Increasing the Optimal Usage of the GAD-7 and PHQ-9 Screening Tools to Better Detect Co-Occurring Disorders in an Alcohol Use Disorder Clinic

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Increasing the Optimal Usage of the GAD-7 and PHQ-9 Screening Tools to
Better Detect Co-Occurring Disorders in an Alcohol Use Disorder Clinic

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Abstract

**Background:** Co-occurring disorders include substance use disorders and mental health conditions. These disorders affect 21.5 million individuals. Mental health screening tools, such as the Patient Health Questionnaire (PHQ-9) and Generalized Anxiety Disorder Scale (GAD-7), are effective in screening individuals for depressive and anxiety mental health conditions within addiction settings.

**Problem:** Of those with an anxiety disorder, 20-40% will be diagnosed with an alcohol use disorder (AUD). Depressive disorders are the most common mental health conditions that can occur alongside an AUD. A literature review revealed that the PHQ-9 and GAD-7 are used in addiction treatment settings; however, not as frequently as needed. A retrospective chart analysis of thirty charts in an outpatient alcohol use disorder telehealth clinic found that only three percent of clinical staff were implementing the PHQ-9 and GAD-7.

**Methods:** A twelve-item pretest and eight-item posttest were distributed to clinical staff (physicians, psychiatric mental health nurse practitioners [PMHNPs], family nurse practitioners [FNPs], registered nurses [RNs], and medical assistants [MAs]) in an outpatient AUD telehealth clinic. The goal was to measure and further increase clinical staff knowledge, awareness, and confidence in screening for co-occurring depressive and anxiety disorders with the PHQ-9 and GAD-7. Knowledge and confidence of common depressive and anxiety disorders that can co-occur with AUD was also measured.
**Interventions:** An online workflow and toolkit were designed and distributed to clinical staff. The workflow and toolkit consisted of refreshers on the PHQ-9 and GAD-7, when to utilize them, and associated depressive and anxiety conditions that can manifest alongside an AUD.

**Results:** Sixteen clinical staff completed the pre and posttests. Overall, knowledge, awareness, and confidence increased by 14.72% from baseline.

**Conclusions:** The workflow and toolkit increased clinical staff knowledge and confidence in the value of using these mental health screening tools. However, there was a small sample size, which limited generalizability. Clinical staff feedback on the intervention was positive and related to their understanding of when to utilize the PHQ-9 and GAD-7 in applicable AUD patients. Due to the increased learning gained from RNs and MAs, future research could be focused on incorporating RNs and MAs. RNs and MAs could distribute mental health screening tools to patients before the provider interprets the scores with patients. Doing so would help save providers time.

*Keywords:* alcohol use disorder, anxiety screening tool, co-occurring disorder, depression screening tool, GAD-7, PHQ-9, substance use disorders
Implementation of a Workflow and Toolkit on the PHQ-9 and GAD-7 in an Alcohol Use Disorder Setting

Background

Substance use disorders, such as alcohol use disorder (AUD), can lead to medical, social, occupational, and emotional effects (Yang et al., 2022). Co-occurring mental health conditions (MHCs) (e.g., anxiety and depressive disorders) have been correlated with an increased risk of returning to drinking and an increased risk of needing high-level psychiatric and emergency care. These findings compare to having each disorder on its own (Yule & Kelly, 2019). The Patient Health Questionnaire (PHQ-9), a screening tool for depression, has proven to be effective for the early detection of specific depressive disorders. The Generalized Anxiety Disorder Scale (GAD-7), a screening tool for anxiety, has been shown to be effective in screening for generalized anxiety disorders in primary and psychiatric settings (Sapra et al., 2020). An examination of the literature revealed that the PHQ-9 and GAD-7 have been successfully used in substance abuse settings (Bentley et al., 2021; Delgadillo et al., 2012b). However, clinical staff are not using these tools as frequently as recommended (Marel et al., 2021). Appendix C and D present an overview of the PHQ-9 and GAD-7.

Select evidence has shown that delivering an intervention via an online platform can contribute to further increasing the knowledge and confidence of clinical staff working in drug and alcohol addiction settings (Marel et al., 2021). Some highlights from the literature included improving staff utilization of these screening tools to identify comorbidities in appropriate patients (Marel et al., 2021). The primary focus of this project included disseminating a refresher workflow and toolkit including the PHQ-9, GAD-7, and other resources to improve the
knowledge and confidence of clinical staff (i.e., physicians, psychiatric mental health nurse practitioners [PHMNP], family nurse practitioners [FNPs], registered nurses [RNs], and medical assistants [MAs]). Another focus was to increase their awareness of common co-occurring disorders with AUD, such as depressive and anxiety disorders.

**Problem**

MHCs commonly co-occur with substance use disorders, affecting 21.5 million individuals in the United States (Substance Abuse and Mental Health Services Administration, 2024). In 2017, approximately 14.1 million individuals had an AUD. Within this same year, 46.6 million had an MHC (Yule & Kelly, 2019). Within these groups, 5.9 million individuals had a co-occurring AUD and MHC (Yule & Kelly, 2019). As a result of the large number of co-occurring disorders, routine screening is vital to recognize extensive alcohol use and mental health symptoms, as well as to assess for co-occurring disorders (Yule & Kelly, 2019).

AUD is defined as "the compulsion to ingest alcohol with the loss of control in limiting alcohol intake" (Yang et al., 2022, p.1). In 2021, the National Survey on Drug Use and Health reported that 29.5 million individuals had an AUD (National Institute on Alcohol Abuse and Alcoholism, 2023). Of those individuals with an anxiety disorder, 20-40% will be diagnosed with an AUD (Guckel et al., 2023). Approximately 50% of individuals who previously received treatment for an AUD also met diagnostic criteria for one or more anxiety disorders (Anker & Kushner, 2019).

Mood disorders, such as depressive disorders, are the most common psychiatric disorders that can occur alongside individuals with an AUD. When depressive disorders and AUD are combined, there is a potential for an increased risk of suicidal behavior (McHugh & Weiss,
2019). Individuals with a major depressive disorder and an AUD have a lifetime prevalence range from 27% to 40% and up to 22% for 12-month prevalence for having a co-occurring disorder. (National Institute on Alcohol Abuse and Alcoholism, 2023).

After being a clinical student at an online nationally scaled AUD telehealth platform for a year, this writer identified a similar pattern in many patients’ electronic medical records (EMRs). Numerous charts did not have a PHQ-9 or GAD-7 completed. As a result, a retrospective chart analysis took place in early March 2024. Thirty charts were reviewed. Out of the thirty, only one chart had a PHQ-9. Another chart was marked "patient did not complete." Another chart showed that a patient had depression and a history of a previous suicide attempt; however, no follow-up PHQ-9 was administered by clinical staff. The remaining 27 charts had no PHQ-9 or GAD-7 documented. These findings guided the foundation of the doctoral project. Taking these deficiencies into account, the goal of this project was to deliver an educational workflow and toolkit for clinical staff on the importance of screening for anxiety and depressive disorders. A secondary goal was to encourage a change in practice by encouraging consistent utilization of the PHQ-9 and GAD-7.

Setting

The project was conducted through an online nationally scaled AUD telehealth clinic. The project included an array of practitioners and clinical staff. For example, physicians, PMHNPs, RNs, and MAs. RNs and MAs were included in the intervention because they could potentially administer the screenings to patients. RNs are often the first contact for patients before their "First Medical" with a physician, FNP, or PMHNP in this clinic. However, only licensed clinicians can interpret the scores and provide treatment. Materials, such as the
workflow and toolkit were disseminated electronically to the organization. The pre and posttests were included at the start and end of the toolkit, respectively. The online telehealth AUD program focuses on "accessible, evidence-based, flexible, affordable care" for each patient (Ria Health, 2023). The use of screening tools falls under evidence-based care.

**Specific Aim**

The primary aim of this DNP project was by April 2024 to prepare, disseminate, and evaluate a workflow and toolkit to strengthen clinical staff awareness in an outpatient telehealth clinic on the importance of screening tools, such as the PHQ-9 and the GAD-7. The secondary aim was by early May 2024 to increase the knowledge, awareness, and confidence of clinical staff by 10% in an outpatient AUD telehealth clinic on the importance of using the PHQ-9 and GAD-7.

**Available Knowledge**

**PICO(T) Question**

A review of the evidence about alcohol use and co-occurring anxiety and depressive disorder screening tools was performed. The following PICOT (Population, Intervention, Comparison, Outcome, and Time) question was applied to lead the literature search: In substance abuse clinical staff working in an outpatient AUD telehealth clinic (P), how does disseminating a workflow/toolkit on the GAD-7, PHQ-9, and other resources (I) compared to no workflow/toolkit (C) further increase their knowledge and confidence of the importance of utilizing the GAD-7 and PHQ-9 (O)?
Search Methodology

A search of the evidence was performed using the following databases: APA PsycInfo, CINAHL Complete, PubMed, and the Cochrane Database of Systematic Reviews. The search for evidence also included the University of San Francisco and San Francisco Public Library databases. Keywords within the search included: Alcohol use disorders, substance abuse, addiction provider/staff, anxiety disorders, anxiety, generalized anxiety disorder, generalized anxiety disorder screening tool, gad-7, depression screening tools, patient health questionnaire, phq-9, mental health screening tools, knowledge and confidence, and co-occurring disorders.

The initial search yielded 319 results on PubMed, 619 results on APA PsycInfo, 25 on CINAHL, and two on the Cochrane Database of Systematic Reviews. Evidence searches were narrowed down by limiting the year of publication to five years. However, many results were irrelevant to the search, so the time frame had to be extended to ten years. Results were further limited to include only peer-reviewed studies. In addition, the John Hopkins Evidence-Based Appraisal Tool was utilized to evaluate the level and quality of evidence of each study throughout the literature search (Dang & Dearholt, 2022). An evaluation table of the evidence is presented in Appendix E.

Integrated Review of the Literature

Clinical Practice Guidelines

American Psychiatric Association

The American Psychiatric Association (APA) states that patients should be "assessed for co-occurring conditions (including substance use disorders, other psychiatric disorders, and other
medical disorders) that may influence the selection of pharmacotherapy for alcohol use disorder" (APA, 2018, p. 27). Alcohol can amplify the symptoms of anxiety and other mood disorders. The John Hopkins Evidence-Based Appraisal level of evidence for this resource was level IV, A high quality.

**American Society of Addiction Medicine**

The American Society of Addiction Medicine (ASAM, 2020) recommendation II.9 highlights assessing for co-occurring disorders, which includes a mental health history assessment. Also, the PHQ-9 and GAD-7 are named as scales that can be helpful in screening for depressive and anxiety disorders (ASAM, 2020). However, ASAM recommends providers be cautious in immediately diagnosing a new primary mental health condition when a patient is experiencing acute withdrawal. This is to assist providers in being able to tell the difference between substance-induced mental health symptoms and a core mental health disorder. ASAM recommendation II.20 states that all patients should be evaluated for active suicidal risk during the mental health assessment (ASAM, 2020). The PHQ-9 addresses this recommendation as part of the questionnaire. The John Hopkins Evidence-Based Appraisal level of evidence for this resource was level IV, A high quality.

**National Institute for Health and Care Excellence**

The National Institute for Health and Care Excellence (NICE, 2011) recommends that individuals with alcohol and comorbid anxiety disorders treat the underlying component of alcohol misuse first, as this may result in improvements in anxiety. However, if the anxiety persists after three or four weeks of abstinence from alcohol, providers should assess the anxiety...
and refer out if necessary (NICE, 2011). The John Hopkins Evidence-Based Appraisal level of evidence for this resource was level IV, A high quality.

**An Online Training Improving the Knowledge and Confidence of Co-occurring Conditions**

Marel et al. (2021) conducted a quasi-experimental study measuring the confidence, knowledge, and attitudes of alcohol and other drug (AOD) workers related to identifying and screening for co-occurring mental disorders. The study took place in Australia. The Australian Government Department of Health funded the development of an online training program for AOD workers. The evidence-based online training program was based on the national guidelines on managing "co-occurring alcohol and other drug and mental health conditions in alcohol and other drug treatment settings" (Marel et al., 2021, p.116). A team of experts used these comorbidity guidelines to build the training program. Experts included addiction medicine specialists, AOD workers, physicians, psychiatrists, psychologists, nurses, social workers, and researchers.

The participants in this study completed twelve modules and one introductory module. Participants included 1,415 case workers, social workers, medical professionals, and other AOD workers. Of these, 115 participants participated in the baseline and follow-up questionnaire after completing the training. The pre and post questionnaires comprised twenty-six statements assessing participant knowledge, confidence, and attitudes regarding addressing co-occurring conditions in clinical practice. The questionnaires used a five-point Likert scale with choices including "strongly disagree/disagree, unsure, and agree/strongly agree" (Marel et al., 2021, p.118). The post training questionnaire asked individuals to rate their satisfaction with the
training program, how they felt the content was relevant to their clinical practice, and if the training led to any change in their clinical setting in patient outcomes.

At baseline, results showed that more than two-thirds of participants felt confident in their ability to detect and manage familiar MHCs, speak to patients about co-occurring disorders, and how to refer patients to treatment. Following the training, four of the six co-occurring disorder questions showed a significant improvement. One statement in particular, "All AOD clients should be routinely screened for mental health conditions," vastly improved from pre- to post-training, increasing from 92.1% to 95.6%. Providers' confidence in treating co-occurring AOD and MHCs rose from 55.6% at baseline to 77.4% post-training. Other highlights included increased participant confidence in knowing where to access screenings and assessments for MHCs (72.2% to 93.9%). The John Hopkins Evidence-Based Appraisal Tool, level of evidence for this resource was level II, B good quality.

**Reliability of the PHQ-9 in an Outpatient Alcohol and Drug Population**

Delgadillo et al. (2011) performed a cross-sectional study assessing the use of the PHQ-2 and PHQ-9 screening tools in a community drug program. The study was conducted as a part of the Case-finding and Comorbidity in Addiction Services (CCAS) research program. The goal was to compare the accuracy of the PHQ-2 and PHQ-9 to the Revised Clinical Interview Schedule (CIS-R). Patients were evaluated using the PHQ-2, PHQ-9, and the CIS-R. Other tools used were the Treatment Outcome Profile (TOP), the Severity of Dependence Scale (SDS), and short questions about participant medication use. Participants were recruited during initial patient contact with the service. Patients completed the questionnaires in a confidential room.
Afterward, patients took part in the CIS-R. Patients were then asked to make a retest appointment 4-6 weeks later.

The sample consisted of 103 patients, but only 60 took part in the re-evaluation. The most used substances included alcohol, heroin, cannabis, and cocaine. Sixty-one percent of patients reported polysubstance use, and 9% reported abstinence in the past month. The CIS-R revealed that 49% met the diagnostic criteria for major depression. Twenty-six percent met the criteria for a mixed depressive and anxiety disorder. The PHQ-9 was deemed to be the most precise measure. It had a sensitivity of 81% and specificity of 75%, with a score of 12 or greater. Patients who responded to the PHQ-9 had an 84% probability of having a depressive disorder. Patients who had scores below the cutoff had a 71% probability of not having depression. There was a positive association between the PHQ-9 and CIS-R (r=.76, p<.001). Both showed strong convergent validity. Also, the PHQ-9 was heavily correlated to the SDS. The John Hopkins Evidence-Based Appraisal Tool, level of evidence for this resource was level III, B good quality.

Validation of GAD-7 and GAD-2 in the Treatment of Addictions

Delgadillo et al. (2012b) assessed the validity and reliability of the GAD-7 and GAD-2 in 103 patients in an outpatient addiction drug population. These two assessment tools screen for generalized anxiety. Participants completed the GAD-2 and, if applicable, the GAD-7 and the SDS. Researchers evaluated drug and alcohol use with the TOP Scale.

Participants were interviewed via the CIS-R with the help of a computer interface. It formulates a severity score based on the participant's mental health symptoms reported during the interview. The results of the GAD-7 were compared to the scores from CIS-R. Overall, a
GAD-7 score greater than nine had an 80% sensitivity and an 86% specificity for an array of anxiety disorders.

The GAD-7 was the most sensitive and specific in 91% of cases with a positive anxiety screen and 69% without a positive screening. Compared to the GAD-2, the GAD-7 was the most precise in validating cases with a positive predictive value of 0.91. The GAD-2 was more accurate in ruling out anxiety, with a negative predictive value of 0.83. In addition, the GAD-7 had excellent internal reliability (.91), and the GAD-2 had good internal reliability (.82). The John Hopkins Evidence-Based Appraisal Tool, level of evidence for this resource was level III, B good quality.

**Patient Views on Mental Health Screening Tools in Addiction Settings**

Delgadillo et al. (2012a) addressed participant views on routine mental health screening tools in addiction treatment. The qualitative study addressed the routine detection of depression and anxiety that does not often occur in addiction practice. An analysis of themes from patient diagnostic interviews was explored. A sample size of n=19 participants completed qualitative interviews over one year. Individuals completed the PHQ-9 and GAD-7 and then participated in the Revised Clinical Interview Schedule (CIS-R). Two weeks later, participants completed qualitative interviews with specialists from psychiatry, psychiatric nursing, and psychological therapy. Some topics brought up by specialists included preferences for self-completed screening tools compared to a diagnostic interview, understanding what a mental health screening entails, patient views regarding the management of mental health conditions in addiction, participants' understanding of the scores and interpretation of mental health screenings, and individual emotional experiences after completing a screening tool.
Five themes emerged. Theme one was the participant's experience using different mental health screening methods. Theme two was participant identification of the purpose and identification of these tools. Theme three was individual emotional responses to these mental health screening tools. Theme four was the individuals’ overall views on mental health and treatment. Theme five was focused on opinions of mental health screening in addiction treatment.

Further results from the thematic analysis revealed that individuals felt mental health screening tools were easy to use; however, staff support helped those who needed further interpretation. In addition, they endorsed these tools as necessary to identify any relationship between drug use and mental health. Participants stated they experienced positive emotional responses from their mental health being assessed. Theme four highlighted individual views on mental health conditions not being thoroughly recognized by clinical staff in addiction practice. They endorsed a need for a more rigorous assessment and treatment. One individual stated, "Depression is usually one of the reasons that you get into it [drug use], and if it's not why you have got into it, you'll end up depressed by the end of it" (Delgadillo et al., 2012a, p. 419).

Overall, individuals suggested routine mental health screening should be done in the addiction field. The John Hopkins Evidence-Based Appraisal Tool rated this study as level III, B good quality.

**Validation of Screening Measures for Depression and Anxiety in Substance Use**

Bentley et al. (2021) conducted a study looking at the psychometric validation of the GAD-7 and PHQ-9 in an outpatient substance use treatment setting. The primary population consisted of young adults (ages 14-26) who completed the PHQ-9 and GAD-7 during an intake
evaluation. Measures included the PHQ-9, GAD-7, the Beck Depression Inventory (BDI-II), the State-Trait Anxiety Inventory (STAI), the Trait Anger Scale (TAS), and the Leeds Dependence Questionnaire (LDQ). The LDQ is a screening questionnaire that measures psychological dependence on substance use, including alcohol.

The GAD-7 and PHQ-9 were completed during the intake evaluation. The presence or absence of current/lifetime mood and anxiety disorders in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) was also assessed. These included depressive, anxiety, and bipolar disorders. The specific anxiety disorders were generalized anxiety disorder (GAD), panic disorder, social anxiety, phobias, post-traumatic stress disorder (PTSD), and obsessive-compulsive disorder (OCD).

Results showed that those with a current anxiety disorder had higher GAD-7 scores than those without. Young adults who had a lifetime anxiety disorder had higher GAD-7 scores than those who did not have one. The same occurred in those who had a depressive disorder. Patients who met criteria for a current anxiety disorder were 51.2%, while 74.4% met criteria for a lifetime anxiety disorder. Patients who met criteria for a current major depressive disorder were 46.3% and 71.9% lifetime. Cannabis use disorder (63.6%) and AUD (32.3%) were the most common substance use disorders.

A GAD-7 cutoff score of greater than six was recommended because it correctly identified 73% of patients with anxiety. This cutoff score demonstrated a sensitivity of 81% and specificity of 64%, resulting in an accurate diagnosis of anxiety for those patients with positive screens. The GAD-7 demonstrated convergent validity with the STAI and was positively correlated with the TAS and the LDQ. The PHQ-9 cutoff score greater than six correctly
identified 71% of patients as having depression (bipolar patients were excluded). The John Hopkins Evidence-Based Appraisal Tool rated this study as level III, B good quality.

A Comparison of Two Depression Scales

Hepner et al. (2009) compared the usage of the PHQ-9 and the Beck Depression Inventory (BDI-II) in identifying depressive disorders in a residential substance use treatment center. Patients who entered one of four adult residential substance use facilities participated in the study. Different sites utilized the PHQ-9 and BDI-II in different orders. Two sites administered the BDI-II and then the PHQ-9. The other two sites administered the PHQ-9 first and then the BDI-II. Both screens were issued at 14 and 30 days after admission. The purpose of administering these tools two weeks apart was to assess for persistent depressive symptoms after the withdrawal period. Alcohol use was measured at admission into the facility via the Alcohol Use Disorders Identification Test- Consumption (AUDIT-C).

Two hundred forty individuals completed the depression screenings. The sample consisted of primarily male individuals. Results showed that patients reported mild depressive symptoms on the BDI-II (mean=14.9) and PHQ-9 (mean=7.4). However, the PHQ-9 classified 28% of patients with mild depressive symptoms. The BDI-II showed that 16% of patients had mild depressive symptoms. Forty-two percent of individuals assessed had a likely AUD, indicated by a score of four or greater (mean AUDIT-C=4.6). The John Hopkins Evidence-Based Appraisal Tool, level of evidence for this resource was level III, B good quality.

Synthesis of the Evidence

The APA (2018) highlights the importance of screening patients for comorbid diagnoses alongside AUD due to the impact of these disorders on overall care. In addition, the NICE (2011)
guidelines discuss treating the underlying AUD component first before addressing any independent anxiety manifestations unrelated to withdrawal. Referrals should be considered after three to four weeks of abstaining from alcohol. The ASAM (2020) guidelines also highlight screening for co-occurring anxiety and depressive disorders, with the GAD-7 and PHQ-9 recommended as preferred screening tools.

Marel et al. (2021) developed an online educational training module for co-occurring disorders. The results of this intervention highlighted the necessity of including training on co-occurring disorders in addiction medicine, as well as the importance of bringing evidence-based interventions into clinical practice. Delgadillo et al. (2011) found the PHQ-9 to be the most precise in detecting depression in outpatient substance abuse treatment settings. Delgadillo et al. (2012b) concluded that the GAD-7 was a useful anxiety screening tool in an outpatient addictions sample. Both the GAD-7 and the GAD-2 were highly consistent in measuring the presence of anxiety.

Delgadillo et al. (2012a) highlighted patients’ desires to be screened for mental health conditions, asserting the necessity of screening when patients present for treatment for a substance use disorder. Bentley et al. (2021) addressed the essential component of screening for depressive and anxiety disorders in young adults with substance use disorders. Within the study, there were many young adults with substance use disorders who also screened positive for depression and anxiety. Hepner et al. (2009) concluded that the PHQ-9 may be effective in identifying substance abuse populations who display mild depression symptoms.
Rationale

Rosswurm and Larrabee's (1999) Model for Change to Evidence-Based Practice was utilized to guide the sequence of this project. The foundation of this model stems from theoretical research corresponding with evidence-based practice and change theory. The model guides nurses and practitioners through developing and implementing evidence-based practice changes.

The model has steps to follow to produce an evidence-based practice change. Step one of this model is assessing a need for a change in practice. Before this project was implemented, the problem identified was that providers were not using the PHQ-9 and GAD-7 with patients within the organization. A retrospective chart analysis was completed to develop the problem further. Step two addressed linking problems, interventions, and outcomes. Step three synthesizes the best evidence from the literature. Step four of the model included designing an intervention for a practice change. The intervention included the creation of an online educational workflow and toolkit based on synthesizing the strongest evidence. Step five was the implementation of the online educational workflow and toolkit for clinical staff within the organization. The final step involved integrating the change into practice, such as presenting findings to organizational stakeholders and making recommendations. The model is presented in Appendix F.
Methods

Context

The project consisted of a self-paced online workflow and toolkit on the importance of clinical staff screening for anxiety and depressive disorders in patients with AUD. Stakeholders included the Chief Medical Officer (CMO), practice manager, physicians, PMHNPs, FNP, RNs, and MAs. During a business day, clinical staff can administer the PHQ-9 and GAD-7 to patients with AUD. Outside of clinical staff, the organization’s practice manager was a central stakeholder because of her familiarity with how the entire organization is managed. She had direct communication with each staff member.

Intervention

The project's intervention consisted of developing an online workflow and toolkit on the importance of staff utilizing the PHQ-9 and GAD-7 with applicable AUD patients. The workflow focused on pictures and steps of where to find the GAD-7 and PHQ-9 in the organization's EMR. Workflows are commonly utilized for staff at the site. The toolkit consisted of a refresher on the value of using the GAD-7 and PHQ-9 and common anxiety and depressive disorders associated with AUD. At the end of the toolkit was a segment on the shame-resilience model and its application to addiction (Brown et al., 2011). Batchelder et al. (2022) summarized the "shame-addiction cycle." This cycle refers to individuals who use substances to avoid "negative self-conscious emotions" that lead to more shame due to the stigma of being an individual who struggles with substance abuse. The cycle may be a source of patients' continued drinking. The workflow and toolkit are presented in Appendix G.
Surveys were also included within the toolkit. The toolkit began with a pre survey for staff to complete. Then, it ended with a post survey to assess for increased knowledge about the importance of using the GAD-7 and PHQ-9, and assessing for common co-occurring disorders. The workflow and toolkit were created in a PDF and then converted to Google Docs (the organization's accessibility preference). A pitch on the introduction and importance of this project was disseminated during a staff meeting.

**Gap Analysis**

A thorough search of the evidence revealed that the PHQ-9 and GAD-7 are not used frequently in addiction settings (Delgadillo et al., 2011; Delgadillo et al., 2012b). Most of the literature discussed the tools' usage in primary or psychiatric care settings. Also, the literature was outdated (Delgadillo et al., 2011; Delgadillo et al., 2012b). These findings aligned with the completed chart audit, in which implementation of these tools was minimal. The initial state was that providers, such as PMHNPs, FNPs, and physicians were not implementing or consistently screening for applicable anxiety disorders with the GAD-7 and depression with the PHQ-9. The future or desired state of the project was for clinical staff to expand their knowledge, awareness, and confidence in the importance of these tools in identifying co-occurring disorders. The action steps included initiating a pretest on the PHQ-9 and GAD-7. Second, an online workflow and toolkit were dispensed on the PHQ-9 and GAD-7. Providers completed a posttest afterward to assess their knowledge base. Finally, data was collected and analyzed. The gap analysis is presented in Appendix H.
**GANTT Chart**

A GANTT chart highlighted the sequence in which the project was completed.

Communication with the CMO and practice manager was through email, text, and Zoom. An introductory pitch on the project's background was prepared and sent to the involved parties. An online educational workflow and toolkit were disseminated via Google Docs. The education portion of the project began in Spring 2024. The GANTT chart is presented in Appendix I.

**Work Breakdown Structure**

A work breakdown structure (WBS) is an approach that shows the work to be completed for a project. A WBS is broken down into smaller components under each of the project's deliverables. The initiation phase included meeting with this writer's preceptor at the site and examining potential needs. An evidence-based search of the literature was then conducted. The project was discussed with and approved by this writer's University of San Francisco (USF) advisor. The planning stage involved preparing an AIM statement and project objectives, identifying additional vital stakeholders, and obtaining final approval of the toolkit from the CMO.

The execution phase of the project included sending an introductory pitch to the practice manager. A pretest, online educational workflow/toolkit, and posttest were disseminated to clinical staff. The data analysis phase included collecting pre and posttests to evaluate knowledge and confidence levels. Finally, the closeout phase involved distributing the findings to the site and making recommendations for future practice. The project paper was updated throughout. The
project was then presented to the Doctor of Nursing Practice (DNP) Chair and committee. The WBS is presented in Appendix J.

**Communication Matrix**

The communication matrix outlines the means of communication with stakeholders, the DNP Chair/advisor, and the second reader of this paper. Communication frequency was on an as-needed basis with USF faculty and the CMO. Correspondence with the organization's practice manager was weekly and as needed. The primary contact methods were email, phone, and Zoom. The communication matrix is presented in Appendix K.

**SWOT Analysis**

A Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis was performed to examine the organization's SWOT in relation to the project. The project's strengths included the workflow and toolkit being simple and convenient for clinical staff to read. The intervention was delivered on an online platform, which provided easier access. The AUD telehealth clinic has an array of clinical staff who can potentially increase their distribution of the PHQ-9 and GAD-7 after the intervention.

The weaknesses included insufficient time within patient appointments for providers to implement the PHQ-9 and GAD-7. As a result, the decrease in screenings takes away from patient care. There was potential for staff resistance to the project. In the foreseeable future, the opportunities include RNs and MAs disseminating the PHQ-9 and GAD-7 to patients prior to providers joining appointments. Another opportunity from the toolkit included bringing additional awareness to clinical staff on the importance of these screening tools to identify the root of a patient's drinking. Threats involve other outpatient services reaching patients who
prefer in-person addiction services versus online services. The SWOT analysis is presented in Appendix L.

**Comprehensive Financial Analysis**

According to the Healthcare Cost and Utilization Project (HCUP) Statistical Briefs 2017, Emergency Department (ED) visit rates for substance use and mental health diagnoses increased by 44.1% from 2006-2014 (Karaca & Moore, 2020). In 2017, alcohol disorders cost $1,220,000,000 of the $5,616,000,000 total cost of mental health and substance use diagnoses for ED visits. Anxiety disorders came in second, costing $962,000,000 (Karaca & Moore, 2020). Increasing screening of the PHQ-9 and GAD-7 may decrease the number of patients who would otherwise go undetected, potentially leading to better treatment outcomes and decreased patient costs. Costs may be saved for patients who would otherwise end up in the ED for a psychiatric evaluation and alcohol misuse.

**Cost Avoidance Analysis**

The AUD telehealth platform has providers licensed in many states nationwide. Due to the organization's headquarters residing in San Francisco, the total cost of an ED psychiatric evaluation was reviewed at an ED within San Francisco. The cost of one ED psychiatric evaluation is $1,942 (California Health and Human Services, 2023). The goal is to prevent/avoid one ED visit per month for alcohol misuse, which amounts to $23,304/year if proper screening was done at the outpatient level. A table of the cost avoidance analysis presented in Appendix M.

**Cost-Benefit Analysis**

Patients refraining from going to the ED impacts overall out-of-pocket expenses. The cost of issuing a screening is much less than an ED admission. In addition, with patients utilizing
expenses toward their AUD outpatient appointments, providers can receive adequate funding through patient-scheduled appointments.

**Implementation Costs**

The project manager (NP) overseeing this plan spent 135 hours to implement the project. A sample of the providers who completed the online workflow and toolkit is provided. For example, 16 providers completed the pre and posttests: three PMHNPs, five physicians (MD and DOs), three RNs, and five MAs. No FNPs participated. The hourly rate for PMHNPs is ~$100/hr.

It will take approximately 0.5 hour to complete the online workflow and toolkit. For a total of three PMHNPs, the implementation cost was $150. Physicians earn approximately ~$133/hr. They received 0.5 hours of training/education. For five physicians, the implementation cost was $333. The RN hourly rate was ~$70/hr and ~$26/hr for MAs. The implementation cost to train the RNs and MAs was $105 and $65, respectively. These are approximate values based on hourly wage statistics, as the organization’s headquarters are in San Francisco, CA.

Materials included printing paper and printer cartridges so the project manager could physically visualize the workflow, toolkit, and other resources. The online workflow and toolkit on the PHQ-9 and GAD-7 were built with Lucidchart. The subscription was $9.95. Most of the materials were electronically based and of little or no cost. The total implementation costs were 13,162.95. The implementation costs within the budget are presented in Appendix N.

**Cost of Alcohol**

The cost of excessive alcohol use on the U.S. economy amounts to $249 billion (Centers for Disease Control and Prevention, 2019). The specific costs broken down include $28 billion in
healthcare expenditures, $179 billion in workplace productivity, $13 billion in automobile collisions, and $25 billion within the criminal justice field. Healthcare losses stem from treating conditions arising from excessive alcohol use (Centers for Disease Control and Prevention, 2019).

**Study of the Intervention**

Quantitative and qualitative measures were used to determine if the intervention was effective. Pre and posttests were prepared to evaluate increased provider/staff knowledge and confidence about using the PHQ-9 and the GAD-7. The pre and posttests consisted of similar questions for clinical staff to complete immediately before and after reading the toolkit. However, the pretest had five additional questions to assess barriers to using these tools by clinical staff. The posttest also included one qualitative, open-ended question for this writer to receive feedback on the workflow and toolkit.

**Outcome Measures**

A pre and posttest was included in the workflow and toolkit to assess clinical staff knowledge and confidence. A five-point Likert scale was utilized. The scale ranged from *strongly disagree* to *strongly agree*. Marel et al. (2021) used a five-point Likert scale to assess the knowledge, attitudes, and confidence of healthcare providers treating alcohol and drug use disorders after completing an online module on co-occurring disorders. This project did not measure participant attitudes; a workflow and toolkit replaced a learning module.

The pretest consisted of twelve questions. The posttest was composed of eight questions. The pretest was primarily quantitative, with some open-ended questions included. The posttest was quantitative and had one open-ended qualitative question. On the pretest, five questions
differed from the posttest. These five questions provided information on why staff were not utilizing the PHQ-9 and GAD-7. On the pretest, question one asked about staff occupation. Questions two and three asked staff whether they clinically use the PHQ-9 and GAD-7 with patients. On these same two questions participants were asked to state why they do not use them (strongly disagree or somewhat disagree). Questions four and five asked if clinical staff felt patients were willing to complete each screening (e.g., I find patients are open to completing the PHQ-9 (when applicable)). The posttest questions measured whether staff knowledge, awareness, and confidence grew after the toolkit. One example of the same question on both tests was I know when to initiate the PHQ-9 with patients. The pretest and posttest questions are presented in Appendix O.

Data Collection Tools

Qualtrics software was used to develop the pre-and post-tests (i.e., surveys). The pre-and post-test links and QR codes were copied at the start and end of the workflow and toolkit. The whole intervention was converted from a PDF to Google Docs. The conversion to Google Docs allowed easier staff accessibility after the file was emailed. After the intervention was complete, Qualtrics data was exported to SPSS software for analysis.

Analysis

Data was cleaned in Qualtrics. An assessment of the Qualtrics data revealed that some pre- and post-tests were left blank by participants. Participants clicked through the questions and did not answer. These questions had to be thoroughly assessed before deletion. Deleting the blank responses took away any unnecessary information. Data was then exported to SPSS.
Frequencies were obtained for each pre and posttest question. The interpretation of frequencies for each question was laid out in a Microsoft Word document to analyze patterns.

Initially it was noted that the pre and posttest answers could not be matched. There was only one identifier on the pretest (i.e., occupation). There was no corresponding identifier on the posttest. However, after examining Qualtrics, a solution was found. Each pre and posttest contained a map showing where the response came from. The map revealed the location, including city and state. Also, the location revealed longitude and latitude points. Each pre and posttest was printed out. City and state were recorded, alongside longitude and latitude. Longitude, latitude, and city/state were then matched on the pre and posttests. The posttest was used as a starting point to match identifiers on the pretest. A paired t-test was run in SPSS to measure knowledge and confidence mean differences between pre and posttests. This allowed for less variation in the sample.

**Ethical Considerations**

In 2023, the USF DNP department determined that this project met the guidelines for an evidence-based change in practice as outlined in the DNP project checklist. Jesuit values were symbolized throughout. This project manifested USF's emphasis on the *cura personalis*, which acknowledges the care of the whole person (USF, 2023). Co-occurring disorders are shaped by many factors. The management and treatment of them does not just involve mental health. As a result, this project considered the mind, body, and spirit of future patients receiving care from providers who completed this educational intervention. Addiction may be shaped by an individual's whole life story and their "walk through life." There was an overall emphasis on diversity in this project. It considered treating all patients from all backgrounds without judgment.
(USF, 2023). Also, the American Nurses Association Code of Ethics (2015) includes Provision 1.2, which indicates that the nurse's responsibility is to help instill trust in patients and provide nursing services without bias or prejudice.

**Results**

The total sample size on the pretest was n=26. The total sample size on the posttest was n=16. Due to some participants only taking the pretest and not the posttest, the numbers differed. The data was a sample of convenience, not randomization. The sole demographic data (e.g., staff occupation) on the pretest was evaluated with frequency distributions in SPSS. The frequency of clinical staff who originally completed the pretest were six physicians, eight PMHNPs, three RNs, and nine MAs. Five physicians, three PMHNPs, three RNs, and five MAs returned and completed the posttest. Pre and post frequency distributions of each occupation are presented in Appendix P.

Overall, clinical staff's knowledge, awareness, and confidence increased by 14.72% on the importance of using the PHQ-9, GAD-7, as well as on other resources on co-occurring disorders. This number was above the project's aim of 10%. Four out of the seven questions on the posttest were statistically significant (p ≤ 0.05). There was a noticeable improvement from pre to post intervention. Three of the seven questions were not statistically significant (p > 0.05).

Questions three, four, five, and seven were statistically significant. Starting at approximately 9.5%, there were visible differences in the means from pre to post. For example, question three, "I know when to follow-up with the PHQ-9 with patients," and question four, "I know when to follow-up with the GAD-7 with patients," had an average increase of 16.8% (mean pre 3.75 to 4.38 post). Clinical staff baseline knowledge started with a mean of neither agree nor
disagree (3=neither agree nor disagree) and increased to a mean of somewhat agree (4=somewhat agree). These two questions demonstrated the most significant improvement.

Question five, "I know the relationship between alcohol use disorder and a GAD-7 severity score of 15-21," had an average increase of 9.5% (mean pre 4.00 to 4.38 post). Finally, question seven, "I am confident in using the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) to diagnose common anxiety and depressive conditions that can co-occur with alcohol use disorder," rose by 15.8% (mean pre 4.00 to 4.63 post).

The score increases below 7.5% were not statistically significant. The following three questions were not statistically significant. Question one on the posttest, "I know when to initiate the PHQ-9 with patients" had an average increase of 7.5% from pre to post. (mean pre 4.13 to 4.44 post) Question two, "I know when to initiate the GAD-7 with patients," had a percent increase of 4.5% (mean pre 4.25 to 4.44 post). Question six, "I am confident in identifying anxiety and depressive conditions that commonly can co-occur with alcohol use disorder," had an average increase of 5.5% from the pre to posttest (mean pre 4.50 to 4.75 post). Of note, clinical staff started in a mean of somewhat agree (4=somewhat agree) and stayed in the somewhat agree category post. On the pretest, questions two and three had open-ended text boxes for participants to write why they do not use the PHQ-9 and GAD-7 if they marked strongly disagree/somewhat disagree. Of those who selected this category, responses included, "RNs do not use this in our role;" "This is not a part of the MA workflow;" and "As in MA we do not provide this screening." The mean scores from pre to post are shown in Appendix Q.

On the posttest, question eight was the qualitative, open-ended question for clinical staff to share their feedback on the intervention. Thirteen responses were collected. Some responses
included, "Excited to learn about these screenings;" "The correlation between mental health disorders and substance abuse has to be always thoroughly evaluated;" "Inspired to use these tools;" "Very helpful and specific that I can put into practice easily;" "I am currently in a masters program for licensed clinical mental health counseling. It was easier for me to understand after the workflow and toolkit;" "It will be very helpful to implement this;" and "I liked the shame triggers and shame-resilience information." A word cloud was constructed manually to identify common themes in the feedback. The word cloud is presented in Appendix R.

Discussion

Summary

The purpose of this project was to increase clinical staff knowledge, awareness, and confidence in the PHQ-9, GAD-7, and co-occurring disorders that may occur alongside an AUD. Looking beyond the premise of this project, further improving the knowledge base of clinical staff may ultimately lead to identifying AUD patients at risk of having a depressive and/or anxiety disorder. Based on the literature presented, evidence-based screening tools, such as the PHQ-9 and GAD-7, are necessary in addiction settings.

Interpretation

The workflow and toolkit intervention for clinical staff improved overall knowledge, awareness, and confidence by 14.72%. Results indicated that clinical staff have a solid foundation in utilizing and incorporating these tools with applicable patients. However, the workflow and toolkit strengthened the clinical staff's knowledge and awareness in specific areas.
Some of these areas included clinical staff knowing when to follow up with the PHQ-9 and GAD-7 with patients. Questions three and four, "I know when to follow-up with the PHQ-9 and GAD-7 with patients," demonstrated the most significant improvements from pre to post. In addition, clinical staff acknowledged the relationship between an AUD and a high GAD-7 severity score post intervention. This demonstrated that the intervention was beneficial in this area. Also, staff expressed increased confidence in using the DSM-5 to diagnose common anxiety and depressive conditions that can co-occur with an AUD. Question two, "I know when to initiate the GAD-7 with patients," had the least improvement from pre to posttest, compared to staff knowing when to initiate the PHQ-9. This demonstrated that clinical staff had a firm foundation in already knowing when to initiate the GAD-7.

Of note, physicians, RNs, and MAs were the most consistent in following up with the post-test. However, RNs and MAs stated they do not typically utilize these tools with patients because it is not outlined in their workflow. This aligns with the organization usually having practitioners issue the PHQ-9 and GAD-7 to patients. The PHQ-9 and GAD-7 can be administered by clinical staff; however, interpretation of the scores should be by a licensed trained clinician (County of Los Angeles Department of Mental Health, 2016). This led to the MAs and RNs gaining more from the workflow and toolkit. This also opens the door for a change in practice where MAs and/or RNs could administer the screenings to patients, when applicable. Due to time constraints in the actual appointment, the provider could then review the screenings with patients.

No FNPs participated in the intervention. If FNPs contributed to the overall sample size, any knowledge deficiencies of mental health conditions and mental health screening tools could
have been found. According to the *Journal for Nurse Practitioners* (2019), FNP education only addresses select components of mental health conditions (Balestra, 2019). This is compared to the education PMHNPs or other behavioral health specialists receive.

**Limitations**

A noticeable limitation was the small sample size of those who participated. Initially, the sample size included 26 clinical staff; however, only 16 completed the pre and posttest. A small sample size does provide less variation as well as less generalizability. Another limitation was the delivery of the intervention. If a live Zoom session was incorporated into the intervention, instead of an online workflow and toolkit intervention by itself, additional background could have been obtained as to why providers were not using the PHQ-9 and GAD-7. This was evidenced by the retrospective chart analysis findings. Also, a Zoom session may have helped encourage the completion of the posttest.

**Conclusions**

Co-occurring disorders are prevalent within addiction populations, such as those with AUD (Substance Abuse and Mental Health Services Administration, 2024). The use of the PHQ-9 and GAD-7 has been validated in addiction settings (Bentley et al., 2021; Delgadillo, 2011; Delgadillo, 2012b). This reveals the need to connect these into clinical practice further, as addiction providers are not frequently using them (Delgadillo et al., 2011; Marel et al., 2021).

This project increased clinical staff knowledge, awareness, and confidence in the value of using the PHQ-9 and GAD-7 in AUD patients who exhibit signs of anxiety and/or depression. Providing an online educational workflow and toolkit for clinical staff on the importance of
issuing the PHQ-9 and GAD-7 screenings can result in the alteration of providers' clinical practices.

The larger symbolization of this project goes beyond improving clinical staff knowledge and awareness. Future long-term implications include improved patient outcomes, such as decreased drinking. Identifying the origin of patient depression and anxiety is vital. Some patients may not speak more about their mental health until they are screened due to the shame and the stigma surrounding having an AUD or a co-occurring disorder (Batchelder et al., 2022). It is essential to remember that addiction is a disease and to treat it as such.
Funding

This project received no grant funding from public, commercial, or non-profit divisions.
References


McHugh, R. K., & Weiss, R. D. (2019). Alcohol use disorder and depressive disorders. *Alcohol research: Current reviews, 40*(1), arcr.v40.1.01. [https://doi.org/10.35946/arcr.v40.1.01](https://doi.org/10.35946/arcr.v40.1.01)


https://doi.org/10.3390/biomedicines10051192

https://doi.org/10.35946/arcr.v40.1.07
Appendices

Appendix A

Statement of Determination

Doctor of Nursing Practice
Statement of Non-Research Determination (SOD) Form

*The SOD should be completed in NURS 7005 and NURS 791E/P or NURS 749/A/E*

**General Information**

<table>
<thead>
<tr>
<th>Last Name:</th>
<th>Swansick</th>
</tr>
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<tbody>
<tr>
<td>First Name:</td>
<td>Lauren</td>
</tr>
<tr>
<td>CWID Number:</td>
<td>20352591</td>
</tr>
<tr>
<td>Semester/Year:</td>
<td>Spring 2023</td>
</tr>
<tr>
<td>Course Name &amp; Number:</td>
<td>Population Health Leadership and Teamwork in Project Planning: N7005</td>
</tr>
<tr>
<td>Chairperson Name:</td>
<td>Dr. Trinette Radasa</td>
</tr>
<tr>
<td>Second Reader Name:</td>
<td>Dr. Ricky Norwood</td>
</tr>
<tr>
<td>Advisor Name:</td>
<td>Dr. Trinette Radasa</td>
</tr>
</tbody>
</table>

**Project Description**

**Title of Project:**

1. *Increasing the Optimal Usage of the GAD-7 and PHQ-9 Screening Tools to Better Detect Co Occurring Disorders in an Alcohol Use Disorder Clinic*
2. **Brief Description of Project:**

Substance use disorders, such as alcohol use disorder (AUD) can lead to medical, social, occupational, and emotional effects (Yang et al., 2022). Co-occurring mental health conditions (MHCs) (e.g., anxiety and depressive disorders) and AUDs have been correlated with an increased risk of returning to drinking and an increased risk of needing high level psychiatric and emergency care. This is in comparison to having each disorder on its own (Yule & Kelly, 2019).

Screening tools such as the Patient Health Questionnaire (PHQ-9) have shown to be effective for the early detection of specific depressive disorders, while the Generalized Anxiety Disorder Scale (GAD-7) has shown to be effective in screening for generalized anxiety disorders in primary and psychiatric settings (Sapra et al., 2020). An examination of the literature showed the PHQ-9 and GAD-7 have been successfully used in substance abuse settings (Bentley et al., 2021; Delgadillo et al., 2012). However, clinical staff are not using these tools as frequently (Marel et al., 2021). As a result, the project will focus on bringing awareness to clinical staff on using the PHQ-9 and GAD-7. To measure knowledge, pre and posttests will be disseminated. The intervention will be a toolkit.

**Specific Aims:**

Prepare and disseminate a workflow and toolkit to strengthen staff awareness of the importance of using screening tools, such as the Patient Health Questionnaire (PHQ-9) and the Generalized Anxiety Disorder-7 Scale by 10%.

The second aim: Increase staff knowledge of common anxiety and depressive disorders that may occur alongside AUD by April 2024.

3. **AIM Statement: What are you trying to accomplish?**

By April 2024, increase substance abuse clinical staff’s knowledge on the importance of using the PHQ- and GAD-7 by 10%.

4. **Brief Description of Intervention:**

Introduce an online workflow and toolkit for providers and clinical staff that draws on the prevalence of anxiety and depressive disorders coinciding with alcohol use disorders.
Currently, the PHQ-9 and GAD-7 screening tool are not being consistently administered by providers at the confirmed agency. The goal would be to further increase providers’ awareness of the importance of these tools to move toward a change in practice. Within the online intervention providers, including physicians, family nurse practitioners, and psychiatric nurse practitioners would start by taking a pretest and then at the end take a posttest.

4a. How will this intervention be implemented?

The project will be implemented at an online alcohol use disorder telehealth clinic. The focus of the above intervention pertains to the organization’s physicians, family nurse practitioners, psychiatric nurse practitioners, registered nurses, and medical assistants.

5. Outcome measurements:

The pre and posttests in the educational workflow and toolkit will serve as a source of measurement for this quality improvement project. To protect participant confidentiality, the only question that will be posed is what provider category they identify with (i.e., physician, FNP, PMHNP, RN, MA).

References


**DNP Statement of Determination**

**Evidence-Based Change of Practice Project Checklist**

*The SOD should be completed in NURS 7005 and NURS 791E/P or NURS 749/A/E*

**Project Title:**

*Increasing the Optimal Usage of the GAD-7 and PHQ-9 Screening Tools to Better Detect Co-Occurring Disorders in an Alcohol Use Disorder Clinic*

<table>
<thead>
<tr>
<th>Mark an “X” under “Yes” or “No” for each of the following statements:</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>The aim of the project is to improve the process or delivery of care with established/accepted standards, or to implement evidence-based change. There is no intention of using the data for research purposes.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>The specific aim is to improve performance on a specific service or program and is a part of usual care. All participants will receive standard of care.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>The project is not designed to follow a research design, e.g., hypothesis testing or group comparison, randomization, control groups, prospective comparison groups, cross-sectional, case control). The project does not follow a protocol that overrides clinical decision-making.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>The project involves implementation of established and tested quality standards and/or systematic monitoring, assessment or evaluation of the organization to ensure that existing quality standards are being met. The project does not develop paradigms or untested methods or new untested standards.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>The project involves implementation of care practices and interventions that are consensus-based or evidence-based. The project does not seek to test an intervention that is beyond current science and experience.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>The project is conducted by staff where the project will take place and involves staff who are working at an agency that has an agreement with USF SONHP.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>The project has no funding from federal agencies or research-focused organizations and is not receiving funding for implementation research.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>The agency or clinical practice unit agrees that this is a project that will be implemented to improve the process or delivery of care, i.e., not a personal research project that is dependent upon the voluntary participation of colleagues, students and/or patients.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>If there is an intent to, or possibility of publishing your work, you and supervising faculty and the agency oversight committee are comfortable with the following statement in your methods section: “This project was undertaken as an Evidence-based change of practice project at [X] hospital or agency and as such was not formally supervised by the Institutional Review Board.”</td>
<td></td>
<td>X</td>
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**Answer Key:**
- If the answer to all of these items is "Yes", the project can be considered an evidence-based activity that does not meet the definition of research. IRB review is not required. Keep a copy of this checklist in your files.
- If the answer to any of these questions is "No", you must submit for IRB approval.

*Adapted with permission of Elizabeth L. Hohmann, MD, Director and Chair, Partners Human Research Committee, Partners Health System, Boston, MA.

To qualify as an Evidence-based Change in Practice Project, rather than a Research Project, the criteria outlined in federal guidelines will be used: [http://answers.hhs.gov/ohp/categories/1569](http://answers.hhs.gov/ohp/categories/1569)

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**UNIVERSITY OF SAN FRANCISCO**  
School of Nursing and Health Professions

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**DNP Statement of Determination**  
**Evidence-Based Change of Practice Project Checklist Outcome**

The SOD should be completed in NURS 7005 and NURS 791E/P or NURS 749/A/E

☐ This project meets the guidelines for an Evidence-based Change in Practice Project as outlined in the Project Checklist (attached).

☐ This project involves research with human subjects and must be submitted for IRB approval before project activity can commence.

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**Comments:**

<table>
<thead>
<tr>
<th>Student Last Name:</th>
<th>Swansick</th>
<th>Student First Name:</th>
<th>Lauren</th>
</tr>
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<tbody>
<tr>
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<td>[Signature]</td>
<td>Date:</td>
<td>3/25/2023</td>
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<tr>
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<th>Dr. Trinette Radasa</th>
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<td>[Signature]</td>
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<td>Date:</td>
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<tr>
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<th>Dr. Ricky Norwood</th>
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<td>Second Reader Signature:</td>
<td>[Signature]</td>
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<td>Date:</td>
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DNP SOD Review Committee Member Name:
Appendix B

Agency Support

Support From Agency

Doctor of Nursing Practice (DNP) Agency Site Approval

Lauren Swansick will be completing her Doctor of Nursing Practice (DNP) project at Ria Health.

Student Signature: Lauren Swansick  Date: 5/13/23

Chief Medical Officer Signature: __________________________  Date: May 14, 2023
John Mendelson MD
Appendix C

Patient Health Questionnaire (PHQ-9)

<table>
<thead>
<tr>
<th>Over the last 2 weeks, how often have you been bothered by the following problems?</th>
<th>Not at all</th>
<th>Several days</th>
<th>More than half of the days</th>
<th>Nearly everyday</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Little interest or pleasure in doing things</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2 Feeling down, depressed, or hopeless</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3 Trouble falling or staying asleep, or sleeping too much</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4 Feeling tired or having little energy</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5 Poor appetite or overeating</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6 Feeling bad about yourself - or that you are a failure or have let yourself or your family down</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7 Trouble concentrating on things, such as reading the newspaper or watching television</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8 Moving or speaking so slowly that other people could have noticed, or the opposite - being so fidgety or restless that you have been moving a lot more than usual</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9 Thoughts that you would be better off dead, or of hurting yourself in some way</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10 If you check off any of these problems how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
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0 - Not difficult 1 - Somewhat difficult 2 - Very difficult 3 - Extremely difficult
Appendix D

Generalized Anxiety Disorder Scale (GAD-7)

<table>
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<tr>
<th>Over the last 2 weeks, how often have you been bothered by the following problems?</th>
<th>Not at all</th>
<th>Several Days</th>
<th>More than half the days</th>
<th>Nearly every day</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Feeling nervous, anxious, or on edge</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2 Not being able to stop or control worrying</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3 Worrying too much about different things</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>4 Trouble relaxing</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5 Being so restless that it is hard to sit still</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>6 Becoming easily annoyed or irritable</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>7 Feeling afraid, as if something awful might happen</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>TOTAL SCORE (add the marked numbers):</td>
<td></td>
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</tbody>
</table>

The GAD-7 was developed by Drs. Robert L. Spitzer, Janet B. W. Williams, Kurt Kroenke, and colleagues, with an education grant from Pfizer, Inc.
## Appendix E

### Evaluation Table

<table>
<thead>
<tr>
<th>APA Citation</th>
<th>Purpose of article or review</th>
<th>Design / Method / Conceptual framework</th>
<th>Sample / setting</th>
<th>Major variables studied with definitions</th>
<th>Measurement of major variables</th>
<th>Data analysis</th>
<th>Study findings</th>
<th>Level of evidence (critical appraisal score) / Worth to practice / Strengths and weaknesses / Feasibility / Conclusion(s) / Recommendation(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Psychiatric Association. (2018). The American psychiatric association practice guideline for the pharmacological treatment of patients with alcohol use disorder.</td>
<td>Frequency of screening/background on co-occurring mental health disorders in addiction.</td>
<td>No Design Method or conceptual framework. Clinical Guideline</td>
<td>For co-occurring disorder populations (alcohol use disorders and anxiety/depressive disorders).</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>Advises those with alcohol use disorders should also be screened for co-occurring disorders. It plays a role in pharmacotherapy selection.</td>
<td>The John Hopkins Evidence-based Appraisal level of evidence was level IV, A, high quality. Strength: Most updated, evidence-based practice for providers from this organization. Limitations: The context of the clinical environment for which this guideline is interpreted. Conclusions: The guideline provided the importance of screening for not just alcohol. Each disorder may play a role.</td>
</tr>
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</table>

Definition: Alcohol Use Disorder (AUD)
<p>| APA Citation | Purpose of article or review | Design / Method / Conceptual framework | Sample / setting | Major variables studied with definitions | Measure ment of major variables | Data analysis | Study findings | Level of evidence (critical appraisal score) / Worth to practice / Strengths and weaknesses / Feasibility / Conclusion(s) | Recommendation(s) |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| American Society of Addiction Medicine, (2020). The ASAM clinical practice guideline of alcohol withdrawal management. | Recommendation II 0 highlights assessing for co-occurring disorders, which includes a mental health history assessment. Also, the PHQ-9 and GAD-7 are named as scales that can be helpful in screening for depressive and anxiety disorders (ASAM, 2020). ASAM recommends providers caution in immediately diagnosing a new primary mental health condition when a patient is experiencing acute withdrawal. | No Design Method or conceptual framework. | AUD populations | N/A | N/A | N/A | Also, the PHQ-9 and GAD-7 are named as scales that can be helpful in screening for depressive and anxiety disorders (ASAM, 2020). ASAM recommends providers caution in immediately diagnosing a new primary mental health condition when a patient is experiencing acute withdrawal. | The Johns Hopkins Evidence-Based Appraisal level of evidence was level IV, A, high quality. <strong>Strengths:</strong> Most updated, evidence-based practice for providers from this organization. <strong>Limitations:</strong> The context of the clinical environment for AUD which this guideline is interpreted. <strong>Conclusions:</strong> Monitoring for withdrawal period is important prior to a new mental health conditions. |</p>
<table>
<thead>
<tr>
<th>APA Citation</th>
<th>Purpose of article or review</th>
<th>Design / Method / Conceptual framework</th>
<th>Sample / setting</th>
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<th>Measurement of major variables</th>
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<th>Study findings</th>
<th>Level of evidence (critical appraisal score)</th>
<th>Worth to practice / Strengths and weaknesses / Feasibility / Conclusion(s) / Recommendation(s)</th>
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<tr>
<td>Bentley, K. H, Sakurai, H, Lowman, K.L., Rines-Toth, L, McKowen, J, Pedrelli, P, Evans, A. E., &amp; Yule, A. M. (2021). Validation of brief screening measures for depression and anxiety in young people with substance use disorders. Journal of Affective Disorders, 282, 1021–1029.</td>
<td>Study looking at the psychometric validation of the Generalized Anxiety Disorder screening (GAD-7) and Patient Health Questionnaire (PHQ-9) in an outpatient substance use setting.</td>
<td>Non-experimental; no conceptual framework noted.</td>
<td>N=121 The primary population consisted of young adults (14-26) who completed the PHQ-9 and GAD-7 during an intake evaluation at an outpatient substance abuse setting.</td>
<td>Anxiety Symptoms correlated to GAD-7; Depression symptoms correlated with PHQ-9.</td>
<td>Measures includes the PHQ-9, GAD-7, the Beck Depression Inventory (BDI-II), The State-Trait Anxiety Inventory (STAI), the Trait Anger Scale (TAS), and the Leeds Dependence Questionnaire (LDQ); DSM-5</td>
<td>Hedge’s g effect size: for differences in means. Chi-Square</td>
<td>GAD-7 cut off score of greater than six was ideal because it classified 73% of patients. This cut-off score demonstrated a sensitivity of 81% and specificity 64%. As a result, there was a relationship between those diagnosed with an anxiety disorder after being screened with the GAD-7.</td>
<td>The John Hopkins Evidence-Based Appraisal Tool rated this study as Level III, B good quality. Strengths: Showed GAD-7 is an important tool to implement among younger individuals. Limitations: Pts’ self-reported on the screenings. Most of the sample was Caucasian and non-Hispanic. A full dx interview was not conducted after. Conclusions: The study’s large rate of anxiety disorders in young adults shed light on the importance screening has within this population. In addition, the GAD-7 is a useful screening tool in detecting anxiety.</td>
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<td>APA Citation</td>
<td>Purpose of article or review</td>
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<td>Delgado, J., Gore, S., Jessop, D., Payne, S., Singleton, P., &amp; Gilbody, S. (2012a). Acceptability of mental health screening in routine addictions treatment. General Hospital Psychiatry, 34(4), 415–422.</td>
<td>Addressed participant views on routine mental health screening tools in addictions treatment with a qualitative study to address routine detection of depression and anxiety that does not occur in addiction practice</td>
<td>Qualitative study of interviews; Critical realism paradigm</td>
<td>Sample size of n=19 participants (drug addiction setting) completed qualitative interviews over one year.</td>
<td>N/A</td>
<td>Utilized QSR NVivo software to pull out common themes.</td>
<td>Used thematic analysis to find common themes from interviews.</td>
<td>QR NVivo software.</td>
<td>Individuals felt mental health screening tools were easy to use. Staff support helped those who needed further interpretation. Endorsed these tools as necessary to identify any relationship between drug use and mental health. Also, participants stated they experienced positive emotional responses from their mental health being assessed</td>
<td>Level III, B good quality. Strengths: feedback from participants themselves who experience addiction; view of mental health screening tools. Limitations: small sample size. Sample included polysubstance users (opioid dependence). Larger addiction population may have different views on mental health screening tools. Conclusions: Therapeutic alliance between patients and clinical staff is important when using mental health screening tools.</td>
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<td>APA Citation</td>
<td>Purpose of article or review</td>
<td>Design / Method / Conceptual framework</td>
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<tr>
<td>Delgadolio, J., Payne, S., Gilbody, S., Godfrey, C., Gore, S., Joyce, D., &amp; Dale, V. (2012). Brief case finding tools for anxiety disorders: Validation of GAD-7 and GAD-2 in addictions treatment. Drug and Alcohol Dependence, 125(1-2), 37-42.</td>
<td>Assessed the validity and reliability of the GAD-7 and GAD-2 in an outpatient addiction drug population.</td>
<td>Cross-sectional: No conceptual framework noted.</td>
<td>n=103 Setting: outpatient addiction drug population</td>
<td>GAD-2: screening tool 1st before GAD-7. Measures included the GAD-2 and if applicable the GAD-7. Secondary measures included participants filling out the Severity of Dependence Scale (SDS). Drug and alcohol use was evaluated with the Treatment Outcomes Profile (TOP) Scale. Finally, participants were interviewed via the Revised Clinical Interview Schedule. Cronbach’s Alpha Value; +PV, -PV</td>
<td>+PV, -PV</td>
<td>The GAD-7 was the most valid in 95% of cases with a positive anxiety screen, and 69% without a positive screening. Also, compared to the GAD-2, the GAD-7 was the most precise in the validation of cases, the predictive value was (+PV=0.91). The GAD-2 was more precise in screening for non-cases (+PV=0.83).</td>
<td>The John Hopkins Evidence-Based Appraisal Tool, level of evidence was level III, B, good quality. Strengths: One of few studies that assesses the use of GAD-7 in substance use. Limitations: Small sample size. Conclusions: GAD-7 is a useful tool in the detection of probable anxiety disorders; however, need to consider withdrawal period first.</td>
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<tr>
<td>Purpose of article or review</td>
<td>Design / Method / Conceptual framework</td>
<td>Sample / setting</td>
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<td>Study findings</td>
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<tr>
<td>Assessed the use of the PHQ-2 and PHQ-9 screening tools in a community drug program.</td>
<td>Quantitative; Cross-sectional study; no framework noted.</td>
<td>n=103 patients; only 60 took part in the re-evaluation. Outpatient drug and alcohol setting.</td>
<td>Depression and substance use.</td>
<td>Patients were evaluated using the PHQ-2, PHQ-9, and the CIS-R. Other tools used were the Treatment Outcome Profile (TOP), the Severity of Dependence Scale (SDS), and short questions about participant medication use.</td>
<td>ROC: Receiver operating characteristic Cronbach’s alpha tested internal consistency of tools. Youden’s index</td>
<td>The PHQ-9 was deemed to be the most precise measure. It had a sensitivity of 81% and specificity 75% with a score of 12 or greater</td>
<td>Level of evidence for this resource was level III, B good quality.</td>
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</table>

**Strengths:** Used both screening tool, and diagnostic interview.

**Limitations:** Used incentives for participation; may have excluded greater population; small sample size.

**Conclusions:** PHQ-9 was deemed precise in screening for depression in drug addiction settings.
<table>
<thead>
<tr>
<th>APA Citation</th>
<th>Purpose of article or review</th>
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<th>Measurement of major variables</th>
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<th>Level of evidence (critical appraisal score) / Worth to practice / Strengths and weaknesses / Feasibility / Conclusion(s) / Recommendation(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepner, K. A., Hunter, S. B., Edeken, M. O., Zhou, A. J., &amp; Watkins, K. (2009). A comparison of two depressive symptomatology measures in residential substance abuse treatment clients. <em>Journal of Substance Abuse Treatment</em>, 37(3), 318-325.</td>
<td>Compared the usage of the PHQ-9 and the BDI-II for identifying depressive disorders in a residential substance use treatment center.</td>
<td>Cross-sectional; quantitative. No framework noted.</td>
<td>N=240 individuals who completed the depression screenings in residential treatment.</td>
<td>Depression and alcohol use.</td>
<td>PHQ-9: depression; BDI-II: depression; AUDIT-C: alcohol consumption</td>
<td>Categorical confirmatory factor analyses</td>
<td>Chi-squared statistic</td>
<td>Patients reported mild depressive symptoms on the BDI-II (mean=14.9) and PHQ-9 (mean=7.4). However, the PHQ-9 classified 28% of patients with mild depressive symptoms.</td>
</tr>
</tbody>
</table>

**Strengths:**
Fair sample size:
PHQ-9 detected mild forms of depression that may not present obviously.

**Limitations:**
Population consisted of more severe alcohol use (residential); does not address outpatient level; older study.
Also, does not consider integrated care framework.

**Conclusions:** PHQ-9 reliable detecting milder forms of depression.

Definitions: Patient Health Questionnaire (PHQ-9); Beck Depression Inventory (BDI-II); Alcohol Use Disorders Identification Test-Consumption (AUDIT-C).
<table>
<thead>
<tr>
<th>APA Citation</th>
<th>Purpose of article or review</th>
<th>Design / Method / Conceptual framework</th>
<th>Sample / setting</th>
<th>Major variables studied with definitions</th>
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<th>Data analysis</th>
<th>Study findings</th>
<th>Level of evidence (critical appraisal score)</th>
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<tbody>
<tr>
<td>Maret, C., Madden, E., Wilson, J., Teesson, M., &amp; Mills, K. L. (2023). Effectiveness of online training for improving knowledge, attitudes, and confidence of alcohol and other drug workers in relation to co-occurring mental health conditions. Drugs, 83(2), 115-121.</td>
<td>The confidence, knowledge, and attitudes of alcohol and other drug (AOD) workers in partnership with co-occurring mental health conditions was studied.</td>
<td>Quasi-experimental pre- and post-test design. No conceptual framework noted. Based on clinical guidelines.</td>
<td>N= 115</td>
<td>Independent Variable: Online Educational Module Intervention. Dependent Variable: Clinician Knowledge, Confidence, and Attitudes.</td>
<td>A 5-point Likert Scale with 26 questions.</td>
<td>PASW Statistics 23; as well as a 5-point Likert Scale for analysis.</td>
<td>Results showed more than two-thirds of participants believed they were confident to detect and manage familiar mental health conditions, speak to patients about co-occurring disorders and where and how to refer patients to concomitant treatment. The change in participant knowledge following the training revealed four out of the six co-occurring disorder questions showed a significant improvement from pre-to post training.</td>
<td>The John Hopkins Evidence-Based Appraisal Tool, level of evidence was level II, B good quality.</td>
</tr>
</tbody>
</table>

Strengths: Although it was the first study to perform in an online training on co-morbidity among AOD, it revealed their knowledge and confidence increased. Limitations: No randomization of participants, possible bias. Not possible to measure if incorporated into clinical practice. Conclusions: Online learning of an evidence-based practice curriculum proved to be effective.

Definition: *AOD*= Alcohol and other drug workers
<table>
<thead>
<tr>
<th>APA Citation</th>
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<th>Sample / setting</th>
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<th>Measurement of major variables</th>
<th>Data analysis</th>
<th>Study findings</th>
<th>Level of evidence (critical appraisal score) / Worth to practice / Strengths and weaknesses / Feasibility / Conclusion(s) / Recommendation(s)</th>
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<tbody>
<tr>
<td>National Institute for Health and Care Excellence. (2011). Alcohol use disorders: Diagnosis, assessment and management of harmful drinking (high-risk drinking) and alcohol dependence. NICE. <a href="https://www.nice.org.uk/guidance/cg115/chapter/Research-recommendations">Link</a></td>
<td>Outlines recommendation in treating AUD and anxiety.</td>
<td>No Design Method or conceptual framework. <em>Clinical Guideline</em></td>
<td>AUD Setting</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>Recommends individuals with alcohol and comorbid anxiety disorders treat the underlying component of the alcohol misuse first as this may result in improvements in anxiety</td>
<td>The John Hopkins Evidence Based Appraisal level of evidence for this resource was level IV, A high quality. Addresses withdrawal component; however, does not address integrated care component.</td>
</tr>
</tbody>
</table>
Appendix F

A Model for Change to Evidence-Based Practice
Appendix G

Toolkit and Workflow Intervention

The Patient Health Questionnaire (PHQ-9) and Generalized Anxiety Scale Disorder (GAD-7) Workflow and Toolkit

**Short Workflow on GAD-7 and PHQ-9 Screenings**

1. Under the “Care” tab, the desired screening tool can be selected.
**Substance-Induced Depression**

In those with an alcohol use disorder, approx. 40-60% experience substance-induced depression (Revadige & Gupta, 2022).

**ALCOHOL AND DEPRESSION: WHAT'S THE CORRELATION?**

- There is a strong connection between alcohol use and depression. Research has shown that both disorders can co-occur, which can increase the severity and impact of each disorder.
- The symptoms of alcohol use disorder (AUD) and depression often overlap and can be difficult to distinguish.
- The use of substances can exacerbate symptoms of depression and hinder recovery.
- The co-occurrence of AUD and depression can affect social, occupational, and other areas of functioning.

**Generalized Anxiety Disorder Scale (GAD-7)**

- The GAD-7 is a self-report measure that assesses the severity of anxiety symptoms.
- It is commonly used in clinical settings to screen for generalized anxiety disorder.
- The scale consists of 7 items, each rated on a 4-point scale.
- Scores range from 0 to 21, with higher scores indicating greater severity of anxiety.
- The GAD-7 is a screening tool and should be used in conjunction with a full mental health evaluation.

**Substance-Induced Depression:**

- There is evidence that the symptoms of depression can be explained by a history of alcohol use or drug use disorder.
- The symptoms of depression may persist longer than expected, even after the withdrawal or abstinence of the substance.
- The symptoms of substance-induced depression may be difficult to distinguish from those of a primary depressive disorder.
- Treatment for substance-induced depression often involves addressing both the substance use and the underlying depression.
Types of Anxiety Disorders Associated With GAD-7

Generalized Anxiety Disorder:
A. Excessive anxiety or worry occurring for at least 6 months.
B. Individual finds it difficult to control the worry.
C. Symptoms are associated with at least 3 of the following for at least 6 months:
   1. Restlessness
   2. Easily fatigued
   3. Difficulty concentrating
   4. Irritability
   5. Muscle tension
   6. Difficulty sleeping
D. Symptoms cause distress or impairment.
E. Symptoms not related to a substance
F. Symptoms not better explained by another mental disorder.

Panic Disorder:
A. Recurrent unexpected panic attacks. A panic attack is an abrupt surge of intense fear or intense discomfort that reaches a peak within minutes.
B. At least one of the attacks has been followed by a month (or more) of one or both of the following:
   1. Persistent concern or worry about additional panic attacks.
   2. A significant maladaptive change in behavior related to the attacks (e.g., behaviors to avoid having panic attacks, such as avoidance of exercise or unfamiliar situations).

DSM-5 Criteria for Social Anxiety Disorder

- Marked Fear or Anxiety about one or more social situations in which the individual is exposed to scrutiny by others.
- Social situations almost always provoke fear or anxiety.
- The fear or anxiety is out of proportion to the actual threat posed by the social situation and to the sociocultural context.
- The social situations are avoided or endured with intense fear or anxiety.

The Shame-Resilience Model by Dr. Brene Brown: Application to Addiction

Shame can make individuals feel trapped, powerless, and isolated. Shame triggers vary by each individual. Addiction is listed in Dr. Brown’s 12 categories of shame triggers.

Shame: “The intensely painful feeling or experience of believing we are flawed and therefore unworthy of connection and belonging.”

Shame-Resilience Theory: The goal is to help patients feeling shame from their addiction to develop this. For example, guiding them to feel the opposite emotions of shame, such as connection, empathy, freedom, and power.

Shame Resilience (4 Key Elements):
1. Patients recognizing, naming, and understanding their shame triggers (e.g. addiction or mental health conditions).
2. Patients working to identify external factors that led to their feelings of shame (e.g. society’s stigmas).
3. Patients connecting with others to receive and offer empathy.
4. Patients speaking about their shame to others (e.g. speaking to providers and staff at appointments).

*Although shame is "silent," empathy fosters connection and compassion*

12 Categories of Shame Triggers:
- Money
- Work
- Family
- Parenting
- Motherhood or Fatherhood
- Appearance and body image
- Mental and physical health
- Addiction
- Sex
- Surviving Trauma
- Being stereotyped/labeled
- Aging
- Religion

*Shame triggers may coincide as well*
Shame in Addiction

*Please complete the Post-Survey.*

https://usfca.qualtrics.com/jfe/form/SV_5C2qOBNMzunjY8K
Appendix H

Gap Analysis

**Area under Consideration:** Outpatient Telehealth Alcohol Addiction Clinic (Headquarters based in San Francisco)

**AIM Statement:** Prepare, disseminate, and evaluate a workflow and toolkit to strengthen substance abuse clinical staff awareness on the importance of using the Patient Health Questionnaire (PHQ-9) and the Generalized Anxiety Disorder-7 Scale (GAD-7)

<table>
<thead>
<tr>
<th><strong>Desired State:</strong></th>
<th><strong>Current State:</strong></th>
<th><strong>Action Steps:</strong></th>
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</thead>
<tbody>
<tr>
<td>Substance abuse clinical staff will increase their knowledge, awareness, and confidence on the importance of using the PHQ-9 and GAD-7 screening tools by 10%.</td>
<td>Currently, providers are not consistently implementing the PHQ-9 and GAD-7 during initial or follow-up appointments. Lack of frequent utilization in addiction settings.</td>
<td>For clinical staff, initiate a pretest on PHQ-9 and GAD-7. Provide an online toolkit and workflow on the PHQ-9 and GAD-7. Clinical staff will complete a posttest after completing the workflow and toolkit. Gather data and interpret results.</td>
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</table>
### Appendix I

**Gantt Chart**

<table>
<thead>
<tr>
<th>Task</th>
<th>June - Aug 2023</th>
<th>Sept 2023</th>
<th>Oct 2023</th>
<th>Nov-Dec 2023</th>
<th>Jan-Feb 2024</th>
<th>March 2024</th>
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<td>Highlighted Project Goals/ Objectives</td>
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<td>Prepared Prospectus and Project Plan</td>
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<td>Prepared/Designed Online Workflow and Toolkit</td>
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<td>Analyzed Pre and Post Test Data</td>
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<td>Presented findings to Site's CMO</td>
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## Appendix J

### Work Breakdown Structure

<table>
<thead>
<tr>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
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<tbody>
<tr>
<td>Increasing the Optimal Usage of the GAD-7 and PHQ-9 Screening Tools to Better Detect Co-Occurring Disorders in an Alcohol Use Disorder Clinic</td>
<td>1.1 Initiation</td>
<td>1.1.1 Discussed with site preceptor/CMO ideas for DNP project. 1.1.2 After topic was chosen, researched more evidence-based literature. 1.1.3 Prepared an outline of ideas. 1.1.4 Sought approval from USF advisor for DNP project/ location of project at AUD telehealth outpatient clinic.</td>
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<tr>
<td></td>
<td>1.2 Planning</td>
<td>1.2.1 Made another outline based off feedback from advisor. 1.2.2 Met with preceptor at site to discuss feedback from advisor. 1.2.3 Prepared an AIM Statement. 1.2.4 Prepared current objectives. 1.2.5 Identified key stakeholders (CMO, practice manager, PMHNPs, FNP, MD, DO, RN, MA). 1.2.6 Designed workflow and toolkit. 1.2.7 Emailed workflow and toolkit to CMO for final approval.</td>
</tr>
<tr>
<td></td>
<td>1.3 Execution</td>
<td>1.3.1 Sent introductory pitch to practice manager for clinical staff. 1.3.2 Distributed workflow and toolkit, including attached surveys. 1.3.3 Delivered continued reminders to increase the number of staff in intervention.</td>
</tr>
<tr>
<td></td>
<td>1.4 Control</td>
<td>1.4.1 Collected data from pre and posttests. 1.4.2 Analyzed the data.</td>
</tr>
<tr>
<td></td>
<td>1.5 Closeout</td>
<td>1.5.1 Delivered findings to CMO. 1.5.2 Made future recommendations for site. 1.5.3 Wrote DNP project paper. 1.5.4 Presented to the DNP chair and committee.</td>
</tr>
</tbody>
</table>
Appendix K

Communication Matrix

<table>
<thead>
<tr>
<th>Individual Contacted</th>
<th>Frequency</th>
<th>Contact Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNP Chair, Dr. Trinette Radasa</td>
<td>As needed</td>
<td>Email and Zoom</td>
</tr>
<tr>
<td>Second Reader, Dr. Ricky Norwood</td>
<td>As needed</td>
<td>Email and Zoom</td>
</tr>
<tr>
<td>Chief Medical Officer (CMO)</td>
<td>As needed</td>
<td>Email and Zoom.</td>
</tr>
<tr>
<td>Practice Manager</td>
<td>As needed, weekly intervals</td>
<td>Email, Phone, and Zoom</td>
</tr>
</tbody>
</table>
Appendix L

SWOT Analysis

<table>
<thead>
<tr>
<th>Internal (attributes of the organization)</th>
<th>Favorable/Helpful</th>
<th>Unfavorable/Harmful</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strengths</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• The alcohol use disorder (AUD) telehealth clinic has an array of providers and clinical staff to distribute the Patient Health Questionnaire (PHQ-9) and Generalized Anxiety Disorder-7 Screening Tools (PMHNPs, FNPs, MDs, DOs,).</td>
<td></td>
<td>• Insufficient time for staff to implement PHQ-9 and GAD-7 screening with appointments.</td>
</tr>
<tr>
<td>• The workflow and toolkit are simple and convenient for clinical staff to read.</td>
<td></td>
<td>• A decrease in the implementation of screenings takes away from patient care.</td>
</tr>
<tr>
<td>• The intervention is delivered on an online platform, providing easier access.</td>
<td></td>
<td>• Staff hesitation to participate in a student project.</td>
</tr>
<tr>
<td><strong>Weaknesses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Opportunities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Additional awareness to clinical staff on the importance of these screening tools to recognize the root of a patient’s drinking.</td>
<td></td>
<td>• Facilities using in-person care versus telehealth platforms.</td>
</tr>
<tr>
<td>• Foreseeable future: Registered nurses and medical assistants initiating PHQ-9 and GAD-7 with patients to save providers time in appointments.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Future detection of a patient mental health condition.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Threats</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Appendix M

Cost Avoidance Analysis

<table>
<thead>
<tr>
<th>Goal: To avoid 1 ED visit a month related to alcohol misuse.</th>
<th>Cost Avoidance:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of a Psych Evaluation/ED Visit within San Francisco: $1,942 x 12 ED visits/year:</td>
<td>$23,304</td>
</tr>
<tr>
<td>Total Cost Avoidance - Total Cost of Implementation</td>
<td>Cost Savings:</td>
</tr>
<tr>
<td>$23,304 - 13,162.95</td>
<td>$10,141.05</td>
</tr>
</tbody>
</table>
Appendix N

Budget

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Breakdown</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>RN salary with project</td>
<td>$92/hr x 135 hours</td>
<td>$12,420</td>
</tr>
<tr>
<td>Workflow and Toolkit Training Intervention</td>
<td>3 NPs: $100/hr x 0.5 hour</td>
<td>$150</td>
</tr>
<tr>
<td></td>
<td>5 Physicians: $133/hr x 0.5 hour</td>
<td>$333</td>
</tr>
<tr>
<td></td>
<td>3 RNs: $70/hr x 0.5 hour</td>
<td>$105</td>
</tr>
<tr>
<td></td>
<td>5 MAs: $26/hr x 0.5 hour</td>
<td>$65</td>
</tr>
<tr>
<td>Training Materials</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Printing Paper</td>
<td>Project Manager Printing Resources</td>
<td>$30</td>
</tr>
<tr>
<td>Printer Ink</td>
<td>Project Manager Printing Resources</td>
<td>$50</td>
</tr>
<tr>
<td>Creating Workflow and Toolkit Intervention</td>
<td>Subscription to Lucidchart</td>
<td>$9.95</td>
</tr>
<tr>
<td>Total Implementation Costs= 13,162.95</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix O

Outcome Measures

DNP Project Pre-Test

Q1. What is your current occupation within the organization?

- MD (1)
- D.O. (2)
- Family Nurse Practitioner (FNP) (3)
- Psychiatric Nurse Practitioner (PMHNP) (4)
- Registered Nurse (RN) (5)
- Medical Assistant (MA) (6)

Q2. I clinically use the Patient Health Questionnaire (PHQ-9) with patients (when applicable). If somewhat disagree or strongly disagree, can you please state why.
Q3. I clinically use the Generalized Anxiety Disorder Screening (GAD-7) with patients (when applicable). If somewhat disagree or strongly disagree, can you please state why.

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

Q4. I find patients are open to completing the PHQ-9 (when applicable).

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)
Q5. I find patients are open to completing the GAD-7 (when applicable).

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

Q6. I know when to initiate the PHQ-9 with patients.

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

Q7. I know when to initiate the GAD-7 with patients.

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)
Q8. I know when to *follow-up* with the PHQ-9 with patients.

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

Q9. I know when to *follow-up* with the GAD-7 with patients.

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)
Q10. I know the relationship between alcohol use disorder (AUD) and a GAD-7 severity score of 15-21.

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

Q11. I am confident in identifying anxiety and depressive conditions that commonly can co-occur with alcohol use disorder.

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)
Q12. I am confident in using the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) to diagnose common anxiety and depressive conditions that can co-occur with alcohol use disorder.

- [ ] Strongly disagree (1)
- [ ] Somewhat disagree (2)
- [ ] Neither agree nor disagree (3)
- [ ] Somewhat agree (4)
- [ ] Strongly agree (5)
DNP Project Post-Test

Q1. I know when to *initiate* the PHQ-9 with patients.

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

Q2. I know when to *initiate* the GAD-7 with patients.

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)
Q3. I know when to follow-up with the PHQ-9 with patients.

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

Q4. I know when to follow-up with the GAD-7 with patients.

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

Q5. I know the relationship between alcohol use disorder (AUD) and a GAD-7 severity score of 15-21.
Q6. I am confident in identifying anxiety and depressive conditions that commonly can co-occur with alcohol use disorder.

- Strongly disagree (1)
- Somewhat disagree (2)
- Neither agree nor disagree (3)
- Somewhat agree (4)
- Strongly agree (5)

Q7. I am confident in using the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) to diagnose common anxiety and depressive conditions that can co-occur with alcohol use disorder.
Q8 Can you please describe any thoughts/feelings you have after reading the workflow and toolkit.

________________________________________________________________________
Appendix P

Pretest Occupation Frequency Distribution

Figure 1

Q1 - What is your current occupation within the organization?

- MD: 4
- D.O.: 2
- Family Nurse Practitioner (FNP): 3
- Psychiatric Nurse Practitioner (PMHNP): 8
- Registered Nurse (RN): 3
- Medical Assistant (MA): 9
Posttest Occupation Frequency Distribution

Figure 2
Appendix Q

Results

Table 1

<table>
<thead>
<tr>
<th>Question Description</th>
<th>Pretest</th>
<th>Posttest</th>
<th>Paired Differences</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>I know when to initiate the PHQ-9 with patients</td>
<td>4.13</td>
<td>1.20</td>
<td>4.44</td>
</tr>
<tr>
<td>I know when to initiate the GAD-7 with patients</td>
<td>4.25</td>
<td>.931</td>
<td>4.44</td>
</tr>
<tr>
<td>I know when to follow-up with the PHQ-9 with patients</td>
<td>3.75</td>
<td>1.34</td>
<td>4.38</td>
</tr>
<tr>
<td>I know when to follow-up with the GAD-7 with patients</td>
<td>3.75</td>
<td>1.34</td>
<td>4.38</td>
</tr>
<tr>
<td>I know the relationship between an AUD and a GAD-7 severity score of 15-21.</td>
<td>4.00</td>
<td>1.10</td>
<td>4.56</td>
</tr>
<tr>
<td>I am confident in identifying common anxiety and depressive conditions that commonly co-occur with AUD.</td>
<td>4.50</td>
<td>.816</td>
<td>4.75</td>
</tr>
<tr>
<td>I am confident in using the DSM-5 to diagnose common anxiety and depressive conditions that can co-occur with AUD.</td>
<td>4.00</td>
<td>1.37</td>
<td>4.63</td>
</tr>
</tbody>
</table>

*Note: t stands for test statistic, df stands for degree of freedom, p stands for p-value, SS stands for statistically significant, NSS stands for not statistically significant.*
Appendix R

Word Cloud