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# The Effect of the Implementation of a Quarterly Triad Tool in the Pain Clinic Setting on the Assessment and Mitigation of Risks in Patients on Chronic Opioid Therapy

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**THE EFFECT OF THE IMPLEMENTATION OF A QUARTERLY TRIAD TOOL IN THE  
PAIN CLINIC SETTING ON THE ASSESSMENT AND MITIGATION OF RISKS IN PATIENTS  
ON CHRONIC OPIOID THERAPY**

by

**CAROLINE ASAVA**

**EVIDENCE-BASED PRACTICE PROJECT REPORT**

Submitted to the College of Nursing and Health Professions

of Valparaiso University,

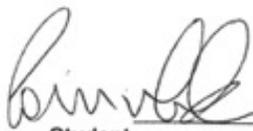
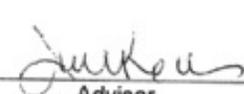
Valparaiso, Indiana

in partial fulfillment of the requirements

For the degree of

**DOCTOR OF NURSING PRACTICE**

2019

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Student Date Advisor Date



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## DEDICATION

This project is wholeheartedly dedicated to the Almighty God, from whom all good things come from. My whole family especially; my husband Dennis, my son Mason, my sister and best friend Verah, my in-laws Rose and Aggrey and my parents Ronald and Dinah who have been my source of strength and who never wavered in their moral, spiritual and emotional support throughout the project. To all my peers and mentors who shared their kind words of encouragement and finally, all chronic pain patients who require chronic opioids to better their functionality in an opioid crisis climate, as I strive to improve my practice and that of my peers to better their overall chronic pain outcomes and safety.

*"The sky is not my limit...I am"*

*-T.F. Hodge*

## **ACKNOWLEDGMENTS**

I would like to acknowledge and thank Dr. Julie Koch for her unwavering patience, support, wisdom, commitment and mentorship throughout the project. This project has come to fruition because her effort. She is the epitome of a selfless, understated hero with a generous spirit and a willingness to give back and help others, an exemplar of a true educator who is genuinely and holistically vested in the success of her students. I would also like to thank Dr. Thomas Blodgett who began this project with me alongside the staff and medical leadership team at the Midwest clinical facility where this project was implemented. With their support, this project and my educational goals were seen to fruition.

## PREFACE

*“We have the self-awareness to be honest with ourselves to say, “we have been part of the problem, and we have to be part of the solution”*

~Jonathan Brown, CEO, Indian Stream Health Center

Regarding opioid prescribing and efforts to combat the opioid epidemic

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## ABSTRACT

The concurrent use of opioids and benzodiazepines (BZDs) poses a formidable challenge for clinicians who manage chronic pain. While the escalating use of opioid analgesics for the treatment of chronic pain and the concomitant rise in opioid-related abuse and misuse are widely recognized trends, the contribution of combination use of BZDs, alcohol, and/or other sedative agents to opioid-related morbidity and mortality is underappreciated, even when these agents are used appropriately. Patients with chronic pain who use opioid analgesics along with BZDs have a defined increase in rates of adverse events, overdose, and death, warranting close monitoring. To improve patient outcomes, ongoing screening for aberrant behavior, monitoring of treatment compliance, documenting medical necessity, and adjusting treatment in response to clinical changes are essential. National and state guidelines recommend that patients on chronic opioid therapy (COT) should periodically undergo urine drug testing and a review of prescription drug monitoring program to confirm adherence to the treatment plan. These guidelines also recommend reviewing the prevalence and pharmacologic consequences of BZDs among patients on COT. This DNP Project evaluated the effectiveness of the implementation of a quarterly triad tool (QTT), which included (a) current urine drug testing and (b) prescription drug monitoring, with (c) the addition of medication reconciliation for concomitant BZD use (CBU) on mitigation of adverse event risks in patients treated for chronic pain in a pain clinic in central Indiana. One of six providers did not adopt the practice change; but 151 of 154 patients were screened using the QTT, and 24 (15.89%) had CBU detected. Documentation of risk education increased from 25% pre-intervention to 100% post-intervention ( $\chi^2(1) = 10.59, p = .001$ ). Follow-up plan documentation also increased to a statistically significant level: 5% pre-intervention to 75% post-intervention ( $\chi^2(1) = 8.24, p = .004$ ).

*Keywords:* quarterly triad tool, opioids, benzodiazepines, chronic pain

## **CHAPTER 1**

### **INTRODUCTION**

#### **Background**

Chronic pain continues to be a multidimensional problem for people in the United States of America. The experience of pain has been recognized as a national public health problem with profound physical, emotional and societal costs (U.S. Department of Health and Human Services [USDHHS], 2018). Today, chronic pain affects an estimated 50 million U.S. adults and as many as 19.6 million of those adults experience high-impact chronic pain that interferes with daily life of work activities (USDHHS, 2018). Primary care providers, as well as pain management specialists, often rely on opioids to control chronic pain. However, the use of these potent medications must be balanced against their risk for harmful adverse effects, which range from constipation to respiratory arrest. In particular, the prevalence of psychological dependence on opioids has increased at an unprecedented rate in many regions throughout the United States (USDHHS, 2018). This chapter will provide a summary of the background and significance of the recent “opioid epidemic” and describe the purpose of this project in the context of chronic pain management.

#### **Statement of the Problem**

In the US, the increased use of prescription opioids and the resulting potential for addiction and overdose impose substantial public health burden of morbidity, mortality and economic costs (Sun et al., 2017). From 1999-2014, more than 165,000 persons died from overdose related to opioid pain medication in the United states (Centers for Disease Control and Prevention [CDC], 2016). According to Sun et al. (2017), approximately 30% of fatal “opioid” overdoses also involve benzodiazepines, which are often used concurrently with opioids, raising the possibility that some of the increase in opioid related deaths could be caused by concurrent benzodiazepine/opioid use over time.

**Data from the Literature Supporting Need for the Project**

In addition to the overuse and abuse of opioids, the use of non-opioid substances (e.g., benzodiazepines) to manage the psychological effects of chronic pain adds an additional layer of complexity to the opioid epidemic. Benzodiazepines have been commonly used to treat anxiety and insomnia in patients with chronic pain. However, combined benzodiazepine and opioid use is increasingly implicated in emergency department visits and drug overdoses (Park et al., 2016). Moreover, use of benzodiazepines without a prescription has been associated with increased risk for the development of opioid use disorder (Park et al., 2016). This is mainly due to the enhanced pain relief, increased sense of euphoria, and availability of these substances in the primary care setting and through non-prescribed means. Sun et al. (2017) found that 9% of opioid users also used a benzodiazepine in 2001, increasing to 17% in 2013 (80% relative increase).

According to Park et al. (2016), substance use disorder treatment admissions reporting both benzodiazepine and opioid analgesic use increased 570% between 2000 and 2010, whereas admissions that involved neither of these drugs decreased by 9.6%. These admissions increase healthcare costs, which result in devastation of households, governments, and the private sector. Prospective gains of mitigating combine benzodiazepine-opioid-related admissions include healthcare costs savings and lower spending on other cascade expenses (e.g., law enforcement). This can result in overall economic returns to households, the private sector and the government, allowing allocation of funds to other initiatives (e.g., public school systems).

In summary, chronic pain and opioid use disorder, particularly when combined with the use of benzodiazepines, are two conditions that have potentially devastating consequences for patients, their families, their communities, and the healthcare system. As evidence suggests, the apparent need for an evidence-based approach in identifying and mitigating this risk for

opioid use disorder, while effectively managing chronic pain, is crucial. Pain management providers who routinely care for patients on COT should engage in a routine assessment and evaluation of risk factors which could consequently result in an overall reduction of deaths affiliated with prescription opioids.

Strategies to prevent opioid-related deaths include (a) routinely evaluating for risk factors of opioid overdose or addiction, (b) checking prescription drug monitoring programs (PDMP) for concurrent use of opioids and other controlled substances, and (c) conducting urine drug screen (UDS) to confirm compliance with treatment plans (CDC, 2016). However, these efforts have been largely unsuccessful due to limited access to pain management experts, inconsistent use of opioid surveillance programs, and variable social support for responsible opioid use. Leichtling et al. (2016) stated that in most states, PDMPs are not yet accessed by prescribers routinely and consistently; to address this gap, many states have mandated the use of PDMP, though conditions under which use is required vary greatly.

Prescription drug monitoring programs (PDMPs) are a key element in the identification of concurrent prescriptions of controlled substances. Guidelines from the American Pain Society recommend individual risk gradation with patients receiving long-term opioids to determine frequency of monitoring, with a variety of tools (e.g., monitoring stable patients at least every three to six months). The CDC guidelines for opioid prescribing in patients in COT recommend PDMP review ranging from each time of prescribing to every 3 months. A qualitative study by Leichtling et al. (2016) revealed that PDMP use varied from consistent monitoring on a scheduled basis to checking the PDMP only on suspicion of misuse, with inconsistent use reported particularly among short time prescribers and with existing patients of long-term prescribers. This evidence supports the need for utilization of a standardized approach to using PDMP with the hypothesized primary goal of promoting compliance and a secondary goal of risk identification and mitigation with regards to concomitant benzodiazepine-opioid use (CBU).

**Data from the Clinical Agency Supporting Need for the Project**

The clinical setting for this project was an outpatient pain management center in Central Indiana. Providers at this facility included three pain management physicians, two physician assistants (PAs), and one adult geriatric primary care nurse practitioner (AGPCNP). Although provider patient loads vary by the type of visit; new patient visit or monthly return, on average about 20 to 25 patients on long-term opioids are seen for their quarterly visit (third month visit). A comprehensive approach to pain management including non-pharmacological interventions, physical therapy, and analgesics (opioid and non-opioid) was utilized as the standard of practice. However, there was no standardized system for monitoring patients on COT for features of opioid use disorder and concurrent benzodiazepine use. Providers at this site typically used either a random urine drug screen (UDS) or PDMP, which screened for the quantity of opioids that had been prescribed and distributed to the patient over a period of time. Informal patterns of assessing CBU likely linked to a review of medication reconciliation at each clinic visit and a random UDS were apparent in the preliminary data. Yet, consistency was not shown in the evaluation of CBU at each visit. This project was necessary at this facility given that several patients currently receiving chronic opioid therapy (COT) were also taking benzodiazepines. As a facility, there was a drive to promote safe opioid prescribing with adherence to the recommended CDC guidelines. As a part of this initiative, the leadership had incorporated a psychologist to address cognitive behavioral treatment (CBT) options that would eliminate the need for benzodiazepine use and allow for the lowest dose of opioid use for chronic pain management. Park et al. (2016) found that approximately 40% of patients who are prescribed an opioid are also prescribed a benzodiazepine. This same pattern of CBU had been noted at the facility, prompting administrative staff to push providers to evaluate for CBU and to utilize evidence-based practice (EBP) options to eliminate CBU. In an attempt to improve patient safety by decreasing concurrent opioid and benzodiazepine use, a discussion with the clinic administrator revealed that this project was imperative.

## **Purpose of the Evidence-Based Practice Project**

### **Compelling Clinical Question**

The compelling clinical query that this project addresses was as follows: What evidence-based strategies are effective in increasing healthcare providers' use of PDMPs, UDSs, and CBU monitoring among patients on COT? A literature search and appraisal allowed for an evidence-based approach to the creation and utility of a tool that was utilized in the clinic by providers during their routine quarterly visits during the time of project implementation.

### **PICOT Question**

The PICOT question for this evidence-based practice project was as follows *Among pain management providers (P), does the use of a standardized quarterly triad tool (QTT) consisting of PDMP, UDS, and medication reconciliation for CBU (I), compared to the current practice of PDMP or UDS only (C), increase the monitoring of CBU and providers initiation of a benzodiazepine specific follow up plan (O) over a 90-day period (T)?*

### **Significance of the EBP Project**

The 2016 CDC guideline for prescribing opioids for chronic pain includes a recommendation for the routine evaluation of risk factors for opioid-related harms and ways to mitigate patient risk (CDC, 2016). The guidelines also recommend reviewing of PDMP data, using urine drug testing, and avoidance of co-prescribing benzodiazepines whenever possible. The intervention within this EBP project was intended to promote the assessment of CBU by providers, with the goal of promoting provider adherence to the use of the tool and ultimately reducing opioid and benzodiazepine co-prescribing among patients on long-term opioid therapy. The intervention was also intended to trigger follow up planning of affected patients by providers.

## CHAPTER 2

### THEORETICAL FRAMEWORK, EBP MODEL, AND REVIEW OF LITERATURE

#### Theoretical Framework

With the consideration of the necessity for a systematic approach to aid in the success of the project, the DNP student facilitator elected to incorporate John Kotter's model of change as the theoretical framework to guide practice change. The following narrative provides an overview of Kotter's model and details its application to this EBP project.

#### Overview of Theoretical Framework

Based on information gathered during interviews from more than 100 organizations in the process of large-scale change, John Kotter, in his work with Dan Cohen, proposed that the key to organizational change was founded in helping people to feel differently (i.e., appealing to their emotions) (Melynk & Fineout-Overholt, 2015). Kotter asserted that individuals change their behavior less when they are given the facts or analyses that change their *thinking* than when individuals are shown truths that influence their *feelings*. (Melynk & Fineout-Overholt, 2015). This model was determined to be ideal for the implementation of this project due to its clarity of purpose and the assertion of the seeing, feeling and changing pattern necessary for successful behavioral change. It is outlined in eight steps which include; (a) creating a sense of urgency for the project, (b) building a guiding coalition, (c) forming a strategic vision and initiatives, (d) enlisting a voluntary army and buy in, (e) empowering others to action and removing all barriers of behavioral change, (f) generating short-term wins, (g) sustaining acceleration, and (h) nourishing the new culture to allow for change transmission, where the new change becomes the norm (Kotter International, Inc., n.d.)

#### Application of Theoretical Framework to EBP Project

The first step of the Kotter's model of change is the creation of a sense of urgency. In this step, the DNP student facilitator helps others to see the need for change through a bold,

aspirational opportunity statement that communicates the importance of acting immediately (Kotter International, Inc., n.d.). Melnyk and Fineout-Overholt (2015) stated that the creation of a sense of urgency is especially important when individuals in an organization have been in a rut or a period of complacency for some time. A sense of urgency was established after the DNP student discussed national necessity data as indicated in Chapter 1 of this DNP Project Report, which included increased risk for overdose, death, and hospital admission, as well as healthcare cost. Internal data of patients from the clinic who were impacted was also shared.

A preliminary review conducted in September 2018 revealed that approximately 30% of patients who were on COT were also taking benzodiazepines. Although there was an effort by the prescribing providers to limit concurrent opioid-benzodiazepine use (CBU), there also was considerable variation in the processes of identifying CBU, as well as the timing of screening and designated intervention across the span of providers. It became evident that there was a need for a streamlined process which would not only identify CBU but also outline a well-defined patient-centric follow up plan for affected patients. A story was shared by the DNP student of several patients who had legitimate chronic pain issues and had to give up their pain contracts and opioid therapy because they felt that their anxiety concerns and need for benzodiazepine use was much more weighted. These were patients who not only could have been identified with the proposed intervention, but with a well-documented follow up plan, they would have maintained their therapeutic relationship with the providers within reasonable accommodation and utilized a referral to the inhouse pain psychotherapist or an external psychotherapist for follow up.

The second step in Kotter's change model involves the selection of a strong team of individuals who can guide change (Melnyk & Fineout-Overholt, 2015). The DNP student facilitator identified a medical assistant champion who had a vast knowledge of the processes, respect and trust with other staff and was vested in the outcomes of the project with regards to

the utility of both the PDMP and the UDS in the identification on CBU. The medical assistant champion was also the head medical assistant at the clinic setting

Step three entails the creation of a vision and realistic implementation strategy for bringing the vision to fruition (Melynk & Fineout-Overholt, 2015). Per the stipulation of the project, the idealistic timeframe for the project implementation was 90 days. To allow for ease of documentation, an already existing auto-text quick step option in the electronic medical record was utilized to aide with the quick download of the triad for documentation into patient charts. The vision for the project was discussed with the providers and the support staff.

Step four necessitates communicating the vision (Melynk & Fineout-Overholt, 2015). This was done through sharing the heartfelt stories of patients, the same stories that were shared to communicate the sense of urgency and the need to go beyond “just abiding with the guidelines” but including individualized patient outcomes which would ultimately improve safety outcomes but also promote retention and patient satisfaction within the operational context.

Step five involves staff empowerment for behavioral change and elimination of barriers that inhibit successful change (Melynk & Fineout-Overholt, 2015). The project did not require any financial commitment or additional staff hours for implementation, the use of the auto-text option also made the adaptation of the quarterly triad tool into routine EMR documentation made it much easier for the providers to incorporate it.

Step six emphasizes the importance of celebrating short-term successes. Biweekly data sharing sessions were planned to demonstrate compliance with use of the quarterly triad tool and to further motivate the providers and staff to move toward Kotter’s seventh step of change.

Step seven highlights ongoing persistence needed to make the vision a reality. Initially, not all providers were on board, in fact, only two out of four providers were willing to be a part of the project, with the attitude of aiding the DNP student in seeing the project to completion rather than changing practice outcomes. However, the DNP student planned persistence to making the vision a reality and cementing the practice change. This stage of the change process was

supported by the initial timeframe of piloting the change. Because the implementation time was limited to 90 days, the DNP student was able to convince more providers to become part of the project.

Step eight, which is the last step, highlights the necessity for nourishment of the new culture to make it last. Melynk and Fineout-Overholt (2015), stipulated that it is important to nourish the new culture to make the change last even if the leadership experiences transitions. This nourishment is essential if the new culture and behavior are to be sustained (Melynk & Fineout-Overholt, 2015). The DNP student developed a plan for sustaining the practice change but buy in for the continued change by other prescribing providers was determined to be more likely if the practice change was streamlined, was easily incorporated into current practice change, resulted in positive outcomes, and did not negatively impact the flow of patient care within the clinic setting.

### **Strengths and Limitations of Theoretical Framework for EBP Project**

The main strength of the Kotter model for this EBP was that it maps out key steps and components that are necessary for change. The model also addressed the emotional imperative of change by ascertaining that there is a seeing and feeling and changing pattern necessary for behavioral modification. This was very clear in the project implementation, as the DNP student facilitator was able to use each aspect of the model as stipulated in the application segment of this chapter.

A limitation of using the Kotter model was that the assumption that positions change with the successful transition from one step to the next may not be idealistic. At times, the vision could precede the communication of urgency, and the process of communicating the vision might overlap with the communication of the sense of urgency. Furthermore, it was noted that a few of the steps overlap. There was also the insinuation of the trickle-down change aspect in the selection of the leadership team. While this was in itself a strength with regards to steering of goals and the vision, it could also be viewed as a weakness in that it was exclusionary, and

those employees who were not included in the leadership team could view themselves as puppets and become detached as they feel less ownership.

### **Evidence-based Practice Model**

Early in the EBP movement, healthcare scientists, including many nurse scientists developed models to organize our thinking about EBP and understand how various aspects of EBP work together to improve care and outcomes (Melynk & Fineout-Overholt, 2015). These models guide the design and implementation of approaches intended to strengthen evidence-based decision making and help clinicians implement an evidence-based change in practice (Melynk & Fineout-Overholt, 2015). To facilitate evidence translation into clinical practice within this DNP project, the PARHIS model was incorporated. The DNP student facilitator used the PARIHS model to facilitate practice change by incorporating research evidence in the pain management context, and utilizing already existing components of the culture, structure, resources and the clinical staff to implement change.

### **Overview of EBP Model**

The PARIHS (Promoting Action on Research Implementation in Health Services) framework was used in the design and implementation of this EBP project. The PARIHS framework posits an outline for evidence implementation. It is comprised of three interacting core elements: evidence (E) 'codified and non-codified sources of knowledge' as perceived by core stakeholders; context (C) the quality of the environment or setting in which the research is implemented; and facilitation (F) a 'technique by which one person makes things easier for others,' achieved through 'support to help people change their attitudes, habits, skills and ways of thinking and working' (Helfrich et al., 2010). An integral component of the PARIHS framework is the assumption that successful implementation of evidence is a function on these three key components, where each factor can be rated on a scale from high to low and where high ratings are likely to produce successful implementation results.

In the PARIHS framework, evidence consists of four sub-elements, corresponding to four main sources of evidence: (a) research evidence from studies and clinical practice guidelines including, formal experiments; (b) clinical experience or related professional knowledge; (c) patient preferences and experiences; and (d) locally derived information or data, such as project evaluations of quality improvement projects. (Helfrich et al., 2010). The PARIHS model argues that all of these four sources are equally weighted as sources of evidence.

Context comprises of sub-elements of organizational culture, leadership and evaluation. Culture creates the context for practice, character and feel of the physical environment; effective leadership provides clear roles, effective teamwork and effective organizational structures; and evaluation refers to the types of measurement tools and methods for reporting used by the organization (Stetler et. al., 2011).

### **Application of EBP Model to EBP Project**

The PARIHS EBP model was ideal because it allowed for the translation of theoretical knowledge to practice. By understanding the context of the organization, the DNP student facilitator was able to determine the most appropriate method to improve practice at the pain clinic. The need for the EBP project was ascertained following discussion with the administrator. Education was provided to prescribing providers and supportive staff. A champion medical assistant was identified to help with the roll out process, data collection and the education of other supportive staff with regards to project goals and outcomes. The DNP facilitator also discussed components of the electronic medical record (EMR) with the information technology staff, and then created the auto text component specific the quarterly triad tool which prompted allowed providers to download all the components of the tool within their clinic visit notes within seconds. The auto-text component was also used by the staff at the clinic routinely for documentation of other components of care.

### **Strengths and Limitations of EBP Model for EBP Project**

The main strength of the EBP model was the fact that the DNP student facilitator was also part of the staff at this clinic with established credibility and authority within the organization. Secondly, the DNP student understood the EMR which allowed for easy navigation, creation and inclusion of the QTT within the charting system. Given that the project did not require any funding or additional staffing hours for implementation, it was well accepted by both leadership and staff. The model provided preliminary measure of evidence and context, and the use of the most appropriate methods of implementation. The limitation of the framework was the inability to assess how each of the elements of the framework impacted the implementation of the project as it appeared that facilitation took precedence over evidence and context.

### **Literature Search**

#### **Sources Examined for Relevant Evidence**

An extensive literature search was conducted using multiple databases including CINAHL, Cochrane Library, Science Direct, ProQuest, and MEDLINE (EBSCO host). Additional literature was also obtained from a hand search and citation chasing. The purpose of the literature review was to uncover evidence that supported the most effective approach of evaluating at risk patients for CBU. Results were compiled and the best interventions were included in the design of the evidence-based project (EBP). Interventions which included a routine review of urine drug screens (UDS) and prescription drug monitoring programs (PDMP) to assess for concurrent benzodiazepine use (CBU), were used to create the quarterly triad tool (QTT), which was implemented in the project.

Search terms included Opioid\* AND Prescriber OR Prescription AND PDMP OR "Prescription Drug Monitoring Program" OR Urine Drug Screen OR Benzodiazepines and chronic pain. The numbers of results found in each database can be found in Table 2.1.

Inclusion criteria for the literature search encompassed publications from 2012 to present to accommodate the dynamic nature of this project and include the most up to date information. The publications had to be in English language, scholarly or academic journals, and peer-reviewed journals covering outpatient adult populations. Inpatient, pediatric, studies of dental providers were excluded. Articles that did not address concurrent benzodiazepine use were also excluded.

The initial literature search yielded 104 relevant articles, of which 35 were duplicates and 32 did not fit the inclusion criteria. A review of the remaining 37 abstracts resulted in seven articles being deemed worthy of further review based on inclusion criteria. Four of the seven articles that were selected for review were from a hand search and one was obtained from citation chasing. After reviewing a full text of the seven articles, the DNP student determined that all seven met both inclusion and exclusion criteria based on the level and the quality of evidence. Results are as listed below (Table 2.1.)

Table 2.1

*Literature Search*

Database	Articles Found	Duplicates	Abstracts Read	Applicable Articles
Cochrane	12	0	12	0
CINAHL	34	0	14	1
ProQuest	40	25	0	0
Science Direct	10	6	4	1
Medline EBSCO Host	8	4	4	0
Hand Search	5	0	3	5
Total	109	35	37	7

Table 2.2

*Evidence Table*

CITATION	DESIGN/ LEVEL/ QUALITY RATING	SETTING/SAMPLE/ TARGET GROUP	INTERVENTION/ RECOMMENDATIONS	OUTCOMES/ MEASURES	FINDINGS
CENTERS FOR DISEASE CONTROL AND PREVENTION (2016)	Clinical practice guideline Level IV High quality	Primary care clinicians who are prescribing opioids for chronic pain outside active cancer treatment, palliative care, and end of life care	Recommends routine assessment for patient risk and addressing harms of opioid use through (a) review of PDMP data to identify opioid dosages or dangerous combinations linked to risk for overdose, (b) urine drug testing before starting opioid therapy and then at least annually to assess for prescribed medications, other controlled prescribed drugs and illicit drugs, (c) avoidance of concurrent prescribing of benzodiazepines and opioids	Guideline is intended to improve communication between clinicians and patients about risks and benefits of opioid therapy for chronic pain, improve safety and effectiveness of pain treatment and reduce the risks associated with long-term opioid therapy, including opioid use disorder, overdose and death	
DOBSCHA, S. K. (2013)	Expert opinion Level V High quality	Clinicians caring for patients impacted by CBU	Recommends moving beyond “just say no” where providers should outline an “exit strategy for the discontinuation of concurrent benzodiazepine-opioid use	Exploring follow up plans for patients on CBU while reducing anxiety and limiting recurrent use: communication with patients; gradual dose reductions; medication substitute; CBT; clinician education and feedback; monitoring; and system support.	

<p>GEORGE, 2018</p>	<p>Expert opinion Level V Good quality</p>	<p>Patients on opioid and benzodiazepines as evaluated from urine drug screens</p>	<p>Clinicians need to be aware of their patients are taking are using potentially dangerous combinations of drugs: benzodiazepines and opioids. State based PDMP are limited to prescribed drugs; therefore, a more effective detection of drug use is achieved by supplementing the prescribed database information with UDS</p>	<p>Non-prescribed CBU cannot be determined by PDMP alone.</p>	<p>Urine drug screens of patients on opioids were reviewed, 68.2% of specimens tested positive for opioids, 20.6% of specimens tested positive for CBU. Of these patients, 36% had been prescribed both drug classes and 64% had at least one non-prescribed drug</p>
<p>GUDIN, J. A., MOGALI, S., JONES, J. D., &amp; COMER, S. D. (2013)</p>	<p>Expert opinion Level V High Quality</p>	<p>Patients on CBU</p>	<p>Chronic pain patients taking opioids and benzodiazepines concurrently require routine monitoring for aberrant drug behaviors, treatment compliance, documentation of medical necessity and the adjustment of treatment to clinical changes are essential. Patients receiving COT should periodically undergo urine drug testing to confirm adherence to the treatment plan</p>	<p>Routine monitoring for compliance and aberrant behavior to mitigate risks</p>	

<p>HAWKINS, E. J., MALTE, C.A., GROSSBARD, J. R. (2015)</p>	<p>Retrospective research study Level III Good quality</p>	<p>Patients with post-traumatic stress disorder at a veteran's affairs clinic on CBU</p>	<p>Concurrent use was identified as periods of overlapping opioid and benzodiazepines prescriptions for 90 days or more consecutively. Gender-specific logistic regressions estimated long-term concurrent use of these medications and tested for linear trends over 9 years</p>	<p>The use of comprehensive strategies to identify and monitor patients on chronic opioid and benzodiazepines for adverse outcomes</p>	<p>Despite known risks associated with concurrent opioid and benzodiazepine use, the adjusted prevalence rose significantly among these patients over a 9-year period. This common use suggests that comprehensive strategies are needed to identify and monitor patients as risk for adverse outcomes</p>
<p>MCCLURE, F. L., NILES, J. K., KAUFMAN, H. W., &amp; GUDIN, J. (2017)</p>	<p>Qualitative Level III High quality</p>	<p>Patients on concurrent opioid-benzodiazepine use identified from urine specimens that tested positive for both medications</p>	<p>The urine specimens that were prescribed either an opioid or a benzodiazepine were tested for both medications</p>	<p>A high prevalence of concurrent use was noted, particularly non-prescribed use. This suggested the need for more effective clinician assessment and intervention</p>	<p>Results supported the CDC guideline that drug testing should occur before and periodically throughout opioid use and suggest that this testing should be extended to patients prescribed benzodiazepines as well</p>
<p>OREGON HEALTH AUTHORITY PUBLIC HEALTH DIVISION. (2016)</p>	<p>Clinical Practice guideline Level IV High quality</p>	<p>All clinicians prescribing opioids in Oregon Task force endorsed CDC guidelines as stated above</p>	<p>Same as those recommended by the CDC since the adopted the CDC guidelines</p>	<p>To provide additional clarity to the CDC guideline and to address Oregon specific issues</p>	

## **Levels of Evidence**

A total of seven sources of evidence were deemed worthy of inclusion into the literature supporting this EBP, which included two descriptive studies, three expert opinions, and two clinical guidelines. After obtaining permission for use, these sources were appraised using the Johns Hopkins Research Evidence Based Practice Appraisal tool. Evidence was ranked from level I through level V, with level one being representative of the highest level of evidence and level V the lowest (Dearholt & Dang 2014). The literature search did not yield any randomized control studies, experimental or quasi-experimental studies, which would have been considered level I and II levels of evidence. This was attributed to the likelihood of the ethical nature of selective screening for patients who were on concurrent benzodiazepine-opioid use; providers could not compromise patient safety by screening a specific set of patients over the others. It however yielded two level III research studies; (Hawkins et al., 2015; McClure, Niles, Kaufman, & Gudin, 2017), two level IV clinical practice guidelines from the CDC and Oregon Chronic Opioid Prescribing guidelines, and three level V expert opinions (Dobscha, 2013; George, 2018; Gudin, Mogali, Jones, & Comer, 2013).

## **Appraisal of Relevant Evidence**

### **Construction of Evidence-based Practice**

#### **Level III Evidence**

Hawkins et al. (2015) examined the trends in annual prevalence of long-term concurrent opioid and benzodiazepine use among patients with posttraumatic stress disorder (PTSD) and prevalence of high-risk conditions in concurrent users of these medications. The researchers conducted a retrospective review of pharmacy records of patients at a Veteran's Affairs clinic. Concurrent use was defined as overlapping opioid and benzodiazepine prescriptions for at least 90 consecutive days. Gender-specific logistic regressions estimated long-term concurrent use of these medications and tested for linear trends over nine years. The researchers found that, despite known risks associated with prescribing opioids and benzodiazepines concurrently, the

prevalence of long-term concurrent use rose significantly among men and women with PTSD over a 9-year period. The researchers concluded that comprehensive strategies were needed to identify and monitor patients at increased risk for adverse outcomes.

After permission for use was granted (see Appendix A), this article was evaluated using the Johns Hopkins Nursing Evidence-Based Practice Research Evidence Appraisal Tool and found to be of good quality. The study supported the necessity for comprehensive monitoring strategies to reduce CBU use, which was the premise behind the creation of the QTT.

McClure, Niles, Kaufman, and Gudin, (2017), analyzed CBU prescription patterns in the context of urine drug testing results and found CBU in 25% of opioid prescribed patients. In 52% of those with evidence of CBU, one drug class was prescribed, while the other was non-prescribed. Nearly one of five specimens testing positive for prescribed opioids also tested positive for non-prescribed benzodiazepines. While more than 15% of those who were prescribed benzodiazepines also had evidence of non-prescribed opioid use. The researchers concluded that the extent of CBU and opioids, particularly the non-prescribed use, reflected the need for more effective clinician assessment and intervention. The researchers' findings supported the CDC guideline that drug testing should occur before and periodically throughout opioid use and suggested that this testing should be extended to patients prescribed benzodiazepines as well.

This research article was also found to be of high quality. The evidence supported the use of urine drug screens (which are a component of the QTT) to evaluate for prescribed and non-prescribed CBU periodically throughout opioid use.

#### **Level IV Evidence**

Clinical practice guideline from the CDC recommend for clinicians to review the history of controlled substance prescription using the states prescription drug monitoring program (PDMP) data to determine whether the patient is receiving opioid dosages or dangerous combinations that put the patient at risk for overdose. The guideline recommends for clinicians

to use PDMP at the initiation of opioid therapy and then periodically during opioid therapy ranging from every prescription to every 3 months. The guidelines also recommend the routine assessment of urine drug screens to assess for prescribed medications as well as other controlled prescription drugs and illicit drugs. Finally, the guidelines recommend the avoidance of concomitant prescribing of benzodiazepines and opioids whenever possible.

According to the John Hopkins Nursing Evidence-Based Practice Research Evidence Appraisal Tool, this research article was of high quality. The QTT encompasses all the recommendations of the CDC guideline in one routine assessment.

Clinical guideline from the American Academy of Pain Medicine and Oregon Chronic Opioid Prescribing guidelines reinforce the avoidance of concurrent benzodiazepine-opioid prescribing, routine use of PDMP and periodic assessment of urine drug screens. Both sources of evidence were rated as high-quality evidence per John Hopkins Nursing Evidence-Based Practice Research Evidence Appraisal Tool

#### **Level V evidence by alphabetical order**

Steven K. Dobscha, MD is a Doctor at the Center to Improve Veteran Involvement in Care (CIVIC) at the Veterans Affairs Medical Center in Portland Oregon. He has 31 years of experience. His specialties include; Psychosomatic Medicine, Clinical Informatics, Psychiatry and Neurology. His body of work entails approaches to integrating psychiatric and primary medical care and managing chronic conditions including chronic pain in primary care. According to Dobscha (2013), multiple studies have shown that patient with psychiatric conditions are more likely to be prescribed opioids than patients without psychiatric conditions. He noted that psychiatric disorders (i.e., anxiety and post-traumatic stress disorders) are strongly associated with opioid prescriptions. He noted that the increase in CBU prescription patterns could be attributed the fact that chronic pain and anxiety are comorbid. He argues that several interventions have been shown to be effective in increasing rates of benzodiazepine discontinuation while reducing anxiety and limiting recurrence of use, he listed follow up

examples like writing letters to patients explaining necessity for discontinuation, use of structured gradual dose reduction programs, prescription of substitute medication and psychological treatment considerations like cognitive behavioral therapy. He also suggested that interventions that are likely to change clinician behavior and result in improved patient outcomes should involve: clinician education, feedback and monitoring, and system support. These interventions go beyond the guidelines.

According to the John Hopkins Nursing Evidence-Based Practice Research Evidence Appraisal Tool, this research article was of high quality. The first step of the QTT would be identification of CBU through screening. Then, providers can undertake individualized or system-wide follow up plans to reduce CBU. Like the recommendation by Dobscha the QTT involves clinician education of the indication and benefit of using the QTT, its inclusion in the EMR allows for feedback and monitoring of identified patients and its ease of use through the recommended auto-text quick chart option allows for an easy incorporation into routine documentation

Jeffrey Gudin, MD, is a director of pain and palliative care at Englewood Hospital AND Medical Center in New Jersey. He is board certified in pain medicine, anesthesiology, addiction medicine and hospice/palliative medicine. Dr. Gudin's clinical and research focus includes post-operative pain management, opioid abuse and potential solutions, and increasing clinician awareness of pain assessment and risk management. In a published article that serves as an expert opinion. Gudin et. al., (2013) opined that in order to improve patient outcomes for chronic pain patients taking opioids and benzodiazepines concurrently, routine monitoring for aberrant drug behaviors, treatment compliance, documentation of medical necessity and the adjustment of treatment to clinical changes are essential. They stated that regardless of the risk of risk or known aberrant drug-related behaviors, patients receiving COT should periodically undergo urine drug testing to confirm adherence to the treatment plan.

According to the John Hopkins Nursing Evidence-Based Practice Research Evidence Appraisal Tool, this research article was of high quality, it supported the periodic use of urine drug screens to confirm adherence to the treatment plan.

Judy George is a freelance journalist and a contributing writer for MedPage today, an online clinical website which covers both clinical and policy issues that impact healthcare professionals. Her article is a review of a poster presented at the pain week by L. McClure and colleges. The data summarized from the poster indicated that among a selected sample of patients whose drug test indicated concurrent benzodiazepine and opioid use, 64% had at least one benzodiazepine or opioid that was not prescribed. These findings supported the use of a UDS in addition to PDMP to evaluate for CBU.

According to the John Hopkins Nursing Evidence-Based Practice Research Evidence Appraisal Tool, this research article was of good quality, it supported the additional use of a urine drug screen in addition to PDMP review to evaluate for non-prescribed use.

### **Synthesis of Critically Appraised Literature**

A major theme which was identified in the literature review was the formidable challenge faced by clinicians of concurrent benzodiazepine-opioid use among patients on chronic opioid therapy (CDC, 2016; Dobscha, 2013; George, 2018; Gudín, Mogali, Jones, & Comer, 2013; McClure, Niles, Kaufman, & Gudín, 2017; Oregon Health Authority Public Health Division, 2016). The majority of evidence for this EBP project stemmed from expert opinion and clinical practice guidelines. These experts identified the need for screening (Dobscha, 2013; Hawkins et al., 2013) and intervening (CDC, 2016; George, 2018; Gudín, Mogali, Jones, & Comer, 2013; McClure, Niles, Kaufman, & Gudín, 2017; Oregon Health Authority Public Health Division, 2016) to address CBU. Some of the evidence reviewed focused on the use of both UDS and PDMP (CDC, 2016; George, 2018; Hawkins et al., 2013; and Oregon Chronic Opioid Prescribing guidelines;) while others focused on the use of UDS independently (Gudín, Mogali, Jones, & Comer, 2013; McClure, Niles, Kaufman, & Gudín, 2017). Both CDC and Oregon guidelines

recommended the review of PDMP at the initiation of opioid therapy and then periodically throughout opiate therapy. CDC and Oregon guidelines recommended screening every 3 months (CDC, 2016; Oregon Health Authority Public Health Division, 2016)

### **Best Practice Model Recommendation**

Consistent with the PARIHS model, the EBP project was facilitated by the utilization of appraised literature (evidence), to promote a recommended practice change at the pain clinic (context) through the use of the QTT (mechanism). The DNP student presented the evidence to the providers at the facility, and it was determined that the best practice recommendations were applicable to the project with regards to the creation and utility of the QTT for risk assessment and mitigation. The evidence review highlighted best practice recommendations that were needed to answer the PICOT question: *Among pain management providers (P), does the use of a standardized quarterly triad tool (QTT) consisting of PDMP, UDS, and medication reconciliation for CBU (I), compared to the current practice of PDMP or UDS only (C), increase the monitoring of CBU and providers initiation of a benzodiazepine specific follow up plan (O) over a 90-day period (T)?*

### **How the Best Practice Model Will Answer the Clinical Question**

Evidence from the literature synthesis provided the foundation for the creation of the quarterly triad tool (QTT). The operational plan entailed provider and support staff education on the utility and necessity of the QTT. It was agreed upon by the DNP student facilitator and clinical leadership that the QTT, comprising of; an evaluation of the prescription drug monitoring program, urine drug screen and concurrent benzodiazepine use assessment from the medication reconciliation would be uploaded in patients' electronic monitoring record. This would be done in a quick chart format also known as auto text. Providers would then evaluate patients on chronic opioids seen monthly at each of their third visit for concurrent opioid and benzodiazepine use using all the three parameters. The DNP student facilitator was selected as the clinical champion for the providers and the lead medical assistant was identified as the

clinical champion for the supportive staff. A power point presentation created by the DNP student was used for one-on-one education session with the providers and the support staff.

The PARIHS model incorporates evidence, context and mechanism by which change is facilitated as key variables in the translation of research into practice. The context was ideal given that providers saw a large volume of patients with chronic pain on opioids who were seen routinely (monthly), for follow up visits. It was therefore imperative to ensure that chronic opioid prescribing was done within the appropriate safety guidelines. The research evidence, both contextual and theoretical as discussed in chapters one and two was strong enough to justify the necessity for the project implementation with regard to risk, impact and recommendations for intervention. Additionally, the DNP student and the facility leadership engaged in careful planning of the intervention and its components (use of QTT), staff involvement and the incorporation of the intervention into charting and routine practice. Finally, an audit and management of project outcome would be attained through the data collection process.

## **CHAPTER 3**

### **IMPLEMENTATION OF PRACTICE CHANGE**

The CDC has recommended avoidance of concurrent prescribing of opioids and benzodiazepines as a risk mitigation strategy in patients on chronic opioid therapy (CDC, 2016). However, evidence has noted that 30% to 40% of patients prescribed long-term opioids are also prescribed benzodiazepines (Dobscha, 2013). Even more concerning is the statistic that 65.8 % of patients prescribed long-term opioids are taking benzodiazepines from non-prescription sources (McClure et al., 2017). Concurrent use of benzodiazepines is likely to put patients at greater risk for hospitalization and potentially fatal overdose (CDC, 2016) Practices often use PDMP regularly to evaluate for concurrent use of prescribed medications which may increase risks associated with COT, but this strategy fails to capture and address those who may be using benzodiazepines not obtained via a prescription. Therefore, state and national guidelines now recommend the routine use of PDMP and UDS to evaluate risk in patients on COT.

This chapter will describe the methods used to answer the following PICOT question: Among pain management providers in an outpatient clinic, does the use of a standardized quarterly triad tool with concurrent benzodiazepine use (CBU) assessment, promote provider adherence to the monitoring and decrease of CBU, compared to the current practice of not using the quarterly triad tool, within a 90-day period? A single group pre- and post-intervention analysis was used to address the purpose of this project. In this section, details about the participants, setting, planning, evidence implementation, anticipated outcomes, and human rights protection considerations planned for the project will be described.

#### **Participants and Setting**

The project was initiated in a specialty pain clinic setting, where prescribers were vested in a multi-disciplinary team approach in improving patient safety outcomes, with CBU being one of the key markers, with regards to chronic opioid prescribing. One of the unique features of the

setting for this EBP project is that both administrators and clinical staff (key stakeholders) were proactive about preventing CBU within the patient population. Both groups of stakeholders had identified safe opioid prescribing, including the avoidance of CBU, as a high priority initiative to combat the local opioid epidemic. Strategies that were in use at the time this project was implemented included (a) adoption of a shared value system in which CBU was discouraged, (b) avoidance of prescribing benzodiazepines to patients on long-term opioid therapy, (c) initiation of an opioid weaning goal of less than 90 morphine milligram equivalents (MME), (d) the opportunity for patients to prioritize either their pain or their anxiety as their treatment goal, and (e) the implementation of a therapeutic interchange program, which entails changing from a benzodiazepine to a non-benzodiazepine for anxiety management.

The provider participants in this EBP project included all prescribers of chronic opioids who completed routine quarterly visits at the pain clinic in the Midwestern United States. The clinic had been in existence for past 17 years. Patients were self-referred or referred by PCPs for management of chronic pain. The make-up of provider staffing on a typical Wednesday (the day selected to obtain baseline data) included three physicians, two physician assistants (PAs), and a nurse practitioner (NP). Of the three physicians, one was relatively new to the clinic, having been at the clinic since December of 2018, but also having more than three years of experience in pain management. The other two physicians both had more than 10 years of experience in chronic pain management and had been at the clinic for more than five years. One of the two PAs had more than 10 years of PA experience and had been at the clinic for more than five years, and the other had three years of experience and had been at the clinic for three years. The NP, the DNP student facilitator, had worked at the pain management clinic for more than a year. Apart from the NP, who worked part time (3 days a week), all the other providers were full time. Each provider had a separate panel of patients whom they cared for routinely and saw an average of 18 to 25 patients on a Wednesday.

Other key stakeholders and project participants included all medical assistants (MAs) who assisted in the patients' "rooming process" as well as the compliance registered nurse (RN) who selected patients randomly for the evaluation of quarterly baseline data. The clinic administrator was the DNP student's project facilitator at the site.

Patients, of all providers, who were being seen for their quarterly visit were the target of the change in provider behavior. Because the project design included a systematic change within the entire clinic, patients seen by the DNP student were included in the project. The inclusion criteria for patients was all adult patients over the age of 18 on long-term opioids under the supervision of clinician, who were seen for quarterly visits on Wednesdays. There were no additional exclusion criteria for providers or patient participants.

### **Pre-implementation Data**

The clinic providers were already screening for illicit drugs like cocaine, heroin, methamphetamines, and other opioids not otherwise prescribed at the pain clinic) by discretionary random UDS. Some incidental CBU through random UDSs and patients' reports during medication reconciliation patterns were also identified.

The pre-implementation data was evaluated in August of 2018. The clinic support staff provided data on all quarterly visits done on Wednesdays for a 12-week period. Total patient numbers of quarterly assessments ranged from 8 to 20 each Wednesday. Pooled total data from four Wednesdays of quarterly visits yielded a sample size of 52. Twenty of these patients (38%) were found to have been on both benzodiazepines and opioids. 5%) had patient specific follow up plans documented within the electronic charting. Education for patients on CBU also included risks associated with other non-benzodiazepine medications (e.g., muscle relaxants, sedative hypnotics, and alcohol) which presented the risk of central nervous system depression. Although providers had documented a review of PDMP, of the 52 reviewed charts, none of the providers had specifically documented that they specifically screened for CBU. In 3 of 20 charts

where CBU was identified, opioid therapy wean was initiated. In the remaining 17 charts, no interventions were documented.

### **Outcomes**

The primary outcome of the EBP project was the standardization and intensification of provider adherence with CBU screening. Compliance was defined as a ratio of the number of times in which providers used the QTT to the number of times CBU was identified. Other additional goals included the number of times CBU was identified and the number of times risk education was performed and finally the number of times CBU was identified and the number of times follow up education was initiated. For the purpose of this project, QTT should have been used by each participant at every quarterly visit to be in alignment with the CDC recommendations (CDC, 2017). Data to calculate this compliance ratio was retrieved from patients' medical records.

It was anticipated that as an added benefit, use of the QTT would result in standardization of provider documentation with its inclusion in the electronic medical record (EMR). The inclusion in the EMR would also simplify the screening process through the use of the auto text application which copied and pasted the tool to the patients' visit note. This process was streamlined to minimize effort and improve compliance.

### **Intervention**

In the pre-implementation phase, the DNP student facilitator evaluated the clinic for project preparedness by establishing provider and staff buy-in, consistent with Kotter's change model. Then, the project facilitator collected data about the provider compliance with the use of the QTT inclusive of all three components: prescription drug monitoring program, urine drug screen, and a review of the medication reconciliation. CBU identification as well as provider-patient education patterns and follow up planning if CBU was identified, was completed using a

data collection tool (Appendix B). The DNP student facilitator also procured educational materials and developed a face-to-face education plan for the prescribing providers.

Following approval by the Institutional Review Board at Valparaiso University, implementation of the project began in September 2018. Implementation included a formal 30-minute face-to-face education sessions from September 1<sup>st</sup>-3<sup>rd</sup> and the identification and appointment of a clinical champion. Education was delivered using a face-to-face approach scheduled at convenient times for each provider over a 3-week period of time. Each prescribing provider was educated separately. Education included the following topics: best practice for chronic opioid prescribing, need for elimination of concurrent benzodiazepine use through individualized follow up plans for patients and utility of the quarterly triad tool. Lecture slides and the *CDC Guideline for Prescribing Opioids for Chronic Pain* (Appendix C) were provided to clinic staff. During this phase, the quarterly triad tool (Appendix E) was implemented. The triad tool consisted of a quarterly PDMP and UDS with specific instructions to monitor both for evidence of CBU. Furthermore, the combined approach using the PDMP and UDS would assist providers in identifying both prescribed and unprescribed or illicit benzodiazepine use. The PDMP would identify prescribed medications while the UDS would detect non-prescribed medications or illicit drug use. Providers were instructed to educate patients on risks and discuss a plan for discontinuation of concurrent opioid and benzodiazepine use if CBU was identified.

### **Planning**

In the pre-implementation phase, the DNP student facilitator evaluated the clinic for project preparedness by establishing provider and staff buy-in, consistent with Kotter's change model. Then, the project facilitator collected data about the provider compliance with the use of the QTT inclusive of all three components: prescription drug monitoring program, urine drug screen, and a review of the medication reconciliation. CBU identification as well as provider-patient education patterns and follow up planning if CBU was identified, was completed using a

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### **Data**

This EBP project measured provider compliance with monitoring CBU. Data was measured as a ratio, which allowed for compliance to be analyzed as a continuous variable. It also measured compliance/adherence rates per provider. The end data compared the number of times that provider used QTT to screen for CBU, and if CBU was identified, further steps were taken to determine if (a) risk education was provided and (b) an individualized plan of care was initiated for the patient.

### **Measures**

Chi square analyses were used to evaluate provider adherence rates. Descriptive statistics were used to document information pertaining to risk education and follow up plans for patients who screened positive for concurrent benzodiazepine-opioid use.

### **Collection**

Data collection was initiated one month following the launch of the intervention. The compliance registered nurse identified patients who would be coming in for the 3<sup>rd</sup> month visit of the year also known as the quarterly visit each Wednesday. The MA champion printed out a quarterly visit summary, designating each patient to their assigned provider on Tuesday evening. Random sampling of patients was completed until at least 20 patients identified to be on CBU were seen. Data evaluating provider adherence to screening using the quarterly triad tool was obtained within 12-week timeframe between October 2018 and December 2018. The DNP project facilitator collected data using a chart audit process with a standardized data collection form (Appendix E). Specific evaluative data collected included (a) if the QTT was used, (b) if CBU was identified, (c) whether patient risk education was documented if CBU was identified, and (d) if an individualized follow up plan was identified.

### **Management and Analysis**

The DNP student collected the data through a chart audit process and recorded it in a Microsoft Excel spreadsheet. IntellectusStatistics™ software was used for data analysis. To analyze the main outcome of this project, the use of the QTT with all the three components (UDS, PDMP and medication reconciliation to screen for CBU) was coded as “QTT yes” or “QTT no” for each provider. Screening for CBU was coded as “CBU yes” or “CBU no”. Risk education documentation was coded as “RE yes” or “RE no” and follow up education was coded as “FU yes” or “FU no”. Compliance with these components was calculated as percentage.

Descriptive statistics were used to determine if providers who used the quarterly triad tool were effective at educating patients on risks for CBU and initiating follow up planning, a chi-

square analysis was performed to compare the pre and post QTT implementation follow up planning.

### **Protection of Human Subjects**

The DNP student completed human rights training from the National Institutes of Health (NIH) in April 2018 (Appendix F). The student then received the Institutional Review Board (IRB) clearance from Valparaiso University in September 2018. Permission to use the clinical site was provided by the administrator. The project was considered exempt for the institutional review board because the information collected was de-identified and there was no patient interaction or treatment that would have involved physical procedures by which data are gathered (e.g., venipuncture) and manipulations of the subject or the subject's environment that would be performed for research purposes, therefore patient consents were not necessitated.

The DNP student had access to the EMR through authorization from her active employment status at the clinic, and the initial audits were conducted in a closed office without other staff members to ensure data protection. The DNP student gathered the data from the printed quarterly visit summary in her office alone, deidentified, coded and recorded it on the excel worksheet on the DNP student's lap top which was password locked. *This spreadsheet was stored on the DNP student facilitator's secure laptop, and no patient identifying information was used or stored in compliance with HIPAA.* The summary with patient identifying information was stored in a designated locked cabinet, accessible by key to the MA champion and the DNP student. The MA printed the upcoming quarterly visit summaries every Tuesday in her cubby and then handed the summaries to the DNP student. For the provider coding, the three physician providers were coded with the letter P before their designated number, the PA providers were coded with the letter A before their designated number and the NP who was also the student facilitator was coded with the letter SF, and because she was the only NP provider, there were no numbers assigned to the SF code.

The potential for selection bias was minimized given that the DNP facilitator was not involved in the random patient selection process. But a plan was designed to evaluate adherence to the systematic change with the DNP facilitator's data both included and excluded from final analyses.

## CHAPTER 4

### FINDINGS

The purpose of this EBP project was to determine the effect of the utility of standardized quarterly triad tool on provider adherence to screening for concurrent benzodiazepine-opioid use, and its impact on risk education and follow up plans for identified patients. The QTT was developed from evidence-based CDC guideline for prescribing opioids for chronic pain, (CDC, 2017). The PICOT question was: *Among pain management providers in an outpatient clinic, does the use of a standardized quarterly triad tool with concurrent benzodiazepine use (CBU) assessment, promote provider adherence to the monitoring and decrease of CBU, compared to the current practice of not using the QTT within a 90-day period?* The project was conducted in a pain clinic setting in Central Indiana.

Pre-implementation data was collected from four Wednesdays using a retrospective chart review. A retrospective chart review was also used to collect post-implementation data 12 weeks after the initiation of the project to evaluate the effect of QTT use among six providers. Data analyses were conducted using IntellectusStatistics™ statistical software. Testing was performed to answer the following primary question: *Does provider education increase the use of the QTT to monitor for CBU?* Statistical analysis also evaluated the secondary questions: *Does adherence to QTT increase provider risk education documentation for patients on CBU?* and *Does adherence to QTT increase provider follow up planning documentation for patients on CBU?*

#### Participants

Participants included six providers who worked on Wednesdays when data was collected which comprised of three physicians, two physician assistants (PAs), and a nurse practitioner (NP), who led the practice change. All patients on chronic opioid therapy who were

at the clinic for their third month visit on Wednesdays per the quarterly visit summary were included in the data set.

### **Size and Characteristics**

**Pre-intervention group characteristics.** Summation of data from six providers on four Wednesdays of quarterly visits yielded a population of 52. Twenty of these patients (38%) were found to have been on both benzodiazepines and opioids. Of these 20 patients, six were seen by physicians, the remaining 14 were seen by advanced practice providers; 11 by one of the two PAs and three by the NP. Of the 20 patients on CBU, only 25% had risk education documented and only 5% had patient-specific follow up plans documented within the plan of care. The DNP student who was also the project facilitator saw three patients who were identified to be on CBU, one of the three patients had risk education (33%) and follow up planning (33%) documented.

**Intervention group characteristics.** Data was collected from the six providers on 12 Wednesdays of quarterly visits. One of the six providers did not adopt the QTT. Even with this lack of buy-in, a total of 151 of 154 patients (98.05%) were screened. In 24 of 151 patients (15.89%) who were screened, concurrent benzodiazepine use was detected. Of the 24 patients who screened positive for CBU, the five remaining providers used the tool (100%) and all the 24 patients (100%) also had risk education documented. Of the 24 CBU patients, 18 (75%) had a follow up plan documented. When follow up information was evaluated with the NP data removed (7 CBU patients), a follow up plan was documented in 11 of the remaining 17 patients (64.7%). Comparison data are included in Tables 4.1, 4.2, and 4.3.

Table 4.1

*Post QTT Intervention Evaluation of Practice Change Adoption*

<i>Provider</i>	<i>QTT Yes</i>	<i>QTT No</i>	<i>CBU Yes</i>	<i>CBU No</i>	<i>Risk Ed Yes</i>	<i>Risk Ed No</i>	<i>Follow Yes</i>	<i>Follow No</i>
<i>Ph 1</i>	0	3	0	0	0	0	0	0
<i>Ph 2</i>	12	0	2	10	2	0	1	1
<i>Ph 3</i>	12	0	1	11	1	0	1	0
<i>APP 1</i>	36	0	7	29	7	0	2	5
<i>APP 2</i>	48	0	7	41	7	0	7	0
<i>APP 3</i>	43	0	7	36	7	0	7	0
<i>Total with APP 3</i>	151	3	24	127	24	----	18	6
<i>Total with APP 3 removed</i>	108	3	17	91	17	----	11	6

Table 4.2

*Provider Risk Education and Follow Up Post QTT Adoption*

<i>Provider</i>	<i>% Risk education</i>	<i>% Follow up</i>
<i>Ph2</i>	100%	50%
<i>Ph3</i>	100%	100%
<i>APP1</i>	100%	27%
<i>APP2</i>	100%	100%
<i>APP3</i>	100%	100%
<i>Total with APP3</i>	100%	75%
<i>Total with APP3 removed</i>	100%	65%

Table 4.3

*Comparison of Pre-Intervention and Post-Intervention Risk Education and Follow up Plan Documentation*

<i>Risk Education</i>			<i>Follow Up Plan Documentation</i>		
<i>Pre-Intervention (n = 20)</i>	<i>Post-Intervention (n = 24)</i>	<i>Analyses</i>	<i>Pre-Intervention (n = 20)</i>	<i>Post-Intervention (n = 24)</i>	<i>Analyses</i>
5 [25%]	24 [100%]	$\chi^2 = 10.588$ $p = .001$	3 [15%]	18 [75%]	$\chi^2 = 8.235$ $p = .004$

## Changes in Outcomes

### Statistical Testing

Descriptive and inferential statistics were used to compare provider adherence. A Chi-square test was used to compare risk education and follow up planning for CBU post implementation of the use of QTT. Statistical testing was completed using IntellectusStatistics™ software.

#### Descriptive Statistics

Frequencies and percentages were calculated for pre-intervention risk education and post-intervention risk education. The most frequently observed category of pre-intervention risk education was Y ( $n = 15, 25\%$ ). This statistic reflects that only 25% of patients were provided risk education pre-intervention. The most frequently observed category of post-intervention risk education was Y ( $n = 24, 100\%$ ), revealing that all patients were provided risk education during the intervention period.

Frequencies and percentages were calculated for pre-intervention follow up and post-intervention follow up. The most frequently observed category of pre-intervention follow-up was N ( $n = 19, 95\%$ ), demonstrating that only 5% of patients (1 of 20) had a follow-up plan documented in the EMR. The most frequently observed category of post-intervention follow-up was Y ( $n = 18, 75\%$ ), reflecting that three-fourths of CBU patients had a follow-up plan documented in their EMR after the practice change was initiated.

#### Chi-square Test of Independence

A Chi-square Test of Independence was conducted to examine whether the differences in pre-intervention follow-up (5%) and post intervention follow-up (75%) were statistically significant. Results of the Chi-square test was as follows,  $\chi^2(1) = 8.24, p = .004$ ; there was a statistically significant increase in documentation of a follow-up plan from the pre-intervention to post-intervention period. Initial statistical analyses to evaluate the differences in percentage of risk education could not be undertaken using Chi-square analyses because post-intervention

data were not dichotomous: the only category was Y (yes), with risk education being provided for all 24 patients. To provide an estimate of statistical significance in the differences in documentation of risk education pre-intervention (25%) to post-intervention (100%), analyses were conducted using a statistical violation. Three of the Ys were changed to N so that the post-intervention percentage was 87.5%, rather than 100%. Conducting the chi-square analysis with this statistical violation revealed that the percentage point increase in risk education rates was statistically significant  $\chi^2(1) = 10.59, p = .001$ .

## CHAPTER 5

### DISCUSSION

This EBP project was designed to answer the PICOT question: *Among pain management providers in an outpatient clinic, does the use of a standardized quarterly triad tool with concurrent benzodiazepine use (CBU) assessment promote provider adherence to the monitoring and decrease of CBU, compared to the current practice of not using the QTT, within a 90-day period?* The project was implemented at a specialty pain management clinic located in the Midwest. It was expected that the implementation of a QTT consisting of UDSs, PDMP, and medication reconciliation in quarterly patient visits in EMR would promote provider adherence to the QTT, resulting in an increase in both patient education and follow up planning. The multifaceted implementation was comprised of (a) provider education, (b) inclusion of the QTT in the EMR through the use of a quick auto-text application, (c) use of an MA clinical champion, and (d) a team-based approach. This chapter will include an explanation of project findings, evaluation of key factors that contributed to the success of this project, project limitations and implications for future projects of this nature and conclusive findings. The theoretical framework and model used to guide this EBP will be evaluated.

#### Explanation of Findings

The findings of this project reflected those of the supportive literature indicating that tools like UDSs and PDMPs should be utilized routinely in addition to medication review and patient reports to screen for CBU. Implementation of the multifaceted strategy required the buy in of key stakeholders. It readily became apparent that implementation would benefit from the use of a clinical champion to facilitate prescriber's adoption of the behavior change. A medical assistant was chosen for this position, and her assistance was invaluable in printing out the quarterly visit summaries, PDMP and UDSs without negatively impacting the workflow for the day. Providers had been seeing typically 80 to 100 patients per day prior to implementation and that

productivity was not reduced during the implementation phase. Providers workday time was not expanded as a result of participation in the practice change and they were still able to see the same number of patients in the same number of scheduled hours, without staying late or skipping lunch.

The strategy of minimally impacting workflow likely added to the adoption rate of providers. Yet, one of the six prescribing providers was a non-adopter of the practice change. The three main factors reported for not adopting the change in practice were (a) the task of an additional step in otherwise routine documentation, (b) the belief that behavioral change would be temporary and would be dismissed after project completion, and (c) compared to other providers, the DNP student spent the shortest amount time educating and reminding this provider about the utility of the tool due to time constraints. Although this provider was accustomed to the previous practice of patient risk evaluation, it cannot be determined if additional education time and reinforcement of practice change would have ultimately changed behavior or if an alternative means of education and reinforcement would have enhanced adoption of practice change. One could question if the physician would have documented the use of the QTT if the change in practice were initiated by a physician colleague or if it were mandatory or incentivized.

Adopting providers noted that the implementation strategies did not negatively impact their practice and that the use of the QTT in the EMR made the change in documentation seamless. This impression was reflected in the increased documentation of risk education from 25% of patients pre-intervention to 100% post-intervention. And, although to a lesser extent, the use of the EMR led to an increase in adoption rates of documentation of a patient-specific follow-up plan from 15% to 75% a statistically significant increase ( $\chi^2 = 8.235, p = .004$ ). This additional step required an individualized approach which took additional time and planning by the prescribing providers; thus, it was not surprising that the adoption rates did not reach 100%. Still, the adopting providers reported the benefit of being able to quickly document practices that

addressed patient safety. An enhanced patient safety is further inferred by the supportive evidence of increased risk education and follow up planning documentation from the providers who adopted and used the tool.

The DNP student was a prescribing provider for this project, and it was important to evaluate the data with and without her documentation included. It was important to note that even the DNP student, project leader, had 100% of follow up plans documented within the twelve weeks of the project implementation likely because her awareness of the project was heightened. The two providers who did not have 100% follow up education noted that some patient specific follow up plans entailed coordination and discussions with providers outside the clinic and documentation could not be completed until this was done. Another reason was that some patients were discharged a result of recurrent non-prescribed CBU, a violation of their opioid contract.

### **Evaluation of Applicability of Theoretical and EBP Frameworks**

This project was guided systematically by Kotter's model of change theoretical framework and the PARIHS EBP model. The application is discussed below.

#### **Theoretical Framework**

The first step of Kotter's model of change is the creation of the sense of urgency. While the DNP student facilitator was able communicate the necessity of adapting the tool immediately by discussing national data as outlined in chapter 1 and internal data from the clinic, one of six providers did not adopt the tool at the point of initiation. Three of the five remaining providers adopted the tool reluctantly with the expectation that if the project did not confer any efficacy to CBU risk education and follow up, they would abort the behavioral change after the implementation period and finally, two of the five adopted because they were eager to better practice outcomes. The notion that there was a sense of urgency did not appear to be a huge driver on attitudes that led to behavioral changes.

The second step of Kotter's model of change was evident in the selection of the medical assistant (MA) champion. However, the appointment of the MA champion also created the challenge of the engagement and inclusion of the rest of the supportive staff who felt like they were not as important to the project. Initially, there was also marked concern from the other MAs who felt that their daily routine would be adjusted to accommodate the project. The MA champion was instrumental in getting the other supportive staff to rally around the project.

The third step was the creation of a vision and a realistic implementation strategy for bringing the vision to fruition. The DNP student facilitator had 90 days to implement the project which guided the timeline. To allow for ease of documentation, the QTT was included in the EMR through an auto-text application. However even with the ease in documentation, not all providers adopted the QTT.

Step four of the Kotter model was communicating the vision of going beyond "just abiding with the guidelines". Personal stories of improved patient outcomes were shared by the DNP student. There was very little to evaluate on the impact of this step as this was tied in to step 3.

Step five which included staff empowerment for behavioral change and elimination of barriers that inhibit successful change was apparent in that this project did not require any additional staffing hours or changes in the clinical budget. The use of the auto-text inclusion also streamlined the documentation process. However, there was some generalized anxiety among staff over additional steps in documentation and data collection to aide in the review of the 2 additional components of UDSs and PDMP print outs in addition to medication reconciliation to evaluate for compliance. There was a variation in practice in that some providers required for the assisting MA to review and report identified CBU before they went into the rooms and saw that patients, while some providers completed their reviews independently from pre-printed UDSs and PDMPs.

Step six of Kotter's theory was outlined by the routine celebration of biweekly successes. However, smaller sample groups made it difficult to report impactful change. One of the incidental successes was the increased trend in CBU risk education on patients who were not on CBU. There was an overall increase in provider-patient risk education.

Step seven was outlined in the DNP student's persistence in ensuring that providers complied with the use of the QTT through constant reminders. However due to work flow variations, the DNP student was unable to constantly reach out to the non-adapting provider to impart behavioral change through adherence.

Step eight which entailed the nourishment of the new culture to make it last became apparent as providers not only adapted the tool, but supportive staff continued to print out PDMPs and UDSs prior to clinic visits. As a result, patients who were seen on their quarterly visits who did not have a UDS within the last three months had UDS orders to evaluate compliance. Sustainability of the project will need more time given that the outcomes indicated are all within the 90 days of the project implementation phase.

Overall, while the Kotter theory provided a benchmark that guided the implementation process, positions did not always change with the stepwise transitions. Another finding that was that some of the steps overlapped each other.

### **EBP Framework**

The PARIHS (Promoting Action on Research Implementation in Health Services) framework was used in the design and implementation of this EBP project. The main strength of the EBP model was the fact that the DNP student facilitator was also part of the staff at this clinic with established credibility and authority within the organization. The DNP student gathered research evidence from studies and clinical practice guidelines to support project implementation. Secondly, the DNP student also had clinical experience as a pain specialist working within the clinical context. As a pain provider, the DNP facilitator understood the EMR which allowed for easy navigation, creation and inclusion of the QTT within the documentation

system. The main limitation of the framework was the inability to assess how each of the elements of the framework impacted the implementation of the project, as it appeared that facilitation of the project took precedence over evidence and context given the timelines and the reason for the project which was to change clinical outcomes but also to meet the educational needs of the DNP facilitator .

### **Strengths and Limitations of the EBP Project**

#### **Strengths**

The main strength of the EBP project was the collaboration from leadership providers and support staff who embraced the project and its facilitation. Another strength of the EBP project was that it did not require any additional funding, staffing or budget changes to support its implementation. The DNP student facilitator had strong support from faculty advisors who despite the pressures affiliated with project implementation and evidence review, guided the DNP facilitator relentlessly through their own personal experiences from past projects. Finally, another strength was the current climate of the opioid crisis which automatically created the sense of urgency and a need to better practice outcomes in an effort to promote patient safety.

#### **Limitations**

The main limitation was in the evidence search. Due to ethical considerations which eliminated randomization of screening, the only levels of evidence available were levels IV and V which entailed practice guidelines and expert opinions. Another limitation was a very small sample group which challenges the generalization of findings. As in the evaluation of patients on CBU, the initial data yielded 38.46%, while the post intervention data yielded a 15.58% CBU, which indicates that other trends other than the QTT might have already been impacting behavioral changes, which makes it difficult to isolate this the outcome of decreased CBU rates to the implementation of the project. This could have also been impacted by the fact that data was only collected on Wednesdays.

## **Implications for the Future**

### **Practice**

As clinicians continue to implement practice changes to address patient safety in the opioid epidemic climate, this project demonstrates that the role of the Doctor of Nursing Practice is instrumental in the evaluation and incorporation of evidence-based research to better patient outcomes. The DNP student facilitator was able to chaperone the implementation of evidence practice change which in turn imparted behavioral change across a multidisciplinary team of healthcare providers.

### **Theory**

The Kotter theoretical framework and PARIHS model provided a systematic path for the DNP facilitator to navigate the obstacles that arise from transitions. These two theoretical frameworks provided a systematic approach which allowed for the incorporation of evidence into practice while mitigating resistance associated with the process of change.

### **Research**

Future research studies that entail larger sample groups (both provider and patients) and longer implementation time frames should be considered before findings can be generalized. While the project measured risk education and follow up planning as indicators for CBU reduction, further research studies should be done to measure actual CBU reduction as evidenced by patient census.

### **Education**

The project opened communication lines for well needed provider and patient education on effective strategies to mitigate CBU. Follow up planning also incidentally created the need for patients who continue to utilize both BZD and opioids due to medical necessity to complete consent forms indicating that while they were aware of the existing risks, they opted to continue with dual therapies for medical reasons. Other incidental follow-up finding was the inclusion of rescue Naloxone in patients who were identified to aide in risk mitigation.

### Conclusion

Conclusively, safe chronic opioid prescribing with regards to mitigating and avoiding concurrent benzodiazepine and opioid use is necessary in combating the opioid epidemic. This EBP project answered the question as posed by the PICOT: *Among pain management providers in an outpatient clinic, does the use of a standardized quarterly triad tool with concurrent benzodiazepine use (CBU) assessment, promote provider adherence to the monitoring and decrease of CBU, compared to the current practice of not using the QTT within a 90-day period?* The post intervention outcome was yes. This project also demonstrated that the role of the DNP is crucial in the opioid crisis climate to aide in the research evaluation and implementation to promote safe opioid prescribing patterns

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## **BIOGRAPHICAL MATERIAL**

Caroline Asava graduated from Indiana University Kokomo with her Associate of Science in Nursing degree in 2008, after which she worked as a Registered Nurse at Indiana University hospital, IN. In 2010 she completed her Bachelor of Science in Nursing degree at the same institution. She completed her Master of Science in Nursing degree as an Adult Gerontology Primary Care Nurse Practitioner in 2015 at Indiana University Purdue University Indianapolis. She then proceeded to work as a geriatric Nurse Practitioner at Indiana University Health Physicians and served as a board member of IMDA- Indiana Society for Post- Acute and Long-Term Care Medicine, until her transition to pain management at the Center for Pain Management in 2017. She completed her Doctor of Nursing Practice (DNP) degree at Valparaiso University in 2019 where her research project was aimed at mitigating risks associated with opioid prescribing with focus on screening for concurrent benzodiazepine-opioid prescribing. Caroline is a member of the American Association of Nurse Practitioners, American Society for Pain Management Nursing and Coalition of Advanced Practice Nurses of Indiana (CAPNI). Caroline is enthusiastic about transforming chronic pain management with the ultimate dynamic of improving different modalities of patient- centric outcomes for patients, families and healthcare providers.

**ACRONYM LIST**

AGPCNP: Adult Geriatric Primary Care Nurse Practitioner

BZD: Benzodiazepine

CBT: Cognitive Behavioral Therapy

CBU: Concurrent Benzodiazepine-opioid Use

CDC: Centers for Disease Control

CINAHL: Cumulative Index to Nursing and Allied Health Literature

COT- Chronic Opioid Therapy

DNP- Doctor of Nursing Practice

EBP: Evidence Based Project

EMR: Electronic Medical Record

JHNEBP: Johns Hopkins Nursing Evidence Based Practice

NIH: National Institute of Health

NP: Nurse Practitioner

PA: Physician Assistant

PARIHS: Promoting Action on Research Implementation in Healthcare Services

PICOT: Population Intervention Comparison Outcome Time frame

PDMP: Prescription Drug Monitoring Program

UDS: Urine Drug Screen

USDHHS: United States Department of Health and Human Services

US: United States

## APPENDIX A

# JHNEBP MODEL AND TOOLS- PERMISSION



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## Johns Hopkins Nursing Center for Evidence-Based Practice

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Thank you for your submission. We are happy to give you permission to use the JHNEBP model and tools in adherence of our legal terms noted below:

- 
- You may not modify the model or the tools without written approval from Johns Hopkins.
  - All reference to source forms should include “©The Johns Hopkins Hospital/The Johns Hopkins University.”
  - The tools may not be used for commercial purposes without special permission. If interested in commercial use or discussing changes to the tool, please email [ijhn@jhmi.edu](mailto:ijhn@jhmi.edu).



## APPENDIX C

# GUIDELINE FOR PRESCRIBING OPIOIDS FOR CHRONIC PAIN

## IMPROVING PRACTICE THROUGH RECOMMENDATIONS

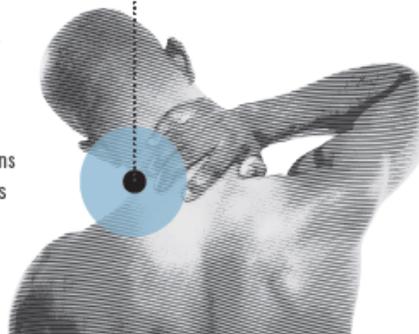
CDC's *Guideline for Prescribing Opioids for Chronic Pain* is intended to improve communication between providers and patients about the risks and benefits of opioid therapy for chronic pain, improve the safety and effectiveness of pain treatment, and reduce the risks associated with long-term opioid therapy, including opioid use disorder and overdose. The Guideline is not intended for patients who are in active cancer treatment, palliative care, or end-of-life care.

### DETERMINING WHEN TO INITIATE OR CONTINUE OPIOIDS FOR CHRONIC PAIN

- 1 Nonpharmacologic therapy and nonopioid pharmacologic therapy are preferred for chronic pain. Clinicians should consider opioid therapy only if expected benefits for both pain and function are anticipated to outweigh risks to the patient. If opioids are used, they should be combined with nonpharmacologic therapy and nonopioid pharmacologic therapy, as appropriate.
- 2 Before starting opioid therapy for chronic pain, clinicians should establish treatment goals with all patients, including realistic goals for pain and function, and should consider how opioid therapy will be discontinued if benefits do not outweigh risks. Clinicians should continue opioid therapy only if there is clinically meaningful improvement in pain and function that outweighs risks to patient safety.
- 3 Before starting and periodically during opioid therapy, clinicians should discuss with patients known risks and realistic benefits of opioid therapy and patient and clinician responsibilities for managing therapy.

#### CLINICAL REMINDERS

- Opioids are not first-line or routine therapy for chronic pain
- Establish and measure goals for pain and function
- Discuss benefits and risks and availability of nonopioid therapies with patient



U.S. Department of  
Health and Human Services  
Centers for Disease  
Control and Prevention

LEARN MORE | [www.cdc.gov/drugoverdose/prescribing/guideline.html](http://www.cdc.gov/drugoverdose/prescribing/guideline.html)

## OPIOID SELECTION, DOSAGE, DURATION, FOLLOW-UP, AND DISCONTINUATION

### CLINICAL REMINDERS

- Use immediate-release opioids when starting
- Start low and go slow
- When opioids are needed for acute pain, prescribe no more than needed
- Do not prescribe ER/LA opioids for acute pain
- Follow-up and re-evaluate risk of harm; reduce dose or taper and discontinue if needed



- 4 When starting opioid therapy for chronic pain, clinicians should prescribe immediate-release opioids instead of extended-release/long-acting (ER/LA) opioids.
- 5 When opioids are started, clinicians should prescribe the lowest effective dosage. Clinicians should use caution when prescribing opioids at any dosage, should carefully reassess evidence of individual benefits and risks when considering increasing dosage to  $\geq 50$  morphine milligram equivalents (MME)/day, and should avoid increasing dosage to  $\geq 90$  MME/day or carefully justify a decision to titrate dosage to  $\geq 90$  MME/day.
- 6 Long-term opioid use often begins with treatment of acute pain. When opioids are used for acute pain, clinicians should prescribe the lowest effective dose of immediate-release opioids and should prescribe no greater quantity than needed for the expected duration of pain severe enough to require opioids. Three days or less will often be sufficient; more than seven days will rarely be needed.
- 7 Clinicians should evaluate benefits and harms with patients within 1 to 4 weeks of starting opioid therapy for chronic pain or of dose escalation. Clinicians should evaluate benefits and harms of continued therapy with patients every 3 months or more frequently. If benefits do not outweigh harms of continued opioid therapy, clinicians should optimize other therapies and work with patients to taper opioids to lower dosages or to taper and discontinue opioids.

## ASSESSING RISK AND ADDRESSING HARMS OF OPIOID USE

- 8 Before starting and periodically during continuation of opioid therapy, clinicians should evaluate risk factors for opioid-related harms. Clinicians should incorporate into the management plan strategies to mitigate risk, including considering offering naloxone when factors that increase risk for opioid overdose, such as history of overdose, history of substance use disorder, higher opioid dosages ( $\geq 50$  MME/day), or concurrent benzodiazepine use, are present.
- 9 Clinicians should review the patient's history of controlled substance prescriptions using state prescription drug monitoring program (PDMP) data to determine whether the patient is receiving opioid dosages or dangerous combinations that put him or her at high risk for overdose. Clinicians should review PDMP data when starting opioid therapy for chronic pain and periodically during opioid therapy for chronic pain, ranging from every prescription to every 3 months.
- 10 When prescribing opioids for chronic pain, clinicians should use urine drug testing before starting opioid therapy and consider urine drug testing at least annually to assess for prescribed medications as well as other controlled prescription drugs and illicit drugs.
- 11 Clinicians should avoid prescribing opioid pain medication and benzodiazepines concurrently whenever possible.
- 12 Clinicians should offer or arrange evidence-based treatment (usually medication-assisted treatment with buprenorphine or methadone in combination with behavioral therapies) for patients with opioid use disorder.

### CLINICAL REMINDERS

- Evaluate risk factors for opioid-related harms
- Check PDMP for high dosages and prescriptions from other providers
- Use urine drug testing to identify prescribed substances and undisclosed use
- Avoid concurrent benzodiazepine and opioid prescribing
- Arrange treatment for opioid use disorder if needed

**APPENDIX D**

**Quarterly Triad Tool (QTT)**

Quarterly visit

UDS within 3 months: Y\_ N\_

PDMP Consistent: Y\_N\_

CBU Identified: Y\_N\_



APPENDIX F

