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## Enabling Patients in Opioid Detox to Pursue Long-Term Recovery

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Enabling Patients in Opioid Detox to Pursue Long-Term Recovery

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**Table of Contents**

Abstract .....4

Introduction .....5

Background.....5

    Problem Statement .....8

Review of Literature .....9

    Synthesis .....9

    Evidence-Based Practice.....13

Theoretical Framework.....13

Methods.....14

    Goals, Objectives, and Expected Outcomes .....14

    Site and Population .....14

    Implementation .....15

    Ethical Considerations/Protection of Human Subjects.....18

    Data Analysis .....19

Results.....20

    Pre-test Survey .....20

    Post-test Survey .....24

Discussion.....26

Conclusion .....28

References.....29

    Appendix A: Theoretical Model .....34

    Appendix B: Pre-test Survey .....35

Appendix C: Post-test Survey .....37

Appendix D: The RODS .....40

Appendix E: IRB Letter .....41

Appendix F: Pre- and Post-test Question 1 .....42

Appendix G: Pre- and Post-test Question 2 .....43

Appendix H: Providers' Comments.....44

## Abstract

**Background/Purpose:** High readmission rates of individuals in need of opioid detoxification demonstrate that opioid detoxification alone may be insufficient to promote changes in behavior and prevent relapse. There is a critical need for improvement in treatment approaches along with efforts from healthcare professionals to lead opioid-dependent patients toward long-term recovery. Such a care improvement is feasible through the delivery of adequate education to providers regarding patients suffering from opioid addiction to facilitate a change in attitude and more effective treatment. **Methods:** Data collected through a pre-test survey assessed provider's knowledge about opioid use disorder, the availability of screening tools, and their understanding of the need to use medication-assisted therapy for relapse prevention. A post-test survey was administered to evaluate the effectiveness of the project and its impact on providers' knowledge, attitude, and practice. **Results:** The data analysis results revealed a change in knowledge and attitude among 24 participants as evidenced by 83.3% of providers strongly agreeing that they gained more knowledge; four participants (16.7%) agreed while 20 others (83.3%) strongly agreed that patients with opioid dependence should receive referrals to maintenance programs for relapse prevention. The mean scores were greater on the post-test compared to the pre-test in tested areas. **Conclusion:** Educating providers about the importance of medication-assisted treatment may facilitate improvement in care through a change in attitude and increased support for patients affected by opioid dependence.

*Keywords: detoxification, opioid-dependence, relapse, prevention, recovery, withdrawal, stigma*

### **Introduction**

Opioid addiction is a serious problem affecting the American population. Although data found in the literature suggest that providers do not have the means to treat individuals battling substance use disorder, the literature reveals that both methadone and suboxone are increasingly beneficial in relapse prevention for opioid and non-opioid drug use (Piralishvili et al., 2015). Providing medication-assisted therapy (MAT) to individuals with opioid addiction may not only save lives but also may provide an opportunity to maintain long-term recovery. Such an accomplishment is highly possible through increased awareness and provider education aiming to stem stigma and facilitate patient access to adequate treatment for opioid relapse prevention.

### **Background**

Opioid dependence is one of the leading causes of death in the United States (US). According to the CDC (2017), opioid addiction costs the US approximately \$78.5 billion annually. Additionally, 4% of the American population engage in opioid medication misuse, and more than 33,000 deaths in 2015 were attributed to opioid overdose related to licit and illicit opioid use (Skolnick, 2018). Additionally, among individuals with substance use issues, only 10% received treatment despite there being effective evidence-based treatment options (SAMSHA, 2018). During 2015 through 2017, among 623,000 affected individuals in the US, less than one-third were treated for illicit drug use in specialty institutions or doctor's offices (Cope et al., 2019). In a more recent report by the National Institute on Drug Abuse (2021), nearly 50,000 deaths by opioid overdose were registered in the US in the year 2019 alone. The persistent problem caused by opioid addiction and opioid-related mortality deserves greater attention and a search for a sustainable solution.

Patients are often admitted to the hospital due to exacerbation of mental health disorders such as depression, anxiety, suicidal ideation, and other comorbidities that may increase their likelihood of opioid use, overdose, and hospitalization (Stein et al., 2017). Opioid use disorder (OUD) involves a problematic pattern characterized by the use of opioids on a scale that creates clinically significant impairment or distress in the life of an individual (Nussbaum, 2013, p.142). Patients battling OUD experience clinically significant impairment or distress manifested by at least two of the following within a period of 12 months: unsuccessful attempts to stop using opioids, consuming more opioids than intended over a period of time, spending a significant amount of time acquiring, using, and recuperating from opioid use, experiencing cravings, facing the inability to fulfill obligations due to opioid use, giving up activities and engaging in risky behaviors or situations while intoxicated, experiencing withdrawal symptoms, developing tolerance, and continuing to use opioids despite awareness of physical, interpersonal, psychological, and social issues (APA, 2013, p.541). Providers need to understand how critical it is to acknowledge the devastating impact of opioid dependence on the life of the affected individuals and their loved ones (Schonbrun et al., 2016).

A closer look at the problem could facilitate remediation. Patients who present to the hospital for opioid detox are not necessarily aware that their recovery process could go beyond this phase. They may be given prescriptions, follow-up appointments with a psychiatrist, primary care provider, and even a therapist on discharge; however, the risk of relapse remains high (Nunes et al., 2018). Talking to individuals about maintaining sobriety is an important step that should be followed by a dialogue about resources and structures available to help them fulfill their goals. Such resources and structures should involve medication-assisted treatment designed to keep them away from opioid use and free from opioid-related harms. A hospital's

discharging team cannot change the thoughts and or actions of each opioid-addicted patient. However, the team may be able to help them towards the path of long-term recovery and maintenance of health stability if proper arrangements are made for relapse prevention through medication-assisted therapy (Evans et al., 2015). Such arrangements should engage the patient as the core participant along with the involvement of other healthcare professionals.

Due to the amplitude of the problem, patients with opioid dependence need a recovery-focused plan of care that starts on hospital admission and goes beyond discharge. Safe discharges imply a greater look at the risks that patients may face when they return to the community. For this reason, it is essential to acknowledge that patients with opioid use disorder could be at higher risk for overdose after discharge from a detoxification treatment. In fact, researchers argue that individuals who have gone through acute detoxification should be given urgent appointments to start medication-assisted therapy for treatment of opioid use disorder (Deyo-Svendson et al., 2020). Other steps such as patient education about MAT, identification of maintenance programs, and referral for follow-up treatment should be taken to help these individuals prevent relapse and overdose-related death. Having identified the need for adequate training, this DNP student created a Quality Improvement (QI) project that focused on educating providers about MAT for opioid dependence. This approach assumed that proper provider involvement could facilitate changes if opioid dependence is recognized as a major safety risk. In other words, providers on all levels could contribute to patient empowerment and promote long-term recovery.

When patients with opioid use issues do not start medication-therapy in the hospital, referrals to substance abuse treatment programs should fill the gap and maintain safety beyond hospitalization. Research shows that providers may work together to empower these patients and

give them referrals for programs where they could continue a different level of care focusing on MAT for long-term recovery (Rosenthal, 2018). In some cases, opioid users may even start on MAT while receiving inpatient care, and that depends on the prescriber's approach and qualification, and arrangements made by their social workers for follow-up referral and continuity of care. This QI project was necessary because it highlighted the issues and suggested patient-centered solutions.

The QI project raised the level of attention given to opioid dependence in the care of patients treated in the hospital. The project was designed to bring greater focus on the problem and suggest a durable solution involving better plans for patients with opioid dependence. Such plans would be self-defeating if they did not involve guiding patients to the path of long-term recovery through MAT. A positive result is only possible if providers gain increased interest in targeting the opioid addiction issue with complete devotion to stem stigma, acknowledge the need for proper screening and treatment, and develop positive attitudes and practices favoring long-term recovery for patients with opioid dependence. In summary, this QI project emphasized improved care for patients with opioid dependence through better approaches from healthcare providers.

### **Problem Statement**

There is overwhelming evidence that opioid use is a major safety risk. Healthcare providers' failure to guide opioid-dependent patients to long-term recovery and relapse prevention leaves a gap facilitating overdose after discharge from acute care settings. Therefore, removing barriers and focusing on the ongoing opioid use issue could produce better outcomes. Such a barrier removal necessitates reinforcement of provider knowledge regarding opioid dependence, which may result in a decrease in stigma and an increased motivation to help

patients take the path of long-term recovery and relapse prevention (Bozinoff et al., 2018). Researchers have noted the importance of prioritizing long-term recovery options that may decrease and eliminate the relapse problem affecting individuals with history of opioid abuse (Bozinoff et al., 2018). Consequently, the purpose of this QI project is to increase healthcare provider knowledge about MAT for long-term recovery and improve quality of care provided to adult patients, 18 to 55 years old, with opioid dependence. Through provider education and effective treatment modalities, perhaps drug relapse and opioid-related deaths may decrease.

### **Review of Literature**

A review of literature was performed through multiple databases including MedPub, Uptodate, PsychInfo, and Cumulative Index of Nursing and Allied Health Literature (CINAHL). The CDC and NIH websites were also utilized in this review. Keywords included *detoxification, opioid-dependence, relapse, prevention, recovery, withdrawal, and stigma*. 25 articles contributed to this review after application of inclusion criteria such as date of publication between 2015 and 2021, English language, full-text, and peer-reviewed. All articles falling outside these criteria were rejected. Articles from the NIH and CDC were utilized for statistical data about the problem emphasized in the project.

### **Synthesis**

Among the selected articles, four talked about addiction prevention and opioid detox, while three of them highlighted the negative effects of stigma on individuals' help-seeking behavior. Bozinoff et al. (2018), Carrara et al. (2019), and Pearlman (2016) emphasized the need for therapeutic relationships between patients and healthcare professionals along with the stemming of stigma to facilitate positive attitude and engagement in medication-assisted treatment for long-term recovery. Three of the articles emphasized the need to treat

comorbidities when caring for patients with opioid dependence, and two addressed the necessity to educate patients and acknowledge their need for social support in their struggle against opioid dependence. According to Schonbrun et al. (2016), encouraging patients to involve any supportive person in their treatment could facilitate positive experience and safer transition back into the community. Four articles focused on long-term recovery and MAT for patients with opioid addiction.

The articles used in the review of literature served as basis for the QI project. The educational session contained information drawn from the literature to raise providers' awareness about the opioid addiction problem and evidence-based solutions. Ivers et al. (2018) suggested that proper education about this issue could trigger the motivation to quit using opioids and avoid relapse. Consequently, the education provided to the clinicians aimed to make the dependence issue become part of their interaction with patients battling opioid addiction.

Most importantly, providers need to place their focus on addiction prevention when treating their patients. Such an initiative could start with screening for potential addiction per CDC guidelines and the avoidance of opioid prescriptions unless the benefits outweigh the risks (Ward, 2019). However, in cases where patients are given opioid prescriptions for pain management, there is a great need for education about inappropriate medication use (Wilens et al., 2015). Researchers acknowledge that opioid dependence could start with the misuse of prescribed opioids (Wilens et al., 2015). Hence, prescribers face the obligation to evaluate individuals for dependence risk and maintain the ideal goal of avoiding opioid prescriptions unless absolutely necessary. Subsequently, prescribers should query their patients regarding the use of prescribed opioids and assess for possible misuse and abuse (Wilens et al., 2015) because

the failure to prevent opioid addiction creates the need for detox and generates the battle for relapse prevention (Skolnick, 2018).

Researchers identify factors enabling opioid dependence. Among those factors are the lack of social support and the presence of mental health comorbidities. In accordance with evidence-based practice, empowerment of patients with opioid dependence requires raising awareness about underlying conditions and other matters related to their ongoing problems (Stein et al., 2017). According to Bozinoff et al. (2018), the identification of factors that may influence the outcome of detoxification treatment is critical to a positive patient experience. Additionally, Baxley et al. (2019) highlight the need to identify and treat anxiety sensitivity as a major risk factor for opioid relapse. This evidence infers that treating a patient's anxiety is an important aspect of opioid relapse prevention. Therefore, encouraging patients to accept treatment for their mental health issues could be considered as critical as encouraging opioid-maintenance treatment. Consequently, some researchers support the idea of enabling individuals to make proper decisions regarding opioid dependence treatment. The empowerment process could be initiated in the first encounter with patients seeking help for opioid detox. However, barriers such as bias and stigma may impede positive patient experience and have negative effects on help-seeking behavior (Bozinoff et al., 2018).

Evidently, providers face the necessity to acknowledge the need to guide opioid-addicted patients to long-term recovery and relapse prevention. According to Evans et al. (2015), the mortality rate among patients with opioid addiction increases in the absence of MAT. These findings prove the necessity to utilize better approaches that are aimed at making a difference in the care of patients with opioid addiction. Consequently, providers need to educate patients about the detrimental health consequences beside the risks of overdose and opioid-related death

to facilitate their motivation to accept sustainable treatment and avoid relapse (Ivers et al., 2018). Literature evidence shows increased survival rate among opioid-addicted individuals receiving methadone maintenance therapy after detox (Evans et al., 2015). On the other hand, Suzuki et al. (2015) suggested buprenorphine as an adequate treatment option that could be suggested to the patients suffering from opioid use disorder. Additionally, Nunes et al. (2018) conducted a randomized multisite study indicating that long-acting Naltrexone injections provided protective factors against relapse at rates of 59% for short-term inpatient, 46% for long-term inpatient, and 38% for outpatient. These results warrant the need to implement medication-assisted treatment after opioid detox (Nunes et al., 2018). Further evidence indicates that patients who receive referrals for MAT are more likely to engage in treatment after discharge from inpatient detox. Furthermore, MAT may contribute to improved quality of life (Evans et al., 2015). This literature evidence indicates that detox should be followed up by MAT and relapse prevention (Rosenthal, 2018).

In summary, patients should be empowered along their fight against opioid addiction. Such an empowerment involves proper guidance and education about their conditions and the benefits of involving supportive others in their treatment (Schonbrun et al., 2016). Furthermore, encouraging patients to involve any empathetic person in their care could facilitate positive experience and safer transition back into the community (Schonbrun et al., 2016). Based on this reasoning, healthcare professionals might contribute to beneficial outcomes for patients undergoing opioid detoxification if they encourage them to involve supportive others in their care (Schonbrun et al., 2016). Such an involvement may contribute to patient empowerment, adherence to medication maintenance treatment, and relapse prevention (Schonbrun et al., 2016). When considering long-term recovery for opioid-dependent patients, the identification of

contributing factors and comorbidities could be as important as the use of a support person and MAT (Stein et al. 2017).

### **Evidence-Based Practice**

The pre-test and post-test surveys were designed by this DNP student based on literature evidence to address problems that affect providers' ability to guide individuals with opioid addiction to long-term recovery. The surveys emphasized the need to acknowledge patients' opioid addiction problem along with their comorbidities. Also, their content highlighted the necessity to educate patients and engage in conversation with them regarding MAT. The surveys were informally approved after review with the help of two seasoned practitioners.

### **Theoretical Framework**

This project is guided by Prochaska and DiClemente's (1983; 1986) trans-theoretical model of change divided into multiple stages including precontemplation, contemplation, preparation, action, maintenance, and relapse. A change in providers' attitude and practice might be triggered by an increase in knowledge about the detrimental effects of opioid addiction on individuals and their surroundings versus the beneficial effects of MAT. However, such a change might happen through the stages identified above.

Providers who deny opioid addiction as a major problem affecting their patients are in the precontemplation phase while those who acknowledge such an issue are in the contemplation phase. Providers may need to move from precontemplation to contemplation before reaching the action phase where they engage in conversation with patients about MAT. Throughout the action phase providers are actively guiding the patients, advocating for them, seeking referrals to programs dedicated to help them maintain recovery through MAT. Providers who continuously work with their patients to address opioid dependence issues and engage in treatment belong to

the maintenance phase. Some providers may fluctuate back and forth among stages. Moreover, a provider who reaches the maintenance phase could sometimes fall back into the precontemplation phase (Lamorte, 2019).

## **Methods**

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

The overarching goal of this QI project was to educate providers about the risks of mortality related to opioid overdose and the usefulness of relapse prevention programs in improving quality of life and avoiding opioid-related fatality among patients after detoxification.

The expected outcomes for this project included the following:

1. Providers would acknowledge opioid dependence as a major issue and recognize the negative impact of stigma on patient care.
2. Providers would gain familiarity with the RODS screening tool available for the assessment of opioid use disorder.
3. Providers would recognize the need to work with affected individuals on safe discharge planning involving referrals to programs that would help them with MAT and relapse prevention.
4. Finally, providers would gain knowledge and voice interest in MAT for opioid long-term recovery and relapse prevention.

### **Site and Population**

The QI project took place in an acute inpatient psychiatric unit for patients 18 to 64 years of age in a large hospital in Boston, Massachusetts. The unit serves patients with mental health disorders and substance abuse issues mostly from underserved areas and diverse cultural backgrounds. The QI project aimed to educate providers about improving the care of patients with opioid addiction and focus on a plan of care that encompassed options for long-term

recovery through MAT. Project participants were of diverse race, education levels, and included 12 registered nurses (RNs), a clinical educator, a unit manager, a psychiatric mental health nurse practitioner (PMHNP), six mental health counselors (MHCs), and three occupational therapists. Exclusion criteria included providers who worked on other units in the hospital and those who were not involved in patient care.

### **Implementation**

The Quality Improvement project consisted of a pre-test, an education intervention, and post-test. In the pre-intervention stage, this DNP student held multiple meetings with the clinical educator and unit manager regarding the QI project. Three meetings were held with the unit manager to discuss preparation for the project implementation. Rules of privacy and recruitment methods were some important topics discussed during the meetings. This DNP student also met with the Chief Nursing Officer (CNO) to explain the project and obtain approval for its implementation. Eventually, the unit manager wrote a letter of support regarding the project, which was signed by the CNO.

In planning the project, this DNP student met with the clinical educator on two different occasions to discuss the purpose of the project and the content of the education presentation. During the second meeting with the clinical educator, the educational module was presented, and some adjustments were made to meet the set time limit without suppressing important information. Also, this DNP student met with the Department Chair twice. The first meeting was to talk about the project proposal while the second was to obtain the authorized signature for the IRB application form. Also, this DNP student met with the project mentor and communicated via email and via zoom meetings with the project chair on multiple occasions to obtain feedback and make corrections as needed.

A recruitment email was sent to the participants and included the purpose, time, date, location, and anticipated duration of the education session. The recruitment email also discussed the project, privacy, and that participation was voluntary. A pre-test survey with seven questions was created by this DNP student and utilized to collect initial data about provider knowledge and attitude regarding opioid use disorder and MAT and was set up with 5-point Likert Scale. The Likert scale ranged from: strongly disagree (1), disagree (2), neutral (3), agree (4), and strongly agree (5) (Appendix B). A copy of this survey was handed to each participant to be filled 5 minutes prior to the education session. The participants filled the survey and handed it back to this DNP student.

The intervention stage followed the pre-test and involved a 25-minute teaching session offered in person to 24 providers directly involved in the care of patients within the 20-bed unit. The teaching session started with highlights about the prevalence of opioid addiction and its morbid effects on the population living in the US. Also, data from reliable sources like the CDC were used to illustrate the fatality risk of opioid addiction. Subsequently, the opioid addiction problem was raised and the need for a patient-centered solution was highlighted. Such a solution entailed a long-term recovery approach involving MAT for opioid addiction. Additionally, the education session addressed bias and stigma as potential barriers to effective opioid dependence treatment. The education session aimed to curb all bias and stigma and reinforce providers' ability to deliver empathetic care for patients with opioid addiction. Finally, a thorough definition of opioid use disorder was presented based on diagnostic criteria found in the DSM-5 (APA, 2013). Such a definition was used to introduce opioid addiction as a health issue deserving adequate treatment.

The teaching session emphasized that improvement in care quality required changes in approach. Subsequently, Prochaska and DiClemente's stages of change were reviewed with the participants (1983, 1986). The change theory was presented as the theoretical framework guiding the project. Providers received information about the stages of change such as precontemplation, contemplation, preparation, action, maintenance, and relapse (Prochaska & DiClemente, 1983; 1986). Additionally, the targeted changes involved stemming stigma and bias, talking to opioid-addicted patients about MAT, providing referrals for long-term opioid-maintenance programs, and emphasizing medication-assisted relapse prevention. Furthermore, reemphasizing the providers' understanding about the issues faced by patients suffering from opioid dependence was essential to overcoming the barriers identified within the site. The educational intervention highlighted the need to use screening tools to assess and diagnose patients with opioid use disorder. Therefore, an overview of the rapid opioid dependence screen (RODS) tool was presented to the participants (Wickersham et al., 2015).

The benefits of MAT were also highlighted along with advantages of increasing the survival rates by 50% or more with suboxone or methadone therapy (Hickman et al., 2018). The session was concluded with affirmation that MAT could not only save lives but also give opioid-addicted patients the opportunity to reestablish a supportive social network, rebuild family structure, regain physical health, and resolve interpersonal, psychological, and social issues.

A post-test followed the education intervention and was delivered by this DNP student via email to the participants two weeks later. Both the pre-test and post-test had the same initial seven questions. However, the post-test included one open-ended comment section and three additional 5-point Likert scale questions ranging from 0 (strongly disagree) to 5 (Strongly agree) to assess the efficacy of the education session and providers' knowledge and attitude regarding

opioid addiction and MAT post intervention. In all, there were a total of 10 Likert-style questions on the post-test along with a comment section giving participants an opportunity to write their feedback about the teaching session.

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

There were some challenges met during the time preceding the implementation of the QI project. One of the main challenges was due to some difficulty establishing contact with the site's IRB. The actual IRB department was not located at the site. The chair of the project played an important role in finding out who to contact about the proposal. It took approximately three weeks and multiple phone calls and emails to go through the IRB verification process.

The hospital's IRB reviewed the IRB application form and determined that the project did not need IRB supervision. A notification of IRB review was then obtained and sent to UMass Amherst for approval. The university's IRB department also ruled in favor of the QI project implementation.

UMass Amherst (UMass) Human Research Protection Office reviewed the DNP project and determined it did not meet the definition of human subject research and therefore Internal Review Board approval was not needed. The project did not involve any direct contact with patients. All participants were healthcare providers.

All participants were protected by the Health Insurance Portability and Accountability Act of 1996 (HIPAA) which, among other guarantees, protects the privacy of patients' health information (Modifications to the HIPAA Privacy, Security, Enforcement, and Breach Notification Rules, 2013). Additionally, the DNP student and practice personnel who carefully conducted this project abided the Standards of Care for practice in a primary care office. All information used in evaluating the impact of this project were aggregated data from the

participants with no identifiers other than names and email addresses used in the pre-test. Data collection was treated no differently from standard practice in patient care. Participant confidentiality was ensured by coding the participants using individual identification numbers and data was destroyed following computer entry. Additionally, participant identifiers were accessible only to the DNP student.

Participants were informed that their contribution was voluntary and that they could withdraw from the project anytime. No health information was obtained from the providers joining this project. Identifying information and email addresses were used for the sole purpose of sending the post-test survey to the participants approximately two weeks after the education session. All participant data were collected and identified by numbers and letters entered into the Excel worksheet and in SPSS and destroyed after the data entry process. Participants gave verbal consent to attest their willingness to be part of the project.

### **Data Analysis**

Data collected through the pre- and post-test were used to analyze the effectiveness of the project and its impact on 24 providers' attitude and practice. Quantitative data were entered into an Excel worksheet for subsequent analysis. Data were then transferred and interpreted through SPSS. Descriptive statistics were utilized along with a one-sample t-test since the data collection did not include matching identifiers in both pre and post-test. Qualitative data obtained through comments written by participants on the post-test were also entered and interpreted. Moreover, samples of the data were presented through graphical representation.

**Results**

**Pre-test Survey**

Results of the pre-test are summarized in subsequent paragraphs and reviewed by questions on the survey.

***Question 1: Opioid dependence is a problem that needs to be addressed.***

All 24 participants answered this question. Six participants (25%) were neutral while 11 of them (45.8%) agreed, and seven of them (29.2%) chose “strongly agree” as their answer regarding the need for opioid dependence to be addressed. A graph was created through SPSS (Appendix F). The average mean score for the pre-test was 4.04 with a 95% confidence interval. This result indicates that 4.04 could be considered as the true mean for answers provided on the first question. These results indicate that based on participants’ attitude and knowledge prior to the education session, less than half of them simply agreed with the need to address the problem posed by opioid dependence in patients receiving detox while those who expressed strong agreement were close to 30%. The neutral response collected from 25% of them indicated a lack of confidence in the need to address the opioid dependence issue.

Table 1

*Opioid dependence is a problem that needs to be addressed.*

Mean	N	Std. Deviation	Std. Error of Mean	Median
4.04	24	.751	.153	4.00

***Question 2: Addressing patients’ opioid dependence could save lives.***

All participants answered question two. Four participants (25%) were neutral, while nine (37.5%) agreed, and 11 (45.8%) strongly agreed that addressing opioid dependence education

could save lives. The average mean score was 4.29 with a standard deviation of 0.751 on a 95% confidence interval, which indicates that there was a 95% chance that the true mean could be 4.29 for the unknown parameter and that the average amount of deviation from the mean was 0.751. Although many participants either agreed or strongly agreed, a significant number among them were neutral. A graph revealing the frequencies was created through SPSS (Appendix G).

Table 2

*Addressing patients' opioid dependence could save lives.*

N	Mean	Median	Std. Deviation	Std. Error of Mean
24	4.29	4.00	.751	.153

***Question 3: Stigma may prevent opioid-dependent individuals from accessing treatment for relapse prevention.***

Five participants (20.8%) disagreed and four (16.7%) were neutral, while seven (29.2%) agreed, and eight (33.3%) strongly agreed on stigma may prevent opioid-dependent individuals from accessing care for relapse prevention. The average score for the mean was 3.75 with 1.152 standard deviation. These results indicate that the average amount of deviation from the mean was 1.152. Although the majority of providers either agreed or strongly agreed with stigma as a barrier preventing opioid-addicted individuals from accessing relapse prevention treatment, a significant number of participants were either neutral or in disagreement.

Table 3

*Stigma may prevent opioid-dependent individuals from accessing treatment for relapse prevention.*

N	Mean	Median	Std. Deviation	Std. Error of Mean
24	3.75	4.00	1.152	.235

***Question 4: You are familiar with the rapid opioid screen tool (RODS).***

Regarding familiarity with the RODS, 21 participants (87.5%) disagreed about their familiarity with the RODS while one participant (4.2%) was neutral; two (8.3%) agreed that they were familiar with it. The average mean was 2.21 with a standard deviation of 0.588 on a 95% confidence interval, which indicates a 95% chance that the true mean for unknown parameters could be 2.21. In summary, most of the participants were unfamiliar with the RODS before the intervention.

Table 4

*You are familiar with the rapid opioid screen tool (RODS).*

N	Mean	Median	Std. Deviation	Std. Error of Mean
24	2.21	2.00	.588	.120

***Question 5: Patients with opioid use issues who are treated for other mental illness should also be treated for opioid use disorder.***

Two participants (8.3%) disagreed on this question and six others (25%) were neutral. Additionally, five agreed and 11 strongly agreed on the need to treat other comorbid disorders along with opioid use disorder. The average mean was 4.04 with a standard deviation of 1.042 on a 95% confidence interval. While many of the participants agreed or strongly agreed with the need to treat opioid use disorder along with comorbidities, one third of them either disagreed or were neutral.

Table 5

*Patients with opioid dependence should be treated for their comorbid mental health disorders (like depression, anxiety, schizophrenia, bipolar disorder, etc...).*

N	Mean	Median	Std. Deviation	Std. Error of Mean
24	4.04	4.00	1.042	.213

***Question 6: Patients with opioid use issues who are treated for other mental illness should also be treated for opioid use disorder.***

Eight participants (16.7%) disagreed on this question and three others (12.5%) were neutral. Six participants (25%) agreed while 11 others (45.8%) strongly agreed on treating opioid use disorder in patients with opioid use issues. The average mean was 4.00 with a standard deviation of 1.142 and a 95% on confidence interval, which suggests a 95% chance that 4.0 could be the true value of the mean with 1.142 as the degree of variability among the values from the mean. Although most of the participants agreed or strongly agreed on this question, a significant number were either in disagreement or neutral.

Table 6

*Patients with opioid use issues who are treated for other mental illness should also be treated for opioid use disorder.*

N	Mean	Median	Std. Deviation	Std. Error of Mean
24	4.00	4.00	1.142	.233

***Question 7: Patients with opioid use disorder should be referred to a maintenance program for relapse prevention after detoxification.***

Five participants (20.8%) were neutral, and five (20.8%) agreed while 14 others (58%) strongly agreed that patients with opioid dependence should be given referrals to maintenance programs for relapse prevention. The average mean was 4.38 with a standard deviation of 0.824 on a 95% confidence interval. Based on these results, there was a 95% likelihood that the true mean was 4.38, and the average amount of variability from the mean was 0.824. Even though the majority of participants agreed or strongly agreed that patients with opioid use disorder should be referred to maintenance program for relapse prevention, a significant percentage remained neutral.

Table 7

*Patients with opioid dependence should be referred to maintenance programs for relapse prevention.*

N	Mean	Median	Std. Deviation	Std. Error of Mean
24	4.38	5.00	.824	.168

**Post-test Survey**

All the questions in the pre-test survey were repeated in the post-test. Three more questions were added to assess the effectiveness of the education session and its impact on providers’ attitude and practice. Additionally, a comment section was added to collect provider feedback. A one sample t-test was conducted to compare data between the pre-test and the post-test. On question one, the mean score on the post-test was 4.92 compared to 4.04 on the pre-test. Two participants (8.3%) agreed, and 22 others (91.7%) strongly agreed that opioid dependence is a problem that needs to be addressed. A one-sample t-test was performed and it revealed a mean difference of 0.877, indicating that there was a superior mean in the post-test when compared to the pre-test. The effect size was 0.282 and the sig. (2-tailed) <0.001, which indicate statistical

significance. In other words, the post-test results indicated that the teaching session had a significant impact on providers' knowledge and attitude regarding opioid use disorder as a problem needing to be addressed.

The pooled mean for questions one through three was 4.03 on the pre-test compared to 4.89 on the post-test with an average mean difference of 0.86. This result indicates that the education session was effective and resulted in a positive impact on providers' knowledge about the need to address opioid dependence issues and their understanding of the negative effects of stigma on patients' access to opioid-dependence treatment.

All participants responded to question four on the post-test, which reassessed their familiarity with the RODS. The average mean score was 4.33 compared to 2.21 on the pre-test. The mean difference on the one-sample t-test was 2.123, which indicated a strong significance in the effectiveness of the teaching session. The pooled mean for questions five through seven was 4.14 on the pre-test compared to 4.87 on the post-test. The mean scores on the post-test were superior to those of the pre-test for all questions. These results indicate that the teaching session was effective and had an impact on the providers' attitudes regarding treatment of opioid use disorder and referral to maintenance programs for relapse prevention. The post-test showed significant improvement in providers' attitude with four participants (16.7%) agreeing while 20 others (83.3%) strongly agreed that patients with opioid dependence should receive referrals to maintenance programs for relapse prevention.

Questions eight through 10 assessed the effectiveness of the teaching session and its impact on providers' attitude. All participants responded to these three questions. The minimum score obtained was three for neutral and the maximum was five for strongly agree. The mean score on all questions was above 4.5. Additionally, the pooled mean for the three questions

combined was 4.81. The sig (2-tailed) on all questions was  $<0.001$  which is less than 0.05 indicating that the teaching session was effective and had significant impact on providers' attitude, knowledge, and practice.

The optional comment section was completed by 21 out of the 24 participants (87.5%) on the post-test. All 21 comments reflected satisfaction from the respondents. One participant suggested that it would be important to bring the topic up to corporate management level to facilitate care improvement for individuals with opioid dependence. A second participant wrote that the teaching session was very informative while another mentioned that the it was eye-opening to them. One participant reported that they would try not to be judgmental when caring for individuals with opioid dependence. On a very positive note, one of the participants stated that the teaching session had totally changed their perception of opioid use. A graph with the comments can be found under appendix H.

### **Discussion**

The findings in the pre- and post-test confirm a difference in provider knowledge and attitude regarding opioid dependence and medication-assisted treatment. The sig (2-tailed) score remained below 0.001 in the post-test, which demonstrates that the findings were significant. Also, the mean scores in all areas of the post-test were superior to those of the pre-test, which also reveals that the findings were significant, and they indicate improvement in knowledge regarding the need to address opioid dependence barriers of stigma preventing access to treatment. Such barriers could eventually be removed with providers' awareness of their own weakness and biases affecting their ability to motivate patients for relapse prevention (Bozinoff et al., 2018). Researchers suggest that the mere acknowledgement of an individual's opioid

dependence and underlying conditions could make a difference in motivating them to consider long-term recovery (Stein et al., 2017).

Providers, often lacking the necessary resources for proper assessment of opioid dependence, should be introduced to clinically approved tools for better patient screening. Accordingly, the introduction of the RODS in the teaching session created an opportunity for the participants to familiarize themselves with an evidence-based screening tool for patients with opioid use issues. The difference in familiarity voiced by the participants on the post-test proved that the teaching session was effective. Also, the post-test revealed a significant difference in provider attitude regarding the need to treat opioid dependence and refer affected patients to programs that will facilitate relapse prevention. This difference in attitude could contribute to the removal of barriers preventing patients from acknowledging their own need to seek opioid-maintenance treatment (Bozinoff et al., 2018).

The participants showed an increasingly positive attitude and disposition in the evaluation questions, since they attested gaining knowledge and revealed their likelihood of talking to patients with opioid use issues about MAT and relapse prevention. The 24 participants also agreed with the suggestion that MAT could reduce readmission by a minimum of 10% over a three-month period. Furthermore, the comments noted in the post-test reflect an overall optimistic perspective regarding MAT for long-term recovery and relapse prevention. The participants voiced satisfaction with the teaching session and demonstrated appreciation for the learning opportunity. Additionally, the suggestion about bringing the topic to corporate management level also demonstrated that the teaching session was well received.

This DNP student felt that the overall outcome of the QI project was satisfactory. The results reveal that raising awareness about opioid addiction and the benefits of MAT could facilitate change in attitude and practice.

### **Conclusion**

Individuals with opioid addiction face the likelihood of adverse outcomes without proper support and means to prevent relapse. Their access to detox is only a temporary solution because it does not decrease the risk of opioid overdose and death. As suggested in the literature, a more effective approach is necessary to prevent opioid-related overdose and fatalities. Such an effective approach entails referring patients to maintenance programs and providing MAT to promote long-term recovery and health stability. Accordingly, this QI project was created to raise awareness among providers about the problem and introduce evidence-based solutions. As a result, data collected from the pre- and post-test prove that the QI project had positive effects on provider knowledge and attitude about MAT for opioid maintenance and relapse prevention. However, further interventions are necessary to facilitate changes in approach and improved care for patients with opioid addiction.

Future plans could involve change in policies and practice regarding the care of individuals with opioid addiction to allow providers to start patients on medication for opioid use disorder while in the hospital. To foster positive changes, a wider campaign about stigma and barriers affecting the care of patients with opioid addiction should be run. This QI project could be implemented across the hospital and throughout inpatient and outpatient services. The dissemination of the QI project's results could capture the attention of a bigger audience and contribute to changes in practice across the healthcare system.

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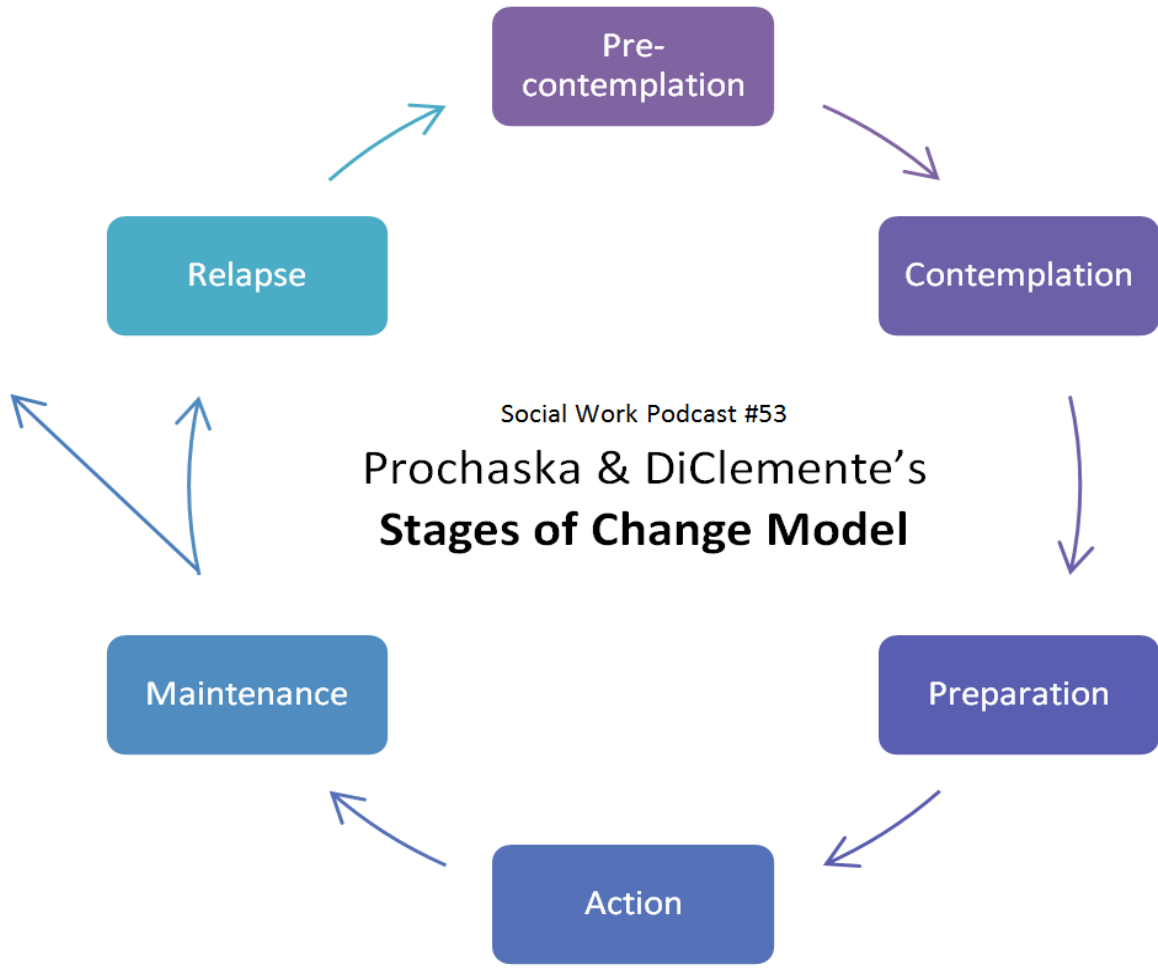
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**Appendix A: Theoretical Model**

Figure 1



(Prochaska & DiClemente, 1983)

**Appendix B: Pre-test Survey**

Table 4

**Participant’s name:**

**Email:**

**Date of completion:**

Question	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
1. Opioid dependence is a problem that needs to be addressed.					
2. Addressing patients’ opioid dependence could save lives.					
3. Stigma may prevent opioid-dependent individuals from accessing treatment for relapse prevention.					
4. You are familiar with the rapid opioid screen tool (RODS).					
5. Patients with opioid dependence should be treated for their comorbid mental health disorders (like					

---

depression, anxiety,  
schizophrenia, bipolar

6. disorder, etc...).

---

7. Patients with opioid use

issues who are treated for  
other mental illness should  
also be treated for opioid use  
disorder.

---

8. Patients with opioid use

disorder should be referred to  
a maintenance program for  
relapse prevention after  
detoxification.

---

**Appendix C: Post-test Survey**

Table 5

**Participant’s name:**

**Email:**

**Date of completion:**

Question	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
1. Opioid dependence is a problem that needs to be addressed.					
2. Addressing patients’ opioid dependence could save lives.					
3. Stigma may prevent opioid-dependent individuals from accessing treatment for relapse prevention.					
4. You are familiar with the rapid opioid screen tool (RODS).					
5. Patients with opioid dependence should be treated for their comorbid mental health disorders (like					

---

depression, anxiety,  
schizophrenia, bipolar  
disorder, etc...).

---

6. Patients with opioid use  
issues who are treated for  
other mental illness should  
also be treated for opioid use  
disorder.
- 

7. Patients with opioid use  
disorder should be referred to  
a maintenance program for  
relapse prevention after  
detoxification.
- 

8. You gained knowledge  
during the teaching session  
about enabling patients in  
opioid detoxification to  
pursue long-term recovery  
and relapse prevention.
9. You are likely to start talking  
to opioid-dependent patients  
about seeking medication-  
assisted therapy and relapse
-

---

prevention.

---

10. Medication-assisted therapy

could reduce opioid related  
readmission by at least 10%  
over a period of 3 months.

---

Please add any comment or feedback about the education session here:

---

---

**Appendix D: The RODS**

Figure 2

1. Have you ever taken any of the following drugs?

a. Heroin	<input type="radio"/> Yes	<input type="radio"/> No
b. Methadone	<input type="radio"/> Yes	<input type="radio"/> No
c. Buprenorphine	<input type="radio"/> Yes	<input type="radio"/> No
d. Morphine	<input type="radio"/> Yes	<input type="radio"/> No
e. MS Contin	<input type="radio"/> Yes	<input type="radio"/> No
f. Oxycontin	<input type="radio"/> Yes	<input type="radio"/> No
g. Oxycodone	<input type="radio"/> Yes	<input type="radio"/> No
e. Other opioid analgesics (e.g., Vicodin, Darvocet, etc.)	<input type="radio"/> Yes	<input type="radio"/> No

*If any drug in question 1 is coded "yes", proceed to questions 2 to 8.*

*If all drugs in question 1 are "no", skip to end and code "no" for opioid dependent.*

2. Did you ever need to use more opioids to get the same high as when you first started using opioids?  Yes  No

3. Did the idea of missing a fix (or dose) ever make you anxious or worried?  Yes  No

4. In the morning, did you ever use opioids to keep from feeling "dope sick" or did you ever feel "dope sick"?  Yes  No

5. Did you worry about your use of opioids?  Yes  No

6. Did you find it difficult to stop or not use opioids?  Yes  No

7. Did you ever need to spend a lot of time/energy on finding opioids or recovering from feeling high?  Yes  No

8. Did you ever miss important things like doctor's appointments, family/friend activities, or other things because of opioids?  Yes  No

**Scoring Instructions:** Add number of "yes" responses for questions 2 to 8. If total is > 3, code "yes" for opioid dependent. If total is < 2, code "no" for opioid dependent.

**Opioid Dependent:**  Yes  No

(Wickersham et al., 2015)

## Appendix E: IRB Letter

Figure 2

**UMassAmherst**

Human Research Protection Office

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

### Memorandum – Not Human Subjects Research Determination

**Date:** November 16, 2020

**To:** Duny Damas, Nursing

**Project Title:** *Enabling Patients in Opioid Detox to Pursue Long-Term Recovery*

**HRPO Determination Number:** 20-239

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.

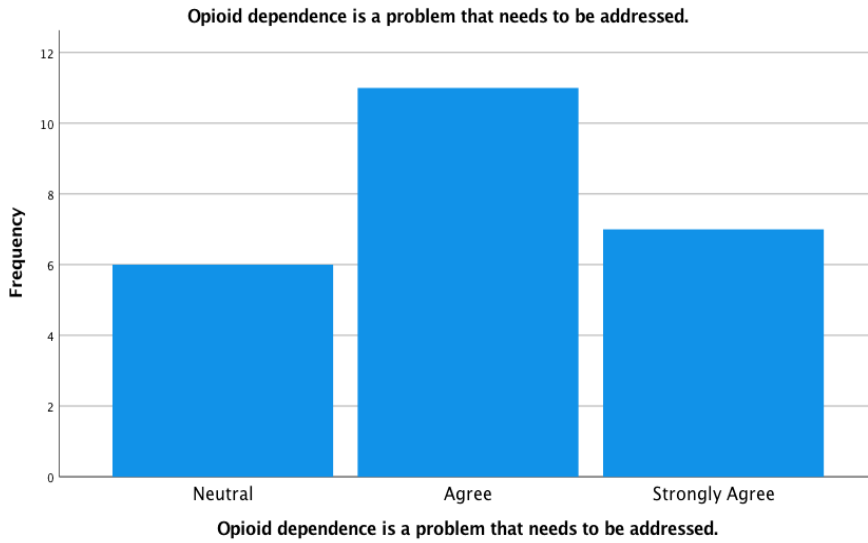


Iris L. Jenkins, Assistant Director  
Human Research Protection Office

**Appendix F: Pre- and Post-test Question 1**

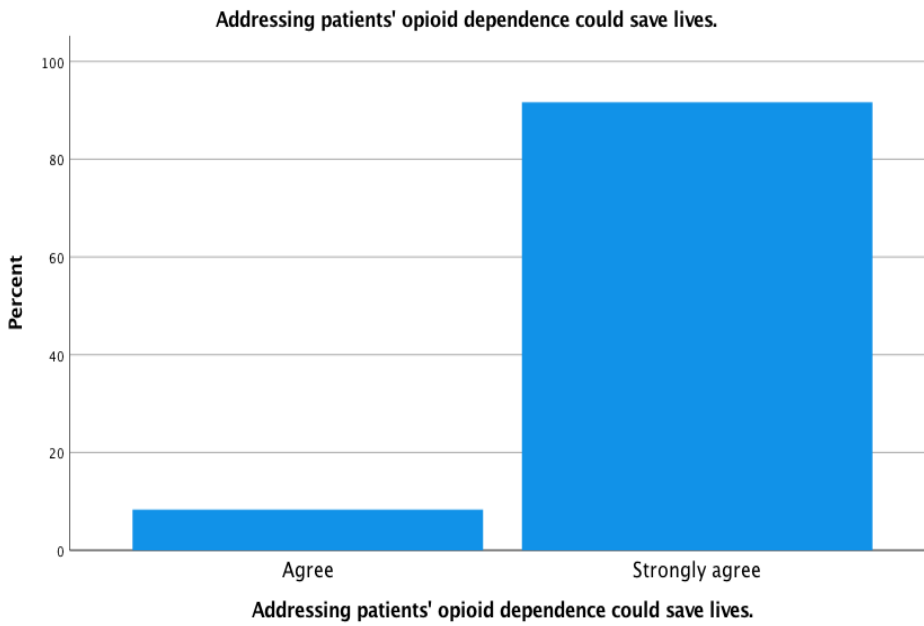
*Pre-test Question 1*

Figure 3



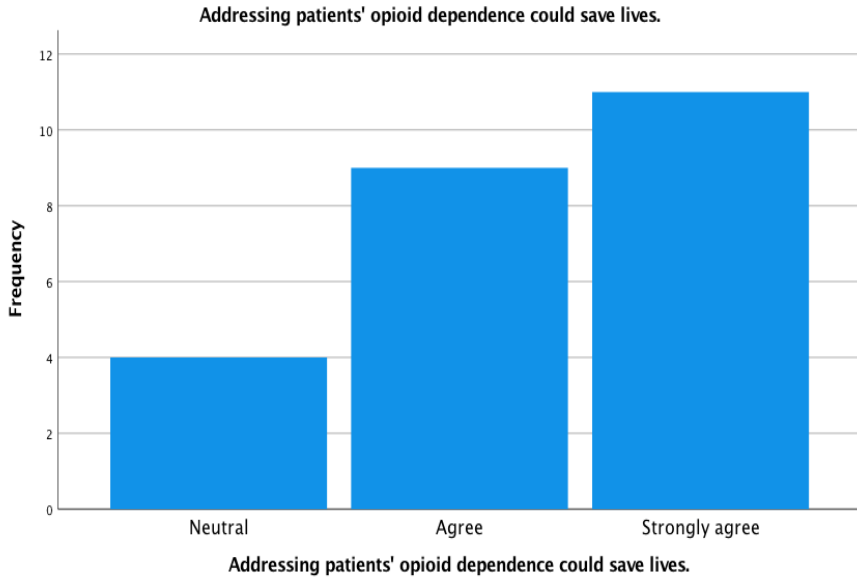
*Post-test Question 1*

Figure 4



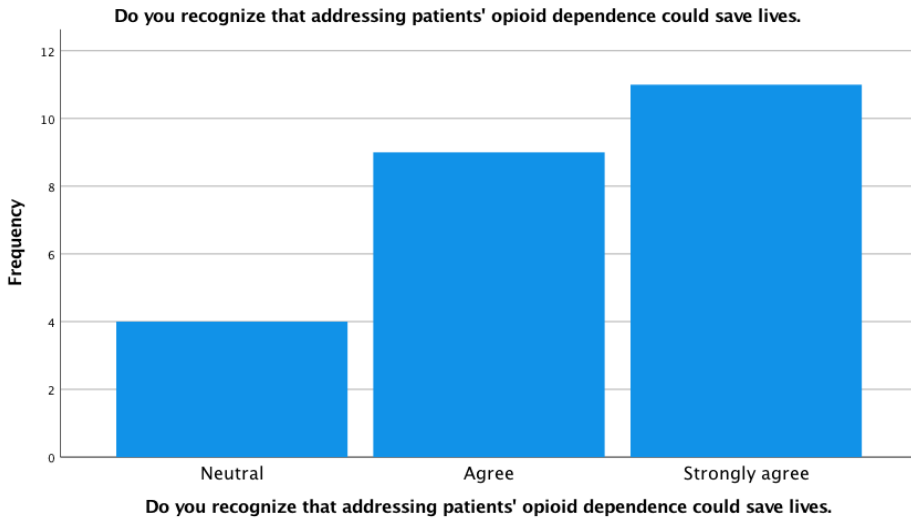
**Appendix G: Pre and Post-test Question 2**

Figure 5



*Post-Test Question 2*

Figure 6



### Appendix H: Providers' Comments

Figure 7

