☐ FNP ☒ PMHNP ☐ RNA ☐ WHNP ☒
3. _____ Phase II Site: AGCNS ☐ FNP ☐ PMHNP ☐ RNA ☐ WHNP ☐
4. _____ Phase II Site: AGCNS ☐ FNP ☐ PMHNP ☐ RNA ☐ WHNP ☐
5. _____ Phase II Site: AGCNS ☐ FNP ☐ PMHNP ☐ RNA ☐ WHNP ☐
6. _____ Phase II Site: AGCNS ☐ FNP ☐ PMHNP ☐ RNA ☐ WHNP ☐

The tentative title of the DNP Project Proposal for this student group is:

Increasing ADHD Screening of Adults in Primary Care

Committee Approved DNP Project Clinical Question:

An adult aged 18 years or older, at high risk for ADHD, without history of ADHD, who is seeking to be evaluated for ADHD. What DNP level of care (Nurse Practitioner or Physician Assistant) is most effective in supporting the ADHD and ensuring ongoing care?

_____?

Names of DNP Project Team Mentors *(type the name and obtain signatures):*

I agree to serve as a member of the DNP Project Team (Team Mentors) for the above DNP Student Project Team. As a Project Team Mentor, I agree to the duties and responsibilities outlined within the DNP Project Manual which include but are not limited to the provision of consultation and guidance supporting the entire DNP project journey and to ensure the DNP project is of sufficient rigor and demonstrates doctoral level scholarship to meet the requirements for USUHS GSN graduation.

Form Version: 1 Jan 2016



Daniel K. Inouye Graduate School of Nursing
DNP Project Team Mentor (Committee Membership) Agreement Form

NOTE: You may have 3-4 DNP Team Mentors (committee members including your DNP Senior Mentor (Chair)). The Phase II Site Director may also be a member of the group, as well as other USUHS faculty or others who may serve as content experts. All non-USUHS faculty selected as a Team Mentor must be approved by the DNP Project Director.

Senior Mentor (Chair):	Dr. Heather Johnson	Signature: 	Date: 
Team Mentor (Committee):		Signature: _____	Date: 
Team Mentor (Committee):		Signature: _____	Date: 
Team Mentor (Committee):		Signature: _____	Date: 

Appendix J: CITI Certificates



Completion Date 07-Apr-2021
Expiration Date 06-Apr-2024
Record ID 41966787

This is to certify that:

Michelle Barba

Has completed the following CITI Program course:

OUUSD P&R Human Research
(Curriculum Group)
Biomedical Investigators and Research Study Team
(Course Learner Group)
1 - Basic Course
(Stage)

Under requirements set by:

Office of the Under Secretary of Defense (Personnel and Readiness)

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w7dcf30db-400b-418a-9b8e-cbf45dd313d-41966787



Completion Date 17-Apr-2021
Expiration Date 16-Apr-2024
Record ID 42088506

This is to certify that:

Louis Pingotti

Has completed the following CITI Program course:

OUUSD P&R Human Research
(Curriculum Group)
Biomedical Investigators and Research Study Team
(Course Learner Group)
1 - Basic Course
(Stage)

Under requirements set by:

Office of the Under Secretary of Defense (Personnel and Readiness)

CITI
Collaborative Institutional Training Initiative

101 NE 3rd Avenue, Suite 320
Fort Lauderdale, FL 33301 US
www.citiprogram.org

Verify at www.citiprogram.org/verify/?wee856efb-20e4-4757-aef0-58f5e9943ff6-42088506

Appendix K: USU (VPR) Form 3202N

USUHS FORM 3202N

DANIEL K. INOUE GRADUATE SCHOOL OF NURSING

EVIDENCE-BASED PRACTICE/PERFORMANCE IMPROVEMENT PROPOSAL

VPR Date Stamp

Project Number: GSN-61-13056

(VPR will badge)

Project Title: Primary Care Provider Use of the Adult Self Report Scale (ASRS) v1.1 and Confidence in Screening Adults for Attention-Deficit Hyperactivity Disorder (ADHD)

SECTION A: STUDENT POC INFORMATION	
1. Name (Last, First, MI): <u>Pingotti, Louis, W. / Barba, Michelle</u>	Student E-mail: <u>louis.pingotti@usuhs.edu</u>
2. Home Address: <u>[REDACTED]</u>	Cell Number: <u>[REDACTED]</u>
SECTION B: COMMITTEE CHAIR / SENIOR MENTOR INFORMATION	
3. Name (Last, First, MI): <u>Johnson, Heather</u>	
4. Telephone: <u>[REDACTED]</u> Fax: <u>[REDACTED]</u> E-mail: <u>heather.johnson@usuhs.edu</u>	
5. USUHS Building/ Room No.: <u>E-1015</u>	
SECTION C: PROJECT INFORMATION	
6. Attach the Abstract for the proposal, including the following sections: Site Location of the Project, Title, Authors, Background or Problem/Issue, Clinical Question/Purpose, Project Design, Anticipated Organizational Impact/Implications for Practice and also include the Proposed Timeline. Single space the abstract and use Times New Roman font, size 12.	
7. Is this proposal related to an active research project of the Chair/Senior Mentor identified in Section B? ☐ Yes ☒ No If yes, complete below; if no, proceed to Part 8. Project Number: <u>[REDACTED]</u> Project Title: <u>[REDACTED]</u> Project Start Date: <u>[REDACTED]</u> Project End Date: <u>[REDACTED]</u>	
8. Anticipated period of performance: Project Start Date: <u>11/1/2022</u> Project End Date: <u>1/22/2023</u>	
9. Performance Site(s): <u>Branch Health Clinic Boone</u>	
10. Does this project involve any classified information? (Contact the USUHS Security Office for guidance) ☐ Yes ☒ No	
11. Do you have a funding source for this project? ☐ Yes ☒ No ☐ NA If yes, specify the funding agency and the amount provided:	
SECTION D: SIGNATURES	
The following signatures attest to the validity of the above information:	
Louis Pingotti Student (Project Point of Contact for the Group) (Signature and Date) Digitally signed by Louis Pingotti Date: 2022.08.25 20:14:05 -04'00'	JOHNSON.HEATHER.L.10739 Chair/Senior Mentor (Signature and Date) 35110 Digitally signed by JOHNSON.HEATHER.L.10739 Date: 2022.10.11 16:42:17 -04'00'
TOBOLA.MARYPAT.A.13800159 Chair/Program Director (Signature and Date) 15 Digitally signed by TOBOLA.MARYPAT.A.13800159 Date: 2022.08.26 06:37:25 -04'00'	JOHNSON.HEATHER.L.10739 Chair/Program Director (Signature and Date) 35110 Digitally signed by JOHNSON.HEATHER.L.10739 Date: 2022.10.11 16:42:46 -04'00'
SIMMONS.ANGELA.MARIE.1143 DNP Project Director or PhD Director (Signature and Date) 313375 Digitally signed by SIMMONS.ANGELA.MARIE.1143313375 Date: 2022.11.21 16:32:01 -05'00'	SEIBERT.DIANE.C.1084932279 Associate Dean for Academic Affairs, GSN (Signature and Date) Digitally signed by SEIBERT.DIANE.C.1084932279 Date: 2022.11.20 19:30:13 -05'00'
SIMMONS.ANGELA.MARIE.1143 Associate Dean for Research, GSN (Signature and Date) 313375 Digitally signed by SIMMONS.ANGELA.MARIE.1143313375 Date: 2022.11.21 16:32:01 -05'00'	ROMANO.CAROLA.A.1032050 Dean, DGI Graduate School of Nursing (Signature and Date) 294 Digitally signed by ROMANO.CAROLA.A.1032050294 Date: 2022.11.22 00:07:13 -05'00'
In light of the above signatures, the project is approved. WOODBERRY.MITCHEL L.WAYNE.1060957114 USUHS Vice President for Research Digitally signed by WOODBERRY.MITCHEL.WAYNE.1060957114 Date: 2022.12.06 10:16:00 -05'00'	
Date: <u>[REDACTED]</u>	

Appendix L: MTF IRB/PI Letter of Determination



DEFENSE HEALTH AGENCY
NAVAL MEDICAL CENTER
620 JOHN PAUL JONES CIRCLE
PORTSMOUTH, VIRGINIA 23708-2197

6500
Ser 14IVZZ
September 21, 2022

MEMORANDUM

From: DHA HRPP Office at Naval Medical Center Portsmouth
To: LCDR Marypat Tobola

Subj: DETERMINATION FOR NMCP.2022.0084 "PRIMARY CARE PROVIDER USE OF THE ADULT SELF REPORT SCALE (ASRS) V1.1 AND CONFIDENCE IN SCREENING ADULTS FOR ATTENTION-DEFICIT HYPERACTIVITY DISORDER (ADHD)"

Ref: (a) 32 CFR 219
(b) DoDI 3216.02

1. The above referenced study has been evaluated by an Exemption Determination Official (EDO). This project DOES NOT meet the definition of RESEARCH IAW 32 CFR 219.102 and DoDI 3216.02.
2. An EDO must review any study design changes that may change the scope of the project to ensure that they do not affect this determination. All modifications must be submitted in EIRB.
3. Projects that do not require IRB approval are not eligible for Clinical Investigation Department travel funds.
4. All abstracts, presentations, manuscripts, and review articles must be approved by the local command prior to submission for publication. Investigators at NMCP may obtain information from the CID SharePoint page. Investigators from other commands should contact their local Public Affairs Office.
5. The NMCP HRPP Office may be contacted at (757) 953-5939 or via email at usn.hampton-roads.navhospopsrva.list.nmcp-irboffice@mail.mil.

K. N. WHEELER

Appendix M: PAO Clearance /Level of Dissemination Classification

Usuhs.edu Mail - Approval request for "WORKING COPY_4_4_23 WORD FORMATTED DNP All-Inclusive Report (1).pdf"

4/12/23, 2:34 PM



Pingotti, Louis <louis.pingotti@usuhs.edu>

Approval request for "WORKING COPY_4_4_23 WORD FORMATTED DNP All-Inclusive Report (1).pdf"

USU Pub Clearance (via Google Workspace Approvals) <approvals-noreply@google.com>

Wed, Apr 12, 2023 at 8:38 AM

Reply-To: approvals-noreply@google.com

To: louis.pingotti@usuhs.edu

Approval Complete



USU Pub Clearance (usupubclearance@usuhs.edu) approved the file



Open

[Quoted text hidden]

Appendix N: DNP Project Completion Verification Form



Daniel K. Inouye Graduate School of Nursing
DNP Project Completion Verification Form

DOCTOR OF NURSING PRACTICE PROJECT Completion Verification Form

The DNP Project titled:

Increasing Primary Care Provider use of the Adult Self Report Scale (ASRS) and confidence in screening adults for Attention-Deficit Hyperactivity Disorder (ADHD)

was completed at: 08:28 on 12APR2023

by the following student(s):

<i>(type student name)</i>	<i>(signature)</i>	<i>(date)</i>
LCDR Michelle Barba	Digitally signed by BARBA.MICHELLE.13013346 TT Date: 2023.04.12 12:08:00 -0400	04/12/2023
LT Louis Pingotti	Digitally signed by PINGOTTI.LOUIS.WILLIAM.J RL 1505719928 Date: 2023.04.12 12:11:08 -0400	04/12/2023

The DNP Practice Project Team verifies that the following components of the DNP project, accomplished by the above students, is of sufficient rigor and demonstrates doctoral level scholarship to meet the requirements for USUHS GSN graduation:

- Presentation of DNP project to the leadership/stakeholders at the Phase II Site,
- Abstract/Impact Statement (*Appendix F*), and
- DNP Project written report.

Verified by:

<i>(type name)</i>	<i>(signature)</i>	<i>(date)</i>
Senior Mentor: Dr. Heather Johnson	JOHNSON.HEATH ER.L 1073935110 Digitally signed by JOHNSON.HEATH Date: 2023.04.12 10:18:37 -0400	
Team Mentor:		
Team Mentor:		
Phase II Site Director: LCDR MaryPat Tobola	TOBOLA.MARYPA T.A. 1380015915 Digitally signed by TOBOLA.MARYPAT.A.1380015915 Date: 2023.04.12 10:18:37 -0400	12APR23

For RNA Students only - add the following additional signature for final verification of project completion:

<i>RNA Project Director (type name)</i>	<i>(Signature)</i>	<i>(Date)</i>