Summer 2023

Utilizing a Multidisciplinary Team Approach to Opioid Stewardship at an Interventional Pain Clinic

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DNP Manuscript Defense Approval

First Name: * Georgemarie Last Name: * Garber

Date: * 07/17/2023

Choose your DNP program: *
- ○ Adult-Gerontology Acute Care Nurse Practitioner (Doctor of Nursing Practice)
- ○ Family Nurse Practitioner (Doctor of Nursing Practice)
- ◉ Post-Master's DNP (Doctor of Nursing Practice)

Manuscript Title: * Utilizing a Multidisciplinary T

Date of Manuscript Approval: * 07/17/2023

Student Signature	Electronically signed by Georgemarie Garber on 07/17/2023 9:17:16 AM
Chair, DNP Manuscript Signature	Electronically signed by Amanda Bullard on 07/17/2023 9:50:19 AM
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Dean of Graduate Studies Signature	Electronically signed by Channing Ford on 07/19/2023 8:23:45 PM

Utilizing a Multidisciplinary Team Approach to Opioid Stewardship at an Interventional Pain Clinic

A DNP Project Submitted to the
Graduate Faculty
of Jacksonville State University
in Partial Fulfillment for the
Requirements for the Degree of
Doctor of Nursing Practice

By
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Jacksonville, Alabama
August 4, 2023

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Abstract

Background: The opioid epidemic is a preventable health threat that is a recognized national problem by the Centers for Medicare and Medicaid Services (CMS) and Health and Human Services (HHS). The evidence-based Opioid Stewardship (OS) toolkit is essential in the opioid epidemic because it supports identifying patients at risk for opioid aberrancy. However, at the Interventional Pain Management Clinic (IPMC), a chart review on the completion rates of the OS toolkit components for new patients admitted in June 2022 revealed that providers were not consistently completing components of the OS toolkit such as Opioid Risk Tool (ORT), the Morphine Milligram Equivalent (MME), the Prescription Drug Monitoring Program (PDMP), and the urine drug screen (UDS).

Purpose: The project aims to decrease inconsistent UDS in all new patients at the IPMC and increase provider adherence in completing the opioid stewardship (OS) toolkit by implementing a multidisciplinary approach to OS.

Methodology: This quality improvement (QI) project used the plan-do-study-act (PDSA) method and Kotter's Change Model (KCM) to guide best practices for the multidisciplinary team approach to OS. The QI consists of a formal educational session provided to multidisciplinary team members in the IPMC regarding appropriate opioid prescribing for chronic non-malignant pain (CNMP) patients based on the Centers for Disease Control and Prevention (CDC) Prescribing Opioids for Pain Guidelines and the OS toolkit.

Results: The outcome data from the chart reviews, pre-and post-implementation, reveal that a multidisciplinary team approach to OS did not result in a statistically significant decrease in inconsistent UDS. However, the project did result in a clinically significant in improvement in the completion of the OS toolkit component and inconsistent UDS.

Conclusion: Continually use of the evidence-based intervention at the IPMC can identify patients at risk for opioid aberrancy and improve outcomes.

Keywords: the opioid epidemic, opioid risk tool, opioid misuse, morphine milligram equivalent, prescription drug monitoring program, urine drug screen opioid abuse, CDC guidelines, opioid stewardship tool kit, multidisciplinary team approach

Acknowledgements

Thank God for guiding me through this process. I want to express my profound appreciation to my sons as I commenced this journey to obtain my Doctor of Nursing Practice (DNP). They have been supportive, patient, and caring during my educational journey. They have celebrated me throughout the DNP process as I grew personally and professionally. I want my sons to reach for the stars and pursue higher education. Thank you to my preceptor and chair, Dr. M and Dr. Bullard for your guidance throughout this process. Your confidence and support inspired me.

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Synthetic opioids such as fentanyl, and pain relievers available legally by prescription, such as oxycodone (OxyContin), hydrocodone (Vicodin), codeine, morphine, and many others, are classified as opioids (National Institute on Drug Abuse [NIDA], 2022). The misuse or abuse of opioid medication can cause overdose or death. According to the NIDA (2022), opioid-involved overdose deaths rose from 21,088 in 2010 to 47,600 in 2017. They remained steady in 2018, with 46,802 deaths. However, deaths significantly increased through 2020 to 68,630 overdoses. According to the Maryland's Opioid Operational Command Center (Maryland's OOCC, 2021) from January to June 2021, prescription opioid-related fatal overdoses increased by 15.7%, rising from 216 in the second quarter of 2020 to 250 in Baltimore's second quarter of 2021. There was a substantial 22.8% increase from 2019 to 2020, while a steady reduction in these events occurred annually from 2016 to 2019. The increased deaths from prescription opioids warrant immediate action to reduce the risk of opioid aberrancy (Maryland's OOCC, 2021). The opioid epidemic is a significant national and preventable health threat. The opioid epidemic is recognized as a national problem by the Centers for Medicare and Medicaid (CMS) and Health and Human Services (HHS). An increase in death from prescription opioids warrants prompt action for identifying those at risk of opioid aberrancy before a prescription is written.

At the Interventional Pain Management Clinic (IPMC), providers are not consistently completing the identified risk mitigation interventional tools in the opioid stewardship (OS) toolkit before initiating opioids to chronic non-malignant pain (CNMP) patients. A retrospective chart review of completion rates of the OS toolkit components for new patients admitted to the IPMC in June 2022 revealed a 22% completion rate for the Opioid Risk Tool (ORT), a 40 %

completion rate for documenting the Morphine Milligram Equivalent (MME), a 35% completion rate of reviewing the Prescription Drug Monitoring Program (PDMP), and a 20% completion rate of obtaining a urine drug screen (UDS) on admission. Out of the 20% completion rate of urine drug screens, 82% of patients had inconsistent urine screens at three months follow-ups. The project aims to utilize a multidisciplinary team approach to opioid stewardship (OS) to increase providers' completion of the OS toolkit and decrease inconsistent UDS. The multidisciplinary team approach to OS is an evidence-based approach that effectively implements stewardship programs (Smith, 2020).

Background

On October 26, 2017, President Donald Trump declared the opioid crisis a public epidemic and a national health emergency (CMS, 2022). The opioid epidemic has a deadly and costly effect on the nation. The economic cost of the U.S. opioid epidemic in 2017 was estimated at one billion U.S. dollars, including the cost of an opioid use disorder, estimated at $471 billion, and the cost of a fatal opioid overdose, estimated at $550 billion (Luo et al., 2021). Therefore, the detrimental effect of the opioid epidemic on the population is a concerning problem that has significant consequences for IPMC and CNMP patients.

Chronic non-malignant pain (CNMP) patients are at an increased risk for opioid abuse and misuse. The CNMP is among the most common indications for long-term opioid treatment, with a high risk of abuse and dependence (Song et al., 2022). The CDC (2021) used data from the 2019 National Health Interview Survey (NHIS) to estimate that 50.2 million U.S. adults experience chronic pain, and 22.1% of adults in the United States with chronic pain use prescription opioids. Increasing rates of opioid misuse and abuse have become prominent topics in medical, public health, and mainstream media. However, the reality is that this growing trend is primarily related to the misuse of prescription medications (Groenewald et al., 2022). Twenty-

seven percent of patients at the highest risk of overdose obtain opioids using their prescription. In the U.S., at least half of opioid overdose deaths are connected to prescription opioids (American Academy of Family Physicians Foundation [AAFP], 2019). In addition, risk mitigation strategies need to be implemented due to the risk of severe opioid prescribing in the CNMP population.

Due to the misuse and abuse of opioid medications, the CDC has recommendations and guidelines for CNMP receiving opioid drugs. The CDC (2021) indicates that evidence-based recommendations can assist providers with proper prescribing. While prescribing, providers must consider the following: when to initiate or continue opioids, risk assessment, opioid selection, dosage, duration, follow-up, and discontinuation. In addition, the CDC (2021) recommends assessing patients' risk factors for opioid-related harms and ways to mitigate risk by evaluating the patient's risk factors, reviewing state-based PDMP to identify patients at risk for addiction or overdose, and administering UDS. In addition, starting with the lowest effective dose of immediate-release opioids and using opioids only when the benefits outweigh the risks is essential. The CDC's evidence-based guidelines for OS to identify patients at risk of opioid aberrancies are as follows:

- Use strategies to evaluate opioid misuse or abuse, like ORT mitigate risks.
- Incorporate the patient's risk of overdose, history of substance abuse disorder, and MME.
- Review the PDMP data for the patient history of abuse and opioid use history before starting opioid therapy.
- Obtain UDS before initiating opioid therapy to assess for prescribed medication or other controlled prescription or illicit drugs (CDC, 2021).

Opioid Stewardship Toolkit

The OS toolkit initiated before opioid prescribing can reduce opioid misuse or abuse. The OS toolkit includes the ORT, UDS, MME, and PDMP. The ORT is one of many risk mitigation assessment tools used to assess CNMP patients at risk of opioid misuse or abuse. The ORT is a validated screening instrument commonly used to evaluate the risk of future aberrant opioid abuse among CNMP patients prescribed opioids for pain relief (Brott et al., 2022). Patients prescribed opioids risk death, overdose, and opioid use disorder (Ducharme and Moore, 2019). Due to the risk of opioid addiction, CNMP guidelines strongly suggest screening all patients at risk for opioid abuse and misuse before prescribing opioids. The ORT can be completed in less than one minute; it evaluates the patient's personal history, family history and history of substance abuse, age, history of preadolescent sexual abuse, and specific psychiatric disorders. The tool is administered during the patient's initial visit before opioids are prescribed. The overall risk score obtained from the ORT guides providers in determining the patient's UDS risk category. Zero to three means low risk, four to seven means medium risk and eight or higher denotes high risk. Permission was requested from Dr. Linda Weber (See Appendix A) to include the ORT in the project.

The Urine Drug Screen (UDS) is another tool that can predict the potential for opioid abuse or misuse. Drug screening for opioid misuse or abuse is necessary because patients falsely report aberrant behaviors or opioid diversion. In addition, urine drug screening improves patients' adherence to opioid therapy and patient outcomes (Argoff et al., 2018). A UDS should be collected at the patient's initial visit as a baseline, and further collection depends on the UDS risk category assigned. The UDS monitors for medication compliance. Urine drug screening allows the clinician to verify the patient's self-reported prescription or illicit drug use by

objectively evaluating whether the patient is adhering to the treatment plan. UDS is used to justify ongoing chronic opioid therapy versus the patient disregarding the treatment plan to support tapering or stopping chronic opioid therapy (Mahajan, 2017).

The electronic database prescription drug monitoring program (PDMP) tracks controlled substance prescriptions in a state. The PDMP is also essential in identifying a patient's opioid abuse or misuse risk, improving opioid prescribing, promoting safety, and informing clinical practice (CDC, 2021). It provides healthcare providers with timely information about prescribing and patient behaviors contributing to the epidemic and facilitates an agile and targeted response to the opioid epidemic (CDC, 2021). Adler and Mallick-Searle (2022) indicate that PDMP is the most commonly endorsed tool for risk mitigation when initiating opioids. Conducting a risk assessment before initiating opioids is essential to proper opioid prescribing. The PDMP serves a vital role in assisting providers in identifying a patient's risk of aberrant behaviors. All stakeholders have supported PMDP as an integral component of risk mitigation.

Morphine Milligram Equivalent (MME), developed by the CDC, is a numerical value that compares the potency of opioids to morphine. Opioid doses were standardized to morphine milligram equivalents (MMEs) using National Drug Code-specific conversion factors (Kiang et al., 2020). The MME is a standardized clinical tool that can assist providers with OS. The CDC placed limits on the daily number of opioids prescribed by instituting the MME. The MME per day for effective pain relief is less than 50 MME. An MME of 90 or more per day increases the risk of a fatal overdose (CDC, 2021). Therefore, the CDC recommends starting patients on short-acting opioids with a 20 MME per day and considers this safe dosing (CDC,2021).

Needs Analysis

The International Association for the Study of Pain (IASP) defines chronic pain as persistent or recurrent pain lasting longer than three months (Raffaeli et al., 2021). In 2019, an estimated 20.4% (50 million) of American adults had chronic pain, and 22.1 percent of patients reported using prescription opioids in the prior three months (CDC, 2021). The increase in opioid prescription is associated with opioid aberrancy. From 2017 to 2019, the number of deaths from opioids declined to 14,139, followed by an increase to 16,416 in 2020. In 2020, approximately 92,000 individuals in the United States died from a drug-involved overdose, including prescription opioids (CDC, 2021). In Maryland, opioid abuse has significantly increased since the late 1990s. The age group with the highest misuse of opioids is the 18 – 25 range, with 1 in 10 (or 10.43%) reporting past-year use in 2011 (Maryland Opioid Misuse Prevention Program [MOMPP], 2022). CDC (2021) vital statistics reveal that in Maryland, 16,007 overdose deaths were linked to opioids in 2012, a four-fold increase since 1999.

At the IPMC, the physicians schedule follow-ups of some CNMP patients with the nurse practitioners (NP) and physician assistants (PA). At the three months follow-up, the NPs and PAs observed that multiple CNMP patients were discharged from the IPMC due to inconsistent UDS. The noticeable increase in inconsistent UDS initiated the June 2022 retrospective chart review. In June 2022, a retrospective chart review at the IPMC revealed inconsistent completion of the OS toolkit components. Opioid stewardship programs (OSPs) can provide a holistic, efficient, and comprehensive means of guiding safe opioid prescribing within a health system. To reduce the risk of opioid aberrancy at the IPMC, the staff and principal investigator (PI) committed to reducing inconsistent UDS and increasing the provider's adherence to the OS toolkit utilizing a multidisciplinary team approach to OS. Smith (2020) believes

multidisciplinary pain teams can improve patient pain management, education, outcomes, and satisfaction. A multidisciplinary approach to OS empowers interdisciplinary collaboration and inclusion with the development of measures to guide implementation and efforts to decrease the risk of opioid aberrancy in a pain management clinic (United States [US] Department of Health and Human Services [HHS], 2019).

Purpose

The misuse of and addiction to opioids, including prescription pain relievers and synthetic opioids, is a severe national crisis that affects public health and social and economic welfare. Opioids have always existed and continue to exist, but opioid abuse has increased throughout the last decades. It has become a social problem due to increased drug use in larger quantities (Benéitez and Gil-Alegre, 2017). According to the CDC (2021), approximately 20% of new patients with CNMP receive opioids as treatment. State, federal, and local authorities have implemented policies to combat the opioid crisis, but the problem continues. Implementing interdisciplinary strategies in pain management can improve patient outcomes, increase practice workflow and efficiency, and demonstrate cost-savings for the practice, patient, and healthcare system (Chandler et al., 2021). At the IPMC, providers are not consistently completing the component of the OS toolkit before initiating opioids to CNMP patients to predict the risk of opioid aberrancy and inconsistent UDS. The DNP project answered the PICOT question for providers employed at an Interventional Pain Management Clinic (P), does a multidisciplinary team approach to opioid stewardship (I) compared to provider-specific assessments (C) decrease inconsistent urine drug screen (O) over three months (T)?

Review of Literature

A literature review was conducted to find evidence of the effectiveness of an opioid risk tool (ORT), urine drug screen (UDS), morphine milligram equivalent (MME), and PMDP in identifying patients at risk for aberrant behaviors in pain management settings. A search was completed using the following database: Cumulative Index of Nursing and Allied Health Literature (CINAHL), Medline, PubMed, PsycINFO, and Google Scholar. Keywords used to search are the opioid epidemic, opioid risk tool, opioid misuse, morphine milligram equivalent, prescription drug monitoring program, urine drug screen, opioid abuse, CDC guidelines, opioid stewardship tool kit, and multidisciplinary team approach. PubMed yielded the most relevant articles.

Using the phrase "opioid risk screening tools," "urine drug screen," "morphine milligram equivalent," "multidisciplinary team approach," and "prescription drug monitoring program" in the database resulted in 5978 articles. The results were further narrowed down with inclusion and exclusion criteria. The inclusion criteria included adults, evidence-based articles from 2017-2022, English language, scholarly journals, and peer-reviewed. The exclusion criteria included cancer patients, articles older than five years, studies involving children under 18, and non-opioids. This narrowed the search of articles down to 21 articles. This narrowed the number of searched articles to 21, which were critically appraised and used to form an evidence table. After the appraisal, 13 evidence-based articles addressed the PICOT question. Each article's evidence level was evaluated using the guidance of the hierarchy evidence pyramid. Nine articles had the most substantial level of evidence of systemic review of randomized control trials and clinical practice guidelines. One article had the second most significant level of evidence of meta-

analysis. Two articles met the requirement for the third level of quality improvement and one retrospective analysis.

Opioid Epidemic

Proper prescribing of opioids can effectively treat pain. Opioid prescribing has increased over the years. For the last three decades, opioids have been used to manage acute and chronic pain. However, many patients misuse or abuse opioids. Patients tend to misuse opioids for several reasons, including compulsive use due to addiction, self-medication, use for reward, and diversion for economic gain (Kaye et al., 2017). This has resulted in the Department of Health and Human Services declaring the opioid epidemic a public health emergency. Predicting the risk of patients who may be harmed by misuse or abuse of opioids due to high-risk behaviors is essential. CNMP patients with a history of mental health and substance use disorders are at an increased risk of opioid misuse. Cragg et al. (2019) conducted a systematic meta-analysis which included a substantial sample size (n=9629) to determine evidence about CNMP patients, prescribers, medication, and risk factors for developing misuse. Sixty-five studies met the inclusion criteria and noted that specific risk factors predisposed patients to develop misuse. According to Cragg et al. (2019), these include previous substance abuse, mental health diagnosis, male sex, and younger age. Clinicians should identify patients' risk, provide alternative pain management strategies, and prioritize patients at higher risk. Limitations of the study included the inability to determine providers and system-level risk factors for reducing prescription opioid misuse versus patient-level factors. The study method risked selection bias and selective outcome reporting. The methodological limitation can become a threat to external validity.

The appropriate risk mitigation intervention must be implemented to combat opioid misuse or abuse. The misuse of opioids usually occurs when the right interventions are not initiated. Therefore, risk mitigation strategies are essential to reduce the risk of misuse or abuse of opioids. Another common consensus of the research was that education must be provided for patients and providers when mitigation strategies are introduced. When implementing risk mitigation strategies for patients, increasing education for providers and patients, increasing access to non-pharmacological pain care, and using existing clinical decision support, including state-level prescription drug monitoring programs, is essential (Finley et al., 2020). The literature review recommends integrating risk mitigation strategies such as the OS toolkit component to identify CNMP patients at risk for opioid aberrancies.

Opioid Stewardship (OS)

A multidisciplinary approach to opioid stewardship with multimodal strategies has proven effective in reducing aberrant behaviors. Shoemaker-Hunt and Wyant (2020) conducted a systematic review to identify OS strategies to implement in primary care and other clinical settings. Fourteen studies and one systematic review met the inclusion criteria. Most researchers used OS toolkit guidelines components such as UDS, checking PDMP, and implementation strategies like dashboards, audits, and feedback. Some studies examined the effect of OS interventions on reducing the potential risks of opioids with astute prescribing and guideline adherences like reducing inappropriate high MME. However, the authors results concluded that the strength of evidence was low to moderate that OS reduces opioid prescription. The evidence was moderate for OS producing a notable reduction in opioid usage. The study noted that more research on the effectiveness of OS and its interventions is needed (Shoemaker-Hunt and Wyant, 2020).

Barriers do exist in the successful implementation of OS. Lee et al. (2020) conducted a quality improvement (QI) study to garner knowledge on existing practice patterns and potential barriers to implementing opioid stewardship protocols. The voluntary survey included 11 academic and community urology practices in Pennsylvania and New Jersey, representing 97 urologists. The authors deduced that more pills were prescribed with the default number of medications from the electronic health record than if the number was manually entered. In addition, the patient's risk factors were often not reviewed. A substantial knowledge disparity existed among providers regarding opioid stewardship and the gap in evidence-based care (Lee et al., 2020). Even though knowledge gaps exist, the articles aligned with the project due to the effectiveness of OS.

Morphine Milligram Equivalent (MME)

Prescribing opioid medications has many risks and challenges. The MME is a risk mitigation strategy used in the CDC guidelines to limit opioid prescribing. Grover et al. (2018) conducted a quality improvement study to reduce overprescribing in different clinical settings within a healthcare system by utilizing the clinical tools available. The researchers recorded more than 44,000 clinical encounters. Baseline trends were zero, and the total health system MME per encounter decreased by 1.0 MME per encounter per month. Postintervention data showed that the monthly MME per encounter was 58% lower than the average of the 6-month baseline, the MME per opioid prescription per month was 34% less than the baseline average, and the opioid prescription rate was 38% lower than the average of the baseline. Adewumi et al. (2018) conducted a systematic review of the MME of prescription opioids to determine which doses are associated with an increased risk of severe opioid poisoning or mortality. Seven meta-analyzed articles met the inclusion criteria. The authors concluded that a significant increase in

the risk of unintentional prescription opioid overdose was found with 20-50 MME/day, with fatality more likely with opioid doses above 50 MME/day. Therefore, providers should obtain patients' MME from PMDP, inform them of the risk due to higher MME, and monitor them closely (Adewumi et al., 2018).

Prescription Drug Monitoring Program (PDMP)

The seriousness of patients abusing prescription drugs influenced the implementation of the PDMPs to monitor and reduce opioid abuse. As a result, PDMP has improved patient outcomes and reduced aberrant behaviors. A few smaller research revealed relevant finding to the DNP project. Ponnapalli et al. (2018) looked at the impact of PDMP on reducing opioid abuse and improving prescriber practice and how electronic health record (EHR) integration impacted PDMP usability. The researchers concluded that PDMP positively impacted outcome measures, but low use by providers was an issue. In addition, the researchers noted that the literature on PDMP is limited, and further research is needed (Ponnapalli et al., 2018).

Rhodes et al. (2019) studied the effectiveness of PDMP's impact on reducing opioid harm through a meta-analysis. Illicit and problematic usage was reported in two studies, but this had no significant associations with PDMP status. Authors of eight studies examined the association between PDMP status and opioid-related care outcomes and concluded that treatment admissions for prescription opioids were lower in states with PDMP programs ($p < 0.05$). Authors of two of the 13 studies reported on opioid-related adverse events found significant ($p < 0.001$ and $p < 0.05$) but conflicting results. One found a decrease in opioid-related overdose deaths after PDMP implementation, and the other, an increase. Effectively monitoring PDMP data can be productive in reducing the risk of inconsistent UDS and mitigation.

Urine Drug Screen (UDS)

Providers have many necessary tools available to improve patient safety when prescribing opioids. Risk mitigation strategies like UDS, PDMP, and ORT can be effective. When combined with urine drug testing, PDMP can effectively minimize opioid abuse and diversion (Chakravarthy et al., 2021). UDS is a risk mitigation tool that can identify patients at risk of aberrant behavior when administered before initiating opioids. DiBenedetto et al. (2019) conducted a retrospective analysis to determine the average time required to detect aberrant behaviors at a pain management center. The researcher examined 513 consecutive patients enrolled in receiving opioids for one year. The authors concluded that frequent UDS is essential in the early detection of opioid aberrancy. Early detection results in the success of early interventions to reduce opioid abuse and misuse. Early detection increases safety, patient adherence, and patient outcomes. UDS is essential to avoid misuse, overdose, and potential diversion (DiBenedetto et al., 2019). Chakravarthy et al. (2021) conducted a systematic review to determine the effectiveness of UDS as a clinical tool and curbing abuse. The authors concluded that baseline UDS should be considered when initiating opioid medication. The literature review aligns with the project because providers can glean valuable information about potential aberrant behaviors before and after opioid implementation by obtaining UDS. UDS can be a valuable tool in assisting providers in clinical decision-making, and the frequency of UDS is determined by the score obtained from the ORT (Chakravarthy et al., 2021).

Opioid Risk Tool (ORT)

The ORT is a risk mitigation strategy that should be used with USD and physical exams to improve the detection of opioid misuse and abuse. Ducharme and Moore (2019) state that opioid risk assessment tools cannot be used independently of other mitigation strategies. A

standardized clinical examination combined with urine drug screening and a validated risk assessment tool improves the ability to detect opioid misuse. A systematic review conducted by Lawrence et al. (2017) evaluated tools for assessing the risk of aberrant behaviors in CNMP patients. The studies included three systematic reviews and covered 14 opioid use tools. One common theme within the studies is that there is no clear way to identify opioid misuse and abuse. Few risk assessment tools can accurately predict or identify opioid misuse and abuse. Lawrence et al. (2017) state that the study does not recommend using a specific tool but note that the pain medication questionnaire (PMQ) and the screener and opioid assessment for patients with pain (SOAPP) are the best tools. Both tools were developed and validated with the highest level of evidence-based on five acceptable studies. The best screening tool for current misuse was the current opioid misuse measure (COMM). It was developed and validated in three studies of satisfactory quality. The quality of evidence to support using a few tools to predict the risk of aberrant behavior and assist in identifying prescription opioid misuse is moderate. Consideration can be made to select tools developed and validated for specific populations (Lawrence et al., 2017).

Multidisciplinary Teams Approach to Opioid Stewardship

A multidisciplinary approach to OS is essential to combatting the opioid epidemic and improving patient outcomes (Chen, 1996; Nees et al. 2020) and is ideal for multimodal care (Chen, 1996). Patients benefit from well-coordinated treatment modalities to improve emotional and physical functioning, pain reduction, and coping. According to Chandler et al. (2021), implementing a multidisciplinary approach to medicine is superior for desirable outcomes for managing chronic pain. A systematic review meta-analysis conducted by Liossi et al. (2019) to determine the effectiveness of the multidisciplinary team approach and interventions to manage

pediatric chronic pain patients effectively revealed that patients randomized to the multidisciplinary intervention significantly reduced pain intensity compared to the randomized control group. In addition, substantial improvements were seen in the multidisciplinary group of patients related to pre- to post-intervention in pain intensity, functional disability, anxiety, depression, catastrophizing, school attendance, school functioning, and pain acceptance. Much of the evidence mentioned included education for providers and patients as part of the multidisciplinary team approach to addressing gaps in practice (Liossi et al., 2019). Joypaul et al. (2019) conducted a systemic review to glean knowledge on including education with the multidisciplinary approach in pain management. Twenty-seven met the inclusion criteria, and overall, a positive benefit was reported. The study found that education as part of the multidisciplinary team approach improves self-management, pain treatment, and self-efficiency (Joypaul et al., 2019). The articles aligned with the project due to the effectiveness of a multidisciplinary team approach in CNMP patients and it addresses team member knowledge gaps.

In summary, the emergent nature of the opioid epidemic warrants a proactive intervention. The evidence suggests that a multidisciplinary team approach to OS may be beneficial in reducing the misuse of opioids. A multidisciplinary approach to OS empowers cross-disciplinary collaboration and inclusion by developing measures to guide implementation and efforts to decrease the risk of opioid aberrancy in a pain management clinic (HHS, 2019). The success of OS requires using the components of the OS toolkit together. Additional research is needed to gain better insight into the multidisciplinary team approach to OS and to address educational barriers to best practices.

Theoretical Framework

Kotter's Change Model (KCM,1995) by Dr. John Kotter is the theoretical framework that aligns well with this project. The KCM is a researched and established approach to implementing organizational change. According to Carpenter et al. (2021), Kotter's change theory is a top-down approach to change that engenders sequential steps to effectively prepare and build the acceptability of change in organizational personnel. The KCM uses a straightforward eight-step process applied in a healthcare setting to facilitate the implementation of quality improvement (QI) interventions (Toor et al., 2022). Kotter's 8-step process is a nonlinear change management model with three central tenets creating a climate for change, engaging, enabling the whole organization, and implementing and sustaining change (Carman. et al., 2019).

KCM has eight phases: a sense of urgency, creating a guiding coalition, developing a vision and strategy, communicating the change vision, empowering broad-based action, generating short-term wins, consolidating gains, producing more change, and anchoring new approaches in the organizational culture (Carpenter et al., 2021).

KCM can guide the project to strategically implement and sustain a multidisciplinary team approach to OS. Currently, the practice does not use a multidisciplinary team approach to OS and is not consistently meeting national guidelines. According to Aziz (2017), KCM is grounded in the belief that people and organizations resist change and omit some steps of change needed for success and sustainability.

Step 1: Create urgency.

The first step of KCM is to create a sense of urgency. An organization can be inspired to think about, initiate, and maintain a change when they are aware of a possible problem (Kotter, 1995). Creating urgency within an organization entails explaining to the staff why the change is

imperative and creating buy-in to achieve goals. Leadership support is needed to change an organization's culture (Lv & Zhang, 2017). KCM starts the change cycle, increases staff participation, and guides sustainable change. The gap analysis and the retrospective chart review data from June 2022 on the completion rate of the opioid stewardship component created a sense of urgency at the IPMC to reduce opioid aberrancy. Providers at the IPMC are not consistently completing the components of the OS toolkit before initiating opioids to new patients. The retrospective chart review from June 2022 showed an increase in inconsistent UDS due to an incomplete OS toolkit. At the IPMC, staff buy-in is 100% and can be used to assess the success of urgency. Leadership is supporting the change process due to the sense of urgency of opioid aberrancy at the IPMC.

Step 2: Form a coalition

According to Kotter (2012), a good change management steering coalition should be built on three essential values: high levels of trust, a common goal, and the correct mix of people. The next step of the framework is to build a team to guide the change. Creating a guiding coalition was achieved with the formulation of a multidisciplinary team that includes MDs, PAs, NPs, and MAs. Each multidisciplinary team member was assigned duties to drive the change process. The multidisciplinary team provided safe opioid prescribing and was engaged and committed to successfully implementing the practice change. The number of staff recruited and reliable involvement determines the coalition's assessment.

Steps 3 and 4: Create a Vision and Communicate the Vision.

Successful implementation of the vision requires communicating the vision by addressing the gap in practice and intervention. Communicating the strategic vision is imperative to assess the staff's readiness for change and to recognize barriers. The implementation plan should

communicate responsibility, accountability, and timeline expectation and be transparent about the desired changes and outcomes (Carpenter et al., 2021). Kotter (2012) states that a clear vision is necessary to grasp the plans. An adequate vision is focused and flexible enough to drive decision-making while accommodating human initiatives and changing circumstances. The vision and primary intervention of the multidisciplinary team approach to OS were communicated in a staff meeting to address the gap in practice, promote engagement and improve patient outcomes. The vision included implementing a multidisciplinary team approach to OS and utilizing the OS toolkit to decrease inconsistent UDS for all new patients at the IPMC. Each multidisciplinary team member was voluntarily recruited and assigned roles and duties communicated on the flowsheet. In addition, defining the standard of work for providers and MAs resulted in safer opioid prescribing and decreased inconsistent UDS. Finally, the strategy for success included adequate participation of IPMC staff for sustainable outcomes and intervention.

Step 5: Remove Obstacles.

As Kotter (2012) stated, just as a relatively simple vision is needed to guide people through a significant change, a vision of the change process can reduce the error rate. Moreover, fewer errors can be the difference between success and failure. Change is no easy task; problems can arise when change is implemented. Fear of change is a common barrier within an organization, and those barriers must be anticipated before implementation (Lv & Zhang, 2017). During the change process, removing barriers is essential. During the staff meeting with the multidisciplinary team, the PI addressed all barriers and ensured that the vision aligned with the IPMC policies and processes. As a result, stakeholders at the IPMC all support the vision. In addition, concerns were addressed with stakeholders resistant to the process change. According to Tequare et al. (2020), there are evidence-based approaches to overcoming barriers in pain

management. Modifying policies, prioritizing pain management, prescribing practices, collaboration among multidisciplinary professionals, and quality improvement approaches are well-recognized strategies (Tequare et al., 2020).

Step 6: Create short-term wins

Real transformation takes time, and celebrating short-term wins helps keep momentum. Short-term wins limit the risk of people giving up or becoming resistant to change (Kotter, 2012). Creating short-term wins motivates the change process. A weekly audit during the implementation phase showed short-term wins. The PI celebrated those slight weekly decreases in inconsistent UDS, acknowledging the team's great work. As a result, multidisciplinary team members were recognized on the IPMC recognition platform.

Step 7: Build on the change

Short-term wins are essential for the change process, but the continual motivation to advance change is fundamental. The PI scheduled a meeting with the multidisciplinary team to analyze what worked well and what went wrong. Then, the PI and the stakeholders formulated SMART goals for the vision and continually analyzed them for long-term sustainability at the IPMC. Championing staff members as leaders of change to support others within the IPMC is essential to the sustainability of the DNP project. Kotter suggested that to consolidate improvements giving the process a boost and change, the following action must occur; increasing credibility to change systems, structures, and policies that do not fit the vision, and developing employees who can implement the vision (Thi, 2022).

Step: 8 Anchoring new approaches in the organizational culture

KCM is a critical tool for creating an environment for change and sustainability (Kotter, 2012). It takes work to integrate changes into an established organizational culture. For a change

to be successful, it must first change the organizational culture (Thi, 2022). The change occurs last, not first. Embedding the multidisciplinary team approach to OS and completing the OS toolkit into the IPMC daily workflow can increase sustainability. Staff education was implemented quarterly, and the core value of the change was integrated into every new hire orientation to incorporate the vision into the culture of the IPMC.

Project Design

The DNP project is a quality improvement (QI) project involving a data-guided initiative to improve patient safety and clinical care. According to Backhouse and Ogunlayi (2020), QI represents a valuable opportunity for individuals to lead and deliver change, from improving patient care to transforming services across complex health and care systems. The primary principle of the QI presumes that implementing a multidisciplinary team approach to OS and the providers' adherence to the evidence-based OS toolkit at an IPMC improved inconsistent UDS. Therefore, the QI employed quantitative data, including completing the OS toolkit components, UDS at the initial visit, and inconsistent UDS after implementing the multidisciplinary team approach to OS. In addition, weekly chart audits to monitor if OS toolkit components are appropriately documented, and a post-survey to evaluate appraisal of the multidisciplinary team approach to OS were completed.

Application of Plan-Do-Study-Act and Kotter's Change Model

This QI project uses the Institute for Healthcare Improvement's Model for improvement, the PDSA cycle's four phases, and the KCM eight-step process to guide the project to strategically implement and sustain a multidisciplinary team approach to OS at an IPMC. According to Coury et al. (2017), the plan-do-study-act (PDSA) is a standard improvement process used in healthcare, and it uses small tests of changes to optimize a process. The PDSA

cycle method is widely recommended for QI projects (McNicholas et al., 2019). The PDSA cycle evaluates the effectiveness and efficiency of potentially implemented change in a particular organization. It is a positive approach that provides stakeholders with an insight into whether the proposed improvements or changes would be successful and outlines which ideas might function (Kaleeva, 2022). Through its four steps, the PDSA cycle offers an opportunity to examine the suggested change by breaking it down into small elements and, in that way, evaluating the possible outcomes. This method is considered problem-solving and creates a culture of QI (Kaleeva, 2022). With the PDSA cycle, the sample size can be smaller and provide statistically significant results. Therefore, combined PDSA and KCM are beneficial to the DNP QI project. The PDSA cycle parallels Kotter's eight steps of organizational change (Amin and Servey, 2018). Using the PSDA cycle, the PI identified, monitored, measured, and evaluated changes throughout the project.

The *plan* phase began with the needs analysis that identified a gap at the IPMC. The gap analysis and the retrospective chart review data from June 2022 on the completion rate of the OS toolkit component created a sense of urgency at the IPMC to reduce opioid aberrancy. Creating a ‘sense of importance’ to improve current practices can catalyze change (Aziz, 2017). The project began after IRB approval (See Appendix B) and utilized all multidisciplinary team members. The initial implementation stage started with an educational lunch (See Appendix C) to communicate the vision. A meeting would be an ideal time to create a vision and communicate that vision (Kotter, 2012). In the planning phase, organizations recruit a team, draft an aims statement, describe current processes, describe the problem, and identify causes and alternatives (PDSA, 2015). During the session, a coalition was created that included a multidisciplinary team at the IPMC to discuss gaps in practice, the components of the OS toolkit, and how to properly

document to monitor patients at risk for inconsistent UDS. The PI clarified the problem and formulated the plan, the first phase of the Plan-Do-Study-Act (PDSA), to address the problem using the multidisciplinary team approach to OS.

The PI identified and recruited (See Appendix D) team members at the IPMC who were knowledgeable about opioid misuse and the OS toolkit. The DNP project was discussed during the staff meeting, and consent forms (See Appendix E) were distributed. Staff members were given an anonymous pre-survey to determine their current knowledge of the updated CDC guideline for opioid prescribing and OS toolkit. The multidisciplinary team members include two MDs, NP, three MAs, and two PAs. Chen et al. (2020) state that a multidisciplinary team offers different perspectives and expertise essential to change. The team approach can assist with workflow and outside-the-box thinking for improvement. Each multidisciplinary team member has an assigned role and duties outlined in a flowsheet (See Appendix F) formulated by the PI to streamline and familiarize the staff with the new process. Staff was educated on the component of the OS toolkit, CDC guidelines, and flowsheet roles to assist with improving patient outcomes during lunch. Familiarizing staff with the new workflow and opening communication help remove barriers against the vision.

Barriers to implementing the project were identified at team meetings, and solutions were formulated. An open communication policy is instrumental to organizational change. Opportunities should be given to staff to communicate and voice concerns and any problems (Aziz, 2017). The roles to increase the completion rate of the OS toolkit are as follows: the MAs automatically acquire UDS and access/print PDMP records for providers on all new patients. The providers complete the ORT and document MME obtained from PDMP. Short-term wins were addressed throughout the QI project, and weekly reports on inconsistent UDS data were charted,

graphed, and shared with participants. Short-term wins were celebrated by staff acknowledgment for continual motivation throughout the change process.

The *do* phase requires the implementation of the action plan and data collection. The primary tasks in this phase are to measure baseline data, pilot the improvement ideas, and observe and collect follow-up data (Chen et al., 2020). It is critical to collect baseline data before implementing any changes. Baseline data confirms the need for the QI project and allows for the intervention's evaluation by comparing pre-implementation and post-implementation results (Chen et al., 2020). The PI collected baseline data from the retrospective chart review completed at the IPMC in June 2020. Athenahealth was used to collect data on UDS, charted MME, ORT, and access PDMP. Data collected included successes, unintentional results, and any pertinent information essential for the third phase of PDSA.

In the *study* phase, data was collected by the team, and analyzed results were reviewed and compared to the expected outcome. The staff began utilizing the OS toolkit components on all new CNMP patients admitted to the IPMC for three months. Data were obtained from the electronic health record (EHR). The PI performed weekly chart audits and tracked the numerical value of the OS toolkit completion data using Microsoft Excel. Drawing meaningful conclusions and data analysis is vital in this phase. Numerical spreadsheets are helpful, but visualizing the data using charts and graphs to evaluate outcomes provides a different perspective, which is essential. Run charts can display observed data over time, show trends or patterns, and are the most frequently used graphic in QI (Chen et al., 2020). The PI compared the post-implementation analysis to the June 2022 retrospective chart review data. The intervention was standardized if the desired result was obtained. The cycle is repeated with a new intervention if the desired outcome is not accepted (Coury et al., 2017). After implementing the DNP project, a

meeting was scheduled to encourage feedback, and adjustments were made to ensure the project's success. The staff was given a post-implementation survey to determine if they felt the project implementation was beneficial and if they would like to continue to utilize the intervention.

Lastly, the *act* phase encompasses the multidisciplinary team's reflection meeting on the intervention and outcomes. While reflecting, the multidisciplinary team discussed what went right and what improvement could be made to the DNP project to build on the change. According to Aziz (2017), an authentic continuous improvement culture in an organization requires continually pushing up the standard of the desired state. Change happens when leaders persistently include stakeholders, set goals, and build on what went right and how to improve (Aziz, 2017). For sustainability, change was anchored into the IPMC culture by analyzing the outcomes of the process change, expanding with quarterly staff education, peer-review audits, and staff recognition.

Pros and Cons of Project Design and Theoretical Framework

The PDSA cycle's pros are simple, practical, flexible, and can be used in any QI initiative. The Institute for Healthcare Improvement endorses PDSA. The cycle is accessible to beginners or experts in QI because its concept frames any improvement. PSDA only requires a small sample size and is cost-effective. The PI implemented the project using PDSA to promote sustainable change at the IPMC. The QI project is inexpensive, practical, and has a small sample size that includes employees at the IPMC. The cons of the cycle include: the PDSA cannot be implemented independently, and there is potential for a lack of understanding related to the successful adjustment. Additionally, PDSA requires ongoing support from leadership, which could be a problem.

Kotter's Change Model has advantages and disadvantages. The advantage of the model includes its simple, step-by-step format and emphasis on employee involvement and feedback. However, Kotter's model also stresses the importance of preparation to increase the success of the change. The disadvantages of Kotter's Change Model are it is time-consuming; some steps are unclearly related to guiding the sustainability of the change, and it has a top-down approach that favors large companies.

Methodology

Problem

The project used the PDSA method to increase providers' adherence to completing the components of the OS toolkit and decrease patients' risk of opioid aberrancy. The PDSA model outlines: (a) what needs to be accomplished, (b) how to know the change provided an improvement, and (c) how to evaluate improvement (Bradshaw & Vitale, 2021). The primary intervention of the project is to implement a multidisciplinary team approach to opioid stewardship (OS) using the opioid stewardship toolkit to decrease inconsistent urine drug screen (UDS). The PI received an approval letter from Jacksonville State University's internal review board (IRB) to complete this DNP project. Before implementing the project, the PI completed the Collaborative Institutional Training Initiative (CITI) program (See Appendix G). In addition, education was provided to multidisciplinary teams on updated CDC 2022 opioid prescribing guidelines, the flowsheet, and the OS toolkit. Finally, the post-intervention survey was conducted to assess the effectiveness of the intervention.

Setting

The DNP student implemented at an IPMC in Baltimore, MD. The IPMC provides comprehensive pain management, including interventional treatments, medication management,

chiropractic services, physical therapy, massage therapy, regenerative medicine, lab testing, durable medical equipment, and pharmacy services. The IPMC has multiple locations, but the project was held at the Baltimore location with 12 employees.

Population

The target population includes healthcare staff (MDs, MAs, NP, and PAs) employed full-time at the IPMC. The sample consists of four physicians, two physician assistants, three medical assistants, and one nurse practitioner for a total of 10 employees. The population demographic includes five females and four males. Each member of the population is knowledgeable in pain management according to their prospective roles.

Inclusion/Exclusion Criteria for Healthcare Providers and Medical Assistants

Inclusion Criteria: All MDs, one NP, three MAs, and two PAs. Employment Status: full-time, part-time, or per diem. Exclusion criteria: malignant patients, the manager, and front desk staff. Patients with a non-opioid treatment plan and procedure-only patients were also excluded. All new employees and employees separating from the IPMC are excluded.

Recruitment

The PI developed a recruitment script, and an office meeting was held on December 30, 2022, to discuss the PI project recruitment. Lunch was served, and all questions were answered. All staff members who met the inclusion criteria agreed to participate in the QI project.

Consent

The PI leading the project maintained the privacy and confidentiality of all identifiable data collected. The PI does not influence staffing, evaluations, or promotions. Participation in the DNP project was voluntary. However, each potential participant was provided with detailed information regarding the project's purpose. Participation consent was obtained by signing an

agreement to participate before project initiation. Signed consents are placed in a folder in a locked safe only accessible by the PI. Consents were kept until the project was complete, at which point, they were shredded.

Design

The QI project is guided by the KCM framework and PDSA. The problem was identified as providers' inconsistent completion of the OS toolkit components and inconsistent UDS. Due to the problem's urgency, the PI introduces the vision and a strategy to address the problem to stakeholders. A multidisciplinary team implemented change by monitoring, measuring, and evaluating the proposed change at the IPMC. Education was provided on the flowsheet and OS toolkit components to all multidisciplinary team members who participated in the DNP project before implementation. A teach-back method was used for the educational session. The charts were audited weekly for compliance. Re-education and support were provided to staff not adhering to the intervention weekly over three months. The stakeholders completed a pre-survey on their perception of education, the updated CDC guidelines, the OS toolkit, and the flowsheet. Implementation of the DNP project spanned three months. The PI was available eight hours daily from 8:00 A.M - 4: 20 P.M Monday through Friday the week before implementation. The PI provided contact information to the participants and encouraged them to call with any questions or concerns regarding any project components.

Chart Review

There were multiple chart reviews for this project. In addition to weekly chart review, the PI also performed a review pre-intervention, four weeks into intervention implementation, and 2-weeks after intervention completion. Data was collected from Athenahealth, the IPMC EHR, for statistical analysis to provide validation of the project results. The PI charted the data using a

Microsoft Excel spreadsheet. No names, dates of birth, or medical record numbers were recorded from the EHR. The only data extracted from the EHR were OS toolkit component completion. Each stakeholder was assigned a project-specific number based on the alphabetical order of their last names. One computerized list of these names and assigned numbers was created. The computerized list and OS toolkit completion data were stored in the DNP password-protected computer. The PI was the only person involved in retrieving this data, and all the data was destroyed via shredding three weeks after project completion. No identifiable participant information was disclosed during, after, or for the project at any time.

Compensation

No compensation was offered for participation in this project. Multidisciplinary team members at the IPMC provided support at no charge. However, participants were willing to participate, perceiving that the multidisciplinary team approach to OS would help streamline their responsibility at the IPMC.

Ethical Consideration

There is no risk to participants. Confidential information was maintained through non-specific, non-identifying data. It was secured on a password-protected computer and a scan disk stored in a locked safe only accessible by the PI. Raw data was shredded three months after the completion of the DNP project. The benefits to the IPMC and staff include improving care delivery and patient outcomes. The DNP project adhered to all ethical standards required to protect all participants. The project adhered to principles of non-maleficence and beneficence by acting in the best interest of the participants while minimizing or preventing harm. Participation in the project was voluntary, and the project honored the principle of autonomy. All participants were treated equitably regardless of age, sex, religion, or race to satisfy the principle of justice.

The project aims to use a multidisciplinary team approach to OS to increase the provider's completion of the OS toolkit and decrease inconsistent UDS.

Timeline

The DNP student developed a timeline (See Appendix H). A retrospective chart review was performed at the facility's request. An adequate sample size was chosen to avoid hindrances such as staff absence and turnover. The DNP student completed CITI training at the beginning of August 2022. IRB submission was completed and approved by the end of September 2022. Letter of support (Appendix I) completed September 2022. The project was initiated on January 9, 2023. Data was collected and analyzed through March 31, 2023. The results of the DNP project were presented to the IPMC stakeholders in
June 2023 and disseminated in July 2023.

Budget/Resource

The PI project has no extramural funding. The DNP student provided intramural funding of $400. The budget (See Appendix J) covered the cost of the project lunch and editor. The organization's technology already in place at the IPMC was used throughout the project. The PI student leader printed the OS tool kit at no cost to the project budget or organization. The PI student formulated the flowsheet at no cost to the project or organization. At the end of the project, the PI provided lunch to the participants, which was included in the overall budget. The project's implementation phase ran from January 9, 2023, to March 31, 2023.

Evaluation Plan

Statistical Considerations

A retrospective chart was completed at the IPMC in June 2022 to collect OS toolkit completion rates. In addition, post-implementation completion rates obtained from the project

from January to March 2023 were compared to the retrospective data to determine outcomes. Descriptive statistic was used to describe the participants of the study and outcome changes. A parametric test was conducted to compare the data. A Statistical Package for the Social Science (SPSS) paired t-test compared OS toolkit completion rate pre- and post-evidence-based multidisciplinary team approach to OS. The statistical software SPSS was used to complete data analysis.

Data Maintenance and Security

All data were collected in an Excel spreadsheet. No identifiable patient and provider data were collected. The spreadsheet is only available on the principal investigator's password-protected computer at her primary residence. All printed materials were placed in an envelope and locked in a safe accessible to only the PI. Three months after the completion of the DNP project and closure of IRB, all data was disposed of by the guidelines set forth by the institutions. All findings were aggregated to protect patients' and providers' anonymity.

Results

Results of Data Analysis

The PI maintained rigorous data analysis with consistent variables and interventions throughout the QI project. In addition, a retrospective chart review was completed to collect data on the completion of OS toolkit components at the IPMC in June 2022. The pre-implementation data (Table 1) was compared to the post-implementation data (Table 2) collected after implementing the multidisciplinary team approach to OS from January 2023 to March 2023. The analytical data from the QI was summarized in Tables 1& 2 and depicted via a chart in Figure 1.

Table 1

Pre- Implementation Data

Number of New Patients	UDS Completed	MME Charted	ORT Completed	PDMP Completed	Consistent UDS after 3 Months
88	**18**	**35**	**18**	**31**	**18**

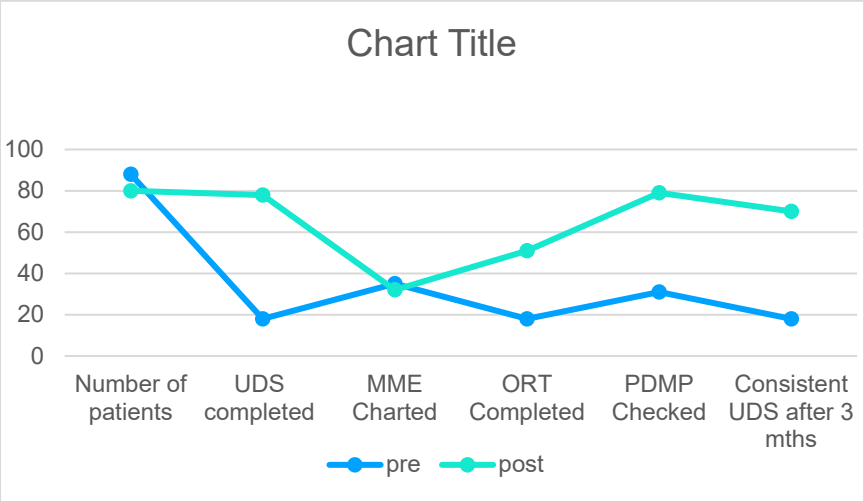
Table 2

Post- Implementation Data

Number of New Patients	UDS Completed	MME Charted	ORT Completed	PDMP Completed	Consistent UDS after 3 Months
80	**78**	**32**	**51**	**79**	**70**

Figure 1

Pre and Post Implementation Data



The paired t-test was conducted to compare the pre-and post-implementation data. There was a non-significant large difference between pre-implementation (M=34.7, SD =27.2) and post -implementation analysis (M=65, SD =19.5); t (5) =2.5, p=.051. The results cannot support including an evidence-based multidisciplinary team approach to OS to decrease inconsistent UDS at the IPMC. Even though the QI was not statistically significant, further examination of the data revealed clinical significance. The post-implementation chart review of the completion rates of the opioid stewardship toolkit components for new patients admitted to the IPMC from January to March 2023 revealed a 64% completion rate for the ORT, a 40 % completion rate for documenting the MME, a 98% completion rate of reviewing the PDMP, and an 87.5 % completion rate of obtaining a urine drug screen (UDS) on admission. Out of the 88% completion rate of urine drug screens, 12.5 % of patients had inconsistent urine screens at three months follow-ups.

Discussion

The QI project goal was to increase the OS toolkit components utilization and decrease inconsistent UDS at an IPMC over three months. The goal was obtained by using a multidisciplinary team approach to OS. The outcome data from the pre- and post-intervention chart review suggest that the QI project wasn't statistically significant but clinically significant. The non-statistical significance of the QI project indicates that a larger sample size could be beneficial. Clinically, the multidisciplinary team completion of the OS toolkit component increased, and inconsistent UDS decreased.

Implications for Clinical Practice

The aim of the QI project was met by showing an increase in the OS toolkit component and a decrease in inconsistent UDS post-intervention. Improvement in the completion of the OS

toolkit components demonstrates the multidisciplinary team's willingness and ability to comply if given adequate education. Annual education and monthly peer-chart audits can improve overall compliance at the IPMC. In addition, the project can contribute to existing evidence that a multidisciplinary team approach to OS is a correlated intervention that optimizes opioid prescribing while minimizing unintended consequences by monitoring, improving, and evaluating the use of opioids to support and protect human life (Forget et al., 2022). Standardizing the multidisciplinary team approach to OS for all IPMCs allows for thorough, competent opioid prescribing, provides quality patient care, and improves outcomes.

Implications for Healthcare Policy

A multidisciplinary team approach to chronic pain is not always supported with resources and time. As medical and policymaking organizations began to urge caution about using opioids for pain, the federal government acted on the opioid epidemic (HHS, 2019). Even though the federal government passed laws to combat the opioid epidemic, deaths from opioid misuse and abuse continue. While there are recommended guidelines for safe opioid prescribing for CNMP patients instituted by CDC, policymakers can mandate that all IPMCs integrate a multidisciplinary team approach to OS as standardized best practice. In addition, advanced practice nurses can advocate for policies and procedures that promote increased public awareness, research funding, and evidence-based strategies to combat the opioid epidemic. The IPMC could consider embedding the multidisciplinary approach to OS into policy and procedure.

Implications for Quality/ Safety

Healthcare initiatives are grounded in patient safety and quality care. Overall, the QI project showed noticeable improvements in quality care and safety. The necessary component of

the QI was for the multidisciplinary team members to provide knowledgeable, quality, and safe care. The multidisciplinary team approach to OS increases quality care and safety by identifying patients at risk for opioid aberrancies. The success of this QI project could translate to other practices within the IPMC and different pain management practices.

Implications for Education

A multidisciplinary team approach improves patient pain, education, outcomes, and satisfaction. In addition, utilizing a multidisciplinary team approach to pain management provides knowledgeable professionals with various educational and training backgrounds that enhance the team's skills and improve patient care quality (Smith, 2020). For example, educated multidisciplinary team members can offer educational resources to assist the patient in understanding the risk of opioids, the expectation of opioid therapy, and implementing risk mitigation strategies. In addition, team members' knowledge of the CDC guidelines for opioid prescribing and the OS toolkit's risk mitigation components improves patient outcomes. The IPMC should continue to provide ongoing education to current and new employees. Since implementing the QI project, staff at the IPMC have expressed their thoughts and concerns about inconsistent UDS and the OS toolkit. The discussion provided an opportunity to identify gaps and improve patient outcomes at the IPMC.

Limitations

Considering the limitation of the PI project is imperative. The most significant limitations of the project are the number of participants recruited and the implementation timeframe. In addition, the small sample size can result in a lack of generalization and selection bias. Hence, a larger randomized cohort, collecting data from other clinics within the IPMC, and a longer implementation timeframe would be required to fully grasp the efficiency of a multidisciplinary

team approach to OS for future studies. Other limitations of the QI include patients not returning for follow-up UDS and patients refusing UDS.

Dissemination

The results of the PI project were presented to the stakeholders and participants at the IPMC. The presentation included an analysis to show the benefits of a multidisciplinary team approach to OS at the IPMC. The PI presented at the university's DNP Dissemination Conference via poster and presentation. In addition, the DNP manuscript will be placed in the University's Digital Commons Repository system.

Sustainability

The sustainability of this DNP project is vital to healthcare quality because it extends the responsibility of services to future patients. A sustainable healthcare system can impact environmental, community, and population health. This approach to healthcare can expand the value of healthcare measures and outcomes and have a social and financial impact (Mortimer et al.,2018). This project's sustainability would depend on providers' changes, consistent quality monitoring, ongoing staff education and evaluation, and incorporating the OS toolkit component in dot phases. Developing a policy to promote standardizing the OS toolkit before initiating opioids can aid in the sustainability of this project. Quality monitoring of patients at risk for opioid aberrance with consistent urine drug screening and ongoing learning for providers can also assist in project sustainability. The IPMC currently utilizes dot phases as a shortcut to documentation. Incorporating the OS toolkit component into a dot phase can abet sustainability. The project can be implemented at other IPMC locations throughout the company as a standard of practice. This project is feasible because it does not disrupt the normal patient flow in and out of the office and can be accomplished with the current staff at the IPMC. In addition, IPMC

stakeholders support the project because its success improves patient outcomes and the quality of care delivered.

Plan for Future Scholarship

The QI project identifies the multidisciplinary team approach to deliver effective OS regarding opioid aberrancy. However, further research is required to determine its effectiveness. The primary focus of this project was a multidisciplinary team approach to OS, but more research is needed to address barriers. This project reviewed three months of data at the IPMC; more extended studies that include more participants should be conducted to include other IPMC locations and different populations. A study over a more extended period could reveal additional barriers and continued compliance. A statistician should be consulted during the planning process to glean the highest level of data from this project. Nevertheless, a multidisciplinary team approach to OS has proven effective in migrating the risk of opioid aberrancy and can be embedded into the culture of the IPMC. The PI presented the project to the IPMC staff and used the project to guide future QI projects.

Conclusion

Opioid abuse is identified as a significant epidemic in the United States. Regardless of state legislative mandate, opioid aberrancy still exists, and a multidisciplinary team approach to OS can assist in alleviating the problem. The PI implemented a multidisciplinary team approach to OS at the IPMC based on evidence-based practice guidelines. The evidence-based intervention's effectiveness in decreasing inconsistent UDS has been determined to be non-statistically significant but clinically significant. A considerable amount of dissemination is vital to implement sustainable change at the IPMC. The IPMC continuing the intervention can reduce the risk of opioid aberrancy and adverse outcomes for CNMP patients.

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Appendix A

ORT Permission Email

Stacey J. Miller
To:You
Sat 7/2/2022 11:17 AM

Dear George-Marie,

Thank you for your interest in the Opioid Risk Tool (ORT). You are welcome to use the ORT; we ask only that you don't change anything about it and that you cite this validation article (published in Pain Medicine) on any reproductions you might make:

Lynn R. Webster, Rebecca M. Webster, Predicting Aberrant Behaviors in Opioid-Treated Patients: Preliminary Validation of the Opioid Risk Tool, Pain Medicine, Volume 6, Issue 6, November 2005, Pages 432–442, https://doi.org/10.1111/j.1526-4637.2005.00072.x.

We have recently learned that the ORT has been inappropriately used to refuse opioids to people in pain. Please read this blog to explain how it has been misinterpreted: http://www.lynnwebstermd.com/opioid-risk-tool-has-been-inappropriately-weaponized/.

You may wish to know that Dr. Webster has written a book for the general public titled, "The Painful Truth: What Chronic Pain is Really Like and Why It Matters to Each of Us." There is also a documentary with the same title that has aired on public television stations. The documentary is different from the book. You can access it for free at https://www.youtube.com/watch?v=NPs69hioEj4&t=1580s.

To retrieve the ORT (including several translations) and the validation article, please visit: http://www.lynnwebstermd.com/opioid-risk-tool/.

Best,
Stacey

Stacey J. Miller
S. J. Miller Communications
www.bookpr.com
sjmiller@bookpr.

Appendix B

IRB Approval

JSU INSTITUTIONAL REVIEW BOARD
JACKSONVILLE STATE UNIVERSITY

Institutional Review Board for the Protection of Human Subjects in Research
249 Angle Hall
700 Pelham Road North
Jacksonville, AL 36265-1602

October 25, 2022

Georgemarie Garber
Jacksonville State University
Jacksonville, AL 36265

Dear Georgemarie:

Your protocol for the project titled "Utilizing a Multidisciplinary Team Approach to Opioid Stewardship in an Interventional Pain Management Clinic" protocol number 10252022-01 has been granted exemption by the JSU Institutional Review Board for the Protection of Human Subjects in Research (IRB).

If your research deviates from that listed in the protocol, please notify me immediately. One year from the date of this approval letter, please send me a progress report of your research project.

Best wishes for a successful research project.

Sincerely,

Jennifer Mead
Senior Human Protections Administrator, Institutional Review Board

Appendix C

Lunch and Learn Plan

LUNCH AND LEARN EDUCATIONAL PLAN

Learning Objectives

- To improve knowledge of multidisciplinary team members (MDTM) on opioid stewardship (OS) and OS toolkit
- To improve usage of the OS toolkit components (urine drug screen {UDS}, morphine milligram equivalent {MME}, opioid risk tool {ORT} and prescription drug monitoring program {PDMP})
- To improve MDTM knowledge on the importance of a multidisciplinary team approach (MDTA) to OS in relation to improving patient outcomes and quality care.

Total Time	Activity
5 minutes	• Welcome • Purpose • Learning Objective
5 minutes	Pre-implementation knowledge survey for physician assistant and physician
50 minutes	• Education on updated Education on CDC guidelines • Education on MDTA to OS • Education on DNP proposed intervention flowsheet • Discussion, question, and answer
3 months later	Post implementation survey

Appendix D

DNP Project Script for Participants

Hello everyone. I want to implement my DNP project at the pain clinic. The meeting is to explain my project and the methodology and recruit volunteers to participate in the project implementation. As you all know, we discharge many patients due to inconsistent urine drug screen, and our patients are at an increased risk for opioid abuse and opioid use disorder. My project focuses on a multidisciplinary team approach to opioid stewardship by utilizing the opioid stewardship toolkit to decrease discharges due to inconsistent urine drug screens. Each multidisciplinary team member will have roles and duties assigned in a flowsheet that I will formulate to streamline the process. Implementation time will be three months, from January 9, 2023, to March 31, 2023. Participation is entirely voluntary and does not affect your job. I would love for you to participate in the project to improve patient outcomes. Thanks for your time.

Appendix E

Consent

PARTICIPANT CONSENT FORM Office: Interventional Pain Management Clinic

Title of Project: Utilizing a Multidisciplinary Team Approach to Opioid Stewardship in an Interventional Pain Clinic

Principal Investigator: George-Marie Garber

The focus of the DNP project is to use a multidisciplinary team approach to opioid stewardship (OS) to decrease inconsistent urine drug screens (UDS). The DNP student will lead two physicians, two physician assistants (PAs), one nurse practitioner (NP), and three medical assistants (MAs) in implementing a multidisciplinary team approach to OS utilizing the opioid stewardship toolkit. Each multidisciplinary team member will have an assigned role and duties outlined in a flowsheet formulated by the DNP student to streamline the process. The roles to increase the completion rate of the opioid stewardship toolkit are as follows: the medical assistant will automatically acquire UDS and access/print Prescription Drug Monitoring Program (PDMP) records for providers on all new patients. The providers will complete the Opioid Risk Tool (ORT) and chart Morphine Milligram Equivalent (MME) obtained from PDMP. The project will take place at the Interventional Pain Clinic over three months beginning in January 2023.

The benefit of the project includes providers making evidence-based clinical decisions for safe opioid prescribing, improving patient's adherence to treatment recommendations, decreasing patient's risk of developing an opioid use disorder (OUD), and decreasing patient's risk of aberrant behaviors related to opioid use. There is no risk to participants.

Confidentiality of information recorded will be maintained using non-specific non-identifying data. Data will be secured on a password-protected computer locked in DNP student’s office. A scan disk copy will be stored in a locked safe. Raw data will be shredded three months after the DNP project's completion. If confidentially cannot be maintained, participants will be notified by the principal investigator.

Participation is voluntary; refusal to participate will involve no penalty or loss of benefits to which the participant is otherwise entitled. Participants can withdraw from the project without penalty by the principal investigator. In the event of a project-related injury, emergency, or question, please feel free to contact the principal investigator George-Marie Garber FNP-BC, by phone at 585-284-2290.

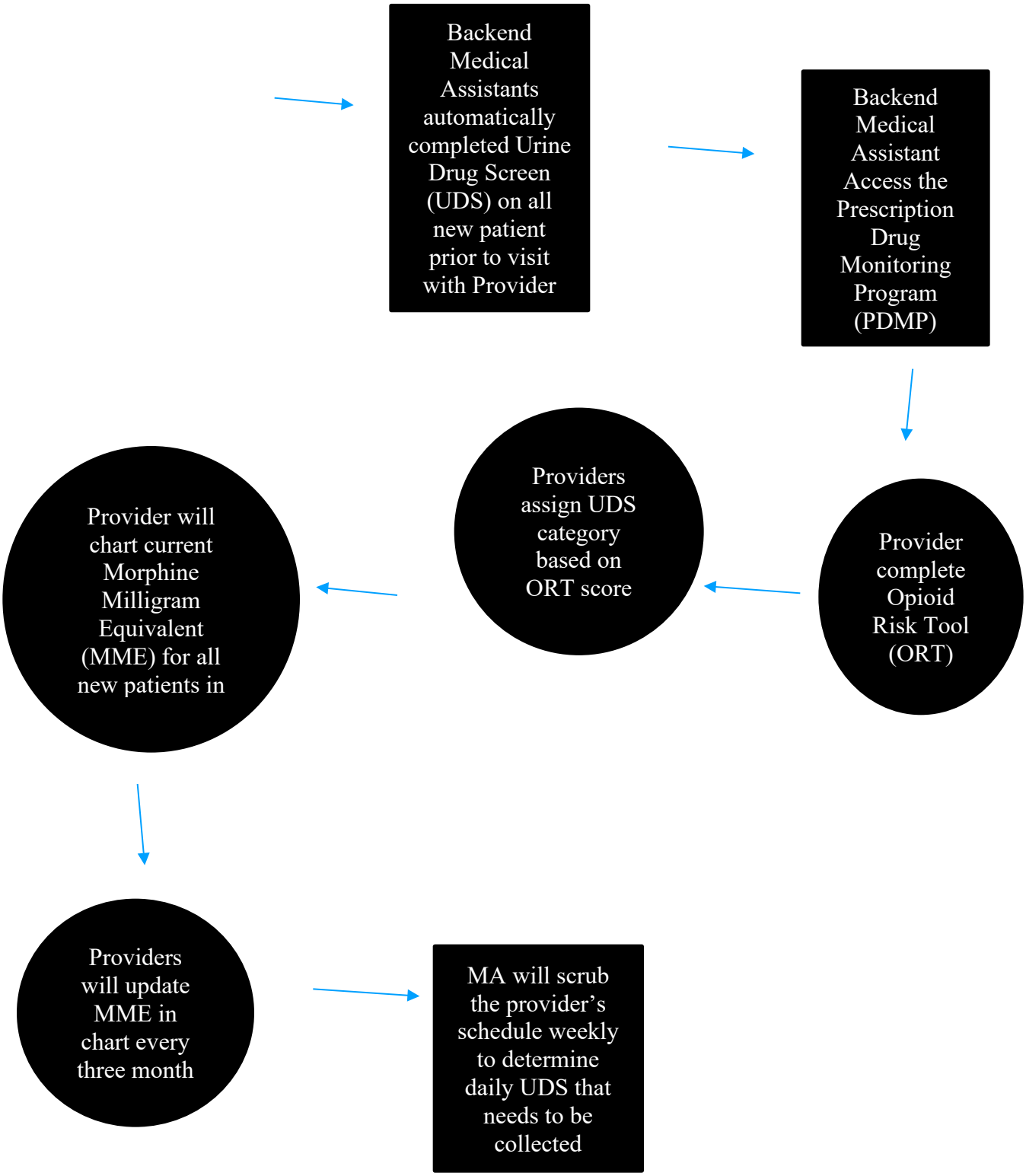
I have read a description of the DNP project/study, and I understand the procedure described above. I also have received a copy of the description.

I _____ agree to participate in the project.

Signature ___________________________ Date_____________________________

Appendix F

New Patient Process Improvement Flowsheet



Appendix G

CITI Training

Appendix H

Timeline of Project Phases

Date	Task	Complete/Incomplete
May 2022	Explore project topic	Complete
June 2022 -present	Review the Literature for topic of interest	Complete
June 2022	Define DNP project	Complete
July 2022	Explore Theorecitical Framework	Complete
July 2022	Establish Project Committee	Complete
July 2022	Establish Project Implementation	Complete
July 2022	Complete Draft Proposal	Complete
July 2022	Share Draft Proposal with Perceptor	Complete
July 2022	Get permission from developer of ORT and survey to be used.	Complete
August 2022	Customize survey to be applicable to project on google survey	Complete
August 2022	Meet with preceptor before submitting IRB	Complete
September 2022	Submit for IRB approval	Complete
October 2022	Meet with participants to explain project proposal and gage interest	Complete
November 2022	Participants Lunch Meeting to provide educational in-service on CDC Guidelines for prescribing opioids	Complete
December 2022	Distribution of pre-survey to participate via e-mail	Complete

December 2022	Participants sign contract	Complete
January 2023 to March 2023	Implementation of DNP proposal	Complete
April 2023	Complete final project paper	Complete
July 2023	Disseminate Project	Complete
July 2023	Submit Manuscript for publication	Complete
August 2023	Destroy Project Data	Complete

Appendix I

Letter of Support

CLEARWAY PAIN SOLUTIONS

Clearway Pain Solutions

4660 Wilken Ave

Baltimore, MD 21229

Friday, September 23, 2022

Dear Sir or Madam,

This letter confirms my wholehearted support for Jacksonville State University graduate nursing student Ms. George-Marie Garber. Ms. Garber has received our approval to focus on "Utilizing a Multidisciplinary Team Approach to Opioid Stewardship" Over the coming year. We are excited to support her as she works toward improving patient care delivery in our facility. Also, her DNP project is exempt from Clearway's Institutional Review Board (IRB). Please let me know if I can assist in any way.

Sincerely,

Dr. Inai MKandwire DO

Director

Appendix J

DNP Project Budget

Budget amount for project will not exceed $400

1. DNP Proposal Editing $ 350
2. Post Implementation Lunch $50