Fall 2022

Enhancing Clinicians' Knowledge in the Use of the Beck Depression Inventory Tool in Outpatient Setting: A Quality Improvement Project

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Outpatient Setting: A Quality Improvement Project

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Date of Submission: 11/29/2022

Abstract

The paper outlines a quality improvement project to improve clinicians' knowledge in using

the Beck Depression Inventory (BDI) within an outpatient setting, known as the Assertive

Community Treatment (ACT) team. The BDI is among the standard depression screening

instruments used. The primary care version of the tool is preferred because it discriminates

somatic symptoms that may overlap with other clinical conditions. Clinician knowledge and

skills are critical to ensure appropriate scoring and interpretation of the scores. In this quality

improvement (QI) project, the clinicians completed questionnaires to determine their BDI-

related knowledge before (pre-test) and four weeks after (post-test) the training. Comparative

analyses between pre-test and post-test findings identified knowledge changes (i.e., retention)

achieved following the educational sessions. The program focused on administering, scoring,

interpreting BDI scores, and safety planning for at-risk patients. The QI initiative comprised

the deployment of the BDI tool, continuous training, and personalized coaching to improve

compliance. Clinicians refined their knowledge and improved patient service quality. Patient

record reviews determined that clinicians achieved the required competence and proficiency

in using BDI based on the number of positive screens recorded. The one-tailed Wilcoxon

signed-rank test was used to compare the improvements in knowledge. In contrast,

Spearman's rho was used to assess the effect of provider experience and educational level on

changes in knowledge. In conclusion, introducing provider training improved BDI-related

knowledge, leading to improvements in the number of patients screened.

Keywords: Outpatient, primary care, safety, clinicians, knowledge, major depressive disorder,

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Enhancing Clinicians' Knowledge in the Use of the Beck Depression Inventory Tool in Outpatient/Inpatient Setting: A Quality Improvement Project

Introduction

The World Health Organization (WHO) considers mental health disorders a challenging global burden considering the number of individuals affected. Depression is among the most common mental health disorders affecting the global population. Depression can affect any individual, regardless of race, ethnicity, gender, or socioeconomic status (WHO, 2019). The symptoms of depression include poor concentration, loss of interest or pleasure, feelings of guilt, sadness, and low self-worth, among others (WHO. 2019). A diagnosis of depression leads to poor health outcomes, including disability, psychiatric and chronic diseases, morbidity, and mortality (Hasin et al., 2018). Major depressive disorder (MDD) can lead to a high risk of suicide, with a majority of the 800,000 global cases of suicide related to MDD (WHO, 2021a; 2021b). Moreover, MDD is linked to poor psychosocial well-being, leading to declining performance at home, school, or the workplace.

According to the WHO (2022), approximately 300 million individuals have depression globally. Approximately 7.1% or 17.3 million adults in the United States (US) have experienced at least one episode of depression (National Institute of Mental Health, 2020). Depression is a highly debilitating condition, with a significant economic burden associated with direct medical costs and indirect social costs. The disorder leads to reduced productivity, emotional suffering, impaired relationships, lost wages, and an increased risk of comorbidity (Siniscalchi et al., 2020). Between 2010 and 2020, the economic burden of depression increased by 37.9%, from $236.6 billion to $326 billion (USD) (Siniscalchi et al., 2020). Between 2010 and 2020, the most significant changes in the composition of the economic burden can be seen in workplace costs, with an increase of 73.2% (Siniscalchi et

al., 2020). Economic analyses reveal that individuals with depression of all ages shoulder high financial costs relative to people without depression (Konig et al., 2020). For example, the Ratio Of Means (ROM) among adults was 2.58 (95% CI 2.01-3.31, p<0.0001, I^2=99%), implying a higher medical cost (Konig et al., 2020). Moreover, Konig et al. (2020) reported higher indirect costs of depression among adults with ROM of 2.28 (95% CI 1.75-2.98, $p < 0.0001$, I^2=74%).

Unsurprisingly, depression also exerts a substantial personal financial toll on individual patients. The Global Burden of Disease study reported that depression exerted the heaviest financial burden on US adults, accounting for approximately 2.7 million disability-adjusted life-years (DALYs) (Mokdad et al., 2018). Approximately 8.1% of American adults aged 20 years and over experienced at least one depressive episode in any two weeks between 2013 and 2016 (Greenberg et al., 2021). Almost 80% of adults with depression reported difficulties with work and daily activities as a direct outcome of their depressive symptoms (Brody et al., 2018). Depression is associated with 27.2 days of absenteeism and presenteeism and an additional 65.5 days of dysthymic disorder annually (Bodden et al., 2018). Extrapolating the findings to the US labor force, the data implies the loss of approximately 225.0 million workdays yearly. The high burden of depression on the health care system and individual patients implies the need for timely identification, diagnosis, and treatment.

Problem Description

While depression is a recognized public health problem, many patients in the United States remain undiagnosed and untreated. Many patients with MDD do not seek help because of the stigmatization associated with mental health disorders (Nyablade et al., 2019). Low levels of service utilization are also associated with the affordability of specialty mental health services (Coombs et al., 2021). Primary care providers are crucial in recognizing and

managing mental health disorders, considering that almost 60% of mental health services are in such settings (Park & Zarate, 2019). In primary care settings, 10 to 14% of service users have depression, but almost 50% of the cases are undetected (Blackstone et al., 2022). Indeed, only about three percent of adults without a depression diagnosis are in primary care settings (Bhattacharjee et al., 2018). The Agency for Healthcare Research and Quality and the US Preventive Services Task Force (USPSTF) recommends routine depression screening for adults in primary care to address under-recognition (Park & Zarate, 2019). The recommendation states that primary providers should have "adequate systems" to facilitate timely detection and treatment (Pfoh et al., 2020). However, the effectiveness of depression screening remains questionable, with knowledge and skills about the screening instruments being one of the reported barriers (Wakida et al., 2018).

The Assertive Community Treatment (ACT) is an integrated team-based service model that seeks to integrate mental health services into primary care. The model focuses on delivering comprehensive mental health services at the community level, specifically for bipolar disorder, schizophrenia, and major depression (Henwood et al., 2018). The model's fidelity standards emphasize 24-hour provider coverage and client contact within community settings. Applying the model in many settings has shown positive effects on identifying mental health disorders, the rate of psychiatric hospitalization, and the stability of adults with serious mental illness (Henwood et al., 2018). However, the outcomes are contingent upon the appropriate use of available screening instruments.

The ACT Team for this project uses the Patient Health Questionnaire (PHQ-9) for depression screening. The ACT Team observed that the PHQ-9 implementation at the site had its limitations, with lower specificity for younger patients (Levis et al., 2019). One of the observations was that the clinicians at the implementation site did not have formal training in using the PHQ-9 tool, and the organization's policies did not emphasize same-day screening

for depression during clinic visits. While PHQ-9 is a depression screening methodology, its effectiveness in primary care settings has come under scrutiny because of inadequacies in discriminating somatic symptoms arising from other medical conditions (Vaughan et al., 2020). With the high number of primary care visits, it is crucial to ensure the timely identification of depression, which can be enabled by deploying the tool. However, this also depends on the clinicians' proficiency in applying the tool. It is unknown whether the clinicians working in the ACT team at the implementation site have the proficiency and competence to adopt BDI as the primary screening tool. With the ACT as the model of care in the implementation setting, it is essential to ensure that clinicians have the knowledge and skills to use a highly reliable depression screening tool.

Available Knowledge

Depression screening in primary care settings is crucial for the timely recognition and diagnosis of depression. Indeed, primary care remains the main access point to health care across the United States, implying that primary care providers have a crucial role in depression screening and recognition (Moise et al., 2021). The low depression treatment rates in primary care settings may be due to insufficient identification. Many patients with clinical depression are misdiagnosed, leading to the misidentification of subclinical symptoms for proper diagnosis (Samples et al., 2020). Many primary care providers record diagnoses of somatic complaints such as headache, insomnia, and fatigue rather than depression because they are unsure about the diagnosis (Rushton et al., 2022).

Empirical and theoretical research reveals crucial insights into depression screening in primary care settings. The role of depression screening during primary care visits facilitates timely diagnosis and treatment, as revealed in a cross-sectional study involving 16,887 participants (Samples et al., 2020). Only three percent of the visits utilized depression screening, despite USPSTF recommendations about depression screening during primary care

visits (Samples et al., 2020). Nevertheless, providers with higher screening rates reported higher odds of diagnosing patients with depression (Samples et al., 2020). Clinicians tend to conduct selective depression screening contingent upon patients' presenting symptoms. Systematic approaches to depression screening in primary care offer substantial benefits, as illustrated in a study involving 259,411 patients (Pfoh et al., 2020). The PHQ-9 is the standard tool for depression screening. Following the implementation of the systematic approach, the primary care settings recorded an increase in depression screening to 59%, with depression diagnosis increasing from 1.7% to 2.9% (Pfoh et al., 2020). Based on the findings, it is appropriate for primary care settings to introduce a systematic way of screening adults for depression as a part of a value-based care contract aimed at improving the recognition, diagnosis, and treatment of depression from primary care (Pfoh et al., 2020).

Current evidence highlights the importance of using Measurement-Based Care (MBC) procedures in implementing depression screening in primary care (Jha et al., 2019; Siniscalchi et al., 2020). VitalSign6, an MBC program, was used to assess the effectiveness of the approach on depression screening and treatment in a quasi-experimental pre-post design involving 1,200 adult patients visiting the clinic for primary care services (Siniscalchi et al., 2020). The change of approach to screening allowed the setting to screen approximately 95% of the patients, with 27.5% receiving at least one follow-up (Siniscalchi et al., 2020). The early identification and diagnosis of depression led to a significant decrease in self-reported depression scores, as measured using PHQ-9 (Siniscalchi et al., 2020). Similarly, another retrospective investigation used MBC in a study involving 25,000 patients aged 12 years and over (Jha et al., 2019). The routine screening using PHQ-9 led to the identification of depression in 17.3% of those screened (Jha et al., 2019). Individuals diagnosed with depression received several follow-up visits, and a high remission rate emerged among individuals who received three or more follow-up visits following the routine

screening (Jha et al., 2019). Therefore, follow-up is essential in ensuring positive outcomes after routine depression screening during primary care visits.

While the value of depression screening is undisputed, studies investigating different screening tools have shown mixed results, with the most recent evidence focusing on the applicability of PHQ-9. The accuracy of the PHQ-9 in screening and detecting depression when compared with fully structured and semi-structured interviews (Levis et al., 2019). The PHQ-9 has a higher specificity in detecting depression than semi-structured interviews (Levis et al., 2019). However, adjusting the cut-off score to 10 would ensure the detection of depression across the age groups. According to Ford et al. (2020), clinicians administering the PHQ-9 can influence patient responses. Clinicians may deviate from the PHQ-9 wording when administering the questionnaire, especially for adults who cannot complete it alone (Ford et al., 2020). Ford et al. (2020) found that the clinician-administered PHQ-9 influenced patients' responses and led to either upgrading or downgrading depression severity. Therefore, this illustrates that the presentation of response options may affect the detection of depression in primary care settings.

Disagreement between self-reported depression scores and patients pertinent to their perceptions of mood changes may emerge when either the PHQ-9 or BDI-II (Hobbs et al., 2021). Significant disagreement in questionnaire scores (55% in BDI-II and 51% in PHQ-9) emerged (Hobbs et al., 2021). Patients with severe anxiety were less likely to report feeling better after screening and treatment (Hobbs et al., 2021). Therefore, using self-reported depression scales has its limitations. Clinicians in primary care settings should practice caution when interpreting the scores to avoid misdiagnosis.

Additional evidence illustrates the applicability and benefits of using BDI in primary care settings. Comparisons of the efficacy of the BDI-II and PHQ-9 in detecting depression among low-income women indicate that the tools performed similarly in identifying the

severity of symptoms (Kneipp et al., 2020). While BID and PHQ-9 had similar applicability, the PHQ-9 had shortcomings in discriminating somatic symptoms associated with other clinical conditions among individuals with depression (Vaughan et al., 2020). Therefore, BDI-II is considered more appropriate because of its discriminative capacity for the different variables. Indeed, BDI is applicable across different settings based on its validity and internal reliability. Furthermore, BDI-II has a higher sensitivity in discriminating between clinical and general populations (Garcia-Batista et al., 2018). The tool was effective in primary care settings because it enabled the conceptualization and differentiation of somatic, affective, and cognitive symptoms of depression.

According to Biracyaza et al. (2021), BDI has good psychometric properties when applied to most non-white populations. Additionally, BDI is an excellent tool for discriminating cognitive, affective, and somatic symptoms. Notably, BDI can be adapted to different populations or patients to detect depression with high sensitivity (Wang & Gorenstein, 2018). However, applying the tool requires clinicians to have adequate knowledge or seek evidence when interpreting the scores for clinical decision-making (Wang & Gorenstein, 2018). Additionally, knowledge about the tool is needed considering its high item difficulty (Vaughan et al., 2020). Based on this evidence, clinicians must have the knowledge and skills to deploy BDI and interpret the scores.

While BDI-II serves as an effective tool for depression screening in primary care settings, clinician knowledge and skills could affect its application. Providers' knowledge and skills are some of the barriers to integrating mental health services into primary care (Wakida et al., 2018). Notably, primary care physicians (PCPs) face challenges in diagnosing mental illnesses because of the conflating somatic symptoms among individuals presenting for primary care. Additionally, inadequate knowledge and information create challenges in integrating and coordinating mental health services in primary care (Esponda et al., 2019).

The lack of refresher training left non-specialists ill-equipped to address mental health issues in primary care settings. Many clinicians in primary care settings have limited training in depression screening, which affects their expertise and confidence (Samples et al., 2020). Consequently, providing clinicians with the necessary training to enhance their knowledge and skills in depression screening is essential.

Current evidence illustrates the implications of clinician training on primary care-based depression screening. Clinicians in primary care settings require additional support, including training and manualized guidance, to effectively integrate depression screening into routine care (Davies & Lund, 2017). Notably, O'Donnell et al. (2021) conducted a quasi-experimental study investigating the effects of training on clinicians' knowledge and skills in depression screening. Accordingly, the study by O'Donnell et al. (2021) revealed that training providers led to significantly higher rates of depression screening, which was more than two times higher than providers who did not receive training. Similarly, two-hour in-person training on depression screening and standard measures for identifying symptom severity enabled clinicians to deploy the measurement tool effectively, leading to improved depression screening rates (Siniscalchi et al., 20120).

The ACT team involved in the quality improvement (QI) project has not received any recent training on depression screening. Currently, PHQ-9 serves as the standard screening instrument. However, it is essential to consider the tool's ability to identify affective, cognitive, and somatic depression symptoms to ensure adequate screening. Indeed, Kroenke (2018) highlighted the selection of the measurement tool as the initial task in ensuring successful depression screening. Factors such as ease of scoring and brevity could make PHQ-9 preferable. However, its shortcomings in differentiating somatic symptoms make it less appropriate in the primary care setting. While BDI-II is a suitable alternative, providing

the ACT team with adequate training is essential to ensure they have the necessary

knowledge and skills to deploy the tool.

Rationale

With the COVID-19 outbreak, the number of people suffering from depression has

increased (WHO, 2019(. At the same time, the pandemic has significantly constrained the

already overstretched healthcare resources and prompted an increase in the number of

primary care visits. Since primary care is the gateway to specialist mental health services,

accurate depression screening is critical to improving the quality of care and population

health outcomes. Using evidence-based screening tools is the initial step to ensuring optimal

depression screening in the primary care setting. However, implementing an evidence-based

screening tool could be challenging with inadequate training.

For this reason, the ACT Team had an opportunity to improve population health by

participating in a training program that would enable the adoption of the proposed depression

screening tool. It was essential for the ACT team to adopt a tool that could improve the

screening process and ensure the timely identification of depression. The QI initiative sought

to adopt BDI-II as the depression screening tool. However, achieving the expected outcomes

required imparting the clinicians the necessary knowledge and skills in using the tool. For

this reason, the ACT team had a unique opportunity to engage in evidence-based changes

with minimal resources while ensuring improvements in depression screening.

The intervention seeking to improve clinicians' knowledge of depression screening

using DBI had a solid theoretical foundation. The COM-B (capability, opportunity,

motivation – behavior) model was applied to understand and change the target behavior.

Borrowing from Whittal et al. (2021), the application of the theory follows three steps:

identifying barriers and facilitators of depression screening, identifying appropriate change

techniques, and involving experts to refine the behavior. The theory posits that clinicians are

motivated and capable of absorbing new knowledge given appropriate opportunities. Therefore, training them provides an environmental system (opportunity) to enhance their capability (knowledge) about using the BDI screening tool. Consequently, this would influence their behavior in depression screening, resulting in improved screening rates in the primary care setting.

Specific Aims

Improving depression screening in primary care ensures timely diagnosis and treatment. Consequently, this would positively affect population health outcomes and reduce the burden of depression on the healthcare system and individual patients. However, effective screening depends significantly on the clinician's knowledge and skills in accomplishing the process using evidence-based tools. Therefore, this QI project sought to enhance clinicians' knowledge of using the Beck Depression Inventory (BDI) tool. It focused on educating and training the clinicians about the tool, including its deployment, scoring, and interpretation of scores. Therefore, the QI project aimed to enhance clinicians' proficiency and competence in using BDI as a depression screening tool through a structured educational program.

Methods

Context

The QI project was a part of the ACT program that extends primary care services at the community level. The program offers an integrated set of evidence-based services such as rehabilitation, case management, and support services to individuals with severe mental illness. Current evidence shows that the ACT model overlaps with patient-centered care standards, with ACT teams engaging in primary and preventive care services (Henwood et al., 2018). Overall, the ACT program supports patients' recovery through an individualized approach that offers them tools to address their socioeconomic problems, establish

relationships, and achieve relief of symptoms and medication side effects. Moreover, ACT team nurses screen and assess patients to provide patient-centered recovery tools and programs (Pratt et al., 2017). For example, a multidisciplinary approach enables team members to focus on additional aspects of care, including patient stability in symptom management and reduction of harmful behaviors. The service receives patients following referrals through a single point of access process. The multidisciplinary team includes psychiatric mental health nurses (PMHNs), psychiatrists, clinical psychologists, social workers, and physicians. Contextual factors may have a significant effect on the team members. Notably, the team functions in a mobile setting to ensure substantial outreach in the community setting. Therefore, they may not always be available for training when engaged in community outreach activities.

Additionally, the multidisciplinary nature of the team may affect their perceptions about training and education on using BDI. The traditional work of the ACT team does not focus significantly on screening because most patients have been diagnosed with severe mental illness. Therefore, early stakeholder engagement was essential to ensure buy-in about the importance of the educational program.

Cost-Benefit Analysis

The US has been undergoing an era of fiscal stringency, with state and federal policymakers reviewing costs associated with mental health care (Slade et al., 2018). While ACT programs have been a state budget cut target, the government continues providing financial resources to cover the programs. For instance, the Substance Abuse and Mental Health Services Administration (SAMHSA) programs awarded up to $678,000 to cover direct and indirect costs (SAMHSA, 2018). Therefore, the ACT program has been running smoothly without substantial financial constraints. Nevertheless, it is essential to consider implementing cost-saving measures in the setting. Adapting and integrating the ACT model

with primary care services could enhance cost-effectiveness (Slade et al., 2018). In this regard, improving depression screening at the point of care using an evidence-based tool could serve as an appropriate cost-saving approach for the ACT program. The training of the team members shall not consume significant financial resources. The program required only $200 to cover facilitation fees, the printing of educational modules, and refreshments. The adapted BDI tool is free in the public domain; therefore, the implementation setting did not have to pay for it before implementation. The implementation of the training program outweighs any risks. Changing to BDI after imparting knowledge to the clinicians would ensure faster and more timely depression screening of patients. Consequently, this saves time and resources for the clinicians to engage in other services within the program's scope.

Interventions

The project sought to implement BDI following an educational program for clinicians (see Appendix A). Accordingly, BDI is a validated depression screening tool with significant application in primary health settings. The tool consists of a group of 21 statements spread over a 4-point Likert scale ranging from zero (symptom absent) to three (symptoms severe) (Beck et al., 1996; Jackson-Koku, 2016). The statements cover somatic, affective, cognitive, and vegetative symptoms of depression, consistent with the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) criteria. The minimum score of the tool is zero, while the maximum score is 63, with high scores indicating a higher severity of depression symptoms. Therefore, the tool can identify high-risk patients in outpatient settings. Furthermore, BDI is preferred to PHQ-9 because it is specific in identifying and differentiating affective, somatic, and cognitive symptoms while excluding anxiety symptoms (Jackson-Koku, 2016; Ng et al., 2017). According to Lubliner and Motta (2021), the tool is easy to administer and can reliably predict depression without the involvement of a mental health professional in filling it. The items are clear and straightforward, with a high degree of face validity. The internal

consistency ranges from .73 to .92 and a mean of .86 (Beck et al., 1988). Besides, the tool can predict levels of depression severity based on the scores. However, the specificity and sensitivity could vary across sub-populations, which demands changing the cut-off point to detect depression (Cuoco et al., 2021; Gomes-Oliveira et al., 2012; Homaifer et al., 2009; Low & Hubley, 2007). For the target population, the QI project recommends a sensitivity of ≥70% and specificity of ≥70% based on cut-off scores of >14 for clinically significant depression (Cuoco et al., 2021).

A total of 10 clinicians were involved in the project. The project's implementation phase started with a pre-test survey before the commencement of training. The goal of the pre-test was to assess clinicians' knowledge of the tool, including its deployment, scoring, and interpretation of the scores. The survey administered included questions about the tool's target population, scoring of the tool, and interpretation of the results (see Appendix B). The survey also collected some demographic information focused on educational attainment and years of experience. The data helped assess whether the two demographic factors influenced knowledge levels before and after the training. The clinicians underwent 15-minute training sessions after the pre-test survey for four weeks. At the start of the training, the clinicians received a summarized soft copy of guidelines about using the tool one day before the commencement of training. PowerPoint presentations were the teaching approach during the sessions. Initially, the clinicians received contextual information about the importance of depression diagnosis using evidence-based tools. At the end of the first session, each clinician received a sample BDI form to fill out for practice at home based on a formulated case scenario. Subsequent sessions focused on refining clinicians' proficiency in scoring the tool and interpreting the scores. Proficiency was achieved by filling out sample forms and reviewing them in a clinical setting. The clinicians also engaged in group discussions about

the outcomes achieved in their screening. A filled form sample illustrated how to score and interpret the form.

Additionally, the clinicians received training about the safety measures they should take after a positive screening. The team achieved proficiency through comprehensive revisions of the BDI questionnaire before and after filling out the questionnaire. Once they had attained proficiency, the work became more accessible and productive. The facilitator sought formative feedback from the participants after each session. The formative assessment gave initial insights into the continuous change in their knowledge of using BDI.

The implementation phase also involved the deployment of the BDI tool starting from the second day of the project's commencement. The target group included all outpatients seeking care from the ACT team at the clinic. These are patients presenting with symptoms of depression in the ACT team target area. Some common symptoms looked out for included feelings of hopelessness, helplessness, insomnia, lethargy, sorrow, lack of motivation, and other symptomatic behaviors. The focus on the outpatient population followed USPSTF recommendations about conducting depression screening for all people presenting for primary care services. The clinicians participating in the QI project gave a copy of the completed form for any client screened daily. The forms were scanned and attached to the patient charts. In turn, the scanned forms were entered into the electronic health records (EHR) to ensure continuity of care because the information could be shared easily with other clinicians outside the ACT team. Moreover, it would help determine the clinicians' proficiency in using the tool and the number of patients assessed during the project. Proficiency was assessed through a review of the forms they administered to patients. Scoring and interpretation of the scores were part of the training regime. Scores equal to or above 20 in non-clinical populations indicate depression. Among individuals diagnosed with

depression, scores ranging from zero to 13 indicate minimal depression, 14 to 19 mild depression, 20 to 28 moderate depression, and 29 to 63 severe depression (Beck et al., 1996).

The ACT team took specific actions depending on individual BDI scores and patient categories. In non-clinical populations, detecting depression would trigger preference treatment matching, integrated care, and case management. The approach would improve the initiation of depression treatment in primary care settings (Moise et al., 2018). In those already diagnosed with depression, the course of action would depend on the existing treatments. For those with minimal and mild depression, the ACT Team would recommend continuing the current treatments and reviewing the symptoms every two weeks. In moderate depression, the team would review the duration of treatment to determine whether the patients have been responding or not. The ACT Team could recommend a dose increment, medication change, and psychotherapy involvement depending on the response. Individuals who scored 29 to 63 falls in the high-risk groups. First, the team would initiate a safety plan to address risks such as suicide. The patients would receive a 1:1 provider to address safety. The provider would also promptly refer patients to a specialist service or emergency care. The team would ensure that the patients have specialist care with recommendations for a change of medication, dosage, or initiation of psychotherapy.

Provider compliance with the tool is crucial to achieving the outcomes. Provider compliance with the safety plan was pertinent to the number of high-risk patients identified and the activation of the safety plan. To deal with the lack of provider compliance, the project leader developed posters in the examination room. The rationale is that a reminder would prompt clinicians to use the tool every time they see a patient. The project implemented reminder systems to ensure clinicians actively use the tool. The clinicians received a text message every morning as a reminder about the ongoing use of BDI in depression screening. The use of reminders is effective in ensuring compliance, especially among patients. The

same could be extended and assessed among clinicians. The approach creates an environment that leads to the absorption of new knowledge and the development of habits. Provider compliance was assessed weekly. The project leader reviewed the frequency of BDI use relative to the patients seen by each clinician. Clinicians falling below 90% compliance based on the number of patients seen and those screened received face-to-face personal encouragement and coaching to improve compliance.

The final phase of the project involved an evaluation of the outcomes. The clinicians completed a post-test questionnaire measuring their knowledge about BDI (see Appendix B). The questionnaire contained questions focused on the tool's target population and mental condition, the tool's implementation, the tool's whole meaning, the tool, the scoring of the tool, and the interpretation of the results. The questionnaire would help reveal knowledge retention or any changes that may have occurred. The number of patients screened using BDI would be monitored over the four weeks of implementation, and the information obtained would be compared with the screening rate in the previous periods.

Study of Interventions

The clinicians completed the administration of BDI to patients receiving care from the ACT team in four weeks. The patient records and reviews became very useful for gathering data about the number of patients screened using the tool. The review also focused on the clinicians' use of the tool vis a vis the number of patients seen. Additionally, reviewing patient records would reveal the number of positive cases identified using BDI contingent upon the scores and the cut-off point. The ACT Team did not track patient or client data using the BDI. Additionally, the project ensured that personally identifiable or protected health information was not used in reporting project outcomes to protect confidentiality and privacy.

Measures

Clinicians received training about the use of BDI in depression screening. Initial measures using the pre-and post-test questionnaires would reveal the changes in knowledge. Further, a retrospective record review would be a crucial source of information about achieving the project outcomes. Patient records provide a cost-effective means of acquiring crucial data about the outcomes. Based on the clinicians' frequency and efficacy of using the tool, it would be possible to understand the clinicians' proficiency and competence in scoring BDI and interpreting the scores. The project would ensure the accuracy of the data gathered in the analysis. The clinicians received hard copies of the BDI for use during appointments, and post-appointment data was not compromised. Adequate training would ensure that the clinician scores and interprets the information accurately.

Overall, BDI scores were a crucial measure in the project. As explained under the intervention's subheading, the tool can detect the severity of depression based on the scores achieved across the 21 items. Patients circled the number beside the statement they believe explains their state. They were encouraged to circle the highest number from a group where several statements apply equally. Scoring was conducted by adding the highest ratings (numbers) for all the items (Jackson-Koku, 2016). The ACT team deployed different approaches to patients based on their BDI scores, including the initiation of treatment through preference treatment matching, case management, and integrated care for the non-clinical population. Those diagnosed with minimal and mild depression severity continued their current treatment regimens with a recommendation for symptoms review every two weeks. The team recommended a dose or medication adjustment for moderate depression. However, individuals with severe depression required a rigorous approach, including safety planning, medication planning, and referral to specialists for psychotherapy. All the patients underwent a symptom review every two weeks.

Analysis

Some of the tools available to the clinicians were the analysis of the pre-test and post-test surveys. The survey tool deployed has a score range of zero to 35, with high scores indicating adequate comprehension of the BDI tool. Each wrong answer was worth zero points, and each correct answer was worth five points. Descriptive statistics played a part in the analysis, while the pre-test and post-test scores revealed the changes after clinician training. The means and means test was the test of choice. The Wilcoxon signed-rank test was the most nonparametric test to compare the sample's pre- and post-intervention knowledge levels. The test is appropriate because the QI project did not require a distribution to meet the required assumptions. It would also help compare the scores from the same group of participants before and after the intervention implementation based on the means. Moreover, the QI analyzed the average number of patients screened for depression using BDI compared to the previous period when the PHQ-9 system was in place. The comparison would help understand the compliance levels with USPSTF recommendations about depression in primary care settings. Provider compliance is pertinent to the tool's frequency, and USPSTF recommends that all patients are screened for depression during primary care visits. Therefore, providers would be compliant if they use BDI with at least 90% of the patients seen. Any percentage below 90% would be considered an indicator of poor compliance, which may motivate additional training and awareness-creation about the tool. The project also analyzed the effects of demographic factors on knowledge levels. Spearman rank correlation (Spearman's rho) assessed whether educational attainment and experience influenced knowledge levels before and after the intervention. The test is appropriate because the variables were ordinal.

Results

As expected, 10 clinicians participated in the training session and deployment of the
BDI tool. Six participants had a bachelor's degree in their respective specialty areas, three had
a master's degree, and one had a doctoral degree. Participants' clinical experience ranged
from two to 16 years, with an average of six years of experience. The project's limited time
frame and scope and the required data meant no additional demographic data was collected or
analyzed.

Several improvement areas were identified in this project. During week one, a safety
plan for patients at risk for suicide was mapped and analyzed. To ensure successful safety
planning, the ACT team developed and adopted a clinical pathway (see Appendix C) and a
risk management protocol (see Appendix D). An essential intervention introduced was the
Columbia Suicide Severity Rating Scale (C-SSRS) for patients with severe depression.
Emphasis was placed on risk formulation and integrating protective/risk factors into the
safety plan. Subsequently, strategies to improve performance and compliance were
introduced alongside the screening tool. The strategies included sharing aggregate
compliance data per week, personal coaching of non-compliant members, individual
feedback on performance and compliance, and individual recognition of consistent
compliance.

Information collected from the records review focused on the frequency of using BDI
in depression screening. The descriptive data identified the association between the training
and clinicians' use of BDI in identifying depression. The data collected from the record
review included the number of patients screened and their classification based on BDI scores.
Seven hundred patient encounters, averaging 35 patients per day, were recorded throughout
the project. Before the implementation, clinicians had identified only 280 (40%) cases of
clinical depression using PHQ-9. Moreover, 150 of the cases (53.6%) were classified as mild

depression, 80 (28.6%) as moderate depression, 30 (10.7%) as moderately severe depression, and 20 (7.1%) as severe depression. The number of patients screened after the training session, and the introduction of BDI increased to 636 (91%) of the total patient encounters. We noted further improvements in the number of patients screening positive for depression based on BDI. Withal, 400 or 60% of the patients screened using BDI had clinically significant depression based on scores ranging from 13 to 50. Clinicians could identify 100 cases (25%) of severe depression from the number of positive screens using BDI.

Further analysis focused on the frequency of using BDI to determine provider compliance. During the first week, we screened 150 patients, representing an average compliance rate of 86%. Compliance improved during week two. We screened 156 patients using BDI (compliance rate of 89%). Compliance improved further and flattened in week three and week four. Each week, we screened an average of 165 patients using BDI, indicating a compliance rate of approximately 94%. Overall, BDI was deployed on 636 of the 700 patient encounters, marking an average compliance rate of 91% throughout the project.

The primary outcome measure changed clinicians' knowledge. The difference between the pre-test and post-test knowledge scores reveals significant improvements following the training program. Table 1 summarizes the results reported as means, standard deviations, and p-value, calculated using the one-tailed Wilcoxon signed-rank test. The training program led to a statistically significant improvement in knowledge about BDI across the variables. The mean knowledge levels from the pre-test survey improved from 2.9 ± 0.5 to 4.9 ± 0.2 ($p<0.001$), indicating a significant impact of the sessions on the clinicians.

Table 1

Pre-Test And Post-Test Knowledge Scores

Variable Code	Pre-test	Post-test	*p*-value
Q1	3.5±2.4	5.0±0.0	< 0.001
Q2	3.0±2.5	4.5±1.6	< 0.001
Q3	3.0±2.5	5.0±0.0	< 0.001
Q4	2.5±2.6	5.0±0.0	< 0.001
Q5	3.0±2.5	5.0±0.0	< 0.001
Q6	3.0±2.5	5.0±0.0	< 0.001
Q7	2.0±2.6	4.5±1.6	< 0.001
Mean of Means	2.9±0.5	4.9±0.2	< 0.001

A Spearman rank correlational analysis was conducted between educational level and clinicians' pre-test and post-test knowledge, showing a low linear association: pre-test ($p = 0.462$, $p = 0.011$), post-test ($p = 0.471$, $p = 0.010$). The years of experience had a low-to-moderate association with clinicians' pre-test knowledge ($p = 0.336$, $p = 0.071$). However, the association improved for the post-test data ($p = 0.453$, $p = 0.014$). Therefore, increasing years of experience would imply higher knowledge levels of BDI. One unexpected outcome was the number of people benefiting from the safety plan. While the intervention focused on improving knowledge, the inclusion of the safety plan played a crucial role in addressing suicidality, which had received minimal attention in the past.

There was no issue with missing data from the record review and the administered survey. All the clinicians involved in the project completed the pre-and post-test survey, providing adequate data for comparison of the periods. The medical record review also provided complete data regarding the patient encounters accomplished before the implementation of the intervention. Therefore, this allowed the use of nonparametric statistical tests.

Ethical Considerations

BDI is an evidence-based tool deployed to gather the information needed for this exercise without compromising patients' privacy or using their data. The project did not use any personally identifiable data. The clinicians were advised from the beginning to treat privacy issues with utmost care and observed all HPPA guidelines and protocols. The project involved only well-trained practice providers comprising a team leader, LPN, RN, Psychiatrist, Substance Abuse Therapist, Benefit Therapist, Case Manager, and Psychiatrist Nurse Practitioner. Quality improvement projects involving humans require the utmost individual rights protection.

In this regard, we provided an informed consent form to all participants and members of the ACT team involved in the QI project. Filling out the questionnaire would indicate their voluntariness in participating. Additionally, the project would not report patient data. The goal would be to protect their privacy and ensure the confidentiality of personally identifying information. This QI exercise aims to improve what is already on the ground. We reviewed the existing PHQ-9 protocols and identified their limitations. The BDI system to be introduced would improve upon what is on the ground. We concluded that we could achieve the QI goals without compromising privacy or ethical standards. Reviewing and testing established systems should be a continuous exercise to ensure best practices and improve the quality-of-service delivery to patients.

Discussion

Summary

The COM-B model applied in the project provided an appropriate framework for improving knowledge among clinicians. It guided an understanding of the barriers and enabled the implementation of specific change techniques to change the target behavior. Lack

of familiarity with the tool was the initial barrier tackled. Moreover, addressing the current

deficits in depression screening using PHQ-9 was a priority for the organization, considering

USPSTF recommendations about mandatory depression screening during primary care visits.

Following the implementation of the intervention, the clinicians demonstrated a significant

improvement in knowledge (pre-intervention $M = 9$ $SD = 0.5$ to post-intervention $M = 4.9$ SD

$= 0.2$).

Additionally, the number of patients screened for depression during primary care

visits increased significantly (pre-intervention $=280$ to post-intervention $= 636$). Strategies

implemented to ensure adherence to the tool bore fruits, as revealed by the increase in

compliance rates over the four weeks. The introduction of BDI as the depression screening

tool improved the identification of severe depression from 7.1% to 25%. The increase in the

number of people identified with severe depression represents a subset of patients the team

may have missed before the intervention. Key to this success was the structured and

individualized approach to addressing knowledge gaps among clinicians not complying with

the tool.

Furthermore, BDI provided a more specific approach to classifying patients based on

depression severity. A particular strength of the project was the inclusion of reminders to

improve compliance consistent with the COM-B model. The reminders motivated the

clinicians to adopt the tool and engage in continuous improvement through feedback on their

performance. The project is the first QI initiative targeting the ACT team's knowledge

regarding depression screening in the primary care setting. Additionally, the retrospective

medical record review provided verifiable data for comparison with the data collected post-

intervention.

Interpretation

The systematic approach to imparting knowledge to the clinicians was critical in identifying cases of depression requiring immediate action. The primary outcome and focus of the QI intervention were to improve clinicians' knowledge. As computed using Wilcoxon signed-rank test, the mean knowledge levels increased from 2.9±0.5 to 4.9±0.2. Significant improvements were noted across the survey items, implying increased knowledge about BDI among the clinicians. The increase in knowledge had a direct effect on depression screening targets. After the QI intervention, the percentage of patients screened for depression increased significantly, reaching the targeted goal of at least 90%. Most notably, the introduction of the training program and the screening tool improved the percentage of individuals identified with severe depression.

Additionally, the training program incorporated aspects that improved provider compliance. At the start of the intervention, providers did not comply with PHQ-9, leading to low depression screening. However, improvements started from the first week of implementation, reaching 91% by the fourth week. The improved compliance is attributable to the changes in knowledge about the importance of depression screening using BDI.

Our findings agree with previous studies regarding the utility of BDI in differentiating somatic, affective, and affective symptoms in depression. Many primary care providers focus on somatic symptoms that lead to the misidentification of subclinical symptoms or misdiagnosis of the presenting case (Rushton et al., 2022). Depression screening falls to as low as 3% in primary care settings (Samples et al., 2020). USPSTF recommends routine depression screening to address under-recognition, with healthcare organizations ensuring adequate systems for accurate diagnosis, effective treatment, and timely follow-up (Park & Zarate, 2019). Systematic approaches implemented in previous studies have significantly improved depression screening, ranging from 59% to 95% (Pfoh et al., 2020; Siniscalchi et

al., 2020). Consistent with these findings, the deployment of the depression screening tool increased depression screening in the setting from 40% pre-intervention to 91% post-intervention. Increasing clinicians' knowledge of depression screening and replacing PHQ-9 with BDI contributed to the improvement. The training program and the reminders to comply with the screening tool augmented the existing systems for optimal depression screening. Previous studies attest that PHQ-9 has shortcomings in discriminating somatic symptoms (Vaughan et al., 2020), which could explain the low rate of identifying severe cases of depression before the project. Following clinician training and deployment of BDI, the number of individuals identified with severe depression increased significantly. The outcome shows the utility of the tool in the primary care setting. Training the clinicians on using the tool was the project's focal point. Primary care providers face challenges in depression screening because of inadequate knowledge and a lack of refresher training (Samples et al., 2020). The outcomes of this study agree with research regarding the importance of training and providing adequate guidance and support to integrate depression screening into routine care (Davies & Lund, 2017; O'Donnell et al., 2021). The training offered filled the knowledge gaps, leading to improved integration of depression screening in primary care services.

We learned that many people visiting for primary care services could benefit from a systematic approach to depression screening. We observed significant benefits of the safety plan for people with severe depression. Many patients with severe depression do not receive adequate support to address their suicidality, leading to the execution of their plans or thoughts. With the safety plan, many patients received timely interventions, including further psychiatric evaluation, referrals to the nearest emergency department, and placement considerations. Besides, we learned that clinicians were ready to offer adequate support to patients after identifying their depression severity. For example, many patients benefited

from the project through medication reconciliation and additional aftercare services. The project also had significant impacts on the system. We observed an increased need for knowledge among the clinicians as they sought personal feedback about their performance. We learned that the clinicians were enthusiastic about continuing the positive trend, as evidenced by the comprehensive aftercare services. Organizational performance in depression screening improved substantially following the implementation of the intervention.

While the project led to positive effects, several factors may hinder the replication of the processes. For example, a lack of organizational buy-in may hinder proposed changes to depression screening processes. Organizational leadership may be unwilling to change the established systems if it is unclear how the changes could increase screening rates successfully. Secondly, inadequate collaboration among clinicians may result in poor absorption of the changes, considering that the processes require collaborative efforts. The factor could also lead to resistance to change, further challenging the replication of these processes.

Limitations

The project had several limitations worth highlighting. One of the limitations entailed scope creep, where some processes were added when the project was underway. The increase in scope limited the capacity to assess the effects of the different processes on the primary outcome. Second, the project did not address the multidisciplinary nature of the team, which may have necessitated varying degrees of training. Although overall knowledge increased, some members continued lagging in using the tool because they were not involved in depression screening. The overall improvements may reflect the knowledge acquired by those involved in direct depression screening. The "appropriate" level of training is likely context-dependent, which may limit the generalizability of the training program to other primary care centers. Finally, we implemented the project in four weeks, which limited the capacity to

assess the long-term impact of the intervention on the primary outcome. However, sharing decisions about the processes mitigated some issues with multidisciplinary knowledge gaps. Additionally, the medical record review provided verifiable data to compare performance following the implementation of the intervention. Future interventions should consider addressing the parameters and increasing the project timeframe to detect the long-term effects.

Conclusion

While the implementation site already used PHQ-9, the clinicians lacked specific training on depression screening, despite USPSTF recommendations. The clinicians' lack of awareness and knowledge limited their capacity to accomplish the task before the intervention. Following the training, we observed significant improvements in depression screening based on BDI. We observed that implementing such QI intervention requires additional processes to address compliance. While BDI is associated with high-item difficulty, personal coaching of non-compliant members allowed them to be at par with the rest of the team members. The sustainability of the outcomes depends significantly on refresher training and continuous team performance monitoring. The additional benefits could be sustained by refining and embedding them into the care processes.

The findings have implications for practice and organizational leadership, considering USPSTF emphasizes ensuring adequate systems for depression screening, diagnosis, and treatment in primary care settings. Practitioners have a frontline role in depression screening during all primary care visits. However, they should comply with the existing guidelines and recommendations in categorizing patients according to depression severity based on the tool adopted. The organization can contribute by sustaining the impetus in depression screening based on consistent and frequent provider training. Emphasizing a multidisciplinary approach to the process would be critical in ensuring the population benefits across the continuum of

care. While improving depression screening in primary care settings is crucial, it may have few benefits without additional interventions targeting at-risk individuals. In the future, coupling depression screening with interventions such as safety planning, medication review, follow-up, and other aftercare services through a multidisciplinary approach would enhance the quality of care and patient outcomes. Moreover, future QI initiatives could focus on assessing clinicians' confidence in using the depression screening tool.

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Appendix A: Beck Depression Inventory

Instructions: This questionnaire consists of 21 groups of statements. Please read each group of statements carefully. And then pick out the one statement in each group that best describes the way you have been feeling during the past two weeks, including today. Circle the number beside the statement you have picked. If several statements in the group seem to apply equally well, circle the highest number for that group. Be sure that you do not choose more than one statement for any group, including Item 16 (Changes in Sleeping Pattern) or Item 18 (Changes in Appetite).

1. Sadness
   0. I do not feel sad.
   1. I feel sad much of the time.
   2. I am sad all the time.
   3. I am so sad or unhappy that I can't stand it.

2. Pessimism
   0. I am not discouraged about my future.
   1. I feel more discouraged about my future than I used to.
   2. I do not expect things to work out for me.
   3. I feel my future is hopeless and will only get worse.

3. Past Failure
   0. I do not feel like a failure.
   1. I have failed more than I should have.
   2. As I look back, I see a lot of failures.
   3. I feel I am a total failure as a person.

4. Loss of Pleasure
   0. I get as much pleasure as I ever did from the things I enjoy.
   1. I don't enjoy things as much as I used to.
   2. I get very little pleasure from the things I used to enjoy.
   3. I can't get any pleasure from the things I used to enjoy.

5. Guilty Feelings
   0. I don't feel particularly guilty.
   1. I feel guilty over many things I have done or should have done.
   2. I feel quite guilty most of the time.
   3. I feel guilty all of the time.

6. Punishment Feelings
   0. I don't feel I am being punished.
   1. I feel I may be punished.
   2. I expect to be punished.
   3. I feel I am being punished.

7. Self-Dislike
   0. I feel the same about myself as ever.
   1. I have lost confidence in myself.
   2. I am disappointed in myself.
   3. I dislike myself.

8. Self-Criticalness
   0. I don't criticize or blame myself more than usual.
   1. I am more critical of myself than I used to be.
   2. I criticize myself for all of my faults.
   3. I blame myself for everything bad that happens.

9. Suicidal Thoughts or Wishes
   0. I don't have any thoughts of killing myself.
   1. I have thoughts of killing myself, but I would not carry them out.
   2. I would like to kill myself.
   3. I would kill myself if I had the chance.

10. Crying
   0. I don't cry anymore than I used to.
   1. I cry more than I used to.
   2. I cry over every little thing.
   3. I feel like crying, but I can't.

11. Agitation
   0. I am no more restless or wound up than usual.
   1. I feel more restless or wound up than usual.
   2. I am so restless or agitated, it's hard to stay still.
   3. I am so restless or agitated that I have to keep moving or doing something.

12. Loss of Interest
   0. I have not lost interest in other people or activities.
   1. I am less interested in other people or things than before.
   2. I have lost most of my interest in other people or things.
   3. It's hard to get interested in anything.

13. Indecisiveness
   0. I make decisions about as well as ever.
   1. I find it more difficult to make decisions than usual.
   2. I have much greater difficulty in making decisions than I used to.
   3. I have trouble making any decisions.

14. Worthlessness
   0. I do not feel I am worthless.
   1. I don't consider myself as worthwhile and useful as I used to.
   2. I feel more worthless as compared to others.
   3. I feel utterly worthless.

15. Loss of Energy
   0. I have as much energy as ever.
   1. I have less energy than I used to have.
   2. I don't have enough energy to do very much.
   3. I don't have enough energy to do anything.

16. Changes in Sleeping Pattern
0. I have not experienced any change in my sleeping.
1a I sleep somewhat more than usual.
1b I sleep somewhat less than usual.
2a I sleep a lot more than usual.
2b I sleep a lot less than usual.
3a I sleep most of the day.
3b I wake up 1-2 hours early and can't get back to sleep.

17. Irritability
0. I am not more irritable than usual.
1. I am more irritable than usual.
2. I am much more irritable than usual.
3. I am irritable all the time.

18. Changes in Appetite
0. I have not experienced any change in my appetite.
1a My appetite is somewhat less than usual.
1b My appetite is somewhat greater than usual.
2a My appetite is much less than before.
2b My appetite is much greater than usual.
3a I have no appetite at all.
3b I crave food all the time.

19. Concentration Difficulty
0. I can concentrate as well as ever.
1. I can't concentrate as well as usual.
2. It's hard to keep my mind on anything for very long.
3. I find I can't concentrate on anything.

20. Tiredness or Fatigue
0. I am no more tired or fatigued than usual.
1. I get more tired or fatigued more easily than usual.
2. I am too tired or fatigued to do a lot of the things I used to do.
3. I am too tired or fatigued to do most of the things I used to do.

21. Loss of Interest in Sex
0. I have not noticed any recent change in my interest in sex.
1. I am less interested in sex than I used to be.
2. I am much less interested in sex now.
3. I have lost interest in sex completely.

Total Score: _____

Appendix B: Survey Instrument for Assessing Clinician's Knowledge

Item	Variable Code	Response Code
Education Level	EDU	1: Bachelor's Degree 2: Master's Degree 3: Doctoral degree
Years of Experience	EXP	1: 1-5 2: 6-10 3: 11-15 4: 16-20 5:21-25 6: 26-30 7:30+
What does BDI measure?	Q1	1) Depression 2) Anxiety 3) PTSD 4) Do not know
What is the maximum score of BDI in clinical populations?	Q2	1) 13 2) 19 3) 28 4) 63
What do the following scores in clinical populations indicate? 0-13	Q3	1) Minimal 2) Mild 3) Moderate 4) Severe
What do the following scores in clinical populations indicate 14-19	Q4	1) Minimal 2) Mild 3) Moderate 4) Severe
What do the following scores in clinical populations indicate? 20-28	Q5	1) Minimal 2) Mild 3) Moderate 4) Severe
What do the following scores in clinical populations imply? 29-63	Q6	1) Minimal 2) Mild 3) Moderate 4) Severe
What are the benefits of using BDI in the primary care setting?	Q7	1) Differentiating among somatic, affective, and cognitive symptoms 2) Identifying depression with high specificity 3) Ease of filling scores because of low item difficulty 4) High agreement of scores among patients
Scoring: Each correct answer to the questions is worth five points. Add all points for Q1-Q7. The lowest possible score is 0, and the highest possible score is 35.		

Appendix C: Clinical Pathway for At-Risk Patients

CLINICAL PATHWAY FOR PATIENTS AT RISK FOR SUICIDE

Any patient seen by a Primary Care Provider

↓

Screen for depression (PHQ)

→ Negative – screen at subsequent appointment

← Positive on PHQ questions #1 & 2 and/or #9

↓

Screen for suicide risk using the C-SSRS with SAFE-T Protocol

→ Negative – Engage and/or continue treatment on primary presenting symptoms and problems

↓

Low Acuity
Suicidal Ideation
At least 1 of the following:
- Within the past 1 month:
  o Wish to Be Dead
- More than 1 month ago:
  o Non-specific Active Suicidal Thoughts
  o Active Suicidal Ideation with Any Methods (Not Plan) without Intent to Act
- Within past 3 months:
  o Non-suicidal Self-injurious Behavior

And
  o Suicidal Behavior with no previous history of suicidal behavior

Moderate Acuity
Suicidal Ideation
At least 1 of the following:
- Within the past 1 month:
  o Non-specific Active Suicidal Thoughts
  o Active Suicidal Ideation with Any Methods (Not Plan) without Intent to Act
- More than 1 month ago:
  o Active Suicidal Ideation with Some Intent to Act, without Specific Plan
  o Active Suicidal Ideation with Specific Plan and Intent

And/or
  o Suicidal Behavior More than 3 months ago

High Acuity
Suicidal Ideation
At least 1 of the following:
- Within the past 1 month:
  o Active Suicidal Ideation with Some Intent to Act, without Specific Plan
  o Active Suicidal Ideation with Specific Plan and Intent

And/or
  o Suicidal Behavior Within the past 3 months:

↓

Complete Risk Formulation integrating Risk and Protective Factors and Red Flags. This is to include;
- Lethal Means Counseling

Complete Risk Formulation integrating Risk and Protective Factors and Red Flags. This is to include;
- Creating a safety plan
- Lethal Means Counseling
- Follow up contact

Complete Risk Formulation integrating Risk and Protective Factors and Red Flags. This is to include;
- Psychiatric evaluation/placement consideration (involuntary?)
Depending on placement decision;
- Creating a safety plan
- Lethal Means Counseling
- Follow up contact

↓

Care Plan Considerations

Immediate Intervention
- Psychoeducational tools
- Follow up at 3 days

Long Term
- Outpatient mental health therapy

Care Plan Considerations

Immediate Intervention
- Safety Planning
- Psychoeducational Tools
- Follow up at 1 day, 1 week, 1 month.

Long Term
- Outpatient mental health therapy with Suicide-focused Strategies
- Medication management of co-occurring psychiatric conditions
- Intensive Outpatient Program (2-3 times a week)

Care Plan Considerations

Immediate Intervention
- Evaluation at an Emergency Department or local psychiatric crisis center to determine appropriateness of psychiatric hospitalization to maintain safety

↓

Initiate Care, Maintain Engagement and Screen for Suicide Risk at Subsequent Patient Care Encounters.

Appendix D: Risk Management Protocol

If a patient has suicidal ideation or poses a significant risk of self-injury

- (Name of team member) should be called to assist with suicide risk assessment
- (Name of team member) should be contacted for collaborative safety planning
- Patient's support system should be called immediately

In case the patient requires hospitalization

- The nearest ED or psychiatric emergency center to contact is _____
- Contact information is_____
- (Name of team member) will contact (person responsible for transport) to facilitate transfer

Documentation and Follow-up

- (Name of team member) will call the ED to which the patient is referred to provide patient informatopm
- (Name of team member) will complete incident documentation
- All necessary documentation and flagging materials are accessible from _____
- (Name of team member) will conduct patient follow-up within 24 hours