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## A Quality Improvement Project for opioid Use Disorder at a Psychiatric Hospital in Western Massachusetts

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**A Quality Improvement Project for Opioid Use Disorder at a Psychiatric Hospital in  
Western Massachusetts**

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## **DEDICATION**

I dedicate this Doctor of Nursing Practice degree to my Lord and Savior Jesus Christ, God Almighty, and my husband and three children.

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I am very grateful to God for his goodness and mercies, which endures forever. I thank Jesus for being my mainstay and succor through my whole educational journey and for giving me life, health, strength, wisdom, knowledge, and understanding at every moment of need. Without the Lord's continual interventions, I would not have attained this goal. I give him all the glory and honor.

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## Abstract

**Background:** Opioid abuse is a challenging health care concern, and has been identified as a national public health issue. The prevalence of illicit fentanyl and prescription pain medication in our society are related to a multitude of factors which have impacted many lives and triggered a national epidemic despite experts' preventative measures and treatment recommendations.

**Purpose:** A quality improvement (QI) project was designed to enhance the assessment of patients suffering from opioid use disorder (OUD) with evidence-based screening tools to prevent opioid abuse among adult patients in a chronic care psychiatric hospital. **Methods:** The QI project integrated an educational intervention to an interdisciplinary team comprising of psychiatrists, psychologists, nurses, mental health counselors, and social workers. The project's purpose was to improve the process of opioid abuse evaluation for clients with co-occurring mental illness and OUD at an inpatient psychiatric hospital. The DNP project included screening scales to identify and monitor six clients receiving medication-assisted treatment (MAT) for behavior change. A pre-intervention questionnaire and a post-test questionnaire were initiated at the beginning prior to and following the presentation of education intervention, respectively, to measure the knowledge gained. **Results and Conclusion:** The clinician participants reported enhanced knowledge in assessment, identification, and referral of clients with OUD to specialty treatment services. Additionally, the client participants demonstrated increased knowledge of opioid abuse risk and the need to continue MAT after discharge.

**Keywords:** Opioid use disorder and co-occurring mental illness, medicated-assisted treatment, opioid abuse prevention, opioid abuse assessment scale, transtheoretical model of behavior change.



## **A Quality Improvement Project for Opioid Use Disorder at a Psychiatric Hospital in Western Massachusetts**

### **Introduction**

#### **Problem and Purpose**

Opioid use disorder (OUD) has been categorized as a public health emergency (Duber et al., 2018). According to the National Institute of Health (NIH, 2019), drug abuse, opioid dependence, and overdose related to abusing opioid prescriptions, heroin, and fentanyl have prompted a national epidemic in the U.S. with over 130 deaths per day. The Centers for Disease Control and Prevention (CDC, 2016) has published clinical practice guidelines to help in the treatment and prevention of drug abuse and overdose.

Western Massachusetts has been identified by the Massachusetts Department of Public Health as having the second-highest number of opioid-related deaths in the state of Massachusetts. Opioid abuse in the general population and illegal prescription painkillers (namely, fentanyl and heroin in the community where the hospital is situated) are the overwhelming ecological influences. The public psychiatric hospital in western Massachusetts, was the setting for the project and serves individuals with various mental illness diagnoses. In addition to mental illness, the hospital had several episodes of clients overdose from illicit opioid abuse and two deaths in 2019 (Curran, 2019). Patients at the hospital are usually not screened adequately with standardized opioid assessment scales during the admission evaluation. Moreover, the issues of patients craving for illegal substances were not correctly addressed and treated since most of the psychiatric clinicians did not have the authority to prescribe medication assisted treatment for clients with opioid use disorder at that time. Subsequently, opioid abuse persists at the project site because patients with this diagnosis are unaware of the problem. Furthermore, some inpatient psychiatric facility clients with opioid addiction are ambivalent

about engaging in the available treatment with psychotherapy intervention without access to medication-assisted treatment during their hospitalization.

Medication-assisted treatment (MAT) utilizes medications such as buprenorphine, naltrexone, and methadone, combined with psychotherapy interventions and counseling to treat opioid use disorder (Substance Abuse and Mental Health Services Administration [SAMHSA], 2021). Medication-assisted treatment is predominantly utilized to treat clients challenged with opioid abuse. The prescribed medication works to normalize brain chemistry, block the euphoric effects of opioids, liberate physical cravings, and stabilize body functions by eliminating the damaging related effects of opioid abuse (SAMHSA, 2021). The evidence-based literature shows that a combination of early assessment to identify clients with OUD, medication, and psychotherapy intervention can be used to treat patients struggling with opioid use disorder successfully (SAMHSA, 2021).

On the other hand, the implementation of MAT is currently fragmented in underserved settings such as prisons and psychiatric hospitals. The gap between evidence-based information and the translation of this knowledge into clinical practice to improve care for patients at risk in a psychiatric hospital can be done by improving clinical skills through training. The educational component of this QI project includes how to properly use opioid assessment tools such as Screening, Brief Intervention, Referral to Treatment (SBIRT) and the Clinical Opiate Withdrawal Scale (COWS) (Rosenthal et al., 2018). The CDC (2016) recommendation also reveals that evidence-based practice should include counseling with motivational interviewing skills, clinical judgment, and easy access to MAT for patients with opioid use disorder (OUD).

## **Background**

Opioid abuse disorder is prevalent among clients with a mental health condition. Han et al. (2017) reported that about 7.7 million adults suffer from a co-occurring psychiatric diagnosis and substance abuse in the U.S. and 38.4% of this population are ambivalent about engaging in treatment. The National Institute on Drug Abuse (2020) reported data from a nationwide sample that noted that people with mental illness were at increased risk for ingesting nonmedical prescription opioids. The interactions between psychiatric diagnoses and opioid abuse can exacerbate the symptoms of both disorders and predispose clients to the risk of overdose and subsequent death from opioids (Han et al., 2017). Besides, Velez et al. (2016) concluded that inpatient hospitalization is an appropriate timeframe to successfully reach patients who are indicated for substance abuse treatment, as they may comprehend that substance abuse has harmfully affected their wellbeing. The US Preventative Service Task Force [USPSTF] (2019) recommends OUD treatment, which involves assessing illicit drugs and the misuse of prescription drugs and subsequent referral for intervention to counteract drug abuse.

The Clinical Opiate Withdrawal Scale (COWS) is an 11-item tool designated for implementation by healthcare practitioners to assess and monitor signs and symptoms of opiate withdrawal in inpatient and outpatient settings (Tompkins et al., 2009). Several studies recognize the COWS as reliable (Wesson & Ling, 2003). Also, the Screening, Brief Intervention, and Referral to Treatment (SBIRT) tool is designed to provide early intervention and treatment for individuals diagnosed with substance abuse or clients at risk of displaying OUD (SAMHSA, 2017). The approach utilizes procedures that assess and classify substance abuse, offer motivational interviewing techniques through counseling to enhance the client's insight into opioid abuse, and refer clients with OUD to extensive specialty treatment (SAMHSA, 2017).

## **Problem Statement**

The opioid abuse epidemic has impacted society and resulted in drug overdose deaths reaching 63,632 in 2016, which is an estimated increase of 21.4% from the previous year (Duber et al., 2018). Also, Duber et al. reported that 66.4% of users died from illegal opioid abuse events, which represents an alarming annual increasing rate of 27.7% from 2015. Subsequently, Vashishtha et al. (2017) stated that the drug overdose death rate has exceeded the motor vehicle accidental death rate and the researchers classify drug overdose as the highest avoidable cause of death in America. Evidence from the literature supports a multifaceted intervention that includes early assessment for the misuse of illicit opioids and a subsequent recommendation for treatment that provides MAT, psychotherapy, and individual counseling (CDC, 2016; Duber et al., 2018; SAMHSA, 2021; USPSTF, 2019).

Evidence-based findings from the literature endorse the appropriate use of opioid assessment screening scales like COWS and SBIRT to identify and refer patients with OUD to treatment (Rosenthal et al., 2018; Timko et al., 2016; Vashishtha et al., 2017). The primary focus of the Doctoral Nurse Practitioner (DNP) capstone project was to provide education for healthcare clinicians regarding how to appropriately use standardized screening opioid assessment scales in identifying patients with OUD before referring these patients for treatment that incorporates MAT with psychotherapy intervention. The goal of this kind of treatment is to decrease opioid abuse and overdoses within the psychiatric healthcare facility and inspire change in these clients.

## **Review of the Literature**

A comprehensive search of the literature on opioid abuse and opioid use disorder to obtain evidence for the review was initiated through the National Institute of Health [NIH], National

Library of Medicine website to retrieve applicable medical subject headings [MeSH] terms. The MeSH terms of opioid abuse/dependence, opioid overdose, and co-occurring psychiatric symptoms were applied to the Cumulative Index of Nursing and Allied Health Literature [CINAHL], PsycINFO, and MEDLINE databases. The following inclusive limiting filters were applied: (a) peer-reviewed English language research literature published from 2015 to 2019 and (b) randomized controlled trials. The search was unsuccessful and yielded three articles that did not meet the criteria of the search terms.

Subsequently, after consultation with the librarian at the University of Massachusetts Amherst Graduate Research Center, the MeSH term was paraphrased to opioid abuse and treatment intervention. The Cochrane Library was also used to simplify the search terms. The simplified MeSH terms were reapplied to CINAHL and PubMed of the National Library of Medicine separately. As a result, 167 articles were retrieved. Inclusion filters that consisted of free full-text research articles published in the English language within the past five years were utilized to reduce the number of articles to 20. At this point, the exclusion filters used were sex, geographic subset, publication type, a particular interest, and pregnancy. Other subjects such as HIV, Hepatitis C, co-occurring medical diagnoses, polysubstance abuse, and alcohol use disorder were excluded from the review. Of the 20 study articles identified in the search results, ten centered on opioid abuse and met the criteria for inclusion in the assessment of the literature.

### **Synthesis of the Key Concepts of the Literature**

The ten articles selected for the literature review consisted of two systematic reviews, one quasi-experimental non-randomized study, two non-experimental design studies, one quantitative randomized controlled trial (RCT), one QI study, and two expert opinion articles. In addition, this literature review included a concise assessment of the CDC's (2016) clinical practice

guideline for prescribing opioids for chronic pain in outpatient settings. The following is a description of the significant results from these research findings.

A study by Baird et al. (2019) assessed a safer opioid prescribing procedure for patients being released from a trauma service center. This quasi-experimental study examined safety concerns surrounding opioid prescribing for patients at risk of opioid abuse and overdose. They reviewed the electronic health records of two different trauma centers from 2014 to 2016 with a sample size of 191 (pre-intervention application) and 316 (post-intervention implementation) to identify patients at risk for opioid abuse. This research demonstrated that clinicians could identify best practice alerts to trigger naloxone prescriptions for patients at risk of opioid abuse. The findings also initiated opioid prescribing criteria within the trauma centers (Baird et al., 2019).

Ronan and Herzig (2016) surveyed patient discharge records from 2002 to 2012 in the U.S. to determine the rate of hospitalization, infections associated with OUD, cost of treatment, and mortality rates among patients with OUD. The authors revealed that hospitalization and the cost of providing care for clients with OUD have significantly increased since 2002 with the government bearing the financial burden of cost. Bowles and Lankenau (2018) investigated opioid distribution methods in an opioid program tailored to educate and provide naloxone to patients with OUD to prevent overdose from opioids. The study has a significant implication regarding how to avoid injury and promote healthy behaviors among patients with OUD. However, the limitations of the research, such as its small sample size, bias, methods of data collection, and analysis, may have compromised the validity and confirmability of the results (Bowles & Lankenau, 2018).

Wasan et al. (2015) explored how psychiatric symptoms that produce adverse effects such as depression and anxiety can predict patients at risk of an OUD, especially for a patient on opioid treatment for chronic lower back pain (CLBP) as compared with a patient without psychiatric symptoms. Wasan et al. (2015) demonstrated that adverse effects such as depression and anxiety related to co-occurring mental illness diagnoses of depression and anxiety disorder are strong predictors of a poor treatment result with an opioid for patients with CLBP and a risk factor for opioid abuse.

Rosenthal et al. (2018) identified a gap in knowledge regarding how to appropriately utilize the SBIRT opiate assessment tool and the COWS to evaluate clients with OUD. The study describes the wrong ways SBIRT and COWS have been used and the vulnerability showed by nurses in an inpatient facility before implementing a quality improvement project to train clinicians on how to use these assessment tools to identify patients with OUD and those with opiate withdrawal symptoms (Rosenthal et al., 2018).

Timko et al. (2016) systematically reviewed and compared 55 studies on MAT therapy using buprenorphine, naltrexone, methadone, and behavioral treatment. The research report unfolded different rates of retention in the MAT program. The investigation of a MAT study from 2010 to 2014 by the authors revealed that patients with OUD could be clinically "managed to increase their retention in MAT and ultimately improve their quality of life" (Timko et al., 2016, p. 9).

Duber et al. (2018) found that eight million Americans, which represents an estimated 1.4 percent of the national census aged 12 and older, abuse pain relievers. They also found that 329,000 individuals aged 12 and above abuse heroin. Furthermore, in their systematic review, they reported that 2.1 million Americans abuse prescription opioids and approximately 135,000

were recorded as having initiated heroin abuse in 2015. Consequently, the researchers examined assessment tools such as the brief self-report tool with yes or no questions and the 5-point Likert scale used for OUD assessment and explored the prescription drug monitoring program (PDMP) to rule out drug-drug interaction. The study suggested strategies to treat patients withdrawing from opioids and identified MAT therapy as the treatment of choice for OUD patients in acute and chronic settings (Duber et al., 2018).

Vashishtha et al. (2017) clearly described the global crisis of OUD and the implication for infectious diseases such as HIV/AIDs. The authors identified factors that impede the accessibility of MAT therapy to patients with OUD as follows: financial cost, lack of accessibility of MAT, and other systemic and environmental policies such as compliance with federal methadone laws, rigorous criteria for clinicians with prescriptive rights to obtain MAT certification waivers, a sidelined population, the stigma associated with OUD that prevents clients from engaging in treatment, lack of national health insurance, long waitlist, lack of integrated treatment center, very few addiction experts, and lack of federal and state funding for MAT therapy. The authors succinctly recommended the following: adequate government funding for treatment, the removal of barriers that impede healthcare providers from making MAT therapy available to patients with OUD, availability of programs or centers for MAT treatment in opioid-infested communities and neighborhoods, and the formulation of policies that legalize drug possession to enable OUD patients present from hideouts and engage in treatment to prevent HIV/AIDs (Vashishtha et al., 2017).

The developers of the CDC (2016) guideline revealed that opioids are not endorsed as an initial treatment for chronic pain for adults in outpatient settings and advised clinicians to use non-pharmacologic and non-opioid therapy in providing care for chronic pain for adult patients



in outpatient settings. The CDC (2016) opioid prescribing guideline specified criteria for using assessment tools and clinical judgment to evaluate clients at risk for opioid use disorder and prevent adverse events of opioid abuse and overdose. The guidelines advised clinicians to prescribe naloxone and opioids for patients with substance abuse history and refer clients with OUD for MAT.

In conclusion, the literature review reveals the magnitude of the opioid abuse crisis. The literature provided evidence to support the proposed intervention. Additionally, these findings describe various strategies to tackle the opioid abuse crisis by following evidence-based recommendations that include the appropriate utilization of opioid assessment tools such as the SBIRT and COWS to identify and refer patients withdrawing from opioids for treatment, as well as through clinical judgment of experts. They strongly endorse medication-assisted treatment therapy as the treatment of choice for a patient suffering from OUD (CDC, 2016; Rosenthal et al., 2018; Timko et al., 2016; Vashishtha et al., 2017).

In addition, the literature review identified and revealed barriers to implementing MAT therapy, such as systemic barriers, access to MAT therapy, and insurance cost (Vashishtha et al., 2017). The evidence from the literature shows that clinicians should prescribe naloxone with opioids for patients at risk of OUD to mitigate the risk of overdose from opioids (Baird et al., 2019; CDC, 2016; Ronan & Herzig, 2016). The evidence from the literature also reveals that clinicians should treat other psychiatric symptoms with psychoactive medications and use non-opioid analgesics to treat patients with CLBP who have a co-occurring psychiatric disorder. This is because the negative effects that originate from psychiatric disorders such as depression and anxiety will produce poor outcomes with opioid treatment and predispose patients in this population to abuse opioids (CDC, 2016; Wasan et al., 2015). These recommendations provide

clinicians with some resources and means to use in response to the opioid epidemic crisis in America.

### **Theoretical Framework/Evidence-Based Practice Model**

The conceptual framework underpinning the QI project is the transtheoretical behavioral change model (TTM) initially posited by Prochaska and DiClemente in 1982 (Appendix A). Prochaska et al. (1992) noted that people intentionally change and summarize the key components of the transtheoretical processes of change into pre-contemplation, contemplation, preparation, action, maintenance, and termination. This outline of the stages of change was detected in research with smokers trying to relinquish their own habit and smokers in specialized management programs. The authors noted that individuals were observed as advancing linearly from the stage of pre-contemplation to the stages of contemplation, preparation, action, and maintenance, and termination.

According to Prochaska et al. (1992), the pre-contemplation stage in the trajectory of the change spectrum is the stage at which the individual has no plan to change his/her behavior in the immediate future. The individuals at this stage are grossly unaware of the need to change their habits, and they do not consider the behavior problematic. On the other hand, the researchers stated that contemplation is the phase in which individuals are mindful that difficulty in their behavior exists and are sincerely thinking about conquering it but have not yet dedicated themselves to take a responsible plan of action to overcome the problem. At this stage, individuals evaluate the pros and cons of the challenge and the solution to the difficulty (Prochaska et al., 1992). The authors described the preparation stage as the stage that merges purpose with behavior norms. In the preparation stage, the individual plans to act soon and may have worked toward taking the action and failed. People in this phase are experiencing and

expressing small positive changes (Prochaska et al., 1992). The action stage is when individuals adjust their conduct, practices, situation, and background to change the difficulties. In the action phase, the individual is committed to the change process and is taking positive steps in this direction.

The writers stated that maintenance is when individuals act to prevent setbacks and strengthen the benefits accomplished in the action phase and successfully terminate the behavior (Prochaska et al., 1992). The TTM demonstrates an understanding of when shifts in opinions, objectives, and performances occur. Thus, the TTM was utilized in this QI project because it involves screening modalities that identify adults with opioid abuse disorder in a chronic care psychiatric hospital. It also entails measures that encourage adults with OUD to change from abusing illegal opioids to abstaining from this behavior. The change process was initiated and accomplished in adults diagnosed with opioid abuse by the psychiatrist, psychiatric mental health nurses, clinical nurse specialists, social workers, psychologists, and registered nurses. The COWS and SBIRT assessment tools were the basis of the assessment of clients with opioid use disorder and early referral to treatment to prevent opioid abuse and accidental deaths.

### **Methods**

The quality improvement (QI) project design consisted of an educational intervention to 16 healthcare providers in order to increase knowledge, skills, and confidence levels in assessing, identifying and treating those with dual diagnosis in a public inpatient psychiatry hospital. Data was collected by the DNP student through pre, and posttest surveys created by the DNP student. Literature substantiates using the Clinical Opiate Withdrawal Scale (COWS) and the Screening, Brief Intervention, and Referral to Treatment (SBIRT) scale in assessing, identifying and referring clients with opioid use disorder (OUD) to medication-assisted treatment, counseling

and a substance awareness group. The QI project provided an educational PowerPoint training to the participants prior to implementing the screening scales. Furthermore, the QI intervention also utilized the transtheoretical model of behavior change (TTM) to measure behavior change in six clients (Prochaska and DiClemente, 1982). The clients were selected by their clinicians as exhibiting a diagnosis of opioid use disorder (OUD) based on DSM-V criteria. To measure the outcome of this DNP project, the following instruments were utilized: a pre-test questionnaire and a post-test intervention survey which was administered following a presentation on OUD signs and symptoms, screening scales and treatment.

### **Goals, Objectives, and Expected Outcomes**

The overarching goal of the project was to provide education to healthcare clinicians concerning how to appropriately use standardized screening opioid assessment scales to identify patients with co-occurring OUD, offer brief intervention, and refer the patients for treatment in order to decrease opioid abuse and overdose within the psychiatric facility and inspire change in these clients. The treatment included medication-assisted treatment (MAT), individual counseling that incorporates motivational interviewing strategies and substance awareness group. The goals, of the QI project were as follows:

**Goal 1.** The interdisciplinary team clinicians on Wards A2 and C3 of the psychiatric hospital were able to gain knowledge in OUD signs, symptoms, assessment, and identification and in the referral of clients to treatment with medication-assisted therapy, a substance awareness group, and individual counseling.

**Goal 2.** The psychiatry clinicians were able to verbalize that client benefitted from MAT, the substance awareness group, and individual counseling.

**Expected Outcome:** The QI project implementation resulted in increased awareness among the participants of the signs and symptoms of OUD, screening scales, early diagnosis, and the treatment of clients as evidenced by positive self-report from data yielded from the completion of the survey and interviews.

### **Population and Project Site**

The project was implemented on an inpatient public psychiatric hospital in a small town in western Massachusetts. The hospital provides acute and chronic psychiatric services to over 260 adults and 60 teenagers with severe mental and emotional disorders. The patients come from various backgrounds and cultures. The services provided comprise psychiatric evaluation and treatment, psychotherapy intervention, forensic evaluation, and clients' commitment through the courts for treatment. In addition, substance abuse treatment with buprenorphine, methadone, and naltrexone is also offered and was added earlier this year after several occurrences of opioid abuse and overdose in the hospital. The project site also coordinates with other facilities to offer electroconvulsive therapy (ECT), transcranial magnetic stimulation (TMS), medical assessment, and treatment for clients in need of such services.

The healthcare providers on the two units include 3 psychiatrists, two on-call psychiatrists, and several psychiatric interns as well as a medical doctor during off-hours, three clinical nurse specialists, 6 licensed social workers, 2 psychologists, two licensed mental health counselors, 6 occupational/rehabilitation therapists, several administrators, and numerous nurses working shifts around the clock (24/7).

The QI project participants consisted of six inpatient clients and 16 clinicians who were members of the multidisciplinary team on two chronic care wards (A2 and C3). The clients' selection and participation in the QI project were coordinated by the psychiatry clinician

participants. Three clients with OUD were chosen from each of the assigned wards. The DNP student was not directly involved with the clients at any time during the study.

The clinical staff inclusion criteria were based on their willingness and availability to participate in the project, commitment to complete the pre-and post-intervention questionnaires, and team participation. The criteria for exclusion included all staff that were not part of the treatment team, those who worked on an off-hours shift. Similarly, clients 18 years and under were excluded from the study as well as those that did not meet the DSM-V criteria for OUD.

### **Pre-Intervention**

The plan for the project began in the fall of 2019 through a conversation with a colleague and DNP student adviser about a DNP QI project. The DNP student then proceeded to do a literature search on opioid abuse sentinel episodes at the identified facility site before discussing them with the stakeholders. Also, the DNP student interviewed various clinical personnel in the area about the problem of opioid abuse and overdose at the facility, the disproportionate care, and how to improve treatment for psychiatric inpatient clients suffering from OUD. The literature review identified evidence-based interventions that could be implemented to improve treatment for psychiatric patients with OUD. A PowerPoint training format on evidence-based opiate assessment scales was developed from the literature review to provide training to healthcare clinicians on Wards A2 and C3 of the project site.

A letter of support was obtained January 2020 after the key stakeholders who consisted of the Facility Medical Director (FMD), the Chief Operating Officer, the Nursing Director, and the Chief of Psychiatry endorsed the implementation of the QI project. The endorsement of the project by these key stakeholders energized the multidisciplinary clinicians on Wards A2 and C3 to participate in the QI performance.

Other stakeholders involved in the project were administrative staff and unit managers who assisted with dispensing the questionnaires and encouraged nursing staff and other participants to use the screening scales when assessing clients. These teams of experts provided profound contributions that led to the success of the project. As a result, numerous discussions were held between the team and the DNP student to review the specifics concerning the QI project planning.

The implementation of the project commenced in early November 2020. The DNP student presented an overview of the project to the participants on Wards A2/C3 and administered the pre-test survey prior to dispensing the educational training. The pre-test questionnaire (Appendix I) was developed by the DNP student to obtain information from the multidisciplinary team about their clinical strengths, weaknesses, and timely utilization of OUD screening scales during the admission evaluation and at other times when opiate abuse is suspected of triggering a change in a client's mental status. The pre-test survey is a 5-point Likert type scale made up of ten questions with the answer selections of 1) strongly disagree, 2) disagree, 3) uncertain, 4) agree, and 5) strongly agree. Additionally, three of the pre-test questions address the screening scales and participants' comfort level with using the scales, 4 questions focused on opioid abuse signs and symptoms and its negative effects on clients and 3 questions centered on evidence-based recommendations to use MAT, counseling, and substance awareness group to treat clients with OUD. Moreover, the pre-test questionnaire was designed to illicit the knowledge and thoughts of the multidisciplinary team regarding the relevance and benefits of the timely referral of the identified OUD clients to treatment that consisted of MAT, individual counseling, and a substance awareness group.

## **Intervention**

The education intervention involved one power point presentation delivered on two separate units to the project participants at the psychiatric hospital through email. The PowerPoint presentation (Appendix M) addressed opioid abuse signs and symptoms, introduced the scales: Clinical Opiate Withdrawal Scale (COWS) and the Screening, Brief Intervention, Referral to Treatment (SBIRT) and explained the need for early assessment with the screening scales, provided training in the use of the scales, and addressed the referral of patients with OUD to medication-assisted treatment, a substance awareness group, and individual counseling.

The presentation (Appendix M) included a thorough review of both the COWS and the SBIRT tools, which included the following information: Clinical Opiate Withdrawal Scale (COWS) is an 11-item tool designated for implementation by healthcare practitioners to assess and monitor signs and symptoms of opiate withdrawal in inpatient and outpatient settings (Tompkins et al., 2009). The COWS tool was assessed to have a Cronbach's alpha of 0.78, indicating good internal consistency and reliability and a strong correlation rate of  $[r > 0.5]$  (Tompkins et al., 2009). Also, the SBIRT tool was given an excellent internal reliability scale rate component ( $> 85$ ) and correlated validity rate  $[r = .45]$  (DiClemente et al., 2015). Additionally, the Screening, Brief Intervention, and Referral to Treatment (SBIRT) tool is designed to provide early intervention and treatment for individuals diagnosed with substance abuse or clients at risk of displaying OUD (SAMHSA, 2017). Furthermore, copies of the screening scales were also distributed through an email message to the project participants. Likewise, supplemental materials on OUD signs and symptoms, and information on motivational interviewing were posted on poster boards in the staff break room, conference room, nurses' stations on the units, and dining rooms.



Following the presentation, clinicians were encouraged via email by this DNP student to utilize the screening scales for OUD on Wards A2 and C3 at the project site from November 2020 to January 2021. The DNP student also engaged in discussions with the multidisciplinary team to gather feedback on the pros/cons and their perception of the QI project. This information was used to identify outliers during the implementation of the QI project evidence-based intervention.

***Client Referrals and Interview:*** One of the project's goals were to improve opioid abuse assessment, opioid abuse diagnosis, and the timely referral of identified clients to treatment and then to monitor the clients' change process. Consequently, six clients were identified by the four psychiatric clinicians for referral. They were referred to a treatment program that included MAT, a substance awareness group, and counseling intervention that incorporated motivational interviewing skills to spur patients along the stages of change trajectory.

The clinical staff participants were encouraged to utilize the TTM tenets of change in monitoring their client's adherence to the MAT and psychotherapy intervention. The DNP student collected qualitative data from case briefs on client's behavior change with the psychiatric clinicians centered on the patients' compliance with specialty treatment. The interview questions addressed the timely referral of the identified clients to MAT, the commitment of the clients to MAT, their dedication to the substance awareness recovery group and to counseling, and their trajectory of change based on the tenets of the TTM.

### **Post-Intervention**

Post-test questionnaire (Appendix J), developed by the DNP student was administered to all participants three months after implementing the evidence-based intervention to obtain participant perception on the educational intervention. The post-test survey also comprised ten

questions and had a 5-point Likert response of 1 to 5 like the variables answer choices in the pre-test questionnaire. Two questions on the post-test questionnaire addressed the participants' opinion about the educational intervention, 4 questions were asked to assess their confidence level with the screening scales, 2 questions addressed OUD treatment and 2 questions focused on consistency with using the scales. Overall, the post-test survey evaluated the participants' view on the education intervention, how often clinicians used the screening scales, their comfortability/confidence level with using the scales, engagement of client in treatment modalities and self-report of influence on client behavior change. Furthermore, the DNP student dispensed the post-intervention evaluation questionnaire to gather data about the quality improvement project implementation.

### **Data Analysis**

Descriptive statistics were utilized to analyze the quantitative data from the questionnaires. The mean and standard deviation of the responses from the pre-test and post-test questionnaires were calculated and organized on a Microsoft Excel spreadsheet (Appendices K & L). Individual answers to questions were assessed for variations in knowledge and graded on a percentage criterion. One hundred percent was the maximum score, and zero percent was the lowest possible score. The difference between the pre and post-test scores per participant was presented on a run chart. The interview data on case briefs about the patient change in behavior related to adherence to MAT and the substance awareness psychotherapy intervention and counseling were examined in themes for the report. Tables 4 and 5 (Appendices K and L) contain the descriptive statistics of the pre-and post-test scores in terms of percentages.

### **Ethical Considerations/Protection of Human Subjects**

Before implementing the project, the DNP student forwarded a human subject determination form to the University of Massachusetts Amherst Human Research Protection Office Internal Review Board (IRB) to obtain consent. The IRB reviewed the project and decided that the project did not meet the federal regulatory definition of a human subject study and therefore did not require approval from the IRB (Appendix D). Likewise, the project site did not require IRB assent. Indeed, the members of the board were in full support of this project, as it is a quality improvement project. A letter of support was also obtained from the project site medical director.

The main goal of the QI project was to provide education about standardized opioid use disorder assessment scales. It included assessing the consistent utilization of these tools and implementing evidence-based, multifaceted recommendations based on the literature that includes early referral to MAT, counseling, psychotherapy intervention for opioid abuse, and monitoring clients with OUD through the stages of the behavior change trajectory. As stated previously, the DNP student was not directly involved with the clients.

The data was gathered solely from the scores of the five-point Likert pre-intervention and post-intervention questionnaires and open-ended case briefs interviews with clinicians about the consistency with using these assessment scales and the client's compliance with treatment. The DNP student did not have access to electronic information about the human subject sample. The interview discussions with clinicians about the clients identified with OUD and treatment modalities strictly adhered to the Health Insurance Portability and Accountability Act of 1996 (HIPAA) confidentiality standard and hospital laws and privacy procedures. The private information of the participants was de-identified, and case numeric identification figures and

letters were allocated to the clinicians and their clients as a replacement for initials during the data storage process (Chevrier et al., 2019).

## Results

The QI project for opioid use was implemented on two units of a 320-bed inpatient public psychiatric hospital in western Massachusetts from November 2020 to January 2021. The participants who implemented the intervention were mental health clinicians who were members of the multidisciplinary treatment team and worked with patients with chronic psychiatric disorders. The QI project participants consisted of psychiatry providers, psychologists, social workers, occupational therapists, registered nurses, and a licensed mental health counselor. A total of 20 participants were initially selected for the educational session and implementation of the screening scales. However, only 16 (N=16) participants completed both pre and post-test questionnaire and implemented the scales. In addition, four psychiatry clinician participants attended the case brief interview sessions on monitoring and reporting the change process of six patients with OUD. The number of participants that took the pre-test and post-test survey and the classification of their various disciplines are presented in Table 1.

**Table 1**

*Classification of the Disciplines of the Project Participants*

Discipline	Participants	Percentage
Psychology	2	11.76%
Psychiatry	4	23.53%
Nursing	3	17.64%
OT/Rehab	1	5.88%
LMHC	1	5.88%

Social Work	5	29.41%
Other	0	0.0%

Most of the participants who completed the questionnaires were non-nursing mental health care clinicians. Of the 16 mental health care providers, 29.41% (n= 5) were licensed clinical social workers, 23.53% (n= 4) were psychiatrists or psychiatric mental health nurse practitioners, and 5.88% (n=1) were occupational/rehabilitation therapists. Similarly, 11.76% (n=2) of the participants were psychologists and one was a licensed mental health counselor (5.88%). Of the 16 project participants, only 17.64% (n=3) were registered mental health nurses.

The data collected by the inquiry will be examined in the following sections, which are illustrated by the descriptive statistics from Tables 4 and 5 (Appendices K and L). A run chart was also used to compare the participants' responses to the pre and post-test questionnaires (Figure 1, pg. 30).

The pre-test intervention questionnaire revealed a need for knowledge concerning assessing, identifying, and managing clients with opioid abuse disorder. The pre-test questionnaire's highest score was 94%, while the lowest score was 25% and the average score was 50%. Only 31% (n= 5) of the participants exhibited confidence in using the screening scales. From the 16 participants, only 25% (n=4) noted that they were familiar with opioid abuse signs and symptoms. Eighty-one percent of the participants (n=13) indicated that they needed more information about opioid abuse signs and symptoms. In comparison, 38% of the participants (n=6) agreed they felt confident in their ability to use the screening scales. Fifty percent (n= 8) of the participants agreed that they were comfortable with their knowledge of medication-assisted treatment for OUD. In comparison, 38% (n=6) decided that it is essential to discuss such treatment with their identified OUD clients before referring them to specialty treatment and 94%

(n=15) agreed that they needed more information and education about opioid use disorder screening scales.

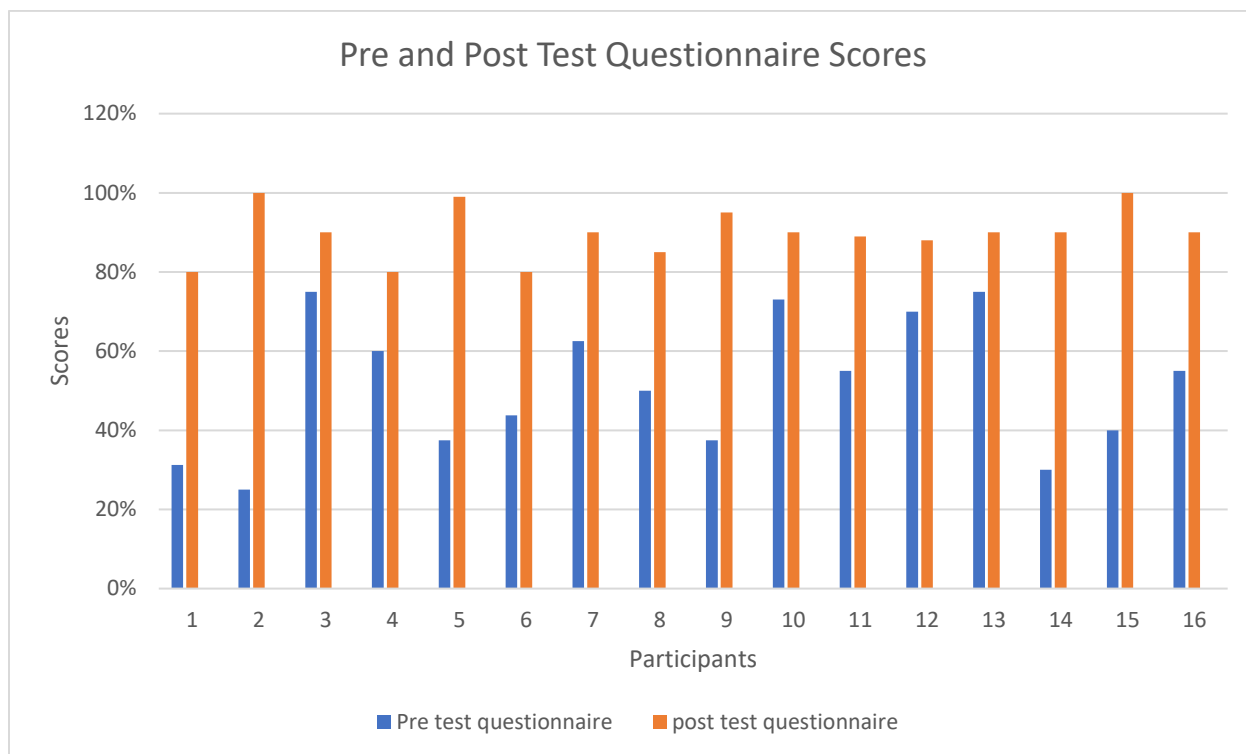
The post-test questionnaire uncovered an increase in knowledge about opioid abuse signs and symptoms and participants reported an increase in confidence in using the screening scales to identify OUD clients and promptly referring patients to specialty treatment. The highest score in the post-test questionnaire was 100% while the lowest score was 63%. The average score was 88%. Ninety-four percent of the participants (n=15) agreed that knowledge was gained from the educational presentation and 93.8% (n=15) indicated that they were well informed about OUD signs and symptoms.

Similarly, 81.3% (n=13) agreed that their confidence to use the screening scales increased after the PowerPoint presentation and 87.5% (n=14) indicated that they felt more confident about engaging clients using SBIRT and counseling with motivational interviewing techniques. Furthermore, 93.7% (n=15) agreed that the educational intervention increased their knowledge about MAT, counseling, and substance awareness group, while 87.5% (n=14) indicated that the project intervention enhanced their ability to provide counseling to clients and facilitated prompt identification of OUD clients and referral process to treatment.

The lowest score in the post-test questionnaire was 63% (n=10) of participants who agreed that they consistently used the screening scales to evaluate new intakes during the admission process. One hundred percent of the participants (n=16) agreed that they benefitted from the project intervention. However, 93.75% of the participants (n=15) agreed that they would continue to use the information from the QI project to make changes in their practice. Figure 1 shows the different scores for each participant in the pre and post-test questionnaires.

**Figure 1**

*Comparison Between Pre and Post Test Scores per Participant*



The above data revealed a constructive improvement in the post-test score in all participants. Additionally, most of the post-test questionnaire participants had scores > 80% (n=15) of increase in test scores which means increased knowledge was obtained from the education intervention. Likewise, the post-test participants more than doubled their scores. Figure 1 illustrates comparison scores for each participant in the pre-test and post-test questionnaires.

### **Results, Case Briefs on Behavior Change of Clients**

The DNP student conducted two successful 15-minute individual case brief interview sessions with four psychiatry clinicians on the multidisciplinary team to ascertain the behavior change of the six clients as well as their progress in treatment. The interviews were

conducted in January 2021 prior to the administration of the post-test survey. After meeting with the psychiatry clinicians, the responses revealed encouraging results. The clinicians described the impact of the educational intervention as successful, as evidenced by the enrollment of four clients in medication-assisted treatment (MAT) and the remaining two clients still waiting to start Buprenorphine treatment. Also, all six patients participated in a substance awareness recovery group and counseling during the project implementation. Furthermore, two clinicians noted a substantial change in the clients' behavior due to improved insight into the risk of opioid abuse and MAT. Moreover, it was mentioned that the clients gained insight into their risky behavior through adherence to psychotherapy groups and individual counseling from their psychiatry clinicians.

Therapy was also reported to have positive results in that, clinicians reported that clients with access to both MAT and psychotherapy intervention for substance awareness/counseling made drastic progress on the change trajectory based on the TTM. In fact, according to the four psychiatry clinicians, MAT possibly contributed to the eradication of complaints and craving for illicit opiates by the four clients who were engaged in MAT, while the substance awareness and psychotherapy/counseling interventions helped the clients develop insight into their previous risky behavior of abusing opiates. Most clinicians noted that incidents of opioid abuse and overdose were significantly reduced by ninety percent except for one incident during the implementation of the QI project on Wards A2 and C3, as evidenced by reports from the daily rounds. In addition, all four clinicians agreed that the patient participants were motivated to change. Four out of the six clients who participated in the QI project stated that they will continue to engage in specialty treatment for OUD after discharge from the inpatient facility.



## Discussion

The QI project for opioid use disorder took place on two units at a psychiatric hospital in western Massachusetts. The QI project implementation provided multifaceted evidence-based education to mental health professionals at the project site both by emailed presentations and in person case debriefs. The goal of the QI project was to improve opioid abuse assessment, diagnosis, and early referral of identified clients to treatment and to monitor the change process of six patients who engaged in specialty treatment three months after the implementation of the screening scales.

Through education, coaching, and early referral to specialty treatment, clinical providers can enhance the quality of life of clients struggling with OUD (CDC, 2016). Prior to the PowerPoint educational presentation, all participants completed a pre-test questionnaire to examine their thoughts about OUD, the screening scales, and treatment that includes MAT, individual counseling, and substance awareness groups. The results demonstrated that there was an improvement in knowledge after the educational PowerPoint presentation.

The pre-test and post-test surveys had good participation, with 16 mental health care providers completing them. Although the number of participants was small (n=16), the project result was consistent with the literature regarding the benefits and sustainability of using OUD screening scales such as the COWS and SBIRT to identify clients and prompt referrals for specialty treatment. The finding from the review of the literature revealed that evidence-based practice should include counseling with motivational interviewing skills, clinical judgment, and easy access to MAT for patients with OUD (CDC, 2016).

The US Preventative Service Task Force [USPSTF] (2019) recommends opioid use disorder treatment, which involves assessing the use of illicit drugs, the misuse of prescription

drugs, and the subsequent referral for intervention to counteract drug abuse. Moreover, the COWS is designated for clinicians to assess and monitor for signs and symptoms of opiate withdrawal in inpatient and outpatient settings (Tompkins et al., 2009), and several studies recognize the COWS as reliable (Wesson & Ling, 2003). Similarly, the SBIRT tool is designed to address early intervention and treatment for individuals diagnosed with substance abuse or clients at risk of displaying OUD (SAMHSA, 2017).

The intervention improved patient outcomes in the inpatient psychiatric hospital by increasing the clinical team's knowledge to detect and empower clients to engage in specialty treatment. Rosenthal et al. (2018) revealed a knowledge gap about clinicians' comfortability with using the COWS and SBIRT screening scales in assessing OUD clients in the inpatient setting. This is in line with what the DNP student discovered during the implementation process. The pre-test intervention questionnaire revealed a need for knowledge about assessing, identifying, and managing clients with opioid abuse disorder. As previously mentioned, 31% (n= 5) of the participants exhibited confidence in using the screening scales, 25% (n=4) noted that they were familiar with opioid abuse signs and symptoms, and 81% of the participant (n=13) indicated that they needed more information about opioid abuse signs and symptoms.

The post-test intervention questionnaire uncovered an increase in knowledge concerning opioid abuse signs, symptoms, and confidence in using the screening tools to identify OUD clients and the timely referral of patients to specialty treatment. Consequently, 100% (n=16) of the post-test participants agreed that their clinical practice and patients benefitted from the educational presentation and the implementation of the screening scales. As a result of the educational intervention and implementation, six clients with OUD were appropriately identified

and referred to medication-assisted treatment, counseling and completed the substance awareness recovery group.

In addition, the four identified clients were educated by their clinicians about the risk of opioid abuse and the benefits of engaging in specialty treatment that can lead to optimal wellbeing. The clients' change process was initiated and evaluated by the mental health providers through the transtheoretical model (TTM) of behavior change. Prochaska et al. (1992) noted people's intentionality in the changing paradigm. The study authors also noted that individuals were observed as advancing linearly through the stages of pre-contemplation, contemplation, preparation, action, and maintenance before termination. The TTM demonstrates an understanding of when shifts in the opinions and objectives of clients occur (Prochaska et al., 1992). In this way, the clinicians at the project site expressed that they observed their clients' shifts in attitude and behavior as indicated by the TTM as they engaged in specialty treatment.

The project participants reported that they will continue to use the knowledge from the educational intervention and the OUD screening scales in their clinical practice. Most of the providers noted that opioid abuse and overdoses were significantly reduced during the QI project implementation on Wards A2 and C3 at the project site. Also, the post-test questionnaire scores demonstrated knowledge gained in that 100% (n=16) of the participants agreed that they benefitted from the educational intervention and implementation of the scales. The interview data from the clinicians about their clients indicated that the implementation of the screening scales aided the identification of clients during intake assessment with OUD and fostered a timely referral to specialty treatment.

The strengths of the QI project included the support of the stakeholders and multidisciplinary team members on Wards A2 and C3. Additional strengths were access to

providers with prescription authority, access to counseling and psychological resources, and access to available materials that can be used by providers, patients, and the community to expedite education.

A significant barrier during the implementation of the QI project implementation was the Covid-19 pandemic and the surge of positive cases of infection at the project site. As a result, the facility administration established restrictive protective policies that increased the DNP student's timeframe at the project site due to the participants' absentee rate either from being sick from the virus or quarantining at home after exposure to the virus. Likewise, due to the coronavirus pandemic, very few patients were admitted or transferred from other facilities. Thus, 62.5% of the participants (n=10) agreed in the post-test survey that they could not consistently use the OUD screening scales in their clinical assessment of patients. However, 93.75% of the participants (n=15) agreed that they would continue to use the information from the QI project to make changes in their practice. Both clinician and client participants expressed that the QI project was successful, and several clinicians expressed a plan to integrate the knowledge gained into their clinical practice.

### **Implications and Recommendations**

This project emphasized the importance of addressing a specific patient population within the psychiatric hospital setting. Velez et al. (2016) concisely concluded that inpatient hospitalization is an appropriate timeframe to successfully reach patients who are indicated for substance abuse treatment, as they may comprehend that substance abuse has harmfully affected their wellbeing. According to the USPSTF (2019), the recommendation for opioid use disorder (OUD) treatment involves assessing the patient for the use of illicit drugs and the misuse of prescription drugs and providing referral for intervention to counteract drug abuse. The QI project implemented opioid

abuse scales to identify and refer patients with OUD to MAT and monitor behavior change with the tenets of the transtheoretical model (TTM). The TTM is an essential deliberate framework for monitoring improvement in behavior change, especially in addiction treatment. The clinical providers explored the tenets obtained from the model to monitor behavior change and practice improvement successfully. As indicated by the data collected in the case brief interviews with clinicians, the patient participants were motivated to change.

The significance of additional study into the occurrence of OUD and appropriate utilization of the screening scales to promptly identify and refer clients within a facility for treatment is essential. Educating clinical providers on an ongoing basis to properly assess, diagnose, and refer psychiatric clients with OUD to specialty treatment that includes medication-assisted treatment, counseling, and a substance awareness group is crucial to reducing hospitalization. The QI project was implemented successfully on two units in a psychiatric hospital. It is recommended that the findings of the project be extrapolated to other wards in the facility. Van Hoeven et al. (2015) expressed that a predetermined diminutive sample size can be utilized to represent a large target population. Similarly, the screening scales should be included in the electronic health record intervention to be completed by healthcare providers for all clients during admission evaluation. Also, efforts should be made on an ongoing basis to ensure that psychiatric facilities incorporate current evidence-based treatments and modalities to manage clients with OUD better.

### **Conclusion**

The timely evaluation and treatment of patients with OUD at a psychiatric hospital are essential. The evidence-based literature shows that a combination of early assessment to identify clients with OUD, medication, and psychotherapy intervention can successfully treat patients

struggling with OUD (SAMHSA, 2021). Velez et al. (2016) concluded that inpatient hospitalization is an appropriate timeframe to successfully reach patients who are indicated for substance abuse treatment, as they may comprehend that substance abuse has negatively affected their wellbeing. Hence, appropriate assessment/treatment should be addressed and initiated concurrently in the inpatient hospital setting. Evidence-based findings from the literature review revealed that a multifaceted intervention approach that consists of appropriate assessment with standardized OUD tools, early referral to medication-assisted treatment, counseling, and psychotherapy intervention for substance awareness is needed to combat the opioid abuse crisis.

Consequently, the QI project implemented a comprehensive, evidence-based clinical intervention to improve the assessment, diagnosis, and treatment of adult patients suffering from OUD in the inpatient psychiatric hospital setting. This project's findings substantiate an overall increase in the knowledge of how to enhance the care of hospitalized psychiatric patients suffering from OUD. The implementation of the QI project improved the clinical skills of the multidisciplinary team members regarding how to use the screening scales to identify clients with OUD to enhance the process of the referral of patients to specialty treatment. In addition, the QI project facilitated the patients' knowledge about the risk of opioid abuse and the need to remain in specialty treatment within the hospital and after discharge.

The project positively impacts the facility regarding managing patients with OUD in an inpatient psychiatric hospital setting. This project emphasizes the importance of addressing a specific patient population within the psychiatric hospital setting. Further study needs to be conducted to find ways to tackle the needs of patients with co-occurring mental illness and OUD. However, the project's findings could help increase measures to manage inpatient psychiatric

clients suffering from OUD and reduce emergency department evaluation/treatment, unforeseen hospitalizations due to overdose from opioids, and readmissions.

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## Appendices

## Appendix A

Figure 2: Stages of Change



*Note: The Transtheoretical Model (TTM) of Behavior Change (Prochaska & Diclemente, 1982)*

## Appendix B

**Table 2**

*Itemized Details of Cost-Benefit*

<b>Items</b>	<b>Cost in Dollars</b>
Copy and printing paper for survey, training session, handouts	40.00
Toner cartridge for printer	40.00
Office supplies: Pack of pens, folders	20.00
Conference room allocated for training session, office space and bill	0.00 (provided by facility)
Clinical staff	0.00 (provided by facility)
Laptop	00.00 (provided by DNP student)
Time for staff training	00.00
Light refreshment pre-Covid19 pandemic surge	100.00
Total cost for quality improvement project	200.00

## Appendix C

**Table 2**

*Itemized Details of QI Project Timeline*

<b>Timeline</b>	<b>Itemized Details of QI Project</b>
Week 1	Following approval of proposal. Provide details of the DNP QI proposal to facility stakeholders and obtain a letter of support.
Week 2	Provide an overview of the QI project proposal to clinical personnel on ward A2 and C3 and administer the pre-test questionnaires.
Week 3	Provide training sessions on COWS and SBIRT and implement the screening toolkits in assessing patients for OUD during intake evaluation.
Weeks 4 – 11	Monitor a consistency in implementing COWS and SBIRT and referral of patients to MAT and substance abuse groups
Week 9	Conduct 1:1 interview with clinical personal to evaluate stages of behavior change among clients with OUD
Week 10	Conduct 1:1 interview with clinical personal to evaluate stages of behavior change among clients with OUD
Week 11	Conduct 1:1 interview with clinicians to evaluate compliance with MAT/psychotherapy intervention
Week 12	Administer post-intervention questionnaires

## Appendix D

### IRB Approval Letter

Mass Venture Center  
100 Venture Way, Suite 116  
Hadley, MA 01035  
Telephone: 413-545-3428

UMassAmherst

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## Human Research Protection Office

### Memorandum – Not Human Subjects Research Determination

**Date:** November 6, 2020

**To:** Pauline Eteng, College of Nursing

**Project Title:** *A performance Improvement Project for Opioid Abuse Disorder on a Chronic Care Psychiatric Hospital in Western MA*

**HRPO Determination Number:** 20-235

The Human Research Protection Office (HRPO) has evaluated the above named project and has made the following determination based on the information provided to our office:

- The proposed project does not involve research that obtains information about living individuals [45 CFR 46.102(f)].
- The proposed project does not involve intervention or interaction with individuals OR does not use identifiable private information [45 CFR 46.102(f)(1), (2)].
- The proposed project does not meet the definition of human subject research under federal regulations [45 CFR 46.102(d)].

**Submission of an Application to UMass Amherst IRB is not required.**

Note: This determination applies only to the activities described in the submission. If there are changes to the activities described in this submission, please submit a new determination form to the HRPO prior to initiating any changes. ***Researchers should NOT include contact information for the UMass Amherst IRB on any project materials.***



A project determined as “Not Human Subjects Research,” must still be conducted ethically. The UMass Amherst HRPO strongly expects project personnel to:

- treat participants with respect at all times
- ensure project participation is voluntary and confidentiality is maintained (when applicable)
- minimize any risks associated with participation in the project
- conduct the project in compliance with all applicable federal, state, and local regulations as well as UMass Amherst policies and procedures, which may include obtaining approval of your activities from other institutions or entities.

Please do not hesitate to call us at 413-545-3428 or email [humansubjects@ora.umass.edu](mailto:humansubjects@ora.umass.edu) if you have any questions.



Iris L. Jenkins, Assistant Director  
Human Research Protection Office

## Appendix E

### Clinical Opiate Withdrawal Scale (COWS)

#### Flowsheet for measuring symptoms for opiate withdrawals over a period

For each item, write in the number that best describes the patient's signs or symptoms. Rate on just the apparent relationship to opiate withdrawal. For example, if the heart rate is increased because the patient was jogging just prior to assessment, the increased pulse rate would not add to the score.

Patient's Name: _____ Date: _____ Enter scores at time zero, 30min after first dose, 2 h after first dose, etc. Times:        _____        _____        _____        _____				
<b>Resting Pulse Rate:</b> (record beats per minute) <i>Measured after patient is sitting or lying for one minute</i> 1 pulse rate 80 or below 2 pulse rate 81-100 3 pulse rate 101-120 4 pulse rates greater than 120				
<b>Sweating:</b> <i>over the past ½ hour not accounted for by room temperature or patient activity.</i> 1 no report of chills or flushing 2 subjective report of chills or flushing 3 flushed or observable moistness on face 3 beads of sweat on brow or face 4 sweat streaming off face				
<b>Restlessness</b> <i>Observation during assessment</i> 0 able to sit still 1 reports difficulty sitting still, but is able to do so 3 frequent shifting or extraneous movements of legs/arms 5 Unable to sit still for more than a few seconds				
<b>Pupil size</b> 1 pupils pinned or normal size for room light 2 pupils possibly larger than normal for room light 2 pupils moderately dilated 5 pupils so dilated that only the rim of the iris is visible				
<b>Bone or Joint aches</b> <i>If patient was having pain previously, only the additional component attributed to opiates withdrawal is scored</i> 1 not present 2 mild diffuse discomfort 3 patient reports severe diffuse aching of joints/ muscles 4 patient is rubbing joints or muscles and is unable to sit still because of discomfort				

<p><b>Runny nose or tearing</b> <i>Not accounted for by cold symptoms or allergies</i></p> <p>1 not present  2 nasal stuffiness or unusually moist eyes 2 nose running or tearing  4 nose constantly running or tears streaming down cheeks</p>				
<p><b>GI Upset:</b> <i>over last 1/2 hour</i></p> <p>0 no GI symptoms 1 stomach cramps  2 nausea or loose stool 3 vomiting or diarrhea  5 Multiple episodes of diarrhea or vomiting</p>				
<p><b>Tremor</b> <i>observation of outstretched hands</i></p> <p>1 No tremor  2 tremor can be felt, but not observed 2 slight tremor observable  4 gross tremor or muscle twitching</p>				
<p><b>Yawning</b> <i>Observation during assessment</i></p> <p>1 no yawning  2 yawning once or twice during assessment  3 yawning three or more times during assessment 4 yawning several times/minute</p>				
<p><b>Anxiety or Irritability</b></p> <p>1 none  2 patient reports increasing irritability or anxiousness 2 patient obviously irritable anxious  4 patient so irritable or anxious that participation in the assessment is difficult</p>				
<p><b>Gooseflesh skin</b></p> <p>0 skin is smooth  3 piloerections of skin can be felt or hairs standing up on arms  5 prominent piloerections</p>				
<p><b>Total scores with observer's initials</b></p>				

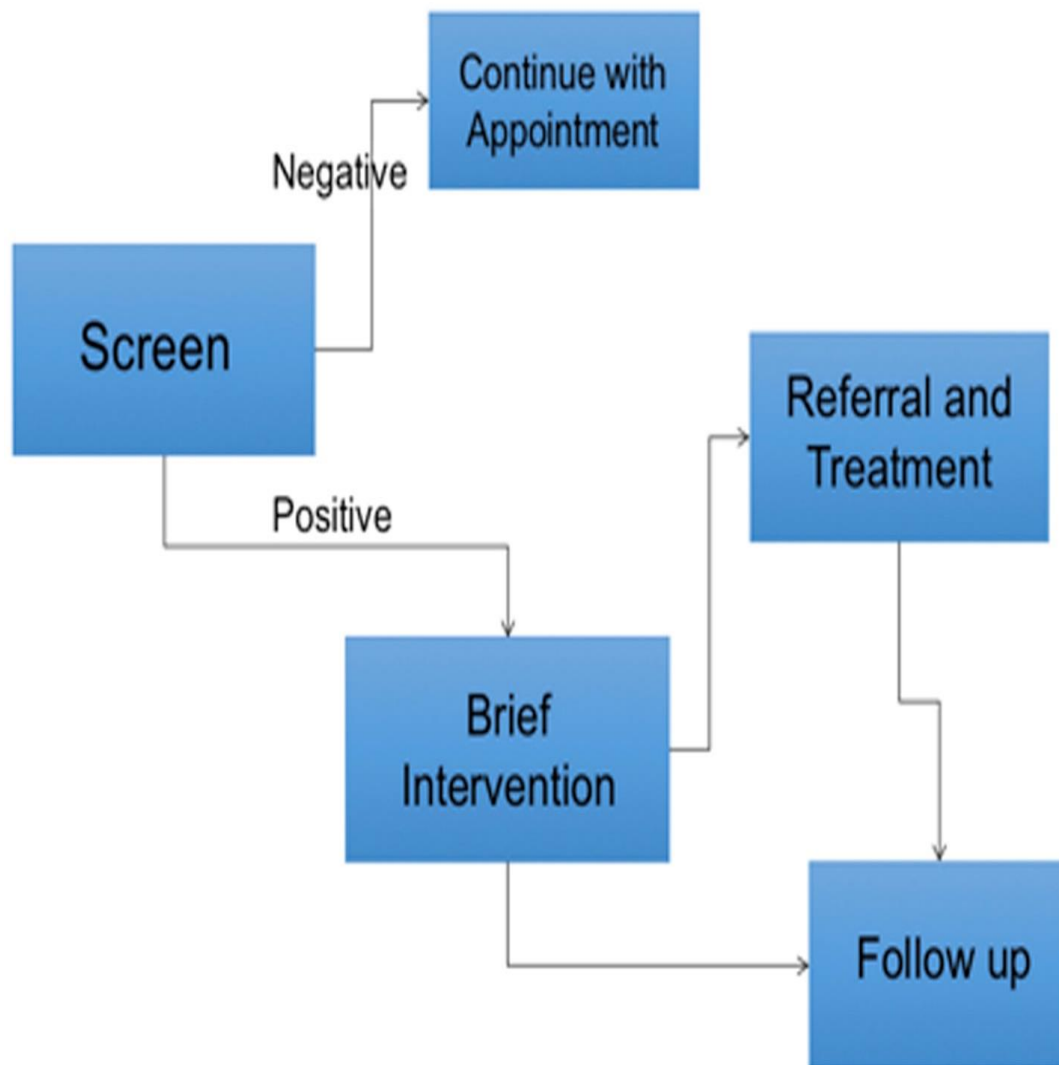
**Score:****5-12 = mild****13-24 = moderate****25-36 = moderately severe****more than 36 = severe withdrawal**

Source: Wesson &amp; Ling (2003)

## Appendix F

Figure 3: Screening, Brief Intervention, and Referral to Treatment (SBIRT) Scale

## SBIRT Flow



*Note: Flow Chart of Screening, Brief Intervention, and Referral to Treatment (SBIRT) in Practice (Wright et al., 2016).*

## Appendix G

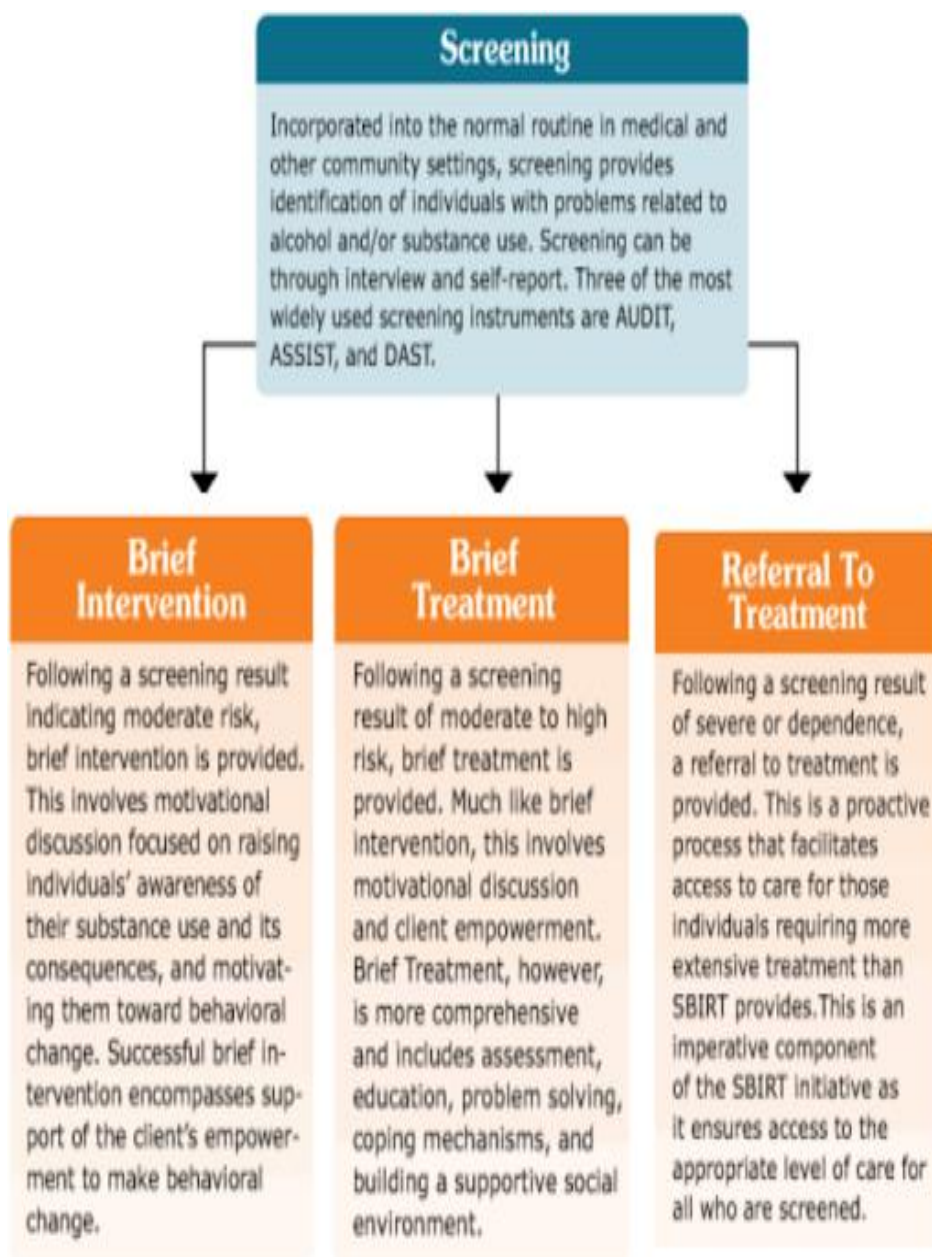
Figure 4: Motivational Interviewing Technique



*Note: Motivational Interviewing: Helping People Change (Miller & Rollnick, 2013).*

## Appendix H

**Figure 5: What is SBIRT**



*Note: What is SBIRT? An Early Intervention Approach (Indiana University, 2013)*

## Appendix I

### Pre-Test Questionnaire

#### Participants' Initials:

Please select only one of the appropriate responses that best explain your thoughts on the choices below.

1. I feel confident in my abilities to use the Clinical opiate withdrawal scale in evaluating my clients during admission.

1	2	3	4	5
Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree

2. I am familiar with opiate overdose signs and symptoms.

1	2	3	4	5
Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree

3. I need more information about opiate overdose signs and symptoms.

1	2	3	4	5
Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree

4. I am aware that opioid abuse can negatively impact a patient's health and lead to overdose and death.

1	2	3	4	5
Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree

5. I feel confident in my ability to use the screening, brief intervention, and referral to treatment toolkit during intake assessment and when clients exhibit a change in mental status related to opioid abuse.

1	2	3	4	5
Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree

6. I feel confident in my abilities to do brief intervention counseling about opioid abuse during intake assessment and at other times to identify clients with opioid abuse in order to refer them for treatment.

1	2	3	4	5
Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree

7. I am aware of evidence-based recommendation procedures to treat patients with opioid use disorder.

1	2	3	4	5
Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree

8. I feel comfortable in my knowledge about medication assisted treatment for opioid use disorder.

1	2	3	4	5
Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree

9. When a client is assessed as meeting criteria for opioid use disorder according to DMS-V stipulations; I think it is important to discuss with them prior to referring them to 12 step meetings, SMART program or DBT for substance awareness.

1	2	3	4	5
Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree

10. I need more information and education about opioid use disorder toolkits.

1	2	3	4	5
Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree



## Appendix J

### Post-Test Questionnaire Participants' Initials:

Please select only one of the appropriate responses that best explain your thoughts on the choices below.

1. I feel that I learned from the PowerPoint presentation on opioid use disorder toolkit.

1	2	3	4	5
Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree

2. I am well informed about opioid overdose signs and symptoms.

1	2	3	4	5
Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree

3. I have been using the toolkits for intake assessment and for patients that exhibit mental status changes in the milieu after the PowerPoint presentation session

1	2	3	4	5
Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree

4. My confidence to use the toolkit to assess clients with opioid use disorder increased after the educational session.

1	2	3	4	5
Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree

5. After participating in this QI project, I feel more confident about my ability to engage clients for brief counseling with motivational interviewing skills

1	2	3	4	5
Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree

6. Participating in this project increased my knowledge about medication-assisted treatment and psychotherapy intervention.

1	2	3	4	5
Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree

7. Participating in this project increased my ability to provide brief counseling about the dangers of opioid abuse prior to referring identified clients to specialty treatment.

1	2	3	4	5
Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree

8. I have consistently used the opioid use disorder toolkit in my clinical assessment after attending the educational presentation sessions.

1	2	3	4	5
Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree

9. I feel that my clinical practice and patients benefited from the educational presentation.

1	2	3	4	5
Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree

10. I will continue to use the information from the performance improvement project to make changes in my clinical practice.

1	2	3	4	5
Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree

## Appendix K

**Table 4**

*Descriptive Statistics of Pre-Test Scores for Opioid Abuse and Opioid Screening Knowledge*

*Areas (N=16)*

	Number	Mean	Std Deviation	Percentages
I feel confident in my abilities to use the Clinical opiate withdrawal scale in evaluating my clients during admission.	5	0.31	0.48	31.25%
I am familiar with opiate overdose signs and symptoms.	4	0.25	0.45	25%
I need more information about opiate overdose signs and symptoms.	13	0.81	0.40	81.25%
I am aware that opioid abuse can negatively impact a patient's health and lead to overdose and death.	14	0.88	0.34	87.5%
I feel confident in my ability to use the screening, brief intervention, and referral to treatment toolkit during intake assessment and when clients exhibit a change in mental status related to opioid abuse.	6	0.38	0.50	37.5%
I feel confident in my abilities to do brief intervention counseling about opioid abuse during intake assessment and at other times to identify clients with opioid abuse to refer them for treatment.	7	0.44	0.51	43.75
I am aware of evidence-based recommendation procedures to treat patients with opioid use disorder.	10	0.62	0.50	62.5%
I feel comfortable in my knowledge about medication-assisted treatment for opioid use disorder.	8	0.50	0.51	50%
According to DMS-V stipulations, when a client is assessed as meeting criteria for opioid use disorder, I think it is essential to discuss with them prior to referring them to 12 step meetings, SMART program, or DBT for substance awareness.	6	0.38	0.50	37.5%
I need more information and education about opioid use disorder scales.	15	0.94	0.25	93.75%

## Appendix L

**Table 5**

*Descriptive Statistics of Post-Test Scores for Opioid Abuse and Opioid Screening Knowledge*

*Areas (N= 16)*

	Number	Mean	Std Deviation	Percentages
I feel that I learned from the PowerPoint presentation on the opioid use disorder scales.	15	0.94	0.25	93.75%
I am well informed about opioid overdose signs and symptoms.	15	0.94	0.25	93.75%
I have been using the toolkits for intake assessment and patients who exhibit mental status changes in the milieu after the PowerPoint presentation session.	13	0.81	0.40	81.25%
My confidence to use the toolkit to assess clients with opioid use disorder increased after the educational session.	13	0.81	0.40	81.25%
After participating in this QI project, I feel more confident about engaging the clients for brief counseling with motivational interviewing skills.	14	0.88	0.34	87.5%
Participating in this project increased my knowledge about medication-assisted treatment and psychotherapy intervention.	15	0.94	0.25	93.75%
Participating in this project increased my ability to provide brief counseling about the dangers of opioid abuse before referring identified clients to specialty treatment.	14	0.88	0.34	87.5%
I have consistently used the opioid use disorder toolkit in my clinical assessment after attending the educational presentation sessions.	10	0.62	0.50	62.5%
I feel that my clinical practice and patients benefited from the educational presentation.	16	1.00	0.00	100%
I will continue to use the quality improvement project's information to make changes in my clinical practice.	15	0.94	0.25	93.75%

# Appendix M Opioid Use Disorder Education PowerPoint

## Opioid Use Disorder Toolkits

Pauline Eteng, DNP Student

### Performance Improvement (PI) Project Overview

- Provide information on PI overview.
- Administer the pre-intervention questionnaires

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
(1)	(2)	(3)	(4)	(5)

### Background

- Opioid abuse is a challenging health care crisis, which has been identified as a national public health hazard.
- The prevalence of illicit fentanyl and prescription pain medication in the society are the uncontrollable environmental factors that have destroyed many lives and triggered a national epidemic despite the preventative measures and treatment recommendation by experts.



### Background

- Opioid abuse disorder is prevalent among clients with mental health illness.
- Han et al (2017) reported that about 7.7 million adults suffer from a co-occurring psychiatric diagnosis and substance abuse and 38.4% of this population were ambivalent about engaging in treatment



### Review of Literature

National institute on drug abuse (2020) reported data from a nationwide sample that noted that people with mental illness were at increased risk for ingesting nonmedical prescription opioids.

The interactions between psychiatric diagnoses and opioid abuse can exacerbate symptoms of both disorders and predispose the client to risk of overdose and subsequent death from opioids (Han et al., 2017)

### Evidence from Literature

Velez and colleagues (2016) research concisely concluded that inpatient hospitalization is an appropriate timeframe to successfully reach patients who are indicated for substance abuse treatment, as they may comprehend that substance abuse has harmfully affected their well-being.

A multifaceted intervention approach is needed to address the problem to mitigate the risk of abuse and subsequent overdose.

### Review of Literature

- U.S. Preventative Service Task Force [USPSTF] (2019), recommendation for opioid use disorder treatment, involves assessment for use of illicit drugs and misuse of prescription drugs and subsequent referral for intervention to counteract drug abuse.

### Clinical Opiate Withdrawal Scale (COWS)

- COWS is a 11-Items tool designated for implementation by healthcare practitioner to assess and monitor clients for signs and symptoms of opiate withdrawal in both inpatient and outpatient setting.
- The summed score for the complete scale can be used to help clinicians determine the stage or severity of opiate abuse, withdrawal and level of dependence on opioids.



### Signs of Opioid Addiction

- ▶ People addicted to drugs may change their behavior. Possible signs include:
- ▶ Mixing with different groups of people or changing friends
- ▶ Spending time alone and avoiding time with family and friends
- ▶ Losing interest in activities
- ▶ Not bathing, changing clothes or brushing their teeth
- ▶ Being very tired and sad
- ▶ Eating more or less than usual
- ▶ Being overly energetic, talking fast and saying things that don't make sense

### Possible Signs of Addiction

- Being nervous or cranky
- Quickly changing moods
- Sleeping at odd hours
- Missing important appointments
- Getting into trouble with the law
- Attending work or school on an erratic schedule
- Experiencing financial hardship

### Opioid Withdrawal signs and symptoms

- ▶ Drug cravings
- ▶ Anxiety/Irritability
- ▶ Insomnia
- ▶ Abdominal pain; constipation
- ▶ Vomiting
- ▶ Diarrhea
- ▶ Tremors (shaking)
- ▶ Feeling cold
- ▶ Joint aches
- ▶ SX have been likened to severe influenza infection

### Signs of Opioid Overdose

- Slow, shallow breathing
- Extreme sleepiness
- Inability to talk
- Blue skin color and dark-colored lips
- Snoring or gurgling sounds

### Screen, Brief Intervention and Referral to Treatment(SBIRT)

▶ Screening, Brief Intervention and Referral to Treatment (SBIRT) is an evidence-based approach to identify problematic use and to reduce excessive use of substances and substance use disorders.

#### SBIRT Step by Step



### Screen, Brief Intervention and Referral to Treatment

▶ screening, brief intervention, and referral to treatment (SBIRT) is designed to address early intervention and treatment for individuals diagnosed with substance abuse or clients at risk of displaying opioid use disorder (SAMHSA, 2017).

### SBIRT

- ▶ Screening quickly assesses the severity of substance use and identifies the appropriate level of treatment.
- ▶ Brief intervention focuses on increasing insight and awareness regarding substance use and motivation toward behavioral change.
- ▶ Referral to treatment provides those identified as needing more extensive treatment with access to specialty care.



### Evidence-Based Treatment for OUD

