Community Health Clinic Implementation of a Medication Assisted Treatment program for Opioid Use Disorder

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Paper submitted in partial fulfillment of the
requirements for the degree of

Doctor of Nursing Practice

East Carolina University
College of Nursing

Date Finalized

April 20, 2020

Acknowledgments

A special thank you to the clinic for the opportunity to work with and implement a new program for their patient population. I could not have asked for a better project site with the amount of mentorship and support each of you provided throughout this project. Thank you to all of the faculty at ECU for their encouragement and support throughout the DNP journey.

I would also like to thank my patient and understanding husband, Hector, who has spent countless days, nights, and weekends waiting for me and supporting me throughout this journey. His understanding, love, and encouragement helped me through difficult times when I wanted to quit. I love you and thank you!

Thank you to my parents who have supported me emotionally and financially throughout this journey. They have provided immense love and understanding with each step from my bachelor's degree, through my master's degree and finishing with my doctorate.

Lastly, I would like to thank my aunt. She has read and reviewed every assignment and paper throughout all of my years of schooling. I do not know where I would be without you! Thank you so much for taking the time and being willing to provide me emotional support and critique throughout each level of education.

Dedication

This DNP project is lovingly dedicated to my brother, Brandon. Although unfortunate, the turmoil of his addiction brought a guiding light to me and helped me to realize the passion I have to care for and help those suffering from addiction. He has survived his addiction and continues to live a sober life. He has become a strong, faithful man that I look up to and admire, even though he is my younger brother. I am so proud of how far he has come and the amazing life that he has built. I am forever grateful to have him as my brother.

Abstract

The opioid epidemic is affecting every aspect of communities, from the national level down to each state and city level. North Carolina reports over 50 percent of deaths being related to heroin and synthetic narcotics. There are many different treatment options for opioid addiction, however research evidence supports that medication assisted treatment (MAT) has the most successful rates of long-term sobriety. Unfortunately, MAT programs can be scarce and expensive. A quality improvement project was designed to assist a community clinic in developing an outpatient MAT program. The clinic was awarded a Health Resources and Services Administration (HRSA) grant to support the creation of a MAT program. The project included the development of a cost benefit analysis, a patient's screening questionnaire, an admission protocol, an evaluation tool utilizing the plan-do-study-act (PDSA) model, a substance use history and physical form for use by the providers, a patient information brochure, and marketing materials for the MAT program. Throughout the project, marketing of the program and the clinic to the community became the primary focus. Once marketing strategies regarding the MAT program were implemented, an increase in patient admissions to the outpatient treatment program occurred. This project addressed access to care objectives related to Healthy People 2020, the North Carolina Opioid Action Plan, and the Institute for Healthcare and Improvement.

Key words: opioid addiction, medication assisted treatment, community health clinic, addiction, addiction treatment, opiate addiction, buprenorphine/naloxone, heroin addiction

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Chapter One: Overview of the Problem of Interest

The opioid epidemic has become a nationwide emergency (Centers for Disease Control and Prevention [CDC], 2017). North Carolina, among other states in the nation, has been greatly affected by opioid addiction. North Carolina has created a plan to address the specific state concerns related to this epidemic. The familial, economic, and health-related effects of the opioid crisis are greatly affecting North Carolina and Mecklenburg County. This quality improvement project will identify patients in the community eligible for outpatient medication assisted treatment for opioid use disorder.

Background Information

The opiate crisis has become a global epidemic (CDC, 2016). It is not discriminatory, affecting people from all walks of life. An opioid is defined as an agent that is synthetic or natural, that stimulates the opioid receptors and produces opium-like effects (Epocrates, Inc., 2019). Examples of legal and illegal opioids include codeine, fentanyl, morphine, methadone, oxycodone, and heroin (Epocrates, Inc., 2019). Opioids were originally developed to treat pain, however they have become a drug of abuse due to the effects a person experiences while taking opiate based drugs. The Substance Abuse & Mental Health Services Administration [SAMHSA] (2018b) cites the DSM-5 criteria for opioid use disorder (OUD) as "…a disorder characterized by loss of control of opioid use, risky opioid use, impaired social functioning, tolerance, and withdrawal" (p.2-3). This OUD diagnosis definition replaced the previous terms "opioid abuse" and "opioid dependence" (SAMHSA, 2018b). A person is diagnosed with OUD if they use opioids and experience at least two of the eleven symptoms listed in the diagnostic criteria (see appendix A for diagnostic criteria) in a twelve-month period (SAMHSA, 2018b).

It is estimated that in 2017 there were an estimated 19.7 million people over the age of twelve with a substance use disorder in the United States, with 652,000 of those classified as heroin users (SAMHSA, 2018a). The Centers for Disease Control and Prevention [CDC] (2016) have stated that opioid overdose deaths have quadrupled since 1999 nationwide. SAMHSA (2018a) also noted that, according to their 2017 survey results, 20.7 million adults in the United States needed substance use treatment; however, only 1.5 percent of people received treatment, and 94.3 percent felt that they did not need treatment. For those that felt they needed treatment but did not receive treatment, several reasons were cited for not receiving treatment; 39.7 percent were not ready to stop using, 30.3 percent did not have healthcare coverage or could not afford the cost of treatment, 20.5 percent were concerned treatment might have a negative effect on their job, 17.2 percent were concerned about negative opinions their community or neighbors may have, 10.9 percent did not know where to go for treatment, and 9 percent did not find a program that offered the type of treatment they wanted (SAMHSA, 2018a). This demonstrates a lack of community education and treatment options for persons with OUD.

The National Institute on Drug Abuse (NIDA) reports that every day in the United States, 130 people die of an opioid overdose (NIDA, 2019). In the late 1990s healthcare providers began prescribing opioid pain medications in large numbers due to the reassurance given by pharmaceutical companies that patients would not become addicted to prescription opioid medications (NIDA, 2019). Due to this increase, diversion and misuse of these medications rose, resulting in higher and higher opioid related deaths (NIDA, 2019). It became apparent that these medications were highly addictive as 1.7 million people nationwide suffered with a substance use disorder (NIDA, 2019). It is also noted that in 2006, there were 72.4 opioid prescriptions written per 100 persons; this rate increased annually by 4.1 percent until 2008 (CDC, 2017). The

rate of prescription opioids did not begin to decrease until 2012, reaching 66.5 prescriptions per 100 persons in 2016 (CDC, 2017). While statistically the number decreased, it only decreased 5.9 prescriptions over a ten-year period.

In North Carolina, there were 1,505 opioid related deaths in 2016 with an average of 15.4 deaths per 100,000 (NIDA, 2018). This surpassed the national rate of 13.3 deaths per 100,000 (NIDA, 2018). It is evident that opioid use has become a state of health emergency. These increases in drug use and death is placing our communities at risk due to the inherent risks of intravenous (IV) drug use. In North Carolina in 2015, 8.1 percent of males and 11.3 percent of females, were new cases of HIV attributed to IV drug use (NIDA, 2018). In 2014, 84 percent of the reported new cases of hepatitis C were attributed to IV drug use (NIDA, 2018). This demonstrates the health of communities is being directly impacted by the opioid crisis.

Not only are communities being negatively impacted by OUD, but families and friends of the addicted person are greatly impacted. Families and friends often feel anger, fear, helplessness, and sometimes they feel they are to blame for the addiction (McCann, Lubman, Boardman, & Flood, 2017; Ólafsdóttir, Hrafnsdóttir, and Orjasniemi, 2018). There are groups such as Nar-Anon, a twelve-step program, to help families and friends of a loved who have an addiction to narcotics. However, these programs do not always align with a family's desires of how to help their loved one, and they often do not provide education and options regarding the addiction or treatment. One study found that 70 percent of family members of substance users experienced aggression and violence that was stressful and emotionally exhausting (McCann et al., 2017). The same study also noted that families felt their capacity to prevent and cope in these circumstances was undermined by the lack of access to and support from specialists' services (McCann et al., 2017). Ólafsdóttir, Hrafnsdóttir, and Orjasniemi (2018) found in their

study of 143 participants assessing the effects of the psychosocial state of family members of those with addiction, that 36 percent had average, serious, or very serious depression, anxiety, or stress. In North Carolina, during the state fiscal year (SFY) 2017-2018, it was reported that 41.7 percent of children entering the foster care system had parents with substance use as a factor for out of home placement (North Carolina Department of Health and Human Services [NCDHHS], 2018). This is a 59 percent increase from SFY 2009-2010 (NCDHHS, 2018). At the same time, grandparents are becoming responsible for caring for their grandchildren. In 2017, 44 percent of North Carolinian grandparents were the responsible care giver for their grandchildren (NCDHHS, 2018).

The economic burden of the opioid crisis is also devastating. According to North Carolina Hospital Association [NCHA] and Hospital Industry Data Institute [HIDA] (2018), the estimated total economic cost in 2016 was over $570 billion in the United States and over $21 billion in North Carolina. This equates to 3.1 percent of the United States gross domestic product (GDP) and 4.1 percent of North Carolina's GDP (NCHA & HIDA, 2018). North Carolina Injury and Violence Prevention (2017) estimate Mecklenburg County's total lifetime costs of medical and work loss from medication and drug fatalities in 2016 was over $208 million. Murphy and Polsky (2016) completed a systematic review and suggested that pharmacotherapy for OUD is associated with a total lower health care cost. This is because of the high health care costs associated with substance use disorder, such as the costs of emergency room visits and inpatient admissions (Murphy & Polsky, 2016). Overall, the cost of the opioid epidemic is catastrophic when considering the economic burden, healthcare related costs, and complications associated with IV drug use, and rising rates of HIV and hepatitis C.

Lastly, relapse is a complication of addiction. For the purposes of this quality improvement project relapse will be defined as when an addict becomes sober for a period of time and then reverts back to substance abuse. One study reported relapse rates of opioid dependence, after receiving in-patient treatment, as high as 91 percent (Smyth, Barry, Keenan, & Ducray, 2010). The NIDA (2014) reports relapse rates as high as 40-60 percent. Rong et al. (2016) cite that some studies show rates of relapse as high as 80-95 percent. This warranted asking the questions: why are the relapse rates so high and why are the current therapies not working? There are many researched and documented reasons and causes of relapse. These range from motivation, environment, social constructs and social support systems, to behavior and mental illness, just to name a few. It has been discussed in many research articles that behavioral therapy is one of the best treatments for maintaining sobriety from drug addiction. The NIDA (2014) discusses the importance of viewing addiction in the same light as any other chronic disease. When a client with any type of chronic disease lapses in their treatment, intervention to get them reinstated is necessary (NIDA, 2014). Relapse should not be viewed as a failure, but a trigger to reinstate the intervention to help obtain sobriety again (NIDA, 2014). Appropriate measures should be in place to assist the person when relapse occurs.

Significance of Clinical Problem

The United States government has addressed the cost of the opioid epidemic in the Council of Economic Advisors report; the NCDHHS has addressed funding opportunities for opioid treatment, and North Carolina has developed the North Carolina Opioid Action Plan 2017-2021 to combat the opioid crisis by reducing opioid addiction and overdose death (NCDHHS, 2017). The action plan includes seven key areas for North Carolina: create a coordinated infrastructure, reduce oversupply of prescription opioids, reduce diversion and flow

of illicit drugs, increase community awareness and prevention, make naloxone widely available and link overdose survivors to care, expand treatment and recovery-oriented systems of care, and measure the impact and revise strategies based on results (NCDHHS, 2017). The metrics for each area is updated quarterly. As of January 2019, each area has shown improvement since implementation with the exception of the number of unintentional opioid-related deaths, the number of ED visits that received an opioid overdose diagnosis, and the percent of opioid deaths involving heroin or fentanyl/fentanyl analogues; each of these areas increased (NCDHHS, 2019).

Addressing the opioid epidemic in North Carolina has become vitally important for the health of the state and communities. Currently in North Carolina, heroin or synthetic narcotics are now involved in over 50 percent of deaths in the state (NCDHHS, 2017). Part of the action plan is to expand treatment including increasing state and federal funding for treatment access and increasing provider's ability to prescribe Medication Assisted Treatment (MAT) in office based opioid treatment (NCDHHS, 2017). SAMHSA (n.d.) currently has three MAT centers for opioid treatment listed in Charlotte in Mecklenburg County. According to the United States Census Bureau, in 2017 the population of Mecklenburg County was just over 1 million with over 12 percent being uninsured. NIDA (2016) reports that MAT has been shown to decrease opioid use, overdose deaths, criminal activity, and infectious disease transmission and it increases social functioning and retention in treatment. However, not all states are equipped with the resources to provide adequate MAT, noting that less than half of privately funded treatment programs offer MAT (NIDA, 2016). According to North Carolina Injury and Prevention (2018), one in five North Carolinians died each day from an unintentional medication or drug overdose in 2016. North Carolina's action plan is addressing each of these key areas to combat the opioid epidemic.

MAT is an important aspect of the action plan to decrease opioid addiction and overdose deaths in the state.

Question Guiding Inquiry (PICO)

Can an admission protocol for an outpatient MAT program retain the number of persons referred to the program for treatment of OUD in a community health clinic in Charlotte, North Carolina?

Population. The population for this project was the MAT trained primary care providers, the medical director, office staff, and licensed clinical social workers (LCSWs) at this community clinic.

Intervention. Develop an admission protocol for the MAT trained primary care providers and LCSWs to utilize for patient admission to the outpatient MAT program for OUD. Educate office staff, primary care providers, and LCSWs about how to utilize the admission protocol. Implement the admission protocol.

Comparison. This project compared the total number of patients referred to the MAT program utilizing the admission protocol to the total number of patients that remained in the program after one month.

Outcome(s). The outcome was that 90% patients referred utilizing the admission protocol remained in the program after one month. Data was collected through December 2019.

Summary

The opioid epidemic has had a devastating impact in the United States, North Carolina, and Mecklenburg County. The number of opioid deaths and overdoses has been steadily increasing since the 1990s. The opioid epidemic has greatly impacted North Carolina as evidenced by the death rate surpassing the nation's overdose death rate. This epidemic is

threatening the health of communities, negatively affecting families, and it has created a large economic burden on the United States and North Carolina. Due to each of the issues, multiple governmental agencies are now involved to combat this epidemic, providing funding and grants to expand treatment services and educate communities. It is documented that MAT programs are effective, but many states do not have resources to adequately implement these programs. North Carolina has created an action plan to address the key issues for the state; providing quarterly reports on the progress of the action plan and evaluating the action plan. One of the key issues identified aligns with the national issue of resources for MAT programs. This community clinic received a grant to implement a MAT program to address the problem of the opioid addiction and overdose deaths. Since this clinic is a fee based sliding scale clinic, it serves the uninsured and lower-income populations within Mecklenburg County. Therefore, developing admission criteria for patients to receive treatment in this clinic will be vital in addressing OUD in this county.

Chapter Two: Review of the Literature

The American Society of Addiction Medicine [ASAM] (ASAM, 2019) defines addiction as "…a primary, chronic disease of brain reward, motivation, memory and related circuitry." Opioid addiction, or opioid use disorder, like many other addictions, has cycles of relapse and remissions. The person is unable to abstain from use, which impairs their ability to control behaviors, curb cravings for the drug, and recognize they have problems with interpersonal relationships, and emotional responses (ASAM, 2015).

Recently, there has been a surge of research on this topic due to the nationwide opioid epidemic. Most research focuses on Medication Assisted Treatment (MAT), either alone or in combination with other treatments such as behavioral therapy. Research has also explored barriers to MAT such as physician resistance to MAT for opioid use disorder.

Literature Appraisal Methodology

Sampling strategies. The search for MAT for opioid use disorder used CINAHL and PubMed. The initial search terms included opioid addiction treatment and community opioid addiction treatment. The search was narrowed using the following MeSH terms: buprenorphine/therapeutic use, health services accessibility, methadone/therapeutic use, opiate substitution treatment/history, opioid-related disorders/drug therapy, patient compliance, adult, buprenorphine, naloxone drug combination/therapeutic use, combined modality therapy, follow-up studies, heroin dependence/rehabilitation, outpatients/statistics & numerical data, patient dropouts/statistics & numerical data, naltrexone/administration & dosage, naltrexone/economics, naltrexone/therapeutic use, narcotic antagonists/administration & dosage, narcotic antagonists/economics, narcotic antagonists/therapeutic use, opiate substitution treatment/economics, treatment outcome, and secondary prevention/methods. The initial search

yielded 21,087 articles. Additional filters of publication year 2015-current, full text, English language, and age 19+ were applied, returning 967 articles. After applying the inclusion and exclusion criteria, 513 remained. Ultimately, thirty-seven articles were selected for evaluation on the topic.

Statistical data, current opioid drug use programs, and opioid use disorder treatment were also searched using Google search engine. This search included the following terms: opioid use in the United States, opioid use in North Carolina, opioid use statistics nationwide, unintentional drug overdose, unintentional drug overdose death rates, population of Mecklenburg county, NC opioid action plan, uninsured statistics for Mecklenburg county, SAMHSA, cost of opioid addiction nationwide, cost of opioid addiction in North Carolina, and family effects of opioid use. This search provided seventeen references necessary for statistical data on current programs for opioid use disorder in the United States and in North Carolina.

Evaluation criteria. The revised Standards for Quality Improvement Reporting Excellence (SQUIRE) guidelines were used to assess articles. This method identified the level of evidence, the aims, the methods used, the interventions, the evaluations, study limitations, and application of findings to the proposed project. It was used to critically evaluate the articles and their appropriateness to the proposed DNP project. Some articles focused on inpatient interventions and the medication utilized for the intervention. Several of the articles did not place emphasis on the implementation method for treating substance use disorder and incorporated the treatment of psychiatric disorders. While these are important areas of research, they did not apply to the current project.

Inclusion and exclusion criteria were used to determine the application of the article to the current project. The exclusion criteria included the following: emergency department

implementation, hospital treatment, inpatient treatment, substance use disorder, alcohol use disorder, chronic pain, pregnant women, age <18 years old, and psychiatric disorders. This criterion was excluded because it pertains to special populations or includes topic areas not applicable to this project. The inclusion criteria included the following: opioid use disorder, adults, primary care, community health center, office-based treatment, heroin use, injectable opioids, prescription opioids, addiction, dependency, opioid treatment, medication assisted treatment, cognitive behavior therapy, buprenorphine, naltrexone, models of care for opioid treatment, and physician/provider biases. These inclusion criteria were used because they apply directly to the population of focus, the topic of the project, or the intervention selected for the topic.

Literature Review Findings

The articles utilized range in level of evidence from level one to level six. There were seventeen level one references that defined criteria/clinical guidelines on opioid use disorder, the statistics of opioid use disorder, treatment, and death rates. A systematic review discussed the economic evaluation of current opioid use disorder interventions. There were two level two articles that included: a randomized control trial to assess the effectiveness of a community-based relapse prevention program and there was a randomized comparative effectiveness study of a community-based program comparing the use of naltrexone to buprenorphine-naltrexone for relapse prevention. A level three study assessed a pre and post intervention of a community-based buprenorphine treatment education program for referral to buprenorphine treatment. There were five level four articles that included: (1) a quantitative open cohort study evaluating correlations between relapse to develop strategies for relapse prevention; (2) a six year prospective, longitudinal study addressing the outcomes of maintenance treatment, such as

retention, mortality, and abstinence; (3) a survey of family physicians using quantitative and qualitative measures to explore the barriers and facilitators to buprenorphine adoption; (4) a retrospective cohort study examining characteristics of office based buprenorphine treatment retention; and (5) a nonexperimental retrospective quality improvement project assessing retention and duration of buprenorphine treatment comparing a community primary care clinic and an office based buprenorphine induction and stabilization clinic. Two level five articles reported (1) a qualitative data analysis that assessed three states' implementation of Medicaid's health home model, as an opioid health home model and (2) a systematic review of the Massachusetts Collaborative Care Model to expand treatment services for opioid use disorder at community health centers. One level six article described a semi-structured qualitative review of family experiences with a loved one suffering from substance use disorder. No level seven articles were reviewed.

MAT effects on retention and sobriety. Multiple retrospective studies analyzed the effects of retention and sustained sobriety after MAT. The ASAM recommends four medications for MAT use in OUD: methadone, (a mu-agonist for treatment and withdrawal management), buprenorphine, (a partial mu-agonist for treatment and withdrawal management), naltrexone, (an antagonist for relapse prevention), and naloxone (an antagonist to treat overdose) (ASAM, 2015). The majority of research on MAT is focused around these treatments. For example, Soyka, Strehle, Rehm, Buhringer, and Wittchen (2017) conducted a longitudinal study of patients in maintenance treatment that were prescribed methadone, buprenorphine, or buprenorphine-naloxone combination. The patients were prescribed MAT in office-based settings, by primary care providers, or from substitution centers (Soyka et al., 2017). They found

that MAT helped 70 percent of patients stay in treatment for at least six years (Soyka et al., 2017).

Medication assisted treatment research indicates an increased likelihood to sustain sobriety. The NIDA (2016) reported that MAT decreases opioid use, overdose death, and increases treatment retention. DeFlavio, Rolin, Nordstrom, and Kazal (2015) reported that buprenorphine maintenance treatment reduces opioid use and overdose deaths and is a safe and effective office-based treatment.

MAT implementation methods. Several articles described methods and settings for MAT implementation in OUD. Clemans-Cope et al. (2017) performed a qualitative data analysis to assess the Medicaid health home model to implement an opioid health home (OHH) model. This model incorporated opioid agonist treatment with comprehensive care management, care coordination, health promotion, comprehensive transitional care and follow-up, individual and family support, and referral to community and social services (Clemans-Cope et al., 2017). The researchers found that implementing OHH was successful: providers spent more time and resources assessing patient needs, developing appropriate care plans, and monitoring progress because these activities were reimbursed through the OHH model (Clemans-Cope et al., 2017). This study did not address the retention of patients in the OHH, however the population served in the OHH were 70-80 percent Medicaid beneficiaries (Clemans-Cope et al., 2017). It is evident that this model was able to meet the needs of the underserved populations in this study.

LaBelle, Choongheon, Bergeron, and Samet (2016) reviewed a similar care model implemented in community health centers, the Massachusetts Collaborative Care Model. This model was designed to expand treatment services for opioid use disorder in community health centers (LaBelle et al., 2016). This model incorporated office based opioid treatment (OBOT),

which consisted of four treatment strategies: screening and assessment of appropriateness for OBOT, medication induction (buprenorphine) under a nurse care manager's (NCM) direct supervision, stabilization, and maintenance (LaBelle et al., 2016). Using this model, the authors found that two-thirds of patients were retained in treatment for more than twelve months (LaBelle et al., 2016). They also found that they were able to retain minorities in treatment, indicating that expanding treatment in community health centers improved access to care (LaBelle et al., 2016). Weinstein et al. (2017) found that minorities are less likely to engage in substance use treatment and are less likely to be retained in any substance use treatment. Tierney et al. (2018) conducted a nonexperimental retrospective quality improvement project to assess if there was a difference in retention and duration between a community primary care clinic (CPC) and an office-based buprenorphine induction and stabilization clinic (OBIC). Their findings indicated that there was no statistical difference in retention or duration between the two settings (Tierney et al., 2018).

Setting of MAT implementation. Weinstein et al. (2017) conducted a retrospective study examining characteristics of office-based buprenorphine treatment retention over a twelve-year span. The researchers found that 53.7 percent of patients were retained at one year of continuous treatment and 40.6 percent were retained at two to five years of treatment (Weinstein et al., 2017). These results are comparable to the twenty-four-week randomized comparative effectiveness trial in a community-based program that assessed retention of naltrexone injection participants with buprenorphine-naltrexone oral medication by Lee et al. (2018). In this study, the retention of both groups of participants was 43-47 percent; findings indicated that once successful induction of either medication was completed, the results were similar with regard to retention at twenty-four weeks (Lee et al., 2018).

Maarefvand et al. (2015) had 77.1 percent retention without MAT. They implemented a community-based relapse prevention (CBRP) program in an Iranian community. The double arm randomized control study utilized participants discharged from a short-term residential abstinence-based treatment center (Maarefvand et al., 2015). The control group received routine follow up, such as phone calls, and the intervention group received the routine follow up and the CBRP program which consisted of extensive community services and teamwork (Maarefvand et al., 2015). The intervention was implemented by at least one social worker and one peer group counselor and was implemented based on a written protocol (Maarefvand et al., 2015). The intervention group had 77.1 percent successful retention and the control group 41.7 percent successful retention at 45 days (Maarefvand et al., 2015). This intervention involved community engagement, participation, and behavioral change necessary to maintain retention.

Fox, Sohler, Frost, Lopez, and Cunningham (2017) collaborated with a harm reduction agency to implement a community-based buprenorphine treatment (CBBT) program. This program educated staff at a harm reduction agency regarding buprenorphine treatment, motivational interviewing, and referral to buprenorphine prescribers for patients (Fox et al., 2017). There was a pre and post intervention measurement of the number of patients that received buprenorphine treatment before the intervention and after the intervention (Fox et al., 2017). The results indicated that before the intervention, 4 percent of patients initiated buprenorphine treatment, and after the intervention 0 percent of patients initiated buprenorphine treatment (Fox et al., 2017). The authors cited several limitations, such as: the CBBT intervention was not observed at the harm reduction agency, the referral for buprenorphine treatment was not done the same day, and the clinic the patients were being referred to was not in the same area, so travel to the clinic may have played a large role (Fox et al., 2017).

Barriers to MAT. The research also indicated barriers to MAT. For example, Clemans-Cope et al. (2017) found in the implementation of the OHH that there were not enough primary care providers, psychiatrists, etc. to provide MAT. They also cited that there is an unwillingness of medical providers to accept patients with OUD because these patients are perceived as high risk for “no show" appointments and noncompliance (Clemans-Cope et al., 2017). DeFlavio et al. (2015) found the same results in their survey of providers to analyze barriers to buprenorphine maintenance therapy (BMT). They found that 80 percent of family physicians reported seeing patients with addiction to opioids, but only one third of them stated they would consider prescribing BMT if they had phone access to an addiction expert (Clemans-Cope et al., 2017). Tierney et al. (2018) reported that of physicians trained to prescribe buprenorphine, only 44-66 percent do. Evidently, they recognize a problem, because 73 percent report they feel a personal responsibility to treat opioid addiction, but 94 percent felt this population is difficult to treat and prefer they go elsewhere for treatment (Clemans-Cope et al., 2017). The sample size of physicians surveyed was small at 108, which indicates the results may not be able to be generalized (Clemans-Cope et al., 2017).

Limitations of Literature Review Process

The literature review had few limitations. There are many research studies on addiction, substance use disorder, and opioid use disorder treatment. Several articles discussed interventions for OUD treatment, however many settings were in inpatient addiction centers, hospitals, or emergency departments. Current research incorporates community health centers and office-based treatment, however, much of this literature is low level evidence. Also, each article did not define the community health center and what population each community health center served. There were a few randomized control trials in these settings. Overall, the

limitations of the research did not inhibit the information obtained throughout the literature review process.

Discussion

Conclusion of findings. Studies indicated that MAT was successful at reducing relapse rates and sustaining retention, regardless of which medication was used for MAT. There was also evidence that the setting of MAT does not affect retention. Implementing MAT in community health clinics provides better access to care for minorities and the underserved populations. The collaborative care model of treatment implemented in community health centers may increase the geographical area of treatment distribution, promote engagement and retention in disempowered populations, and improve healthcare reimbursement (LaBelle et al, 2016). Although research indicated successful retention of abstinence without MAT, these programs involve significant community education and engagement which may not be feasible. The proposed project intervention was the development of an admission protocol for outpatient MAT program at a community health clinic. This protocol included the recommendations from ASAM and the DSM-5 criteria for OUD.

Education on buprenorphine treatment, alone, is not effective. The education and implementation of the intervention must be reinforced. Having providers with the ability to treat MAT in the same clinic as the assessment can contribute to enrolling and retaining patients in treatment.

Advantages and disadvantages of findings. There are several advantages to MAT for OUD. Murphy and Polsky (2016) found that pharmacotherapy for OUD is associated with total lower healthcare costs. MAT has also been shown to decrease opioid use and overdose death rates (DeFlavio et al., 2015 & NIDA, 2016). The implementation of MAT in community health

centers has been shown to increase access to care in the minority and underserved populations (Clemans-Cope et al., 2017 & Weinstein et al., 2017). ASAM (2015) also recommends MAT for treatment of OUD and provides guidelines for treatment initiation. The literature supports MAT to retain patients in treatment and prevent relapse (Lee et al., 2018, Soyka et al., 2017, Tierney et al., 2018, & Weinstein et al., 2017).

There are very few disadvantages to MAT described in the literature. Some disadvantages for this project intervention include the education of MAT alone. It is evident that education cannot be the only intervention for implementation of MAT. In addition, it is important to consider sustainability for the intervention. The Massachusetts Collaborative Care Model and the Opioid Health Home model were both models funded by state programs (LaBelle et al., 2016 & Clemans-Cope et al., 2017). Both models implemented MAT interventions for OUD (LaBelle et al., 2016 & Clemans-Cope et al., 2017). The authors described the importance of appropriate physician training and buy in to sustain the interventions (LaBelle et al., 2016 & Clemans-Cope et al., 2017). Fox et al. (2017) also discuss the lack of buy-in by the absence of patients initiating buprenorphine treatment after their intervention.

Utilization of findings in practice change. The admission protocol was developed utilizing the ASAM clinical practice guidelines for MAT and the DSM-5 diagnostic criteria for OUD. The primary care providers, LCSWs, and office staff were educated regarding the utilization of the protocol for patient admission to the outpatient MAT program. The site placed a dedicated psychiatric nurse practitioner, MAT trained FNP, and LCSWs to provide initial management of the patient in the program; the program was overseen by the medical director that is board certified in addiction medicine. Patients were also referred, as needed, to other healthcare providers within the clinic to provide comprehensive, collaborative care. Clemans-

Cope et al. (2017) discussed that the OHH model provided comprehensive care management and care coordination which decreased unnecessary emergency department visits.

Maarefvand et al. (2015) described success of their CBRP program with a written protocol and dedicated members to implement their intervention. The CBRP was not a MAT program, however the implementation method was proven successful, evident of a 77.1 percent successful retention rate at preventing opioid use relapse (Maarefvand et al., 2015). Fox et al. (2017) also discuss that their program might have shown some success if there would have been a dedicated buprenorphine referral coordinator.

The admission protocol for this project began with the first contact of a patient seeking treatment for OUD. LaBelle et al. (2016) wrote that the OBOT model consisted of a dedicated nurse care manager to screen and assess a patient's appropriateness for OBOT. The first step of the protocol for this project was to initiate contact with dedicated admissions personnel to determine appropriateness of admission to the outpatient MAT.

Summary

Healthy People 2020 has many objectives, one of which includes Injury and Violence Prevention. One of the subsets under Injury and Violence Prevention includes unintentional drug overdoses and substance abuse. The goals for this objective include: increasing the number of admissions to substance abuse treatment for injection drug use and increasing the proportion of persons who need alcohol and/or illicit drug treatment and with those who receive specialty treatment for abuse or dependence (Healthy People 2020, 2019). This project created and implemented an admission protocol for an outpatient MAT program in a clinic that primarily provides care to the underserved and uninsured population. By providing an evidenced based admission protocol for this treatment program to the population, treatment services were

expanded which enabled those needing specialty treatment for abuse or dependence to have better access to care. The admission protocol that was developed in this project assisted providers in directing patients to needed care (i.e.: inpatient detoxification, inpatient treatment, outpatient treatment, etc.). The protocol development and implementation addressed the unintentional overdoses and substance abuse component of Healthy People 2020.

Chapter Three: Theory and Concept Model for Evidence-based Practice

Addiction, opioid use disorder, and MAT programs have been studied extensively in an effort to provide resolutions to the current opioid epidemic. This quality improvement project focused on addiction to opiates and the use of an admission protocol for an outpatient MAT program. Concepts specific to this project were identified and defined. Kurt Lewin's Theory of Planned Change served as the theoretical framework to guide the creation and implementation of a new admission protocol for referral to a community clinic outpatient MAT program. The Plan-Do-Study-Act (PDSA) is an evidenced based model that was used to assess, implement, and evaluate the change process.

Concept Analysis

The overarching concepts for this QI project included patient-centered communication, health beliefs, and healthcare policy reform. Each of these components were vital to the success of this QI project. The components played a role in developing and sustaining the intervention for the project.

Patient-centered communication was important for the success of this QI project. It was important to maintain a non-judgmental, caring attitude during communication, especially with patients with addiction. Addiction is a highly stigmatized disease and patients often feel they are "less than" because of this. Therefore, it was vital for the providers and office staff to ensure non-judgmental communication at every encounter with each patient. If a person feels judged in a healthcare setting, they are less likely to be open and sharing of sensitive topics such as addiction. If patients do not share the truth regarding their addiction, this can impact their possible admission or lack of admission to the outpatient MAT program. It was ultimately the staff and provider's responsibility to ensure this communication was effective. Therefore, non-

judgmental, caring, sensitive patient-centered communication was necessary to ensure the success of this project.

Health beliefs was an essential component to this QI project. This project involved patients wanting to change their health practices/beliefs towards addiction and their overall health. The patients must have a desire to want to change and achieve sobriety. Their desire to change is a foundational component to the intervention. The project was based on changing an unhealthy behavior to a healthy behavior. The providers must be able to understand the current health beliefs of the patient to be able to assist them in changing their behaviors to healthy behaviors. The patients must have the desire to change their unhealthy behaviors of addiction and believe that this is the best path to develop healthy behaviors. The providers were a key tool in assisting the patients in understanding and developing healthy practices to achieve sobriety.

Healthcare policy reform was a foundational concept for this project. Without current healthcare policy reform, the project may not have been a viable project. Because of healthcare policy recognizing the opioid epidemic as a crisis, lawmakers had put into place a multitude of programs to effect positive change within communities to combat this epidemic. The project site was able to apply for and was awarded a federal grant to fund the new MAT program. Healthcare policy reform provided the opportunity for the project site to develop and implement the MAT program. The intervention for this project was directly tied to the outpatient MAT program. The admission protocol had the potential to further effect healthcare policy within the community and beyond.

The outcome of this project was to identify whether the created admission protocol for the outpatient MAT program was successful by retaining 90 percent of patients that were referred to the program after one month. The outcome for this project had the potential to

positively affect patient-centered communication within addiction treatment, health beliefs regarding addiction treatment, and healthcare policy reform surrounding addiction treatment. The admission protocol was created, implemented and evaluated for effectiveness. It utilized evidenced based practice guidelines regarding OUD MAT treatment. It encompassed the DSM-5 criteria for OUD and ASAM practice guidelines. The protocol determined whether a patient qualified for referral to the clinic's outpatient MAT program. Once the patient had been referred to the clinic's outpatient program, follow up occurred weekly and then biweekly after referral to determine if the patient remained in the program. If the patient does not remain in the program, the reason for leaving the program was documented. The reasons that were documented were then assessed to determine if the drop out was due to gaps in the admission protocol. The goal was to retain 90 percent of patients that were referred to show a successful admission protocol. This evaluated the protocol's effectiveness in assessing appropriate referrals to the outpatient MAT program.

Theoretical Framework

Naming the Theory. Kurt Lewin's Theory of Planned Change (TPC) was the theoretical framework for this quality improvement project. Lewin's theory has three phases of change: unfreezing, moving, and refreezing (Mitchell, 2013). In addition to the three phases, Lewin describes force field analysis to determine if a group or individual is ready for change (McFarian, O'Brien, & Simmons, 2019). This force field analysis is described as identifying driving forces and restraining forces (Lewin, 1947). The driving forces surrounding change are forces that support or push for the change (Lewin, 1947). Restraining forces surrounding change are forces that will cause resistance or opposition to the change (Lewin, 1947). Knowing these forces prior to change, helps to address the relationship between the intended change and the group to

experience the change (Lewin, 1947). When the restraining forces are present, there must be driving forces to counteract the restraining forces to evoke change (Mitchell, 2013). It is important to identify and understand the driving and restraining forces initially so that change can be successful.

The first phase of Lewin's TPC is the unfreezing phase. During this phase, the need for change is identified (Lewin, 1947). The organization prepares and plans for change. The goal during this phase is to collect data and present the reason for why the change is needed; change agents are a key component of change. This will sometimes cause a needed emotional response to provide motion towards the change (Lewin, 1947). This phase entails identifying the driving and restraining forces for the change and begins to develop resolutions for the restraining forces, strengthening the driving forces (Lewin, 1947 & Shirey, 2013). The change agents play an important role in explaining the change and addressing the driving and restraining forces. For example, McFarian, O'Brien, & Simmons (2019) utilized Lewin's TPC to improve patient experiences in the emergency department (ED). Their change agents included the director, nurse manager, assistant nurse manager, charge nurses, and bedside rounding groups (McFarian et al., 2019). During their unfreezing phase, the change agents identified the driving and restraining forces and prepared staff for the implementation of a new ED bedside rounding to improve patient experiences in the ED.

Once the force field analysis has been completed, the moving phase of Lewin's TPC begins (Lewin, 1947). The moving phase entails the trial and error period of the change (Manchester et al., 2014). It is important to view change as a process during this phase. Those experiencing the change are able to adapt to the change and it is vital that they are able to see the positive effects of the change as a group to begin to accept the change (Lewin, 1947). Change is

more likely to be long term if the majority of the group accepts the change and views it as a positive change (Lewin, 1947). It is much harder to sustain change when there is not a stable group norm surrounding it (Lewin, 1947). During the trial and error phase, the change agents are responsible for helping the group address the restraining forces. Manchester et al. (2014) discuss this phase in their application of Lewin's TPC in a geriatric education center's plan to educate health professionals regarding the use of a falls risk assessment. During this phase, the author's state that the use of the TPC would allow for the falls assessment to be revised as it was implemented, based on feedback and evidenced based practice (Manchester et al., 2014). As this phase moves forward, the restraining forces begin to diminish, allowing the driving forces to continue to motivate the group to continue to act towards change (Lewin, 1947).

Once the group has accepted the change, the freezing phase of the TPC takes over (Lewin, 1947). The motivation to action caused by the driving forces in the second phase now provides stability for the organization because people, by nature, want to "stick to their decisions" (Lewin, 1947). It is crucial during this phase to stabilize the change so that it remains sustainable (Shirey, 2013). Shirey (2013) describes a hypothetical example of the creation of a leadership development program within a community hospital. In this example, the senior leadership of the hospital are the change agents. They developed an initiative in response to staff requests and implemented a leadership program (Shirey, 2013). They engaged human resources to address wages comparative to competitors for leadership roles, enabling the sustainability of the change (Shirey, 2013). The change agents must continue to emphasize the driving forces to counteract remaining restraining forces to cement the change. This provides a new equilibrium for the group and organization to maintain the change.

Application to practice change. Lewin's unfreezing phase began when the clinic assessed the needs of the population and the patients they were serving on a daily basis. They found that there was a gap and a need for treatment for OUD. These were the initial driving forces for the program. The restraining forces for the MAT program included funding to support a new program and the need for an expert in the field of addiction to lead the program. This is a non-profit organization that received HRSA grant funding and acquired the necessary personnel to implement the program. They secured a medical director board certified in addiction medicine. The medical director, chief operating officer, and psychiatric nurse practitioner were the change agents for this site. The medical director met with the providers and LCSWs to develop the initiation of the program. The medical director and chief operating officer also met with the office staff to discuss their role within the new MAT program. The admission protocol was written during the phase. The first draft was given to the providers and LCSWs for feedback and revision as needed before initiation. Possible restraining forces that could have developed included the provider's perception of an increased workload with the new program and the providers not having the education and support to treat patients with OUD using MAT. The change agents addressed these with the driving forces; they provided the necessary training to the providers to be able to use MAT and provided a dedicated psychiatric nurse practitioner to lead the program with the addiction certified medical director. The site also put in place dedicated LCSWs to assist with the treatment of patients in the MAT program.

The moving phase began in July 2019. It began with the initial implementation of the admission protocol for the MAT program. During this trial and error phase, data collection and feedback from providers occurred monthly to assess the effectiveness of the new protocol. Based on this information, the protocol was revised as needed and the revisions implemented. It

was important to include the providers and LCSWs feedback for revisions during this phase to prevent restraining forces and strengthen the driving forces. This occurred over a four to five-month period to assess the most effective version of the admission protocol.

Once the admission protocol had been through multiple cycles of trial and error, the freezing phase began. The final version of the admission protocol was implemented to sustain the change. The change agents were in place to ensure sustainability of the new protocol. In collaboration with the providers, they will ensure the admission protocol continues to reflect evidenced based practice. They will also be able to continue to strengthen the driving forces to counteract any restraining forces that may develop.

Evidence Based Practice Change Theory

Naming the Change Model. The Plan-Do-Study-Act model was first pioneered by Walter A. Shewhart (Butts & Rich, 2015). He found that when attempting to identify and implement change, it was more important to focus on the process than the product. He developed a method that is based on continuous improvement. Later, W. Edwards Deming developed and named the Plan-Do-Study-Act (PDSA), previously known as the Plan-Do-Check-Act. It provides a framework focused on assessing, planning, acting, monitoring and evaluating, reassessing, and acting again (Butts & Rich, 2015). It is used in quality management to plan and improve processes.

There are four cyclical steps included in this continuous quality improvement model (Stikes & Barbier, 2013). The first step is the planning phase. During the planning phase, it is important to study the current situation, gather data, and plan for improvement (Swamidass, 2000). Stikes and Barbier (2013) implemented this in their project to increase the use of the kangaroo care model. During this phase, they identified their problem, defined their outcome,

developed their process for the change, and their method for evaluating and monitoring the change. The second step of this model is the "Do" phase. The plan is implemented on a trial basis (Swamidass, 2000). Stikes & Barbier (2013) implemented their change process and collected data on their change process. Step three is the "Study" phase, in which an assessment occurs to check whether the plan is working and to assess for any problems or opportunities that may have occurred (Swamidass, 2000). Stikes & Barbier (2013) completed their data analysis from assessment surveys, reviewed their results, and compared the desired outcome to the actual outcome. Lastly, the final step is the "Act" phase where the final plan is implemented and usually leads back to the "Plan" phase (Swamidass, 2000). Stikes and Barbier (2013) identified possible modifications for the implementation of their kangaroo care model and developed guidelines on what was learned throughout the process using the PDSA model. The PDSA model is foundational for continuous improvement because it allows for reflection and validation through the process of implementation (Stikes & Barbier, 2013).

The PDSA model was used in a study addressing improving patient experiences in an outpatient substance abuse rehabilitation facility. The authors found that it was difficult to maintain patient participation in therapy due to the patient's dissatisfaction of the environment and that they were not able to feel relaxed to engage in treatment (Kulik & Shah, 2016). The PDSA model allowed the facility to identify the problem: decreased patient satisfaction with their experiences during addiction group therapy which lead to decreased engagement during group therapy (Kulik & Shah, 2016). The authors took the feedback obtained from patient surveys and developed and implemented a process change to include a consistent peer support worker to lead the group therapy meetings (Kulik & Shah, 2016). The goal was to increase patient satisfaction and increase patient engagement in group therapy (Kulik & Shah, 2016).

Kulik and Shah (2016) used the PDSA model to identify, implement, and improve patient satisfaction and engagement in the rehabilitation. They performed four cycles of the PDSA to ultimately determine that patient engagement was improved and that patients preferred the use of peer support workers (Kulik & Shah, 2016). Staff satisfaction was also positively impacted (Kulik & Shah, 2016). Kulik and Shah (2016) used the PDSA cycle to reevaluate, implement additional changes, and identify and modify current practices at the treatment facility to increase patient satisfaction and engagement.

Application to practice change. This quality improvement project utilized PDSA by starting with the planning phase. During the "plan" phase, the admission protocol was created using evidenced based practice guidelines. This protocol was reviewed by the medical director and providers to obtain feedback regarding content and implementation. During this phase, education regarding MAT treatment, the use of the admission protocol, and the outcome of the project was given to the providers in the clinic. Education regarding the grant funding and aims of the grant was also provided.

The second step was the "do" phase. This was the initial implementation of the newly created admission protocol. During this phase, patient referrals to the program, the retention rate, and reasons for drop out was assessed. Drop out was defined as the patient not continuing in the MAT program. This phase continued for one month. After one month of data collection, the next phase of the PDSA began.

The third step, the "study" phase, encompassed reviewing the reasons for drop out and assessing if they were related to gaps in the admission protocol. This review occurred in collaboration with the medical director and providers. If gaps in the admission protocol were identified, the protocol was revised. During this phase, assessment and identification of

unexpected outcomes also occurred. If unexpected negative outcomes occurred, this phase of the cycle allowed for reflection and revision in preparation of the next phase.

The newly revised protocol was then implemented, beginning the "act" phase. The "act" phase also focused on unexpected outcomes, which triggered a separate PDSA cycle when the unexpected outcomes were not minimal and required significant changes. This cycle leads back to the "plan" phase to assess and evaluate the modifications to the admission protocol. A second PDSA cycle occurred with the new modifications beginning the second "act" phase. The second "act" phase occurred for one month with the new changes. Evaluation of the new changes occurred during the second "study" phase. Based on the outcomes from the second "study" phase, this determined the second "act" phase. The PDSA cycle proposed for this project allowed the clinical site to continue to assess the use of the admission protocol. It allowed for feedback from providers to be considered and implemented as appropriate to allow for positive change.

Summary

The PDSA cycle was an important tool in assessing the effectiveness of the admission protocol. It allowed for planning and identification of barriers that were addressed before the implementation and assisted in explaining the results of the intervention. Lewin's Theory of Planned Change was useful in explaining how to implement the new change, planning for the individual's responses to the change, and revising the interventions for future successful cycles of the PDSA model. Overall, the pairing of Lewin's Theory of Planned Change, with the use of the PDSA cycle as the theoretical and conceptual framework, provided evidenced based practice for the implementation of an admission protocol for MAT in other community health clinics.

Chapter Four: Pre-implementation Plan

This community health clinic identified a need in their community; a MAT provision for opioid use disorder. After receiving a federal grant to implement an outpatient MAT program, the clinic needed an admission protocol for the program. This chapter discusses the preparation for the MAT program admission protocol implementation, the members involved in planning the program, the SWOT analysis prior to implementation, the cost analysis of the admission protocol, and the plan for implementation and analysis of the new admission protocol. Each of these areas were a vital component of the pre-implementation phase of this quality improvement project. This chapter ultimately defines how the new admission protocol was used to refer patients to the outpatient MAT program.

Project Purpose

The U.S. opioid epidemic has become a national crisis. As previously stated, North Carolina and Mecklenburg County in particular, have been seriously impacted by the opioid crisis. Access to appropriate and affordable treatment is an issue for those addicted to opiates. Detox facilities and rehabilitation centers seldom have spaces available for new admissions. This project addressed these issues surrounding the opioid epidemic. This project's purpose was to create an admission protocol for a new outpatient MAT program at the project site. PDSA cycles were utilized to assess the protocol's effectiveness in referring patients and retaining patients in the program.

Project Management

Organizational readiness for change. This organization received a federal grant to implement a MAT program in the community health setting. Since receiving the grant, the organization hired an addiction medicine-certified medical director and a psychiatric nurse

practitioner to implement the program for one year. The clinic appointed a current family nurse practitioner (FNP) as the main provider for the MAT program. This FNP was in the process of completing the training to treat and administer medications for MAT and completed the training in July 2019. The psychiatric nurse practitioner mentored the FNP in addiction treatment and the medical director oversaw the initial implementation. The admission protocol (see appendix B for the admission protocol) and initial history (see appendix C for the substance use history) for a substance abuse patient were approved by the medical director and MAT trained FNP. A cost benefit analysis (see appendix D for the analysis) was completed. The project site had an agreement with a local pharmacy to have a patient voucher for prescribed medications. Finally, the site identified one LCSW to complete the initial patient screening to determine referral placement. The program preparation for implementation was complete. Pre-implementation steps that remained included: FNP MAT training completion, final versions of the admission protocol and initial patient history, a secure agreement with the local pharmacy for patient vouchers, and patient cost structure decision. The organization's plan for implementation was scheduled for July of 2019.

Interprofessional collaboration. The project team members included the medical director, the MAT trained FNP, the psychiatric NP, the LCSWs, and the project lead. The medical director was the expert in addiction medicine. He provided guidance and feedback about the admission protocol. He assisted with resources, final approval of the admission protocol, the initial patient history questionnaire, and the cost benefit analysis. The LCSWs completed the initial screening of patients and provided valuable feedback regarding the first step of the admission protocol. The MAT trained FNP and the psychiatric NP were the main providers that decided if a patient was referred appropriately by the admission protocol. They assessed and

treated patients once referred. During treatment, they determined if the admission protocol inappropriately referred a patient to the outpatient MAT program. They also completed the initial patient history and provided valuable feedback about the effectiveness of the history portion. The medical director, MAT trained FNP, and the psychiatric NP were vital to the project's success. The medical director's and the psychiatric NP's experience and knowledge of addiction medicine was necessary to revise the protocol, as needed. The FNP's work in assessing and treating the patients also provided valuable feedback in the admission protocol and history taking revisions as needed. The LCSWs first encounter and assessment was important in deciding the first step of the patient referral to the program. The feedback of all were crucial during each PDSA cycle. The project lead educated the team member's regarding the protocol and project and collected data to complete each PDSA cycle.

Risk management assessment. The planning technique used for this project to identify the risk management assessment was the strengths, weaknesses, opportunities, and threats (SWOT) analysis (see appendix E for the SWOT analysis). There were several project strengths at this stage. First, the MAT treatment experts were identified for the project. These MAT treatment experts were the psychiatric nurse practitioner, the addiction certified medical director, the MAT trained FNP, and the LCSW for MAT assessments. The cost benefit analysis was also completed. This permitted clear definitions about how the grant was used to implement the MAT program and cover some patient treatment costs. Finally, there was an arrangement with a local pharmacy to accept patient vouchers to cover medication costs.

Several project weaknesses were identified at this stage. The FNP, the primary provider for the MAT program, had not yet completed the MAT training. This was a minor weakness; however, if not completed, it would have threatened project implementation. The medical

director had addiction medicine expertise; however, he was only at the project site once a week. This could have been problematic if the MAT FNP had immediate concerns about a patient's treatment. The cost analysis allocated several cost structures for patient co-pays in the MAT program. The site was initially undecided about which cost structure to use for patient co-pays but decided on one that best suited their patient's and the clinic's needs. Negotiations with a local pharmacy were initially in progress about patients' medication costs, which could have delayed project implementation. However, an agreement was reached for the clinic to cover the costs of treatment medications.

Project opportunities have also been identified. The site planned to begin with five patients in the first month. Since this was a new program at this clinic, the site believed that by beginning with five patients, they would be able to grow by five patients each month to thirty patients in six months. A minimum of 30 patients over a six month period would meet one of their grant requirements. The clinic's MAT FNP was not dedicated to treating only MAT patients, so this initial starting patient number and patient growth was also to assist in not "over working" the FNP. The FNP also had the psychiatric nurse practitioner's expertise to help with treatment decisions. Finally, the grant cost analysis was completed to cover the patient medication costs for the first six months. This was a benefit for patients seeking treatment for opioid use disorder.

Several threats could have impacted project sustainability. Because the MAT trained FNP was not dedicated to that program, she must also treat the clinic's medical patients. This could have impacted the number of MAT patients she treated. The psychiatric nurse practitioner was a valuable asset as a mentor however, she was only at the project site for four hours a week: which was suboptimal time to assist the new MAT FNP. There was no plan for sustainability

after the initial six months of patient medication costs. The grant could cover costs for a longer period of time. Yet, the site was focusing on program initiation and its first six months.

Organizational approval process. The organization approval process for this project was seamless. The organization had previously applied for and received a grant to implement a MAT program. The medical director discussed this with the DNP student and asked if the student would be interested in taking part. The DNP student met with the medical director and the chief operations officer (COO) to discuss the grant and to write a project proposal. The grant had many facets; however, this DNP project was focused on one, the admission and referral to the MAT program. Once the project proposal was finalized, it was sent to the COO and the chief executive officer (CEO) for final site approval. The approval letter was then received (see appendix F for approval letter). The DNP student, medical director, and MAT FNP met to discuss the admission protocol and history questionnaire. The DNP student and medical director then met with the CEO to discuss the MAT program implementation and the project. The DNP student wrote the admission protocol and cost benefit analysis which was then sent to the medical director for review. The buy-in from the site was already in place due to the desire to implement a MAT program and funding secured for the program. The medical director, psychiatric nurse practitioner, and MAT FNP were also already in place. Buy-in for the DNP project was easy to obtain from these stakeholders because it helped the site meet an outcome for their grant award.

Information technology. Several technology components were used for this project. Microsoft Office™ was used to write the project paper, to create the patient history questionnaire, and to develop the cost benefit analysis. Adobe Illustrator CC ™ was used to create the admission protocol. The electronic health record (EHR) used at the project was

Epic©. The project site has a contract with a local healthcare agency to use Epic© within their organization.

Cost Analysis of Materials Needed for Project

The cost analysis of the project was completed. The medical director, MAT FNP, certified medical assistants (CMAs), office staff, and LCSW salaries were omitted for the first six months analysis because these salaries were paid whether or not the project occurred: there was not initially dedicated MAT staff. This permitted a cost savings to the clinic. The psychiatric nurse practitioner salary was included because it contributed to MAT program implementation. The salary was divided into monthly stipends.

The site used one specific supply company to obtain urine drug screen (UDS) analyses kits and urine temperature cups. The UDS kits were a ten panel screen testing for opiates, oxycodone/oxycontin, fentanyl, cocaine, THC, amphetamine-methamphetamine, methadone, buprenorphine, benzodiazepines, and alcohol. Urine pregnancy testing were also performed on all female patients. Shipping costs of kits and cups were negotiated to be included in the item price. Urine drug testing occurred at the initial visit and each subsequent encounter with the MAT provider.

The cost of the prescribed medication, buprenorphine-naloxone, was averaged to a daily dosage of twelve milligrams per patient per day. An agreement was in place with a local pharmacy to accept vouchers to cover patient medication costs over a six month period. The total clinic cost over the first six months was an estimated $23,318.77. These costs were covered by the grant award. The DNP project itself had no cost due to the grant covering costs, such as printing of the admission protocol, etc. The cost benefit analysis is provided in appendix D.

Plans for Institutional Review Board Approval

The project site does not have an internal institutional review board (IRB). The process completed for site approval was to obtain approval from the CEO. This was completed as stated above. The site approval letter is included in appendix F.

The IRB approval process for East Carolina University (ECU) was completed. Stage one included a project summary and questions related to the project's intent and potential risk. Discussion occurred between the student, faculty, and the IRB regarding the collection of the medical record number (MRN) on the DNP data collection tool. Ultimately, the student received approval to collect the MRN for demographic and data collection purposes and it was determined that this did not constitute a human research project and would not require further IRB review. The second stage was completed after receiving faculty approval to move to stage two. Stage two consisted of completing the ECU IRB Qualtrics survey for quality improvement projects. Approval was received on June 23, 2019 from the ECU IRB and implementation of the project began in July 2019.

Plan for Project Evaluation

Demographics. The demographics collected for this project included patient's age and gender. The plan was to represent the age in a table graph with the standard deviation, range, and mean and to represent gender in a pie chart to clearly delineate the percentage of males and females. This data was collected to provide information about the project's patient population.

Outcome measurement. The project outcome was to determine if the admission protocol appropriately referred patients to the outpatient MAT program. There were several process measures to determine this outcome. Data collected to determine this included: (1) the initial UDS results, (2) appointment UDS results, (3) DSM 5 criteria results, (4) ASAM Crosswalk

criteria results, (5) if the patient met required LCSW visits, and (6) the reason the requirements were not met. This data determined if the admission protocol was effective. The data was used in each PDSA cycle to learn where changes were needed within the admission protocol. Each of these process measures provided specific information to critically appraise the admission protocol. The data also helped to determine if the admission protocol was responsible for an inaccurate referral.

Evaluation tool. The DNP project's data collection tool was not an established tool with validity and reliability. The tool was created specifically for this project. The tool was created and reviewed by the addiction certified medical director and the MAT FNP. Feedback was provided about the tool and it was revised accordingly. There were three parts to the tool: part A, part B, and part C. Each part gathered information to assess the admission protocol's effectiveness over the first five weeks of patient participation in the MAT program.

Part A of the tool was the initial assessment at the patient's initial visit to determine if the outpatient MAT program was appropriate. This tool was completed by the LCSW, who performed all initial assessments. The LCSW used the DSM 5 criteria (see appendix A for the criteria) to determine the patient's level of opioid addiction. The DSM 5 criteria may be used to diagnose patients with opioid use disorder. The LCSW also used the ASAM Crosswalk for outpatient placement criteria for treatment. There are six dimensions within the Crosswalk that the LCSW addressed with each patient. If the patient scored between seven to eleven, the Crosswalk indicated that, based on the patient's answers, the patient was appropriate for outpatient MAT. An initial drug screen was also done. The result of each of these were documented on the part A tool. This initial screening provided insight into the first part of the admission protocol's effectiveness.

Part B of the tool was completed by the MAT provider and included information about the patient's first five weeks of visits. Each visit included the UDS results, if the patient met the two required LCSW visits, and if they did not meet the visits, the reason. This data was used to determine the patient's continuance in the program: evidence of a successful admission protocol.

Part C of the tool was completed by the DNP student. This data collection tool collated all information from part A and part B and patient demographics. This tool was helpful in identifying issues related to the admission protocol. It provided data to guide any protocol revisions. See appendix G for the DNP Data Collection tool.

Data analysis. Both the MAT program and the admission protocol were new for this clinic, therefore there was no pre-implementation data. Result analysis occurred with part C of the data collection tool once all information had been obtained from parts A and B. The most important component of part C was the reason for not meeting the requirements. This provided valuable data regarding patient non-adherence. This information helped to determine if the reason the patient was non adherent was because they were inappropriately referred to outpatient MAT. For example, if the patient experienced significant withdrawal symptoms that provided evidence that revision to the admission protocol should occur to ascertain more information from the patient regarding opioid use. This specific patient would have needed to be referred to detox before admission to an outpatient MAT program. Another example would be if the patient did not meet the requirements due to desire, the admission protocol would need to be revised to include a more comprehensive psychosocial and environmental assessment of the patient. This data was collected and analyzed to determine needed revisions of the protocol. The data was collected every week by reviewing parts A and B of the DNP data collection tool. The analysis and revisions occurred utilizing the PDSA cycle. The project goal was that the admission

protocol will accurately refer 90 percent of patients. Because this was a new program with a newly written protocol, there were no national, state, or local benchmarks.

Data management. The information collected on the DNP data collection tool parts A, B, and C were kept as hard copies only. There were no digital copies of the information. The MRN number was collected to permit the DNP student access to the medical record for demographic information only. The DNP student accessed the medical record with the site-assigned logon username. Hard copies of the DNP collection tool were kept in a locked file cabinet behind two locked office doors at the project site. Only team members directly involved in the patient's care: the medical director, the MAT FNP, the psychiatric NP, the LCSW, and the DNP student had access to the DNP collection tool information. After May 2020, all parts of the DNP collection tool were shredded.

Summary

Overall, the goal of the new admission protocol was to appropriately refer patients to the outpatient MAT program. The organization identified a need in the community and secured grant funding to meet the community need of an outpatient MAT program. This quality improvement project assisted the clinic in meeting one of the requirements of the grant received, the need for an admission protocol. The participants that were needed for program implementation were identified and put in place. The admission protocol was written and approved by the site champions and experts in addiction medicine. A SWOT analysis was completed prior to implementation to assess the strengths and weaknesses of the planned program. The project received approval as a quality improvement project through ECU IRB. It was been determined that the grant would cover the initial costs for the first six months of the

program, which helped to off-set patient costs. The plan was for the DNP data collection tool to be used to obtain information to increase the protocol effectiveness.

Chapter Five: Implementation Process

This purpose of this project was to create and implement an admission protocol for a new MAT program and evaluate the effectiveness of the protocol at a community health clinic. The admission protocol for this clinic has been created and implemented. This chapter describes the setting for this project, the participants involved in the project, the implementation method, and the PDSA cycles utilized throughout the implementation phase.

Setting

The setting for this project is a community health clinic in Charlotte, North Carolina. It is a Federally Qualified Health Center (FQHC) that receives funding from the U.S. Department of Health and Human Services. The clinic provides comprehensive care including, primary care, dental care, behavioral health care, pediatric care, and chronic disease care. The population served primarily includes the low-income underserved and uninsured, however the clinic also accepts those with insurance, Medicare, and Medicaid. For those that are uninsured, the clinic operates on a sliding fee scale based on the patient's ability to pay.

This clinic applied for and was awarded grant funding from the Health Resources and Services Administration (HRSA) to create and implement this MAT program. The MAT program was a component of the grant. There were other components that this grant provided funding for the clinic, however for the purposes of this project, the MAT program was the focus.

Participants

The participants for this project included the DNP student, medical director, the psychiatric nurse practitioner specializing in addiction medicine, the MAT trained FNP, two LCSWs, the certified medical assistants (CMA), and the office staff. The DNP student was the project lead for this quality improvement project. The student wrote the admission protocol (see

appendix B), the patient history questionnaire about substance use (see appendix C), initial screening questions for patient's interested in the program (see appendix I), and a patient handout explaining the program (see appendix J). The student also assisted in leading the monthly meetings to discuss project progress, success, and needed revisions of the protocol following the PDSA model. The medical director was board certified in addiction medicine. He provided guidance and mentorship for this project. He provided feedback and approval of the admission protocol and the DNP data collection tool. The psychiatric nurse practitioner provided mentorship to the MAT FNP for treatment of addiction patients. She also participated in utilizing the protocol to treat patients. The MAT trained FNP provided feedback regarding the admission protocol and substance use history form. She participated in utilizing the admission protocol and history form and formulated the written substance use history form into an electronic template for use in the clinic's EHR. The two LCSWs participated in the utilization of the admission protocol. They assessed the patients initially to determine appropriate treatment and referral. The CMAs participated in obtaining the UDS for each patient and documenting the results appropriately. The office staff were educated regarding the MAT program and were able to answer questions by patients who were interested in the program. They were the initial contact for patients and assisted them in making appointments for assessment and admission to the outpatient program. Each participant provided feedback regarding the admission protocol at each PDSA cycle. Revisions to the protocol were made based on feedback from each participant.

Recruitment

The project participants included the MAT trained primary care providers, the medical director, office staff, and LCSW. Therefore this was a convenience sample because they were

employees within the clinic. The project participants expressed interest and asked many questions regarding their roles within the program and in explaining the program to new patients. They had many questions regarding the implementation of the program and were ready to implement immediately. The process and timeline of preparation and implementation was explained to each participant.

The project participants were very engaged at each step of the process and were very supportive of the DNP student and the project. Their engagement and support of the program was evident through their open communication with seeking clarification about the program and protocol and in their willingness to provide feedback at each step of the process. The DNP student educated the participants about the admission protocol and how to utilize the admission protocol for each of their roles. The participants and DNP student worked together throughout the process to revise the admission protocol. The staff expressed that being given the opportunity to participate in a change instead of being forced to accept a change increased their satisfaction with their work environment and with their co-workers. Once the program was ready to begin implementation, the participants worked together to bring ideas regarding marketing of the program to the public. There were no barriers identified with recruitment of the participants.

Implementation Process

Marketing to the public began in June 2019 to advertise the program and was ongoing to recruit patients to the program. Marketing was done by a pre-med student fellow completing an internship at the clinic. She received input about marketing from all clinic staff and the DNP project student lead. Flyers were made and sent to local physician offices and businesses to advertise the program. The medical director was also interviewed by the local newspaper

regarding the program. He was able to provide information about the program, the location, and how patients could call to inquire about the program.

PDSA Cycle 1. Implementation of the project began in July 2019. The plan for the first month was to recruit and retain five patients within the program; this began the first PDSA cycle (see appendix H for PDSA cycle 1). The "Do" section of the first PDSA cycle was to utilize the admission protocol and substance use history form. The "Study" portion of the PDSA was to review the data collected on the DNP Data Collection Tool and obtain feedback regarding the admission protocol and make revisions as necessary. For the first cycle, the clinic did not have any MAT patients. After a meeting, which included the project participants: the DNP project lead, the MAT FNP, the medical director, the LCSW, and the impact fellow, the decision was made to continue with the project as planned and wait through the second month and evaluate the admission protocol, this was the "Act" phase of the first PDSA.

PDSA Cycle 2. The second month of implementation occurred during August 2019. The project participants met to evaluate the second month of implementation. Again, there were no patients enrolled in the MAT program. It was decided that marketing of the program needed to be revisited if no patients were recruited during the third month of implementation (Plan). At this point, the clinic decided to wait for recruitment of patients since the program was new (Do).

The impact fellow and the DNP project lead met to research marketing methods for the MAT program (Study). The DNP project lead researched other local MAT programs and assessed their websites, social media, and infographics related to their MAT programs. The impact fellow and the DNP project lead developed a proposal to present at the next MAT meeting regarding marketing and the use of social media to promote the program. The proposal

included a new web site for the clinic, highlighting the MAT program and handheld fliers to be distributed (Act).

SBAR 1. At this point in the project, implementation was in the third month, September 2019.

Situation. There were no patients enrolled in the MAT program.

Background. After discussion with the lead faculty and project faculty, it was decided that the project would take a new direction from a quality improvement project to a process for implementation plan project. Due to this change the operational tool changed from a PDSA cycle to an SBAR (Situation, Background, Assessment, Recommendations) communication format.

Assessment. Due to the lack of patients, the project participants decided that the cost structure of the MAT patient visits would change to no cost for the patient because of the lack of patient recruitment. Also, a local addiction treatment facility implemented a new MAT program that was free of charge for anyone. The clinic indicated that in order to compete and recruit patients, the MAT program at the clinic also needed to be free of charge.

Recommendation. The project lead and impact fellow presented the new marketing proposal to the project participants. It was agreed that the website and fliers needed to be redeveloped. The DNP project lead recruited a graphic designer to volunteer services for the design of the fliers. The DNP project lead created the content for the new fliers and the graphic designer designed the fliers to be half page, easily distributable fliers. The information on the fliers included: what MAT is, who MAT is for, the cost of the MAT program, how to contact the clinic to make an appointment, the Facebook® and Twitter® clinic pages, the location of the

clinic, and the local bus routes for the clinic (see appendix K for the flier). The fliers were approved by the project participants and the clinic printed the fliers.

During this meeting, the project participants also met with a local pharmacy to discuss a collaborative agreement for the MAT medication, buprenorphine-naloxone. The pharmacy agreed to supply to medication to the clinic MAT patients at a set cost. The agreement also included that the patient must be the one dropping off and picking up the medication. With the set cost, the clinic would pay for the medication and the patient would not have to pay for the medication if it was filled at this pharmacy.

SBAR 2. October 2019 was the first month of the new project process implementation plan.

Situation. A new medical director for the clinic was hired during this month. When the medical director reviewed the program and grant guidelines, there was some concern regarding the clinic being able to allow the MAT patients to have free visits. The concern was if this aligned with the guidelines of the grant and the guidelines of an FQHC.

Background. The DNP project lead and the impact fellow planned an outreach day to distribute the MAT fliers and discuss the program.

Assessment. On the outreach day the DNP project lead and impact fellow visited local pharmacies and a doctor's office and discussed the MAT program with the pharmacists and gave fliers for the pharmacy and doctor's office. They also met with a local workforce group that assists people seeking employment. Lastly, they met with a local housing group that assists the underserved, low-income population in obtaining housing.

Recommendation. The plan was for the medical director to review the grant and FQHC information and present her findings at the following MAT meeting. The DNP project lead and impact fellow would also present their summary of the outreach day.

SBAR 3. During the fourth month, November 2019, the project participants met.

Situation. At this point, the clinic had four MAT patients enrolled.

Background. There was previous concern surrounding the grant guidelines and FQHC guidelines regarding allowing free MAT patient visits.

Assessment. The medical director discussed the guidelines of the grant and the FQHC and determined that the MAT visits would be allowed to be free of charge for patients. Grant money allocations were reviewed by the medical director to ensure proper distribution of the funds. She also reviewed the grant money allocations, line by line, to assess that the money was being distributed correctly for the program.

Recommendations. Based on the current status of the program, there were several recommendations for the process implementation plan. The first recommendation was that a triage nurse needed to be put in place to triage MAT patient calls during business hours. This role would help identify if patients needed an urgent visit at the clinic, if they needed emergent treatment at an emergency department, or a non-urgent visit at the clinic. The second recommendation was to allow patients to make MAT appointments without first being screened by phone. The clinic determined that this would streamline the admission process for the MAT program because the patient could make an appointment with the LCSW for initial screening. The pharmacy agreement was finalized and in place for the clinic. However, due to the EHR restrictions, the clinic was unable to e-prescribe. The providers discussed that this was a barrier

for them because all prescriptions had to be written or printed. The medical director stated that she would discuss this issue with the EHR support team to develop a solution.

Plan Variation

The evaluation of the project process implementation plan occurred in the Spring 2020 to determine the success of the implementation plan in recruiting patients for the MAT program. Initially this project was a quality improvement project, however after three months of implementation it had to be redeveloped to a project process implementation plan. This variation was due to the lack of patients enrolled in the MAT program. The evaluation of the admission protocol was dependent upon patients being enrolled in the program. Since there were no patients enrolled in the program, the project lead was unable to collect data to evaluate the admission protocol. Therefore, the project evaluation was performed based on the admission of patients to the program after the revisions were made to the implementation plan.

The PDSA cycle was originally chosen for the operation tool, however due to the change of the project, the SBAR method of communication was selected for the operational tool. The Institute for Healthcare Improvement (2019) discuss the SBAR communication method as a framework that can be used among healthcare team members to communicate effectively. This method was utilized for the remainder of the project.

Another variation that occurred was in the cost structure to patients. Originally, the clinic decided that each MAT visit would pay a $25.00 copay for each visit. After the lack of patients and a new, local MAT program starting that was free to patients, the clinic decided the cost for MAT patients would be free. This also included free MAT medications. A collaborative pharmacy agreement was put into place to allow the clinic to be billed for the MAT medications so that they would be free of charge to the patients.

Summary

The initial implementation plan was unsuccessful. The participants were clearly identified, and each played a vital role in this project. Recruitment and marketing proved to be an unforeseen barrier. The project participants provided valuable feedback regarding the project process plan. They maintained open communication throughout the process and sought the project lead's advice and suggestions for implementation. Overall, two PDSA cycles and three SBARs were completed during the implementation phase.

Chapter Six: Evaluation of the Practice Change Initiative

The DNP project was redefined from a quality improvement project to a process development project. Therefore, the evaluation of project outcomes changed to project evaluation of the new marketing strategies. The following chapter discusses the DNP project participant demographics and the project program evaluation.

Participant Demographics

The DNP project participants included the MAT team members and the project lead (the DNP student). When the project was redefined to focus on a process plan for development of a MAT program, the project participants remained the same. The MAT team members included the following: the MAT trained FNP, the LCSW specializing in addiction medicine, the impact fellow, the project lead, and the medical director. The medical director role remained the same, however the person filling that role changed in November 2019. The clinic hired a new medical director, in place of the previous medical director that was board certified in addiction medicine. The new medical director specialized in community health and had experience working in previous MAT programs. Each of the project participants were involved in the monthly meetings utilizing the SBAR communication method. Each participant provided valuable input regarding marketing strategies for the program, such as marketing to local pharmacies, marketing to inpatient/outpatient drug rehabilitation programs, and incorporating social media for marketing.

Program Evaluation

Before the project was redefined, there were two project outcomes: (1) assess whether the new admission protocol appropriately referred patients to the MAT program and (2) assess if the protocol retained 90% of patients referred. During the first three months of program

implementation, there were no patient enrollment. The project was then evaluated and redefined during month four due to the lack of patient enrollment in the program. Once the project was redefined with a focus on process development, the intended outcome was revised to evaluate the new marketing strategies and its impact on patient enrollment. After the creation and implementation of the new marketing strategies, the program had six patients to enroll as of January 2020.

One of the new marketing strategies included incorporating the use of social media platforms, specifically Facebook® and Twitter® to advertise the program. The project lead was able to acquire volunteer assistance from a graphic designer to assist in revising easily distributable fliers to the community. Lastly, the project lead and impact fellow conducted two outreach days to educate the community about the program and bring awareness of the program existence to the community. Examples of places that were included in the outreach days were: local pharmacies, the local crisis ministry, section eight housing developments, workforce assistance programs, and inpatient/outpatient substance use treatment facilities.

Project Analysis

Barriers and facilitators for planning, collaboration, implementation, and evaluation. Once the decision to redesign the project was made, the development plan of the project redesign had to be discussed. There were several facilitators for the new project. The CEO of the community clinic, the medical director, the MAT trained FNP, the LCSW, the impact fellow, and the project lead were on board. Several meetings were held to engage each team member in bringing together ideas of the new marketing strategies. Each team member participated in sharing ideas for new marketing strategies. Team members were a driving force behind the collaboration, the facilitation, and the development of the revised project. The impact

fellow and the project lead were able to develop and implement the new marketing strategies from these team meetings.

A few barriers were identified during the outreach days. Many of the businesses visited were very open and willing to advertise the program. However, there were a few substance abuse facilities visited that were adamantly opposed to MAT treatment of any kind for opioid use disorder. One facility provided feedback that this type of treatment only leads to further substance abuse. The project lead provided evidenced based information to the facility and discussed the evidenced based research supporting the use of MAT and indications as one of best treatments options for opioid use disorder to maintain long term sobriety. Even with the supporting evidence, the facility maintained their stance on MAT and refused to share MAT as another option of treatment with their patient population.

The largest barrier in evaluating the new marketing strategies was that there was no plan in place to determine how each of the enrolled patients learned about the MAT program at the community health clinic. Therefore, while patient enrollment increased after implementation of the new strategies, there were no method of collecting information on how each of the patients enrolled learned about the program to further evaluate the effectiveness of each marketing strategy individually. Because of this limitation, the project was unable to evaluate the impact of each of the marketing strategies on patient enrollment.

Internal benefits. The primary benefit of the project redesign was increased patient enrollment. This benefited the clinic in several ways. The clinic was able to present data to the federal grant funding committee on the utilization of grant funds for the MAT program. This provided an opportunity to increase uninsured patient served in the clinic. Grant funds spent on the MAT training for the FNP was justified by providing the FNP with the new skills needed to

care for the MAT patients. The LCSW was also able to utilize her skills in addiction counseling with the MAT patients. With the redesign of the project focus on marketing strategies, the clinic realized that their presence and the services provided may not be as well known to the community as they originally perceived. Therefore, clinic representatives decided to revamp their entire marketing of the clinic by redesigning their website and increasing their presence on social media.

External benefits. The project's external benefits included affordable treatment for MAT and affordable medical treatment to the community. The project was able to promote and advertise the program to the community and increase patient enrollment. The clinic was able to provide affordable treatment for opioid use disorder. As stated previously, treatment for opioid use disorder can be costly to a person afflicted with this disease. During the outreach days, there were several businesses that had never heard of the clinic and were very positive in their desire to advertise the program. One of the businesses expressed interest to partner with the clinic in referring patients to the clinic for MAT and affordable medical treatment and for the clinic to refer patients to them for workforce assistance, housing assistance, and group therapy. This project benefitted the community by providing opportunities for communication and collaboration between local community organizations in providing services to the people they serve.

Summary

Overall, the project was a success. While the project had to be redesigned, the process of developing and implementing a new program was an eye-opening experience. The project provided valuable information regarding the steps to follow when implementing a new program. Based on the increased patient enrollment after implementing the new marketing strategies, the

evaluation of the project showed success. However, since there was no tracking tool in place to assess how patients heard about the program, the project lead was unable to determine which marketing strategy was the most successful. There were barriers, facilitators, and benefits that were identified throughout the implementation of the project that ultimately provided valuable insight for the community clinic.

Chapter Seven: Implications for Nursing Practice

The Doctorate of Nursing Practice (DNP) degree program is the highest practice degree for advanced nursing practice (AACN, 2006). It differs from a research doctorate in that it is more focused on the practice of nursing, integrating practice experiences and practice immersion, rather than research, theory, and statistics (AACN, 2006). There are eight Essentials developed by the American Association of Colleges of Nursing (AACN), who accredit DNP programs that are required to be met by the completion of the DNP program (AACN, 2006). This chapter defines each of these Essentials, discusses how this project development plan met each Essential, and future recommendations and implications for practice from this project.

Practice Implications

Essential I: Scientific underpinnings for practice. The first Essential for the DNP advance practice nurse incorporates scientific underpinnings of practice and the foundation of nursing at the doctorate level (American Association of Colleges of Nursing [AACN], 2006). It is important for the DNP prepared nurse to understand and have a strong scientific foundation to ground their practice. This is a crucial concept for the DNP student to gain throughout the DNP program. In order to meet this Essential, there are three relevant concepts for the DNP student to successfully meet, which include: (1) "to integrate nursing science with knowledge from ethics, the biophysical, psychosocial, analytical, and organizational sciences as the basis for the highest level of nursing practice" (p. 9); (2) utilizing evidenced based theories and concepts and apply them to the nature and significance of health and healthcare delivery, discuss actions and strategies to enhance and alleviate health and healthcare delivery, and evaluate outcomes; and lastly (3) to utilize nursing theories and theories from other disciplines to develop and evaluate new approaches to practice (AACN, 2006).

As previously discussed, opioid use in the United States and North Carolina is at astonishingly high rates, with a reported 81,000 first-time heroin users in 2016 (More Powerful NC, 2019). In North Carolina alone, everyday five people die from an opioid overdose (More Powerful NC, 2019). Research has shown that medication assisted treatment (MAT) has the highest rates of success for long term sobriety when treating opioid use disorder (NIDA, 2016). The literature also discusses how physicians recognize that there is a problem with opioid addiction, however they are less likely to prescribe MAT without the resource of an addiction specialist and many of these physicians would prefer the patient go somewhere else for treatment (Clemans-Cope et al., 2017). Incorporating the information from the literature, the statistics surrounding opioid use, and the lack of enough affordable resources in the community, this project developed a program plan for implementation of an outpatient MAT program in a community health clinic.

One theory and one model were utilized for project plan implementation. The theory was Lewin's Theory of Planned Change, which can be used for any quality improvement project. This theory was applied to the planning and implementation of the project development. Kurt Lewin was a social psychologist that developed field theory to study human behavior (Lewin, 2018). His theory of planned change is not a specific nursing theory; however, it has been used in multiple disciplines and was the theoretical framework for this project. This theory was utilized and applied to this project to describe how the method of developing a plan for implementing a new outpatient MAT program occurred in a community clinic setting.

The model implemented was Deming's Plan-Do-Study-Act (PDSA) which allowed the project to be evaluated at each step of the process (Butts & Rich, 2015). There were two cycles of the PDSA in this project prior to moving towards the SBAR method. Each cycle allowed for

identification of barriers and discussion of new approaches to combat these barriers. With every cycle, the new approaches were evaluated for improvement. As is evident in the PDSA cycles, the lack of marketing of the program to the community prior to implementation was an unforeseen barrier, which proved to be a vital component to the success of the program. In this project, marketing was done after implementation of the MAT program, which resulted in the clinic having no patients for the first three months of the program. Due to this, the admission protocol was not able to be evaluated for the first three months. The project then became a program development project and the SBAR communication method was utilized for the remainder of the implementation phase. This is an important implication for future practice when developing and implementing new programs. The program plan must be fully in place prior to implementation to decrease barriers to the success of the program.

This DNP project was able to meet Essential one with the use of up to date evidenced based literature and practice findings. Lewin's theory of planned change and Deming's PDSA guided this project to successfully integrate nursing and non-nursing theories. The SBAR communication method guided communication among the MAT project participants. This allowed for the development and evaluation of new approaches to the treatment of opioid use disorder and healthcare delivery within the community clinic setting.

Essential II: Organization and systems leadership for quality improvement and systems thinking. The second DNP Essential emphasizes the importance of the DNP prepared nurse to be able to improve health outcomes and provide patient safety utilizing organizational and systems leadership (AACN, 2006). The DNP prepared nurse must have the underpinnings of political, business, and financial skills. It is important for each of these skills to be integrated

to develop scientific, evidenced based care delivery while ensuring ethical quality health care and patient safety.

The focus of this project was the program development for an outpatient MAT program at a community health clinic. When assessing the data of the 2017-2018 Mecklenburg County Community Health Assessment (CHA), 88% of residents in Mecklenburg County had medical insurance. The benchmark is 100%, set by Healthy People 2020 (Mecklenburg County Public Health, n.d.). While this percentage is high for healthcare coverage it does not meet the benchmark, and 160,000 residents or 20.3%, still report not being able to see a doctor due to cost (Mecklenburg County Public Health, n.d.). This is evident of a lack of access to care. Substance abuse treatment is also included in access to care. North Carolina injury and violence prevention (2017) report that there are 21 substance abuse treatment facilities and three opioid treatment programs in Mecklenburg County. While this number seems somewhat adequate for the population, substance abuse and opioid treatment can be costly to an individual who does not have medical insurance coverage. These facilities have reported that they are between 80-90% capacity (North Carolina Injury and Violence Prevention, 2017). This project assists in meeting the lack of access to care for substance abuse.

In addition to assisting with lack of access to care, the project also assessed the budgetary needs of the clinic related to implementation of a MAT program. After a cost analysis (see appendix D) was completed, assessing several patient pay structures and grant money awarded for the program, the project recommended the clinic provide the MAT at no cost to those suffering with opioid use disorder. Providing free treatment allowed the clinic to meet the needs of the community and positively affect the county and state benchmarks related to health, access to care, and opioid use.

The project suggested implementing a drug abuse screening assessment for community clinic patients as a vital component of the project development. The Drug Abuse Screening Test (DAST-10) was the recommended tool for this project. It is a short ten question, evidenced based, validated tool to assess for drug abuse specifically (NIDA, n.d.). This project recommends the implementation of drug abuse screening at all primary care offices, not just within the community health clinic setting, to combat the nationwide opioid epidemic. With each encounter with a medical provider, the diagnosis of substance use disorder could be identified more quickly and could prevent the prevalence of substance use disorder if screening were completed. Once a person is diagnosed with substance use disorder, access to care is vital in getting treatment for these individuals.

This project development met Essential two by determining the current needs of the community to develop an evidenced based approach to deliver quality and affordable healthcare treatment for opioid use disorder. The project outlined an implementation program for a new MAT program in an outpatient clinic setting. The project lead was able to analyze the financial and business needs of the clinic and patient population to recommend an affordable treatment program while integrating the awarded federal grant guidelines into the developed program plan. As previously stated, treatment facilities are at capacity. By increasing treatment options, this would increase access to care for this disorder.

Essential III: Clinical scholarship and analytical methods for EBP. The DNP Essential three requires the DNP nurse to be prepared to synthesize evidenced based literature and apply it to develop new methods and practices to guide practice, provide quality healthcare, and improve patient outcomes (AACN, 2006). The DNP nurse is able to evaluate current practices and collaborate with other healthcare professionals to improve practices while

incorporating information technology and research (AACN, 2006). This is an integral component of DNP practice that distinguishes DNP prepared nurse practitioners from other professions.

This project encompassed a thorough literature review regarding opioid use disorder, treatment, and local, state, and national statistics related to opioid use. The literature provided that unintentional injury was the third leading cause of death in the county of the project site, and this included unintentional drug overdoses (Mecklenburg County Public Health, n.d.). This refers to any injury that is unplanned, including overdoses. The CHA reported that accidental poisoning was the number one cause of deaths in this category at 42%, with 74% of the deaths attributed to opioid abuse (Mecklenburg County Public Health, n.d.). There has been a 127% increase in emergency department visits for opioid overdose (Mecklenburg County Public Health, n.d.). North Carolina Injury and Violence Prevention (2017) estimate Mecklenburg county's total lifetime costs of medical and work loss from medication and drug fatalities in 2016 was over $208 million.

The literature also revealed several treatment options for opioid use disorder with MAT providing the most success for preventing relapse (Lee et al., 2018, Soyka et al., 2017, Tierney et al., 2018, & Weinstein et al., 2017). Throughout the synthesis of the literature, MAT was found to be associated with overall total lower healthcare costs and decreased opioid use and overdose death rates (Murphy and Polsky, 2016; DeFlavio et al., 2015 & NIDA, 2016). The literature review did reveal a gap in the literature with regards to outpatient treatment within the community health setting. Many articles included inpatient treatment only or did not define the population that was being served within the community setting. The use of the current literature

assisted the project lead to develop a plan for implementing an outpatient MAT program in a community health clinic.

The literature assisted in guiding the project lead to develop the recommended steps for implementation. These steps included the creation/implementation of the following: (1) a cost benefit analysis, (2) initial screening questions for inquiry, (3) an admission protocol, (4) an evaluation tool utilizing the PDSA model for the admission protocol, (5) a substance use history and physical to be utilized by the providers, (6) the implementation of the DAST-10 tool for screening current clinic patients for substance abuse, (7) marketing materials for the MAT program, and (8) a patient information hand-out. This project was developed through the synthesis of the literature to develop guidelines for implementing an outpatient MAT program, enabling a community clinic to provide quality healthcare and improve patient outcomes while addressing a gap in the literature. This project implementation could be followed and modified as necessary for implementation of MAT programs within other community health settings. It is recommended that more research be done surrounding implementation of outpatient MAT treatment programs within community health settings.

Essential IV: Information systems/technology and patient care technology for the improvement and transformation of healthcare. The fourth Essential of DNP practice requires the DNP prepared nurse to utilize and evaluate information technology with regards to practice, patient care, communication, and ethical and legal issues to improve patient care (AANC, 2006). With the growing use of technology, this Essential is vital for the DNP prepared nurse. It is expected that the DNP prepared nurse will be able to analyze information technology and assist with selecting and incorporating technology into practice (AACN, 2006).

This project utilized the online library to research information related to opioid use disorder. Without the ability to search a large database of current information specific to the topic, it would have been difficult to assess the current trends and interventions related to opioid use disorder. Throughout the development of the project, the author identified a lack of social media, an important information technology platform. The implementation plan included social media as a marketing tool for the project.

Lim (2016) identified several stakeholders for social media in healthcare, such as patients and providers. Lim (2016) defines social media as applications to facilitate the creation and exchange of ideas over the internet, providing examples such as weblogs, internet forums, and social networking sites such as Facebook, Twitter, and Instagram. Social media holds a unique place within healthcare. For example, 80% of patients use the internet for healthcare related searches and up to 75% of physicians utilize social media technology for professional postings (Lim, 2016). Pour and Jafari (2019) note that about 5,000 medical centers have social media accounts.

There are many benefits to the use of social media in healthcare. A few that apply to this project include: social media increases the patient's feelings of engagement in their personal care, participatory medicine, and increased tacit knowledge sharing among providers (Lim, 2016; Panahi, Watson, & Partridge, 2016). The clinic already had established social media accounts, however they were not utilizing them to communicate with patients and other providers. As part of the implementation plan, marketing was created to be displayed on the clinic's social media accounts advertising the clinic's new MAT program. The project lead also identified several support and provider groups related to opioid use and addiction that already existed within the social media networks. The clinic became a part of these groups to increase awareness of the

services they provided and to allow a platform for providers to discuss addiction treatment related topics with other providers; maintaining confidentiality and upholding ethical standards relating to the use of information technology.

The project lead was able to utilize and implement information technology via social media to increase healthcare knowledge. The lead was also able to provide leadership with information technology in developing a new method for the clinic to communicate with patients. The use of the online library assisted with meaningful research and data necessary for the project's intent. One recommendation for future practice would be to have a dedicated information technology/social media specialist. This would allow for an increased presence within social media communication and would allow for "checks and balances" related to upholding regulatory and ethical standards surrounding information technology.

Essential V: Healthcare policy for advocacy in healthcare. Essential five calls for the DNP prepared nurse to be a leader in healthcare policy (AACN, 2006). Leadership in healthcare policy guides the DNP nurse to be able to understand health policy, influence policy makers, educate about issues surrounding health policy, advocate for the nursing profession, and advocate for health policy that supports social justice and equality (AACN, 2006). DNP nurses can serve in each of these areas by being active members on committees and being involved in institutional, local, state, or federal policy decisions (AACN, 2006).

The opioid crisis has become a national epidemic with a reported 130 people dying of an opioid overdose every day (NIDA, 2019). NIDA (2018) reported in 2014 that 84% of the reported new cases of hepatitis C were attributed to IV drug use. This epidemic is also affecting children. In North Carolina in 2017, 44% of grandparents were the responsible care giver for their grandchildren, directly related to drug use (NCDHHS, 2018). The NCHA and HIDA

(2018) estimated the total economic cost in 2016 of the opioid epidemic was over $570 billion in the United States and over $21 billion in North Carolina. Due to the health, familial, and financial burden of opioids, national and state lawmakers are recognizing that legislation needs to occur to combat this problem.

The federal government discussed the cost of the epidemic in the Council of Economic Advisors report and the NCDHHS has addressed funding opportunities for opioid treatment (NCDHHS, 2017). The community health clinic for this project is a federally qualified health center and was awarded a HRSA grant to implement an outpatient MAT program. North Carolina has developed the North Carolina Opioid Action Plan 2017-2021 to combat the opioid crisis by reducing opioid addiction and overdose death (NCDHHS, 2017).

A key component to the opioid action plan includes expanding treatment access and increasing provider's ability to prescribe Medication Assisted Treatment (MAT) in office based opioid treatment (NCDHHS, 2017). This project development addressed the lack of and access to MAT centers for opioid use treatment in the Charlotte-Mecklenburg area. Prior to the project development, SAMHSA (n.d.) listed three MAT centers for opioid treatment in Charlotte-Mecklenburg. A fundamental component of the project development was to provide free MAT services to increase access to care since over 13% of Mecklenburg county was uninsured (United States Census Bureau, n.d.).

This project worked parallel to the current policies at the state and national level to combat the opioid epidemic. The project lead assessed the required components of the federally awarded grant and blended those concepts into the framework of the project development plan. By merging the concepts of current health policy, health statistics, and clinic goals, the project

lead was able to develop a plan for MAT implementation in a community clinic thus meeting Essential five.

Essential VI: Interprofessional collaboration for improving patient and population health outcomes. The AACN (2006) declares that Essential six has been met when the DNP nurse is able to act as a leader in effective and collaborative communication among interprofessional and intraprofessional teams to develop and change healthcare according to evidenced based practice. From the beginning of this project, leadership was at the forefront. Leadership began with the project lead identifying the project site and requesting a collaborative relationship for project implementation development.

The project site had been awarded a grant to implement an outpatient MAT program. The project lead assumed the role of the development of the implementation plan. Initially, a meeting occurred with the CEO and COO of the clinic to determine clinic and financial goals. After this meeting, the project lead completed a cost benefit analysis and presented it to the CEO and COO. Throughout this leadership role, the project lead collaborated with the medical director, clinic providers, and clinic LCSW to develop an admission protocol and patient education hand-out. The project lead discussed the need for the clinic to assess their patients for substance use and introduced the DAST-10 tool for screening. Additionally, the project lead worked with an impact fellow employed by the clinic, the grant and marketing director, and a graphic designer to develop marketing material for the program and increase social media presence. The project lead also provided an executive summary of the project implementation cost analysis to the CEO for reporting purposes to the grant.

Ultimately, the project lead effectively communicated, utilizing the SBAR communication method, within the interprofessional and intraprofessional relationships to

develop the project implementation plan at this clinic. The participants were able to provide feedback and insight at monthly meetings for the development of the MAT program implementation plan. One recommendation for future program implementation plans is to ensure that each step of program implementation has been completed prior to implementing the program. This will provide a higher likelihood of successful implementation.

Essential VII: Clinical prevention and population health for improving the nation's health. The aim of Essential seven is centered around clinical prevention and population health (AACN, 2006). The goal for the DNP nurse is to accurately analyze data, synthesize concepts, and evaluate care delivery models to meet the national goals of Healthy People 2020 (AACN, 2006). There are many determinants of health that directly impact an individual and a community's health. Healthy People 2020 identifies several determinants of health including Injury and Violence Prevention. One of the subsets under Injury and Violence Prevention includes unintentional drug overdoses and substance abuse. As previously stated, one of the goals for this objective include increasing the number of admissions to substance abuse treatment for injection drug use (Healthy People 2020, 2019). Incorporating substance abuse screening for all clinic patients was one aspect of the project that supported this objective.

Substance abuse and opioid treatment can be costly to an individual who does not have medical insurance coverage and many times these facilities are at or almost at capacity. However, according to the National Institute on Drug Abuse [NIDA], (2018) for every dollar that is invested into an addiction treatment program, there is between a $4 and $7 return for a decline in drug-related crime, criminal justice costs, and theft; when adding in the healthcare cost benefit, there is a 12 to 1 savings versus cost.

This Essential aligns directly with the intent of the project development plan. This project is centered on clinical prevention of opioid use and promoting the health of the population. Access to care is an important aspect for the prevention of any illness and increasing healthy populations (Office of Disease Prevention & Health Promotion, 2019). This project allows for affordable and accessible access to opioid treatment, which is a necessary component of Healthy People 2020. Recommendations for future practice implications include increasing education of providers surrounding substance abuse treatment, increasing education regarding affordable and accessible resources for patients in need of substance abuse treatment, and increasing education of the public regarding substance abuse and avenues of treatment.

Essential VIII: Advanced nursing practice. Lastly, Essential eight encompasses assessment skills with patient care decisions and an understanding of the consequences of those decisions (AACN, 2006). This Essential requires the DNP nurse to effectively utilize advanced assessment skills and clinic judgement to develop a plan of care that encompasses culturally competent, therapeutic interventions grounded in evidenced based care to improve patient outcomes (AACN, 2006). The DNP nurse will be able to mentor and educate others through nursing practice (AACN, 2006). This Essential is the culmination of didactic, clinical, theory, and research concepts learned throughout the DNP program.

This project development plan utilized evidenced based practice to develop interventions for a community health problem. The plan developed an admission protocol based on evidenced based practice and national guidelines to refer patients with opioid use disorder to the appropriate treatment. It also incorporated a validated tool for the assessment of substance use within the current clinic's patients. Throughout the development process, collaboration with other health and non-health professionals was necessary. The project lead collaborated with the medical

director, providers, CEO, COO, LCSW, marketing, and graphic design to develop an implementation plan. The project lead also participated in educating patients and the public about opioid use and MAT. This project was able to meet Essential eight through the combination of the assessment of needs of the clinic and the interventions proposed for project development. For future implications of project development of MAT programs, it is recommended that a needs assessment of current practice/clinic patients be completed along with the assessment of the local community that is to be served. This would allow for a more specific development plan to be created based on current practice/clinic patient needs.

Summary

Each of these DNP Essentials are the fundamental foundation of DNP advanced nursing practice. These Essentials were clearly defined in relation to the project development plan. These Essentials guided the project lead throughout the project to ensure focus remained around the practice of nursing to improve patient outcomes. Due to the significance of the opioid epidemic, this project development plan could be utilized in other practice settings. Recommendations to increase the successful implementation of a MAT program were outlined. The project development plan could be utilized to improve practice surrounding substance abuse and increase access to care within communities.

Chapter Eight: Final Conclusions

This project identified several areas of interest regarding the findings and recommendations for future research. This chapter will discuss the significance of the project's findings and the significance of redesigning the project. The strengths, weaknesses, benefits, and barriers of the project in relation to Healthy People 2020 and the potential effects locally and nationally will also be discussed. Telemedicine and interagency collaboration have been identified as recommendations for future practice.

Significance of Findings

There were two initial outcomes of the project, before it was redefined, they were: (1) assess whether the new admission protocol appropriately referred patients to the MAT program and (2) assess if the protocol retained 90% of patients referred. It is significant to note that these two outcomes were unable to be evaluated because of the lack of patient enrollment in the first three months of implementation. At this point of implementation, the project was redefined from quality improvement to process development.

The final outcome of the project was to evaluate the new marketing strategies and the impact on patient enrollment. It was clear with the implementation in the first three months that the clinic was not as well known in the community as originally thought. New marketing strategies were developed with a focus on the MAT program. This provided the clinic an opportunity to reassess and evaluate their presence in the community. Refocus of the project was the catalyst for the clinic to redesign and market itself to the community. The marketing strategies implemented in the project were also implemented for other areas of the clinic, such as a newly created, user-friendly, bilingual website and increasing the clinic's presence on social

media. The new marketing strategies appeared to have a successful impact with a total of six patient's enrolled as of January 2020.

The development and implementation of the MAT program was vital, however one of the biggest lessons learned was the importance of marketing. The clinic assumed at the beginning that the program would be a success because of the need for this type of treatment. However, the lack of patient enrollment during implementation brought to light the issue of the clinic not being a known place for treatment in the community. This impacted the clinic, providers, and the community. The clinic not only began marketing the MAT program, but also other programs within the organization including marketing the clinic as a general medical treatment facility for the community.

Overall, implementing an affordable MAT program is necessary to decrease opioid related deaths and to achieve the goals for Healthy People 2020. The project lead created a cost benefit analysis utilizing the grant funding the clinic received. It has been documented throughout the literature that for every dollar invested into addiction treatment, there is between a $4 and $7 return that is seen through a decline in drug-related crime, criminal justice costs, and theft (NIDA, 2018a). When adding in healthcare costs of addiction, there is up to a 12 to 1 savings versus cost (NIDA, 2018a). By spending the money to treat the addiction, this could greatly decrease the United States and North Carolina's gross domestic product (GDP), ultimately resulting in monetary savings and decreasing opioid related deaths.

Project Strengths and Weaknesses

There were several strengths and weaknesses identified within the project. The strengths identified include: (1) the clinic ability to secure a grant funding for the MAT program, (2) both medical directors of the clinic had previous experience with addiction treatment, and (3) the

interprofessional team collaboration where the project's participants exhibited cohesion and a willingness to re-evaluate and make changes as needed. Financial funding for a project is often one of the top concerns of any type of quality improvement project. Fortunately, the clinic where the project took place had applied for and been awarded a federal grant to fund the development and implementation of the MAT program. Having the financial component in place provided support for the clinic to be able to focus on the development and implementation of the program. The project lead completed a cost benefit analysis of the program to provide insight for how and where the grant funds needed to be applied. The cost benefit analysis provided important information for the clinic regarding sustainability of the program.

It was also valuable that both medical directors and site champions had experience with addiction treatment. They were viewed as the experts and contributed in guiding the development and treatment component for the program. They were also able to mentor the newly trained FNP into addiction treatment.

Lastly, a huge part of the success of this project was due to the MAT interprofessional team collaboration. Group cohesion and willingness to re-evaluate at every phase of the project assisted in increasing the likelihood that changes would be successful. If group cohesion did not exist, this could have created conflict and a barrier to the success of the program. With the interprofessional collaboration and support among team members, changes were able to be made and implemented, which ultimately resulted in success of the project.

There were also several weaknesses identified within the project. These included: (1) the newly trained FNP was new to addiction treatment and still had training to complete during implementation, (2) a delay of the first three months before significant changes were made, and (3) the project's lack of adequate marketing of the MAT program. Implementation occurred

initially in July 2019, however the primary provider selected to provide care for the addiction patients, had not yet completed the online training to receive the buprenorphine waiver, and was new to addiction treatment. This was identified as a weakness because if the provider had previous experience with addiction treatment, she may have been able to provide different insight into the recruitment of patients for the program. Secondly, there was a delay during the first three months of implementation before significant changes were made. This was identified as a weakness because changes to the project should not have been delayed and should have been made sooner than three months. It is unclear why it took three months for significant changes to be made. Lastly, due to the lack of marketing, patient enrollment was delayed. This was viewed as a weakness of the project since the original intent of the project was unable to be completed and the original outcomes were unable to be evaluated.

Project Limitations

The major limitation for this project was patient enrollment. As previously mentioned, the project began as quality improvement with two outcomes to measure the appropriateness and accuracy of the new admission protocol. However, with lack of patient enrollment, the project lead was unable to evaluate those outcomes. Therefore, the project was redefined with a process development focus on implementing marketing strategies for the MAT program.

Project Benefits

This project provides many benefits not only to the organization and the community, but also at the state and federal levels. The project provides a model to create MAT programs in any type of ambulatory care setting. This project assists the site and North Carolina in meeting their objectives for the NC Opioid Action Plan. The NC Opioid Action Plan focuses on three areas, one of which is connecting to care (NCDHHS, 2019b). Within this objective lies increasing

linkages to treatment and recovery supports (NCDHHS, 2019b). The plan describes strategies to meet this objective, which include increasing "the number of community based recovery supports, including community based recovery supports that are inclusive of medication assisted treatment (MAT)" (NCDHHS, 2019b, slide 26). This project is a strategy that directly relates to this objective and could be replicated in other community clinics throughout the state of North Carolina in an effort to meet the objectives of the NC Opioid Action Plan.

At the federal level, this project impacts one of the goals of Healthy People 2020. Under substance abuse screening and treatment objective is the goal of increasing the proportion of people who need illicit drug treatment and receive specialty treatment (Healthy People 2020, 2019). In the past year, this objective increased by 10% to 18.3% of people receiving the specialty treatment they needed toward the target goal of 20% (Healthy People 2020, 2019). The implementation of a MAT program can improve access to care and provide specialty treatment to individuals.

Another benefit of the project is meeting the Institute for Healthcare Improvement (IHI) Triple Aims. For example, the cost savings of implementing and utilizing MAT programs for opioid use treatment assists in improving the health of populations and reducing the per capita cost of health care (IHI, 2020). Statistics of opioid addiction highlight the increases in the transmission of HIV and hepatitis C, however with the implementation of MAT programs, patients are more likely to obtain sobriety and maintain sobriety. It is well documented throughout the research that the cost of implementing a MAT program is significantly outweighs the cost of an opioid addiction. Therefore, by implementing MAT programs healthcare costs would be reduced in the treatment of the addiction and the prevention of the spread of HIV and hepatitis C.

Practice Recommendations

A first practice recommendation is for the initial project to be replicated. It would be important to assess whether the initial outcomes of this project could be met with implementation of the MAT program. A replication of the project could evaluate initial outcomes in assessing the admission protocol for its appropriateness and effectiveness. Results could provide a baseline admission protocol for other outpatient MAT programs to utilize, if determined successful. It could also provide changes that would need to be made for future programs. Therefore, it is recommended to replicate this project to develop a MAT program in a community health setting.

Based on the findings, strengths, weaknesses, limitations, and benefits of the project, there are two areas that are recommended for future practice. These two areas include the inclusion of telemedicine for MAT and the inclusion of interagency collaboration for MAT. Both of these areas could provide valuable resources for future programs.

Throughout the literature, telemedicine is discussed in a variety of settings. Many healthcare organizations today are already implementing telemedicine in their practices and telepsychiatry is also being utilized. Zinsmaster (2018) discusses how telemedicine could positively influence addiction treatment. In order to implement telemedicine for MAT, a provider must have at least one in-person medical evaluation (Zinsmaster, 2018). This could be conducted at the initial visit for admission into the MAT program. Once this is completed, the medications for MAT can be prescribed. The weekly or monthly meetings with the provider could be done via telemedicine and the counseling sessions could also be conducted via telemedicine. Many MAT programs have random or scheduled urine drug screens to assess if the patient is taking the prescribed medication and to also assess for any other drug use. These

could be completed prior to the telemedicine visit. The provider could send the order for the patient to complete the urine drug screen at a lab convenient for the patient and have the results sent to the provider prior to the visit. Weintraub et al. (2018) conducted a chart review of a MAT program delivered via telemedicine and the program was conducted similarly as described above. They ultimately found that MAT treatment with buprenorphine delivered via telemedicine was effective (Weintraub et al., 2018). Yang et al. (2018) also discussed several studies where MAT was delivered via telemedicine. They found no statistical difference between in-person and telemedicine treatment in relation to additional illicit drug use, relapse rates, and also showed improved physical and mental health among patients (Yang et al., 2018). In addition, if the MAT telemedicine program is implemented correctly, patient satisfaction regarding care is the same among face-to-face and telemedicine patients (Zinsmaster, 2018). Ultimately, MAT telemedicine could increase access to care for addiction treatment. The NCDHHS (n.d.) has developed the NC Statewide Telepsychiatry Program which is designed to help with acute mental health or substance abuse care. The state government is recognizing the important role that telemedicine has in MAT. Therefore, MAT telemedicine is recommended for future practice.

Throughout the implementation of the outreach days, the project revealed other business interests in partnerships to better serve the community. This allowed an opportunity for interagency collaboration and communication to better serve the community. Interagency collaboration in relation to substance abuse is discussed throughout the literature. Iachini et al. (2015) define interagency collaboration as the integration between agency's policies and programs that support mutual goals. It has been discussed in the literature that interagency collaboration decreases the likelihood of relapse, provides support for successful re-integration

back into the community, and creates stronger family cohesion (Iachini et al., 2015 & Hanson et al., 2019). This would be an important area of further research. Therefore, a recommendation for future practice and implementation would be to consider implementing a MAT program in a community clinic with interagency collaboration among local community organizations. This type of implementation has the potential to yield a high rate of success related to relapse prevention.

Final Summary

In conclusion, this project provided valuable information regarding implementing a MAT program in a community clinic. There were several benefits and weaknesses identified throughout the project implementation. The biggest limitation was lack of patient enrollment, which directly affected the outcomes of the project. Implementation of a MAT program assists in meeting local, state, and national goals and benchmarks to combat the opioid epidemic. In addition, the project has provided valuable insight for future areas of research and project development to positively impact addiction treatment.

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Appendix A

Part 2 of 5—Addressing Opioid Use Disorder in General Medical Settings | **TIP 63**

DSM-5 Opioid Use Disorder Checklist[102]

Patient's Name: _____ Date of Birth: _____

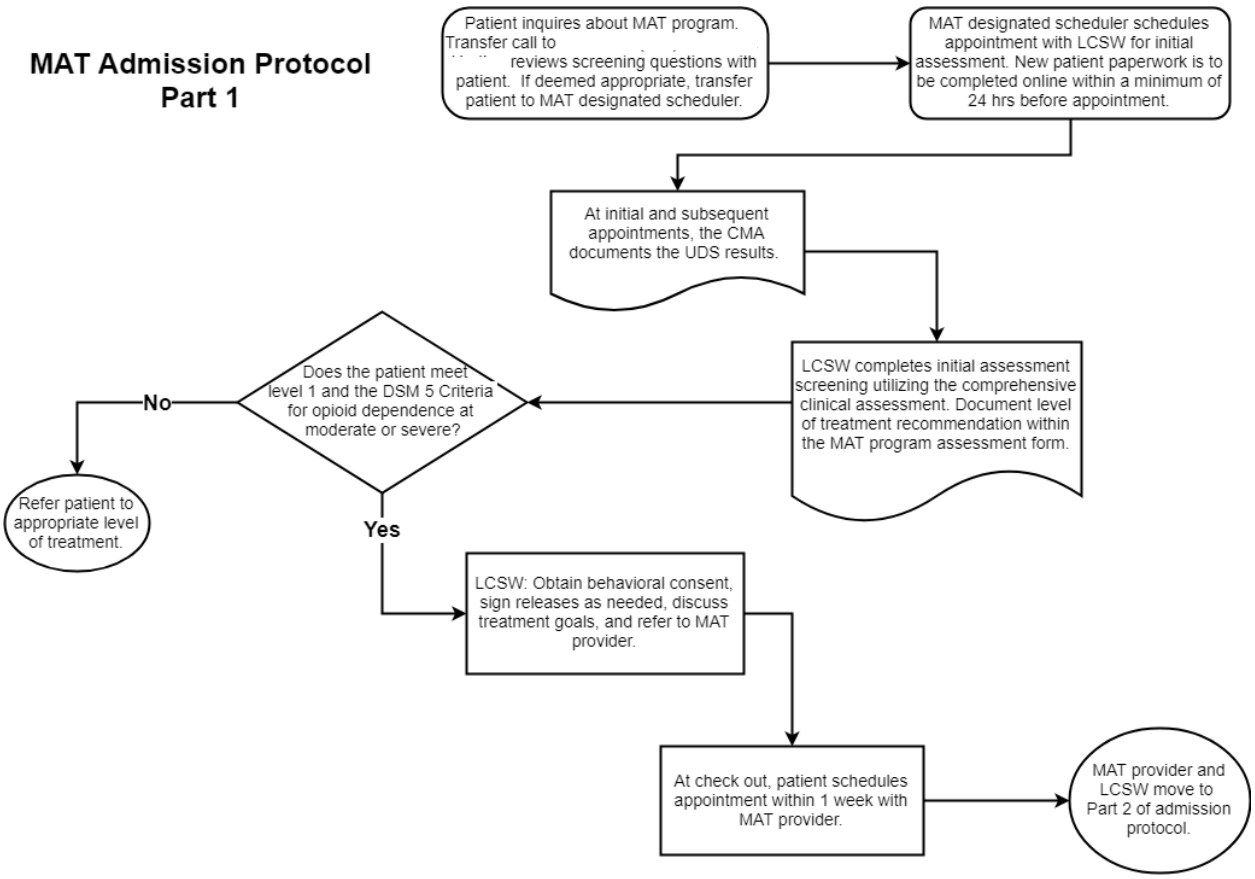
Worksheet for DSM-5 Criteria for Diagnosis of Opioid Use Disorder

DIAGNOSTIC CRITERIA (Opioid use disorder requires that at least 2 criteria be met within a 12-month period.)	MEETS CRITERIA? Yes OR No	NOTES/SUPPORTING INFORMATION
1. Opioids are often taken in larger amounts or over a longer period of time than intended.		
2. There is a persistent desire or unsuccessful efforts to cut down or control opioid use.		
3. A lot of time is spent in activities necessary to obtain the opioid, use the opioid, or recover from its effects.		
4. Craving, or a strong desire to use opioids.		
5. Recurrent opioid use resulting in failure to fulfill major role obligations at work, school, or home.		
6. Continued opioid use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of opioids.		
7. Important social, occupational, or recreational activities are given up or reduced because of opioid use.		
8. Recurrent opioid use in situations in which it is physically hazardous.		
9. Continued use despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by opioids.		
10. Tolerance,* as defined by either of the following: (a) a need for markedly increased amounts of opioids to achieve intoxication or desired effect (b) markedly diminished effect with continued use of the same amount of an opioid		
11. Withdrawal,* as manifested by either of the following: (a) the characteristic opioid withdrawal syndrome (b) the same (or a closely related) substance is taken to relieve or avoid withdrawal symptoms		

*This criterion is not met for individuals taking opioids solely under appropriate medical supervision. **Severity:** mild = 2–3 symptoms; moderate = 4–5 symptoms; severe = 6 or more symptoms. Signed: _____ Date:_____

Appendix B

Admission Protocol



Appendix B (continued)

MAT Admission Protocol—Part 2
For use by MAT providers & LCSWs

For the 1st MAT provider encounter:

- ☐ Obtain treatment consent
- ☐ Complete the North Carolina Controlled Substances Reporting System (NC CSRS)
- ☐ Complete the medical history and physical in Epic
- ☐ Complete the MAT Substance Use History in Epic
- ☐ Educate about the MAT program requirements, including cost, medications utilized, UDS, counseling, etc.

For subsequent MAT provider encounters:

- ☐ Complete the North Carolina Controlled Substances Reporting System (NC CSRS)
- ☐ Pill counts (as needed)
- ☐ Complete the MAT Program Patient Progress Assessment (digital spreadsheet on shared drive)
- ☐ If the patient does not meet the requirements, develop a plan with the patient and LCSW

For LCSW encounter(s):

- ☐ Pill counts (as needed)
- ☐ Complete the MAT Program Patient Progress Assessment (digital spreadsheet on shared drive)
- ☐ If the patient does not meet the requirements, develop a plan with the patient and provider

Appendix C

MAT Substance Use History

Mental Health Illness History

Has anyone in your family been diagnosed with a mental health illness? YES NO
If yes, which mental health illness(es)? _____
Have you ever been diagnosed with a mental health illness? YES NO
If yes, which mental health illness(es)? _____
At what age were you diagnosed? _____
Were you treated for the mental health illness? YES NO
If yes, what was the treatment? _____

Substance Use History

Has anyone in your family used alcohol? YES NO
If yes, which family member(s)? _____
Has anyone in your family used recreational drug(s)? YES NO
If yes, which family member(s)? _____
If yes, which recreational drug(s)? _____

Alcohol Use:

Do you drink alcohol? YES NO
Number of beers/liquor/wine drinks per day _____
Number of beers/liquor/wine drinks per weekend day _____
How old were you when you had your first alcohol drink? _____
Have you ever had treatment/help for alcohol use? YES NO
If yes, how many times have you been treated/received help for alcohol use? _____
When? _____ What was the treatment? _____
Are you concerned about your drinking? YES NO
Have others told you that you drink too much? YES NO

Drug Use:

List all recreational drug(s) you have used in the past.

_____
_____
_____
Are you currently using recreational drugs? YES NO
If yes, which drug(s)? _____
How many times per day are you using the drug(s)? _____
How long have you been using recreational drug(s)? _____
What method(s) do you use to take the drug(s)?
By mouth Snorting Injecting Smoking Other: _____
What was the first drug that you ever used? _____
How old were you when you used your first drug? _____
What happened after that? _____
_____
_____
_____
_____
Have you ever stopped using drugs? YES NO
If yes, when and for how long? _____
Have you ever received treatment/help for drug use? YES NO
If yes, how many times have you been treated/received help for drug use? _____
When? _____ What was the treatment? _____
How many times have you overdosed? _____

Have you ever received medication assisted treatment (MAT) for drug use? _____
If yes, when and what medication was used? _____

For female patients:
Are you currently pregnant? YES NO
Are you currently using contraception? YES NO
If yes, which method of contraception are you using? _____
If no, are you interested in using contraception? YES NO
What are your plans to prevent pregnancy? _____
OB History: G T P A L
In your past pregnancies, were you using recreational drug(s) during pregnancy? _____
Did you or your baby experience any drug related complications during pregnancy or after (post-partum)?
_____

Appendix D

Cost Benefit Analysis

Projected Supplies Cost for Months 1-6

UDS ($4.64/test)
Urine temperature cups ($0.17/cup)
Buprenorphine-Naloxone 8-2 mg (average 12 mg/day=1.5 tablets/day: $3.25/tablet)

July	
UDS: 5 tests/new patient/month=23.20 * 5 pts	$116.00
Urine temperature: 5 tests/patient/month=0.85 * 5 pts	$4.25
Buprenorphine-Naloxone 8-2 mg (average 12 mg/day=1.5 tablets/day: $3.25/tablet * 1.5 tabs=4.88/day *30 days=146.25* 5 pts)	$731.25
Projected total	**$851.50**
August	
UDS: 5 tests/new patient/month=23.20 * 5 pts	$116.00
UDS: 2 tests/ 2nd month patient=9.28 * 5 pts	$46.40
Urine temperature: 5 tests/patient/month=0.85 * 5 pts	$4.25
Urine temperature: 2 tests/2nd month patient=0.0.34 * 5 pts	$1.70
Buprenorphine-Naloxone 8-2 mg (average 12 mg/day=1.5 tablets/day: $3.25/tablet * 1.5 tabs=4.88/day *30 days=146.25* 10 pts)	$1,462.50
Projected total	**$1,630.85**
September	
UDS: 5 tests/new patient/month=23.20 * 5 pts	$116.00
UDS: 2 tests/ 2nd month patient=9.28 * 5 pts	$46.40
UDS: 1 test/3rd month & beyond patient=4.64 * 5 pts	$23.20
Urine temperature: 5 tests/patient/month=0.85 * 5 pts	$4.25
Urine temperature: 2 tests/2nd month patient=0.0.34 * 5 pts	$1.70
Urine temperature: 1 test/3rd month & beyond patient=0.17 * 5 pts	$0.85
Buprenorphine-Naloxone 8-2 mg (average 12 mg/day=1.5 tablets/day: $3.25/tablet * 1.5 tabs=4.88/day *30 days=146.25* 15 pts)	$2,193.75
Projected total	**$2,386.15**
October	
UDS: 5 tests/new patient/month=23.20 * 5 pts	$116.00
UDS: 2 tests/ 2nd month patient=9.28 * 5 pts	$46.40

UDS: 1 test/3rd month & beyond patient=4.64 * 10 pts	$46.40
Urine temperature: 5 tests/patient/month=0.85 * 5 pts	$4.25
Urine temperature: 2 tests/2nd month patient=0.0.34 * 5 pts	$1.70
Urine temperature: 1 test/3rd month & beyond patient=0.17 * 10 pts	$1.70
Buprenorphine-Naloxone 8-2 mg (average 12 mg/day=1.5 tablets/day: $3.25/tablet * 1.5 tabs=4.88/day *30 days=146.25* 20 pts)	$2,925.00
Projected total	**$3,141.45**

November

UDS: 5 tests/new patient/month=23.20 * 5 pts	$116.00
UDS: 2 tests/ 2nd month patient=9.28 * 5 pts	$46.40
UDS: 1 test/3rd month & beyond patient=4.64 * 15 pts	$69.60
Urine temperature: 5 tests/patient/month=0.85 * 5 pts	$4.25
Urine temperature: 2 tests/2nd month patient=0.0.34 * 5 pts	$1.70
Urine temperature: 1 test/3rd month & beyond patient=0.17 * 15 pts	$2.55
Buprenorphine-Naloxone 8-2 mg (average 12 mg/day=1.5 tablets/day: $3.25/tablet * 1.5 tabs=4.88/day *30 days=146.25* 25 pts)	$3,656.25
Projected total	**$3,896.75**

December

UDS: 5 tests/new patient/month=23.20 * 5 pts	$116.00
UDS: 2 tests/ 2nd month patient=9.28 * 5 pts	$46.40
UDS: 1 test/3rd month & beyond patient=4.64 * 20 pts	$92.80
Urine temperature: 5 tests/patient/month=0.85 * 5 pts	$4.25
Urine temperature: 2 tests/2nd month patient=0.0.34 * 5 pts	$1.70
Urine temperature: 1 test/3rd month & beyond patient=0.17 * 20 pts	$3.40
Buprenorphine-Naloxone 8-2 mg (average 12 mg/day=1.5 tablets/day: $3.25/tablet * 1.5 tabs=4.88/day *30 days=146.25* 30 pts)	$4,387.50
Projected total	**$4,652.05**
Total Projected Supplies Cost 1st 6 months	**$16,558.75**

Current Office Visit Patient Out of Pocket Expense for MAT Program

Current Office Visit Patient Out of Pocket Expense	$25.00

1st Month Patient Out of Pocket Expense	**# of required visits**	**Cost**
Initial Assessment Screening with LCSW	1	$25.00
MD visit (1/week)	4	$100.00
LCSW visits (2/week)	8	$200.00
Total Patient Monthly Out of Pocket Expense		**$325.00**

2nd Month Patient Out of Pocket Expense	**# of required visits**	**Cost**
Initial Assessment Screening with LCSW	0	$0.00
MD visit (2/month)	2	$50.00
LCSW visits (4/month)	4	$100.00
Total Patient Monthly Out of Pocket Expense		**$150.00**

3rd Month Patient Out of Pocket Expense	**# of required visits**	**Cost**
Initial Assessment Screening with LCSW	0	$0.00
MD visit (1/month)	1	$25.00
LCSW visits (2/month)	2	$50.00
Total Patient Monthly Out of Pocket Expense		**$75.00**

4th-6th Month Patient Out of Pocket Expense	**# of required visits**	**Cost**
Initial Assessment Screening with LCSW	0	$0.00
MD visit (1/month)	1	$25.00
LCSW visits (1/month)	1	$25.00
Total Patient Monthly Out of Pocket Expense		**$50.00**

Projected Total per month for Supplies, FNP, & Patient Expense for 1st 6 months of MAT Program					
July 2019-December 2019					
Month	**Supplies**	**FNP/month**	**Patient Expense at $25 co-pay/office visit**	**Monthly Total**	
				Cost	Co-pay Revenue
July (5 new pts)	$851.50	$1,126.67	$1,625.00	$1,978.17	$1,625.00
August (5 new pts, 5 2nd month pts)	$1,630.85	$1,126.67	$2,375.00	$2,757.52	$2,375.00
September (5 new pts, 5 2nd month pts, 5 3rd month pts)	$2,386.15	$1,126.67	$4,375.00	$3,512.82	$4,375.00
October (5 new pts, 5 2nd month pts, 5 3rd month pts, 5 4th month pts)	$3,141.45	$1,126.67	$4,625.00	$4,268.12	$4,625.00
November (5 new pts, 5 2nd month pts, 5 3rd month pts, 5 4th month pts, 5 5th month pts)	$3,896.75	$1,126.67	$4,875.00	$5,023.42	$4,875.00
December (5 new pts, 5 2nd month pts, 5 3rd month pts, 5 4th month pts, 5 5th month pts, 5 6th month pts)	$4,652.05	$1,126.67	$5,125.00	$5,778.72	$5,125.00
				$23,318.77	$23,000.00

Appendix E

SWOT Analysis

	Helpful	Harmful
Now	**Strengths** • Experts in place (psychiatric NP, MAT trained FNP, addiction certified medical director, LCSW for MAT assessments) • Cost benefit analysis is completed—clearly defining how the grant can be utilized to cover some of the costs of treatment for the patients • Plan for patient voucher to cover medication costs	**Weaknesses** • FNP has not completed MAT training (Currently in progress); the medical director is not full time and is on site 1 day/week • Site needs to agree on the cost structure, with regards to patient co-pay, that they want to use • Need an official agreement in place with the pharmacy to guarantee cost of medications
Later	**Opportunities** • Planning to begin with 5 patients and expand by 5 patients per month for the first 6 months; this should help to not "over work" the FNP • Psychiatric NP will be a mentor to the MAT trained FNP • Grant cost benefit in place for 6 months to cover patient medication cost	**Threats** • MAT trained FNP is not dedicated to MAT program, she must remain treating medical patients—could impact time to treat MAT patients • The psychiatric NP will only be available on site for 4 hrs./week • Currently no plan in place for sustainability past 6 months regarding patient medication cost

Appendix F

Approval Letter

Date: April 5, 2019

To East Carolina University College of Nursing:

We at the have reviewed Amanda Cruz's DNP Project Proposal "Community Health Clinic Implementation of Medication Assisted Treatment program for Opioid Use Disorder". Ms. Amanda Cruz has organizational support and approval to conduct their project within our institution (s) (if multiple clinics – will need approval for each unless under one entity). We understand that the timeframe for this project is from the date of this letter through April 30, 2020 or until completion of the DNP project. Implementation at the project site will occur August/September through November 30, 2019, unless otherwise negotiated (Negotiated for June/July 2019 or start of MAT at site). We understand that for Ms. Amanda Cruz to achieve completion of the DNP program, dissemination of the project will be required by the University which will include a public presentation related to the project and a manuscript submission will be encouraged.

Our organization has deemed this project as a (select one of the following – quality improvement initiative, program or process development, program or process assessment, or policy development). Our organization is aware that this project will be processed through the University and Medical Center Internal Review Board of East Carolina University (UMCIRB). Our organization (select one – does or does not) have an Internal Review Board (IRB). (In the absence of an organizational IRB, the project will be only submitted to UMCIRB).

Thank you,

Note: Must be the organization executive/director or designee (someone with organizational authority)

Appendix G

DNP Data Collection Tool

DNP Data Collection Tool Part A
CCHC MAT Program Patient Assessment Form
To be completed by LCSW

MRN: _____
Date of Initial Appointment (today's date): _____
Initial appointment UDS results: Negative Positive (circle positive results)
Opiates Oxycodone/OxyContin Fentanyl Cocaine THC
Amphetamines/Methamphetamines Buprenorphine
Benzodiazepines Methadone ETG (alcohol)

DSM 5 Criteria Questionnaire Results: (circle appropriate diagnostic criteria)
Numerical Score: _____ Mild Moderate Severe

Crosswalk of ASAM Patient Placement Criteria Results
Level of treatment recommendation: _____

Date of appointment with MAT provider: _____

DNP Data Collection Tool Part B
CCHC MAT Program Patient Progress Assessment
To be completed by MAT provider

1st Appointment with MAT provider (Month 1, Week 1)

MRN: _____
Date of Appointment: _____
MAT provider appointment UDS results: Negative Positive (circle positive results)
Opiates Oxycodone/OxyContin Fentanyl Cocaine THC
Amphetamines/Methamphetamines Buprenorphine
Benzodiazepines Methadone ETG (alcohol)

2nd Appointment with MAT provider (Month 1, Week 2)

MRN: _____
Date of Appointment: _____
MAT provider appointment UDS results: Negative Positive (circle positive results)
Opiates Oxycodone/OxyContin Fentanyl Cocaine THC
Amphetamines/Methamphetamines Buprenorphine
Benzodiazepines Methadone ETG (alcohol)

Did patient meet required 2 LCSW visits during week 1? Yes No

Reason for not meeting requirements: Cost Desire Patient is no show
Referral to other treatment or program:_____
Other: _____

3rd Appointment with MAT provider (Month 1, Week 3)

MRN: _____
Date of Appointment: _____
MAT provider appointment UDS results: Negative Positive (circle positive results)
Opiates Oxycodone/OxyContin Fentanyl Cocaine THC
Amphetamines/Methamphetamines Buprenorphine
Benzodiazepines Methadone ETG (alcohol)

Did patient meet required 2 LCSW visits during week 2? Yes No

Reason for not meeting requirements: Cost Desire Patient is no show
Referral to other treatment or program:_____
Other: _____

4th Appointment with MAT provider (Month 1, Week 4)

MRN: _____
Date of Appointment: _____
MAT provider appointment UDS results: Negative Positive (circle positive results)
Opiates Oxycodone/OxyContin Fentanyl Cocaine THC
Amphetamines/Methamphetamines Buprenorphine
Benzodiazepines Methadone ETG (alcohol)

Did patient meet required 1 LCSW visit during week 3? Yes No

Reason for not meeting requirements: Cost Desire Patient is no show
Referral to other treatment or program:_____
Other: _____

5th Appointment with MAT provider (Month 1, Week 5)

MRN: _____
Date of Appointment: _____
MAT provider appointment UDS results: Negative Positive (circle positive results)
Opiates Oxycodone/OxyContin Fentanyl Cocaine THC
Amphetamines/Methamphetamines Buprenorphine
Benzodiazepines Methadone ETG (alcohol)

Did patient meet required 1 LCSW visit during week 4? Yes No

Reason for not meeting requirements: Cost Desire Patient is no show
Referral to other treatment or program:_____
Other: _____

DNP Data Collection Tool Part C
To be completed by DNP Student

Month 1, Week 1

Month 1, Week 2

MRN	Male/Female	Age	Initial UDS	Appt UDS	DSM 5 Criteria	ASAM Crosswalk	2 LCSW visits	Reasons for not meeting requirements	Comments

Month 1, Week 3

MRN	Male/Female	Age	Initial UDS	Appt UDS	DSM 5 Criteria	ASAM Crosswalk	2 LCSW visits	Reasons for not meeting requirements	Comments

Month 1, Week 4

MRN	Male/Female	Age	Initial UDS	Appt UDS	DSM 5 Criteria	ASAM Crosswalk	2 LCSW visits	Reasons for not meeting requirements	Comments

Month 1, Week 5

MRN	Male/Female	Age	Initial UDS	Appt UDS	DSM 5 Criteria	ASAM Crosswalk	2 LCSW visits	Reasons for not meeting requirements	Comments

Appendix H

PDSA Cycle 1

Appendix I

Screening Questions for MAT Program

1. What substance do you abuse?

   Answer: The MAT program is currently treating for opiate abuse/dependency

2. What is your age?

   Answer: You must be 18 years old or older to participate in this MAT program

3. How does the program work?

   Answer: You will fill out an application for CCHC and make an appointment to be assessed by the counselor. The counselor and provider will determine the most appropriate treatment that you need and if you are suitable for this outpatient program.

4. How long is the treatment?

   Answer: It varies, depending on how much is used on a daily basis and how long you have used opiates. It also depends on your compliance in the program.

5. I don't have insurance, how much will the office visit cost?
   Answer: You will fill out an application to become a patient in this clinic. Each office visit will be $25.00.

6. What medication is prescribed?

   Answer: Buprenorphine-Naloxone

7. How much is the medication?

   Answer: The medication costs $3.25 per tablet. The dose of medication will be determined by the physician.

8. Is substance abuse counseling mandatory for this program?

   Answer: Yes. Typically, it will be two times a week for the first two weeks, once a week for the next two weeks, then once a month, however this may vary depending on physician and counselor recommendations and your compliance within the program.

9. Do you see patients on the weekends?
   Answer: No

10. How often will I have to come to the clinic?

    Answer: The first week you will see the counselor for your screening visit and then have an appointment with the physician within one week. You will then see the physician once a week and the counselor twice a week for the first two weeks. The third week you will see the physician once a week and the counselor once a week for two weeks. If you remain stable, in abstinence and remain compliant with the program, you will see the physician and the counselor once every two weeks. If you continue to remain stable, in abstinence and remain compliant with the program, you will see the physician and counselor once a month.

11. Do you prescribe Subutex (buprenorphine only)?

    Answer: Yes, but only to pregnant women and lactating women.

Pregnancy and Addiction Questions

12. Do you treat pregnant women?

    Answer: Yes, over the age of 18. We treat with Subutex (buprenorphine only). You will follow the same treatment plan and be assessed by the counselor and physician.

13. Do you treat women who are breastfeeding?

    Answer: Yes, over the age of 18. We treat with Subutex (buprenorphine only). You will follow the same treatment plan and be assessed by the counselor and physician.

14. Does the medication used go to the baby?

    Answer: Yes, in small quantity, but it is recommended by American College of Obstetricians as the preferred MAT during pregnancy. You can also discuss this in further detail with the physician.

15. Will the baby have withdrawal symptoms at birth?

    Answer: It is possible but less likely with Buprenorphine compared to mothers who are treated with methadone during pregnancy.

Appendix J

MAT Program Information & Requirements
Patient Handout

- What is MAT?
  - MAT stands for medication assisted treatment.
  - In this clinic, MAT is used for the treatment of addiction to opioid drugs.
  - Buprenorphine-naloxone (Suboxone®) is used as the medication in this treatment program.
  - Pill counts of the buprenorphine-naloxone (Suboxone®) will occur randomly at visits. Bring your entire amount of the medication with you to ***every visit***.

- How often do I have to see the doctor and counselor?
  - Initially, you will be seen by the counselor to complete an admission screening. Your treatment goals will also be discussed at this appointment. This appointment will take about two hours.
  - You will then make an appointment to be seen by the provider. A detailed history and physical assessment will be completed. Your specific treatment plan will also be discussed. This appointment will take about one hour.
  - Once you are cleared as appropriate for the outpatient MAT program, the visit schedule is as follows:

    1st Month:
    - Weekly visits with the provider (about 30 min.)
    - Twice weekly visits with the counselor (about 1 hour)

    2nd Month:
    - Every other week visits with the provider
    - Once per week visits with the counselor

    3rd Month:
    - Once a month visit with the provider
    - Twice per month visits with the counselor

    4th Month and beyond:
    - Once a month visit with the provider
    - Once a month visit with the counselor
  - This schedule may be revised according to the provider and counselor recommendations.
  - Counseling is required to remain an active participant in the MAT program.
  - Visit(s) frequency may be increased or decreased based on your treatment plan.

Appendix K

MAT Flier

(Front)

We Can Help You With Your

Opioid Pain Medication or Heroin Addiction

MAT: HOW IT WORKS

- MAT stands for Medication Assisted Treatment
- Buprenorphine/Naloxone (ex: Suboxone®, Zubsolv®, etc.) is used as the medication for the treatment of withdrawal and for opioid/heroin addiction
- Counseling is also a component of the treatment plan

WHO IS MAT FOR?

- Persons with an opioid or heroin addiction:
  - Anyone 18 years & older
  - Pregnant women and nursing mothers

Qualification for enrollment determined at screening appointment

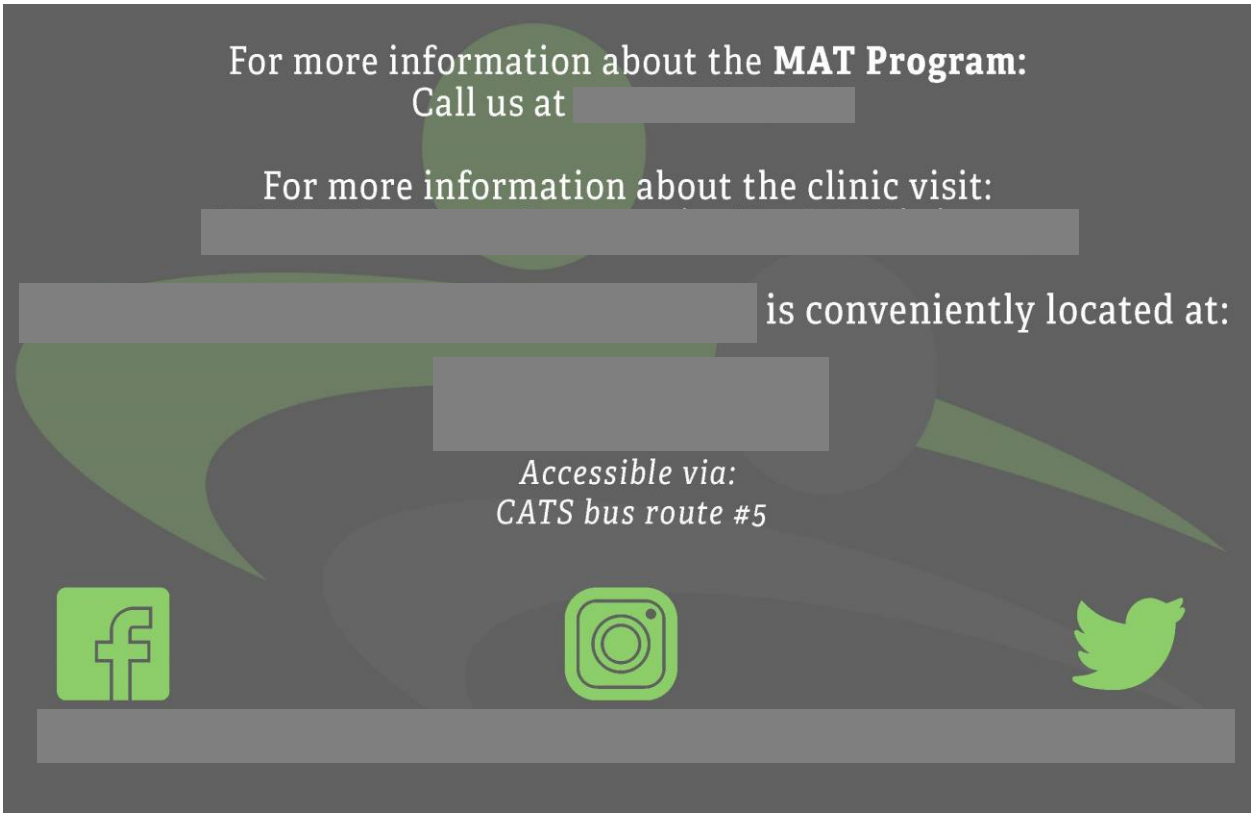
COST TO YOU

- We accept Medicaid, Medicare, & most insurance plans
- If you do not have insurance, treatment may be discounted or free based on your income

CALL TO SCHEDULE

- To enroll in the program CALL
- Schedule your first counseling visit to determine if the MAT program is a good choice for you
- An individual treatment plan will be developed including provider visits, prescriptions, and counseling

(Back)


For more information about the **MAT Program:**
Call us at
For more information about the clinic visit:
is conveniently located at:
Accessible via:
CATS bus route #5