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The Expansion and Evaluation of Medication Assisted Treatment Services for an
Underserved Rural Northern California Community

Carolyn Perrotti

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Abstract

Problem: Widespread opioid misuse has led to the opioid epidemic that claims 130 deaths per day due to an opioid overdose (CDC, 2018). The opioid epidemic has plagued the United States for three decades and has been considered a public health emergency since 2017 (HHS, 2017). Rural communities are disproportionately affected by this problem and in 2014, the rate of opioid overdose deaths was 45% higher in rural communities (SAMHSA, 2018).

Context: Medication-assisted treatment (MAT) is considered the most effective treatment for opioid dependence because it incorporates medication management and biopsychosocial supports (Jones et al., 2018). Retention in a MAT program is predictive of better health outcomes (Timko et al., 2016). However, there is a gap between opioid dependence treatment need and access to MAT services in rural communities due to limited resources (SAMHSA, 2018). The context for this project, within the particular setting, is based upon the gap analysis that identified limited access and a waiting list for MAT services at a community-based substance use disorder and recovery organization, Granite Wellness, within a rural Northern California community.

Proposed Intervention: The proposed intervention is the expansion of MAT services at Granite Wellness.

Proposed Outcome Measures: The project will evaluate the following outcome measures: the number of patients admitted to MAT services, the 3-month treatment retention rate, patient satisfaction, and staff satisfaction.

Problem Description

Misuse of prescription and non-prescription opioids began in the 1990s (HHS, 2019). Several events preceded and contributed to the eventual widespread misuse of opioids. Firstly, two small retrospective studies that were published in the 1980s reassured medical providers that it was safe to prescribe opioids more frequently (Jones et al., 2018). Secondly, pharmaceutical companies also aggressively marketed opioids as non-addictive (Jones et al., 2018). Thirdly, there was an increased emphasis on treating pain thoroughly when pain was added as the fifth vital sign (Scalpel, 2016). As a result, medical professionals began prescribing opioids more frequently and there was an increase in the number of people who were opioid-dependent (Jones et al., 2018). This population began to use illicit opioids more frequently if they were unable to get a sufficient opioid prescription (CDC, 2018). Consequently, in 2010, an increase in heroin overdose deaths was observed (CDC, 2018). Then, in 2013, an increase in overdose deaths due to synthetic opioids, particularly fentanyl, was observed (CDC, 2018).

Opioid use disorder (OUD) increases an individual's morbidity and mortality (Hser et al., 2017). There is also a significant societal impact related to "disease transmission, crime and law enforcement costs, family distress, lost productivity, and increased health care utilization" (Timko, Schultz, Cucciare, Vittorio, & Garrison-Diehn, 2016, p. 2). In 2015, it was estimated that the total economic burden of the opioid crisis was \$504 billion (Hagemeier, 2018). In the US in 2016, there were 64,000 deaths due to drug overdoses, of which 42,000 were due to opioids (Jones et al., 2018). The U.S. Department of Health and Human Services (HHS) classified the opioid epidemic as a public health emergency in 2017 (HHS, 2017).

In response to this public health emergency, there were efforts to establish new pain management guidelines and to develop new pain management treatment modalities with a lower

abuse potential. The Drug Addiction Treatment Act of 2000 (DATA 2000) established a waiver that physicians could apply for in order to prescribe medications for the treatment of opioid dependence (Jones et al., 2018). Initially, physicians were only able to treat 30 patients, however, in 2006, they were able to apply for an increase to 100 patients after the first year of the waiver (Jones et al., 2018). Buprenorphine and the combination of buprenorphine plus naloxone were FDA-approved in 2002 which allowed waived physicians to prescribe them for the treatment of opioid dependence (Jones et al., 2018). The Comprehensive Addiction and Recovery Act of 2016 (CARA) allowed NPs and PAs to apply for a buprenorphine waiver after completing 24 hours of training (SAMHSA, 2016).

Treatment programs that incorporate both pharmacotherapy and biopsychosocial interventions have proven to be the most effective treatment for opioid dependence (Jones et al., 2018). Medication-assisted treatment (MAT) is the preferred treatment delivery method because it incorporates medication, behavioral therapy, and psychosocial supports. It has been shown that retention in a MAT program correlates with better patient outcomes (Timko et al., 2016). According to SAMSHA, MAT programs have been shown to improve patient survival, increase retention in treatment, decrease illicit opiate use, decrease criminal activity, increase ability to secure and maintain employment, improve birth outcome for moms with OUD, decrease risk of contracting HIV and Hep C, and decrease risk of relapse (SAMHSA, 2015).

This project will be implemented within a community-based substance use and recovery organization called Granite Wellness, located in Nevada County, a rural Northern California community. The population for the project is under-served, rural residents with opioid use disorder.

This problem relates to the setting for the project because substance abuse is assumed to be an urban problem, but in 2014, the rate of opioid overdose deaths was 45% higher in rural areas compared to urban areas (SAMHSA, 2018). Furthermore, due to limited resources in rural communities, residents are underserved when it comes to substance use disorder treatment (SAMHSA, 2018). Therefore, there is a need for the project, the expansion of MAT services at Granite Wellness, in order to provide the necessary treatment to address the high prevalence of opioid use disorder within this underserved, rural community. Currently, there is also a waiting list for MAT services at Granite Wellness because the need is greater than the available access.

Available Knowledge

The PICOT question is, in opioid use disorder (P), how does MAT (I) compared to standard treatment (C) affect treatment retention (O) within 12 months (T)? The summary of evidence is organized in an evaluation table in Figure 1. of Appendix A.

Substance use disorders (SUD) are relapsing conditions that result in high utilization of various healthcare resources. Painter et al. (2018) looked at the inpatient utilization of patients with SUD, in order to determine effective, lower-cost treatment options. They performed a retrospective chart review of the Veterans Health Administration national database focusing on patients with SUD, patients with co-occurring SUD and mental illness (MI), and patients with co-occurring SUD and serious mental illness (SMI), and their utilization of inpatient services. They reported that SUD/SMI and SUD/MI patients were higher utilizers than SUD patients. They also determined that patients with SUD alone primarily utilized inpatient medical services, patients with SUD/SMI primarily utilized inpatient psychiatric services, and patients with SUD/MI utilized medical, psychiatric, and substance-related inpatient services. Based upon these findings, they recommended coordination of outpatient medical, psychiatric and SUD services,

and case management in order to comprehensively treat these patients and reduce their use of hospital services. This article is rated Level II and good quality according to the Johns Hopkins Nursing Evidence-Based Practice Appendix E Research Evidence Appraisal.

The Nickasch, Lander, Marshalek, Dix & Sullivan (2017) article was a retrospective chart review to determine if the delivery format of group-based MAT, face-to-face versus telepsychiatry, had an impact on additional substance use, average time to achieve 30 and 90 consecutive days of abstinence, and treatment retention rates at 90 and 365 days. The medical records review consisted of 100 patients in the MAT program under the care of the same psychiatrist and who received medication management either face-to-face or via video conference. Both groups also received face-to-face group therapy with the same structure and goals, but with different therapists. The researchers found no statistical difference between the face-to-face and telepsychiatry groups regarding any of the outcome measures. However, with a p-value of 0.09, the telepsychiatry tended toward significance in achieving abstinence more quickly than the face-to-face group. The authors attempted to control for confounding by limiting patients to those under the care of the same physician which resulted in a small sample size and low statistical power. This article showed that when MAT is combined with face-to-face group therapy, the medication management can be delivered either face-to-face or via video conference, without having an impact on additional substance use, average time to achieve abstinence, or treatment retention. Although this study did not have a large enough sample size or enough statistical power to show statistical significance, it is clinically significant and can guide practice. The article is rated Level II and good quality according to the Johns Hopkins Nursing Evidence-Based Practice Appendix E Research Evidence Appraisal.

The Hewell, Vasquez & Rivkin (2017) article was a qualitative study that aimed to explore patient perceptions about buprenorphine and MAT in order to illuminate barriers to treatment access and utilization, and to better inform health policy. The researchers gathered data in 2 focus groups and semi-structured interviews of participants who had either been enrolled in or were currently enrolled in a MAT program. Grounded theory was used to code the data. The researchers utilized an outside data analysis expert in order to reduce any researcher biases. The researchers identified and described the following factors and their influence on seeking, participating and completing treatment: individual and systemic factors, models of addiction and MAT, barriers and facilitators, and the road to recovery. Understanding patient perceptions about MAT can guide changes in individual provider-patient interactions, treatment delivery, and health policy to facilitate and support long-term recovery. All participants agreed that MAT should not be solely medication management, rather, it should incorporate some supportive treatment. The study is limited by its small sample size that lacked diversity; therefore, the findings cannot be generalized. The researchers reported that even though they had a small sample size, they were able to gather enough data to answer all of the research questions and they reached data saturation. One of the main benefits of this study is that it outlines patient perceptions on treatment options for the very important issue of opioid addiction that has a major impact on the individual and the greater community. The article is rated Level V & good quality Johns Hopkins Nursing Evidence-Based Practice Appendix E & F.

The Truong et al. (2019) article was a qualitative study to identify treatment retention barriers for individuals with OUD who participated in a combined MAT and peer-support program. The researchers gathered data through in-depth, semi-structured individual interviews with clients and staff, and focus group discussions with current and past clients. They identified

that for individuals enrolled in a combined MAT and peer-support program, the barriers to treatment retention, and long-term recovery as an extension, include cravings and withdrawal symptoms, mental health issues, legal issues, stigma of medication, inflexible program requirements and employment issues. Addressing these barriers can change practice by helping to guide MAT protocols to make treatment more supportive. This study is limited by its small sample size and the findings are not generalizable. Researchers interacted with the participants prior to the study which may have resulted in some bias. A strength of this study is that both the staff and the clients agreed on the primary challenges to treatment retention in a MAT program. This article is rated as Level V & good quality according to the Johns Hopkins Nursing Evidence-Based Practice Appendix E & F.

Rationale

One of the frameworks that underpins the project is the Health Belief Model (HBM). The HBM states that people are likely to engage in a health behavior change if they believe they are susceptible to a condition, the condition is severe, they can reduce the likelihood or severity of the condition by acting, there are benefits to acting, and the perceived barriers can be overcome (Glanz, Rimer, & Viswanath, 2015). An example of perceived susceptibility is: according to National Safety Council “Injury Facts”, people are more likely to die from an opioid overdose than from a motor vehicle accident (National Safety Council, 2019). An example of perceived severity is: people with OUD have a higher risk of death (Hser et al., 2017). An example of perceived threat is: according to the CDC, 130 Americans die every day from an opioid overdose (CDC, 2018). An example of perceived benefits is: MAT is a proven, effective approach to treat opioid use disorder that consists of medication and behavioral therapy (SAMHSA, 2015). An example of perceived barriers is: many people with OUD report that they feel ashamed or

undeserving of care (McElrath & Joseph, 2018). An example of a cues to action is: give MAT a try even if other treatment options have not been effective because the MAT process approaches treatment differently by getting to know the patient, his/her preferences and values. An example of self-efficacy is: MAT programs advertise the positive health outcomes associated with treatment to motivate people that they can achieve those outcomes by participating in the treatment program as well.

Social Network Theory (SNT) is a theoretical framework that will also guide the project. SNT has three components: network environment, position in a network, and the effect of a networks structure and characteristics on performance (Glanz, Rimer, & Viswanath, 2015). The first component describes how an individual's actions are based upon one's network environment; people tend to associate with people who are similar to them and that is called homophily (Glanz, Rimer, & Viswanath, 2015). The second component describes how a person's position in a network influences his or her behavior (Glanz, Rimer, & Viswanath, 2015). The third component describes how networks have structure and how network characteristics influence system performance (Glanz, Rimer, & Viswanath, 2015). This framework describes how social networks, i.e. a MAT program, influences one's health-related behaviors, i.e. treatment retention. SNT predicts that an individual, surrounded by people in recovery, is more likely to engage in a recovery program as a result of homophily and influence.

Specific Aims

The purpose of this project is to improve health outcomes for patients with opioid use disorder in an underserved rural community in northern California by increasing access to medication assisted therapy (MAT) and evaluating factors that affect treatment retention. The AIM statement is: By January 2021, Granite Wellness Grass Valley Campus will expand and

evaluate Nurse-Managed Community-based Medication Assisted Treatment Services for an Underserved Rural Northern California Community to increase access to and retention in treatment for opioid use disorder.

Methods

Context

Contextual elements that are considered important are the key stakeholders. They include the opioid addicts, families/friends of the addicts, Granite Wellness employees, and the Nevada County community. The opioid addict role in this issue is working through a chronic, relapsing condition. The family/friend role in this issue is to provide support. The medical provider role is to be willing and able to address addiction, to engage in continuing education, and to facilitate the MAT program. The administrative and support staff role is to promote, support, and to participate in the facilitation of the MAT program. The Nevada County community role is to buy-in to MAT as an effective treatment for a serious public health problem and to provide funding in support of the MAT program and its expansion.

Proposed Intervention

The DNP student will begin by meeting with key stakeholders at Granite Wellness to understand the vision, mission and goals for the MAT program. The DNP student will evaluate the MAT services at Granite Wellness as developed and implemented by a previous DNP student. The initial evaluation will serve as baseline data and will assess: the current practices, the number of patients admitted to the program, the 3-month treatment retention rate, patient satisfaction surveys, and staff satisfaction surveys. The DNP student will schedule a follow-up meeting with key stakeholders to present the baseline data findings. The DNP student will assist in the expansion of MAT services as the buprenorphine waived providers are able to increase

their patient load from 30 to 100 patients, per the waiver regulations. The DNP student will assist in writing new MAT protocols that account for the increased workflow. The DNP student will evaluate the aforementioned outcome measures 3-months after the expansion of MAT services. The DNP student will present the findings of this DNP project to the key stakeholders at Granite Wellness.

There is a significant gap in the literature regarding MAT. In searching the databases, there were some articles in CINAHL, PubMed, Scopus, PsycINFO, and Joanna Briggs. There are opioid abuse and dependence treatment guidelines in Dynamed, but there are no specific guidelines for MAT. There were no systematic reviews on MAT in Cochrane.

MAT is not a particularly new treatment concept, but it has become more well-known because of the opioid epidemic. The demand for access to MAT programs has increased substantially, but there is not a lot of research on the specifics of this treatment option, particularly regarding delivery format. In fact, there are no standardized guidelines or protocols for MAT programs; some programs are face-to-face, some are via telehealth, some are individual-based, some are group-based, etc. It seems that the research on MAT programs cannot keep up with the opioid epidemic. Rather than wait on large-scale studies to provide statistically significant results and evidence-based guidelines, MAT programs are sprouting up based upon clinically significant data and evolving in response to better meet the needs of their specific patient populations. MAT programs are producing practice-based evidence that will lead to the development of standardized, evidence-based practices.

As mentioned earlier, MAT increases retention in treatment and reduces opioid use, risky behaviors and mortality (Jones, Campopiano, Baldwin, & McCance-Katz, 2015). There is a significant gap between the need for opioid dependence treatment and access to MAT.

Nationally, the gap was estimated to be 1 million people in 2012, and that estimate was based upon every waived physician maintaining a full patient load per their waiver capacity (Jones et al., 2015).

Based upon the research, the gap analysis in Figure 2. of Appendix B, revealed that the desired state is access to MAT within this rural Northern California community in order to provide treatment for the high prevalence of opioid use disorder and improve health outcomes within this rural population. The current state is limited access to and a wait list for MAT services at Granite Wellness resulting in an underserved opioid-dependent population with a high incidence of opioid overdose deaths. The action needed is to increase access to MAT at Granite Wellness and to assess factors that facilitate treatment retention.

The GANTT chart is in Figure 3. of Appendix C. The DNP student will meet with the DNP chair/clinical instructor in April 2020, during project implementation, and then in April to May 2021. The DNP recruit a doctorally prepared University of San Francisco (USF) faculty member as the second member of the committee in April 2020. The DNP student will maintain communication with the second committee member in June 2020 and January to May 2021. The DNP student will brief the MAT medical director and the Granite Wellness administration on the project between May and June 2020, and then provide a debrief in January and May 2021. The DNP student will brief the staff on the project during a staff meeting between May and June 2020 and the debrief will be provided in May 2021. The project will be implemented between June 2020 and January 2021. The data will be compiled between November 2020 and January 2021. The data analysis will be performed between November 2020 and February 2021. Recommendations will be made, based upon the data analysis, between February and May 2021.

The SWOT chart is in Figure 4 of Appendix D. The main strengths of this project is that MAT is the most effective treatment for opioid dependence (Jones et al., 2018). Another strength of this project is that it aims to increase access to MAT services at Granite Wellness through the expansion of a current program, rather than developing and implementing a new program. The expansion of MAT services at Granite Wellness will bridge the gap between demand for and access to opioid use disorder treatment in Nevada County, offer better opioid use disorder management in Nevada County, and improve health outcomes for people with opioid use disorder in Nevada County (Timko et al., 2016). Another strength of this project is that the Granite Wellness administration is on board and has bought in to the expansion of MAT services.

The main weakness of this project is getting and maintaining buy-in from the buprenorphine-waivered providers. The waived providers will be able to increase their patient load from 30 to 100 patients per the waiver regulations; their willingness to take on and maintain the increased workload will be a limiting factor in this project. Another weakness of this project is that the support staff will also experience an increase in workload. The Granite Wellness administration has approved the expansion of MAT services at the Grass Valley campus, but there are no plans to expand the physical space so that may pose a limitation to the services that are actually able to be provided. The final weakness to consider in this project is related to addiction as a chronic, relapsing condition and, as a corollary, providers and staff working in addiction medicine can experience strain and burnout.

The opportunity that this project offers is an effective means to address the opioid epidemic. The expansion of MAT services at Granite Wellness will have a direct impact on this public health issue within Nevada County, and over time, the downstream effects will be

observed on the national level. The expansion of MAT services has the potential to improve treatment retention rates by incorporating medication, behavioral therapy, and psychosocial supports (Jones et al., 2018). MAT can improve treatment retention rates which have been shown to correlate with better health outcomes (Timko et al., 2016). There is an opportunity for patient and staff satisfaction with the expansion of MAT services as a result of the improved retention rates and better health outcomes.

The threats to this project include patient buy-in. There is a stigma that people who are enrolled in MAT are not truly in recovery because one drug (i.e. buprenorphine) is being taken in the place of another (i.e. heroin). Stigma has been cited as one of the main barriers to both treatment access and retention (McElrath & Joseph, 2018). With any treatment plan, there is a risk that patients will be non-compliant. Although buprenorphine is considered to be “less-addictive” as compared to methadone, there is still a risk of diversion. Lastly, there is a risk of relapse which would pose a threat to the success of this project.

All in all, the strengths outweigh the weaknesses of this program. Based upon the SWOT analysis completed in Figure 4. of Appendix D, the program is feasible.

The Work Breakdown Structure (WBS) Tree is in Figure 5. of Appendix E. The expansion of MAT services at Granite Wellness will occur in five phases: initiation, planning, execution, control and closeout.

During the initiation phase, a gap analysis will be completed based upon a thorough literature review and a needs assessment specific to Granite Wellness in Grass Valley. The DNP student will meet with key stakeholders at Granite Wellness to understand the vision, mission and goals for the MAT program. The DNP student will evaluate the MAT services at Granite Wellness as developed and implemented by a previous DNP student. The

initial evaluation will serve as baseline data and will assess: the current practices, the number of patients admitted to the program, the 3-month treatment retention rate, patient satisfaction surveys, and staff satisfaction surveys. A project charter will be developed and submitted to the DNP chair for review. Upon approval, the project charter will be presented to Granite Wellness stakeholders for their approval.

During the planning phase, the preliminary plan will be presented at a Granite Wellness staff meeting. The project team will be formed. There will be a project team kickoff meeting to present the preliminary plan and to get the team excited about the upcoming phases of the project. The project plan will be developed and finalized. The project plan will be submitted and approved by the DNP chair. Then, the project plan will be submitted and approved by Granite Wellness stakeholders.

During the execution phase, there will be a project kickoff meeting to update all stakeholders on the project plan. Current MAT protocols will be verified and validated. The protocols will be updated, as needed, to align with the upcoming expansion. The data management system capabilities will be tested to verify its ability to manage an increase in data and to track data throughout this project for analysis. At this time, we will begin to advertise locally about the upcoming expansion of MAT services at Granite Wellness. In order to ease providers and staff in to this expansion, there will be a graduated expansion that will begin by increasing each provider's buprenorphine empanelment from 30 to 60 patients and then from 60 to 100 patients. Any initial "growing pains" that are observed during the initial graduated expansion, will be troubleshooted prior to the second graduated expansion. Additional training may need to be provided to the support

staff in order to assist them through this expansion. At this time, we will be ready to go live.

During the control phase, project management will take place. There will be project status meetings. Risk management will be important especially because the expansion of these services is intended to reduce, both short-term and long-term, risks associated with opioid use disorder. The project management plan will be updated, as needed.

During the closeout phase, data will be collected with a particular emphasis on the number of patients admitted to the program, the treatment retention rate, patient satisfaction surveys, and staff satisfaction surveys. Lessons learned will be documented. Data will be presented to Granite Wellness stakeholders. The prospectus will be submitted to the DNP chair. The final manuscript will be submitted to the DNP chair.

The proposed budget is in Figure 6. of Appendix F. The DNP student will work at Granite Wellness 1 day/week for at least 6 months to assist in the expansion of MAT services and to evaluate the outcome measures 3-months after the expansion of MAT services. The estimated cost of those services is \$75/hr., the average NP hourly rate in California x 192 hrs. = \$14,400 (American Association of Nurse Practitioners, 2020). The estimated cost of copies of the satisfaction surveys and print outs from the electronic health record are \$0.073/copy totaling approximately \$10.00.

The communication plan/matrix is in Figure 7. of Appendix G. For overall project planning, the DNP student will consult the project chair monthly and as needed via zoom, email and phone. For logistics, the DNP student will consult the project chair, MAT medical director & Granite Wellness administration prior to, during and post-intervention via face-to-face meetings

at Granite Wellness and email. The DNP student will give status updates to the project chair, MAT medical director & Granite Wellness administration as needed via email, zoom and face-to-face. The DNP student will consult the project chair and Granite Wellness administration for any materials needed between April and June 2020, via email, phone, face-to-face. The project chair and Granite Wellness administration will be consulted to determine time, space, and technology requirements for the intervention between April and June 2020, via email, phone, and face-to-face.

Proposed Outcome Measures

This intervention will change practice because the expansion of MAT services at Granite Wellness will increase access to the preferred treatment delivery system for opioid use disorder and an increase in the treatment retention rate correlates to improved patient outcomes. The proposed outcome measures are the number of patients admitted to MAT services, 3-month treatment retention rate, patient satisfaction, and staff satisfaction. The effectiveness of this DNP project will be observed by an increase in the number of patients admitted to MAT services, a 10% improvement in the 3-month treatment retention rate, and satisfactory answers on the patient and staff surveys.

Proposed Analysis

Excel will be utilized to collect and analyze the baseline and post-intervention data. Survey Monkey will be utilized to collect the pre and post satisfaction surveys.

Ethical Considerations

Patient privacy will be protected according to HIPAA policies. The project relates to the Jesuit value of Cura Personalis or care of the whole person: mind, body, and spirit because the premise of MAT is incorporating care of the whole person in to the treatment of the opioid use

disorder. (Ctzejanda, 2019). The project relates to the ANA Code of Ethics Provision 3: The nurse promotes, advocates for, and protects the rights, health, and safety of the patient because the MAT program at Granite Wellness is managed by nurses who promote, advocate for, and protect the rights, health and safety of the patients (American Nurses Association, 2015).

Discussion

Stigma has been identified as one of the main barriers to both treatment access and retention (McElrath & Joseph, 2018). The MAT approach aims to provide supportive, non-judgmental, patient-centered treatment with an emphasis on shared-decision making between the medical provider and the patient so as to mitigate the effects of stigma.

There are patient and provider barriers when it comes to MAT. Patient barriers include, but are not limited to, access to an available provider who is willing to prescribe, stigma as mentioned above, and the cost of treatment (Jones et al., 2015). This intervention aims to expand MAT services at Granite Wellness so that patients will have ready access to a provider who is willing to prescribe. Granite Wellness provides MAT services to anyone with an opioid use disorder regardless of their ability to pay to mitigate the cost of treatment as a barrier.

Provider barriers include, but are not limited to, confidence in treating addiction, lack of professional and/or institutional support, and reimbursement issues (Jones et al., 2015). There is a free 24-hrs online training on medication-assisted treatment to increase provider confidence in treating addiction. The medical director at Granite Wellness provides mentorship and professional support. The Granite Wellness administration offers institutional support of the MAT program. Reimbursement issues are bigger than the scope of this project, unfortunately.

Conclusions

The opioid epidemic has had significant, negative implications on individuals, as well as on society as a whole, within the United States. Medication-assisted treatment is widely accepted as the most effective treatment for opioid dependence. Rural communities are disproportionately affected by this problem and are underserved when it comes to treatment access. There is a significant gap between opioid dependence treatment need in Nevada County and MAT access at Granite Wellness. The potential short-term implications of this change in practice are increased access to MAT at Granite Wellness and improved treatment retention rates for the rural residents enrolled in MAT at Granite Wellness. The potential long-term implications of this change in practice are better health outcomes for residents of Nevada County with opioid use disorder and, on the macro level, an end to the opioid epidemic.

References

- American Association of Nurse Practitioners (2020). 2019 AANP National NP Sample Survey: Compensation.
- American Nurses Association (2015). Code of ethics for nurses with interpretive statements. Silver Spring, MD: Nursesbooks.org Retrieved from <https://www.nursingworld.org/practice-policy/nursing-excellence/ethics/code-of-ethics-for-nurses/coe-view-only/>
- CDC. (2018). Opioid Overdose. Retrieved from <https://www.cdc.gov/drugoverdose/epidemic/index.html>
- Ctzejanda, (2019). Cura Personalis. Retrieved from <https://www.usfca.edu/about-usf/who-we-are/our-values/cura-personalis>
- Glanz, K., Rimer, B., & Viswanath, K. (2015). *Health behavior : Theory, research, and practice* (Fifth edition. ed.) Jossey-Bass.
- Hagemeier, N. (2018). Introduction to the Opioid Epidemic: The Economic Burden on the Healthcare System and Impact on Quality of Life. Retrieved from <https://www.ajmc.com/journals/supplement/2018/combating-opioid-epidemic/intro-opioid-epidemic-economic-burden-on-healthcare-system-impact-quality-of-life>
- Hewell, V. M., Vasquez, A. R., & Rivkin, I. D. (2017). Systemic and individual factors in the buprenorphine treatment-seeking process: A qualitative study. *Substance Abuse Treatment, Prevention & Policy, 12*, 1-10. doi:10.1186/s13011-016-0085-y
- HHS. (2019). What is the U.S. Opioid Epidemic? Retrieved from <https://www.hhs.gov/opioids/about-the-epidemic/index.html>
- Hser, Y., Mooney, L., Saxon, A., Miotto, K., Bell, D., Zhu, Y., . . . Huang, D. (2017). High

mortality among patients with opioid use disorder in a large healthcare system. *Journal of Addiction Medicine*, 11(4), 315-319. doi:10.1097/ADM.0000000000000312

Jones, C., Campopiano, M., Baldwin, G., & McCance-Katz, E. (2015). National and state treatment need and capacity for opioid agonist medication-assisted treatment. *American Journal of Public Health*, 105(8), e63. doi:10.2105/AJPH.2015.302664

Jones, M., Viswanath, O., Peck, J., Kaye, A., Gill, J., & Simopoulos, T. (2018). A brief history of the opioid epidemic and strategies for pain medicine. *Pain and Therapy*, 7(1), 13-21. doi:10.1007/s40122-018-0097-6

McElrath, K., & Joseph, H. (2018). Medication-assisted treatment (MAT) for opioid addiction: Introduction to the special issue. *Substance use & Misuse*, 53(2), 177-180. doi:10.1080/10826084.2017.1404106

National Safety Council. (2019). For the First Time, We're More Likely to Die From Accidental Opioid Overdose Than Motor Vehicle Crash. Retrieved from <https://www.nsc.org/in-the-newsroom/for-the-first-time-were-more-likely-to-die-from-accidental-opioid-overdose-than-motor-vehicle-crash>

Nickasch, M., Lander, L., Marshalek, P., Dix, E., & Sullivan, C. (2017). Treatment outcome comparison between telepsychiatry and face-to-face buprenorphine medication-assisted treatment for opioid use disorder: A 2-year retrospective data analysis. *Journal of Addiction Medicine*, 11(2), 138-144. doi:10.1097/ADM.0000000000000287

Painter, J. M., Malte, C. A., Rubinsky, A. D., Campellone, T. R., Gilmore, A. K., Baer, J. S., & Hawkins, E. J. (2018). High inpatient utilization among veterans health administration patients with substance-use disorders and co-occurring mental health conditions. *The*

American Journal of Drug and Alcohol Abuse, 44(3), 386-394.

doi:10.1080/00952990.2017.1381701

SAMHSA. (2015). Medication and Counseling Treatment. Retrieved from

<https://www.samhsa.gov/medication-assisted-treatment/treatment>

SAMHSA. (2016). Qualify for NP and PA Waivers. Retrieved from

<https://www.samhsa.gov/medication-assisted-treatment/training-materials-resources/qualify-np-pa-waivers>

SAMHSA. (2018). Rural Health Information Hub. Retrieved from

<https://www.ruralhealthinfo.org/topics/substance-abuse>

Scapel, S. (2016). The joint commission deserves some blame for the opioid crisis. *Missouri*

Medicine, 113, 449. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/30228526>

Timko, C., Schultz, N., Cucciare, M., Vittorio, L., & Garrison-Diehn, C. (2016). Retention

in medication-assisted treatment for opiate dependence: A systematic review. *Journal of Addictive Diseases*, 35(1), 22-35. doi:10.1080/10550887.2016.1100960

Truong, C., Krawczyk, N., Dejman, M., Marshall-Shah, S., Tormohlen, K., Agus, D., & Bass, J.

(2019). Challenges on the road to recovery: Exploring attitudes and experiences of clients in a community-based buprenorphine program in baltimore city. *Addictive Behaviors*, 93, 14-19. doi:10.1016/j.addbeh.2019.01.020

Appendix A

Figure 1. Evaluation Table.

Citation	Purpose	Research Design	Methodology	Findings	Conclusions	Critical Appraisal Tool & Rating
Painter et al. (2018)	Substance use disorders are relapsing conditions that result in high utilization of various healthcare resources. This article looked at the inpatient utilization of patients with substance use disorder (SUD) in order to determine effective, lower-cost treatment options.	Retrospective chart review	Data was collected from the Veterans Health Administration national database regarding patients with substance use disorder (SUD), patients with co-occurring SUD and mental illness (MI), and patients with co-occurring SUD and serious mental illness (SMI) and their utilization of inpatient services.	They reported that SUD/SMI and SUD/MI patients were higher utilizers than SUD patients. They also determined that patients with SUD alone primarily utilized inpatient medical services, patients with SUD/SMI primarily utilized inpatient psychiatric services, and patients with SUD/MI utilized medical, psychiatric, and substance-	Based upon these findings, they recommended coordination of outpatient medical, psychiatric and SUD services and case management in order to comprehensively treat these patients and reduce their use of hospital services	Level II and good quality according to the Johns Hopkins Nursing Evidence-Based Practice Appendix E Research Evidence Appraisal

Citation	Purpose	Research Design	Methodology	Findings	Conclusions	Critical Appraisal Tool & Rating
Nickasch, Lander, Marshalek, Dix & Sullivan (2017)	The purpose of this pilot study was to determine if the delivery format of group-based medication-assisted treatment, face-to-face versus telepsychiatry, had an impact on additional substance use, average time to achieve 30 and 90 consecutive days of abstinence, and treatment retention rates at 90 and 365 days.	retrospective chart review	The medical records review consisted of 100 patients in the medication-assisted treatment program under the care of the same psychiatrist and who received the medication management either face-to-face or via video conference. Both groups also received face-to-face group therapy with the same structure and goals, but with different therapists. The data collected was reviewed and assessed with SAS 9.2 and R software, version R	There was no statistical significance between groups regarding additional substance use, average time to achieve 30 days and 90 days consecutive of abstinence and treatment retention rates at 90 and 365 days. With a p-value of 0.09, the telepsychiatry tended toward significance in achieving abstinence more quickly than the face-to-face group. The authors	The demand for MAT programs has risen with the opioid epidemic. This study found no statistical difference between face-to-face MAT and telepsychiatry MAT in terms of additional substance use, average time to achieve 30 and 90 consecutive days of abstinence, and treatment retention rates at 90 and 365 days.	Level II and good quality according to the Johns Hopkins Nursing Evidence-Based Practice Appendix E Research Evidence Appraisal

			3.1.3.	attempted to control for confounding by limiting patients to those under the care of the same physician which resulted in a small sample size and low statistical power.		
Citation	Purpose	Research Design	Methodology	Findings	Conclusions	Critical Appraisal Tool & Rating
Hewell, Vasquez & Rivkin (2017)	The purpose of this study was to explore patient perceptions about buprenorphine and medication assisted treatment in order to illuminate barriers to treatment access and utilization and to better inform health policy.	Qualitative study	2 Focus groups (1 st group had 4 participants who were currently engaged in MAT and 2 nd group had 4 participants who were in recovery) and semi-structured interview (3 participants) looked at participants' attitudes, perceptions and knowledge of MAT. There were 11	Individual factors (i.e. intrinsic attitudes, beliefs, values, and motivations) and systemic factors (i.e. social support, family, treatment, public policy, and culture) influence one's treatment-seeking behaviors as well as treatment	Understanding the perceptions of patients, who could benefit from buprenorphine treatment, about MAT can guide changes in treatment delivery, health policy, and individual provider-patient interactions to facilitate long-term recovery.	Level V & good quality Johns Hopkins Nursing Evidence-Based Practice Appendix E & F

	Research Design: Qualitative study		participants total and they had either received MAT services at some point in their lives or were currently enrolled in a MAT program.	retention and completion. The researchers identified three key domains around treatment-seeking behaviors: models of addiction and MAT (one's understanding of addiction and MAT influenced by personal beliefs and society), barriers and facilitators (attitudes, support, resources, and treatment structure), and the road to recovery (prioritizing recovery as a lifelong process).		
Citation	Purpose	Research Design	Methodology	Findings	Conclusions	Critical Appraisal Tool & Rating

<p>Truong et al. (2019)</p>	<p>The purpose of this study was to identify treatment retention barriers for individuals with opioid use disorder (OUD) who participate in a combined medication-assisted treatment (MAT) and peer-support program.</p>	<p>Qualitative study</p>	<p>In-depth, semi-structured individual interviews with clients and staff and focus group discussions with current and past clients.</p>	<p>Barriers to treatment include cravings and withdrawal symptoms, mental health issues, legal issues, stigma of medication, inflexible program requirements and employment issues.</p>	<p>Addressing barriers to treatment retention can improve long-term recovery.</p>	<p>Level V & good quality according to the Johns Hopkins Nursing Evidence-Based Practice Appendix E & F</p>
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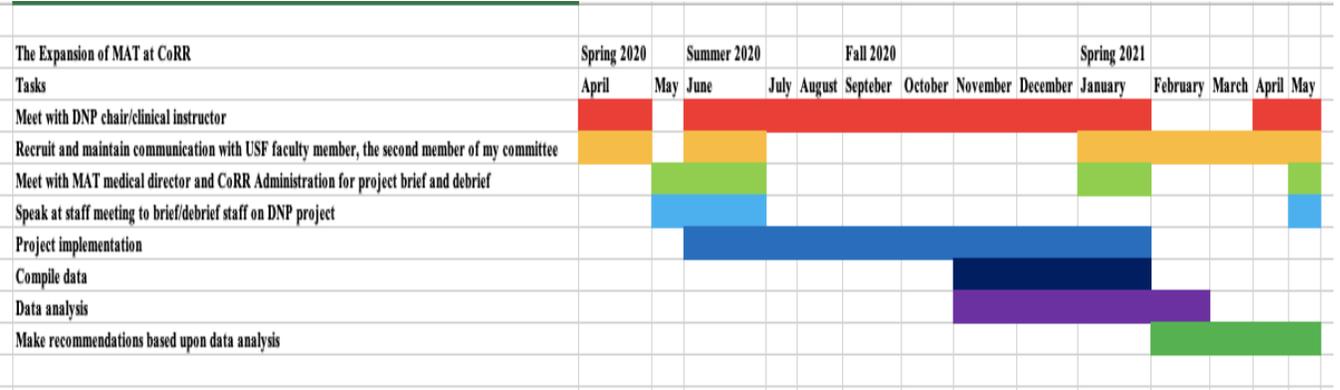
Appendix B

Figure 2. Gap Analysis.

<ul style="list-style-type: none"> • Desired State: 	<ul style="list-style-type: none"> • Access to MAT within this rural Northern California community in order to provide treatment for the high prevalence of opioid use disorder and improve health outcomes within this rural population.
<ul style="list-style-type: none"> • Current State: 	<ul style="list-style-type: none"> • Limited access to and a wait list for MAT services at Granite Wellness resulting in an underserved opioid-dependent population with a high incidence of opioid overdose deaths.
<ul style="list-style-type: none"> • Action Needed: 	<ul style="list-style-type: none"> • Increase access to MAT at Granite Wellness and to assess factors that facilitate treatment retention.

Appendix C

Figure 3. GANTT Chart.



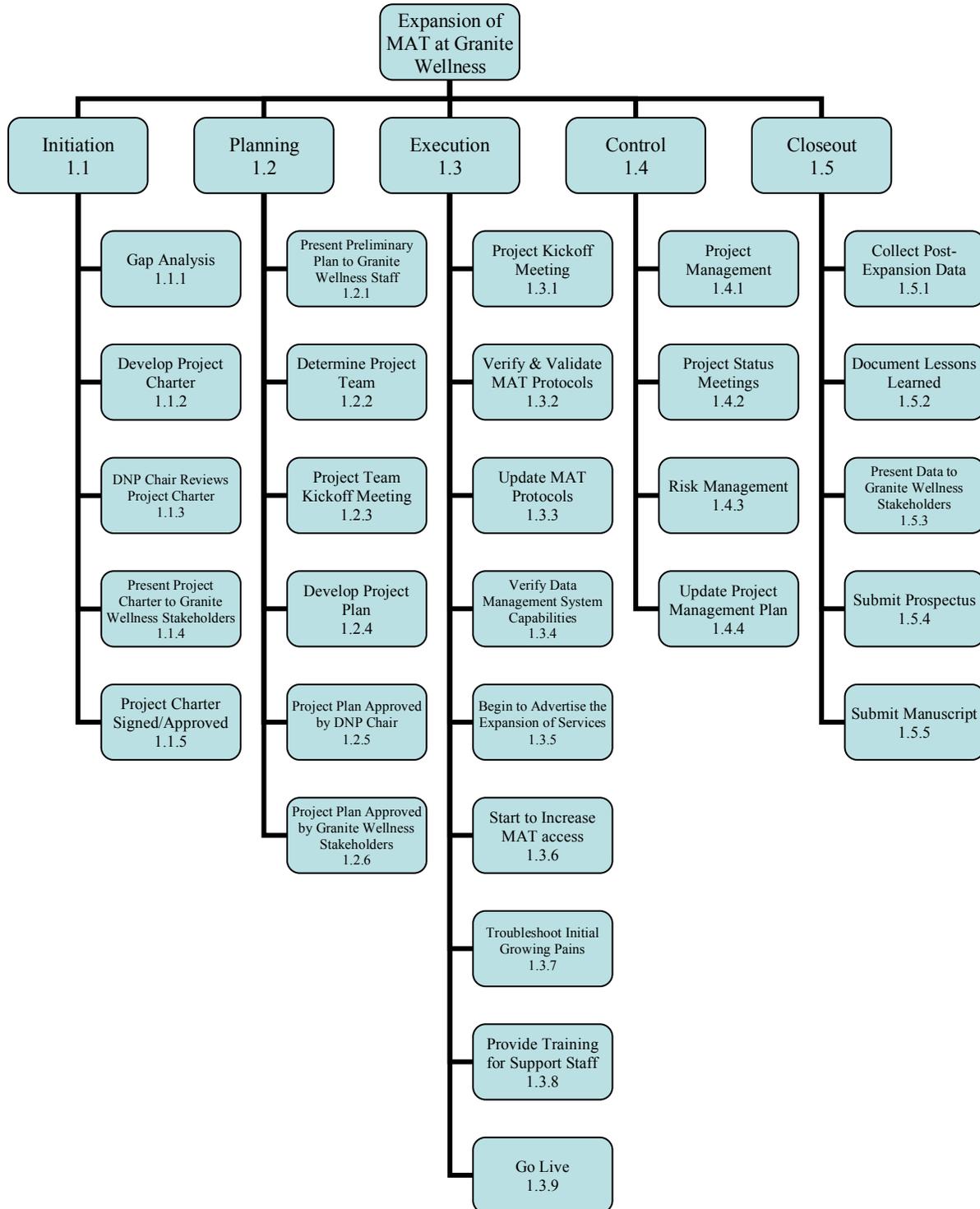
Appendix D

Figure 4. SWOT Analysis.

<p>STRENGTHS</p> <p>MAT is the most effective treatment for opioid dependence.</p> <p>Increased access to MAT services at Granite Wellness through the expansion of a current practice.</p> <ul style="list-style-type: none"> →bridge the gap between demand for and access to opioid use disorder treatment in Nevada County. →better opioid use disorder management in Nevada County. → improved health outcomes for people with opioid use disorder in Nevada County. <p>Program buy-in by the Granite Wellness administration.</p>	<p>WEAKNESSES</p> <p>Ability to get buprenorphine waived providers buy-in to the increased workload in order to increase patient access to treatment.</p> <p>Increased responsibility for support staff.</p> <p>Physical space limitations.</p> <p>Addiction medicine provider and staff strain and burnout.</p>
<p>OPPORTUNITIES</p> <p>The expansion of these services is relevant to addressing the opioid epidemic.</p> <p>MAT can:</p> <ul style="list-style-type: none"> →improve treatment retention rates. →improve health outcomes. →improve patient satisfaction. →improve staff satisfaction. 	<p>THREATS</p> <p>Program buy-in by patients with opioid use disorder.</p> <p>Stigma that enrollment in MAT services means that they are not clean and sober.</p> <p>Treatment non-compliance.</p> <p>Diversion of buprenorphine.</p> <p>Relapse.</p>

Appendix E

Figure 5. Work Breakdown Structure.



Appendix F

Figure 6. Proposed Budget.

Item	Time	Cost	Totals
DNP student at Granite Wellness	1 day per week x 6 months	Assist in the expansion of MAT services and evaluate the outcome measures 3-months after the expansion of MAT services.	\$75/hr. x 192 hrs. = \$14,400.
Supplies	1 day per week x 6 months	Copies of satisfaction surveys and print outs from electronic health record: \$0.073/copy.	\$10.00

Appendix G

Figure 7. Communication Plan/Matrix.

Information	Consulted	When	How	Responsible
Overall Project Planning	DNP Chair	Monthly and as needed	Zoom, email, phone	DNP student
Intervention Planning (Logistics)	DNP Chair, MAT Medical Director & Granite Wellness Administration	Meeting prior to, during and post intervention	Face-to-face at Granite Wellness, email	DNP student
Status Updates	DNP Chair, MAT Medical Director & Granite Wellness Administration	As needed	Email, zoom, face-to-face	DNP student
Intervention Materials	DNP Chair & Granite Wellness Administration	April to June 2020	Email, phone, face-to-face	DNP student
Time, Space, Technology Requirements for Intervention	DNP Chair & Granite Wellness Administration	May 2020	Email, phone, face-to-face	Granite Wellness