MINNESOTA

Minnesota Opioid Prescribing Guidelines

First edition, 2018

March 30, 2018

An open letter to Minnesota's medical community:

Minnesota, like the rest of the nation is facing an epidemic of opioid misuse, abuse and overdose. In recent years, our state has experienced alarming increases in rates of hospitalizations, substance use disorder treatment admissions and overdose deaths related to opioids. From 2000 to 2016, the number of deaths in Minnesota caused by opioid-related overdoses increased fourfold. Too many Minnesotans face the heartbreaking cycle of chronic pain and opioid dependence that often results in a lower quality of life, or even worse, can lead to misuse, abuse, and overdose.

The medical community is engaged in the opioid crisis, and is actively developing solutions to the myriad of ways in which the crisis impacts our communities. A major part of this response is a thoughtful discussion of opioid prescribing practices and pain management supported by a growing body of research and evidence-based practices. This conversation must continue: in the medical literature, in gatherings of clinicians, and in the examination room with patients.

The Minnesota Opioid Prescribing Guidelines were developed within this movement by members of the Minnesota medical community, and with the support of health systems and medical organizations across the state. All strands of our community participated in this discussion. The State of Minnesota and the Opioid Prescribing Workgroup, via these guidelines, created a framework for judicious opioid prescribing within the context of pain management.

These prescribing guidelines address opioid use throughout the pain continuum with a particular focus on the critical treatment period during acute pain and recovery from surgeries and injuries. Preventing chronic opioid use depends on setting new best practices for this recovery period and on carefully managing care for those already on chronic opioids.

Please incorporate these guidelines in your practice. Thank you for the care you provide to the citizens we all serve.

Sincerely,

Commissioner Emily Piper
Minnesota Department of Human Services

Commissioner Jan Malcolm
Minnesota Department of Health

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How to Use These Guidelines

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Summary of Opioid Prescribing Recommendations provides a table containing a summary version of all of the prescribing recommendations.

Part I: Responsible Opioid Prescribing for All Pain Phases provides recommendations and discussion about topics that are common to the separate pain phase prescribing recommendations. This includes patient safety when prescribing opioids, the various assessments recommended when prescribing opioids and recommendations about non-opioid and non-pharmacological pain treatment.

Part I should be read in conjunction with each or all of the specific pain phase recommendations.

Part II: Acute Pain Phase Prescribing Recommendations provides the prescribing recommendations for pain occurring 0-4 days (or up to 7 in the case of major surgery or trauma) after an acute event.

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Part V: Tapering and Discontinuing Opioid Use Recommendations provides the recommendations related to tapering and discontinuing chronic opioid analgesic therapy.

Part VI. Women of Childbearing Age provides recommendations specific to women of childbearing age for both acute and chronic pain. These recommendations should be considered in conjunction with the appropriate general pain phase recommendations.

Introduction

This is the first edition of the Minnesota Opioid Prescribing Guidelines. The guidelines provide a framework for the appropriate use of opioid analgesia within the larger context of pain management. Specifically, these guidelines aim to reduce the inappropriate use of opioid analgesia, limit the oversupply of prescription opioids in the community and reduce variation in opioid prescribing behavior and above all else, improve the safety and effectiveness of treatments for pain and reduce the potential for harm of such treatments.

The guidelines are for all Minnesota prescribers, and support the opioid prescribing quality improvement program for Minnesota Health Care Program-enrolled providers. The recommendations are based on current evidence, consideration of other prescribing guidance, and expert, clinical opinion Combined with appropriate assessment and professional judgement, these guidelines support a judicious approach to opioid prescribing.

Scope and Audience

The guidelines are intended for use by clinicians in primary care and specialty outpatient settings who manage pain. These guidelines are not intended to apply to hospice or palliative care patients or patients with end of life or cancer-related pain.

Health care providers treating patients eligible for Worker's Compensation should refer to the Department of Labor & Industry's web site for information and program rules related to opioid prescribing for worker's compensation related injuries.

Development of Guidelines

Minnesota's Opioid Prescribing Work Group (OPWG) developed these guidelines in collaboration with the Minnesota Departments of Health, Human Services and Labor & Industry.

The OPWG referred to existing national and state prescribing guidelines to inform the content of these guidelines including: *Institute for Clinical Systems Improvement Health Care Guideline: Pain: Assessment, Non-Opioid Treatment, Approaches and Opioid Management (2017)*; *VA/DoD Clinical Practice Guideline for Opioid Therapy for Chronic Pain (2016); Centers for Disease Control and Prevention Guideline for Prescribing Opioids for Chronic Pain—United States (2016); and Washington State Agency Medical Directors' Group: Interagency Guidelines on Prescribing Opioids for Chronic Non-cancer Pain (2015).*

Background

The United States and Minnesota currently face an epidemic of opioid use, misuse and opioid-related morbidity and mortality. From 2000 to 2015, more than half a million people died in the United States from opioid-related drug overdoses *(Rudd, 2016)*. In Minnesota, there were 376 opioid overdose deaths in 2016 and overdose deaths involving prescription opioids accounted for over 50% of the total *(MDH, 2017).* Nonfatal opioid overdoses and emergency room visits to treat overdose have also increased steadily over the past 10 years. In addition, the number of Minnesotans seeking treatment for opioid use disorder (OUD) has steadily increased. In 2015, there were 10,332 admissions to treatment in Minnesota facilities for OUD and currently treatment facilities are at 89% capacity *(DHS, 2017)*.

Of particular alarm in Minnesota is the disparity in opioid-related harm between the white, American Indian and African American populations. The Minnesota Department of Health (MDH) Opioid Dashboard states:

> Minnesota ranked sixth lowest among all states in overall drug overdose mortality rate in 2015 (10.6 per 100,000 residents). In 2015, Minnesota ranked first amongst all states when measuring the disparity-rate ratio of deaths due to drug overdose among American Indians relative to whites. Native American Minnesotans are five times more likely to die from a drug overdose than white Minnesotans. In 2015, Minnesota ranked first amongst all states when measuring the disparity-rate ratio of deaths due to drug overdose among African Americans relative to whites. African American Minnesotans are twice as likely to die from a drug overdose than white Minnesotans. Both of these rate disparities—between Native Americans/whites and African Americans/whites—are the greatest rate disparity based on race in the United States.

The significant increase in prescription opioid-related morbidity and mortality is in part due to the overprescribing of opioid therapy for the past 20 years. In 2013, health care providers prescribed nearly a quarter of a billion opioid prescriptions in the United States *(IMS, 2013)*. Prescribing rates are highest among pain medicine (49%), surgery (37%) and physical medicine/rehabilitation (36%). However, primary care providers account for about half of opioid pain relievers dispensed *(Daubresse, 2013)*.

Recent data indicates that prescribing rates are decreasing. The rate in Minnesota decreased from 60.9 opioid prescriptions per 100 adults in 2012 to 46.9 opioid prescriptions per 100 adults in 2016 *(CDC, 2017)*. Decreases in prescribing rates are good news—and likely evidence that efforts to address inappropriate opioid prescribing are working—yet there remains a concerning amount of variation of prescribing behavior. Opioid prescribing rates vary significantly among Minnesota counties; from rates as low as 23.4 opioid prescriptions per 100 adults to 84.9 opioid prescriptions per 100 adults *(CDC, 2017).* Variation in prescribing behavior is demonstrated at the national, state, local and practice level, yet is unexplained by the underlying health of the population.

Moving upstream – Reducing new chronic opioid use

Numerous efforts exist—or are being developed—at the national, state and local level to address the overprescribing of opioid pain relievers. Until very recently, most efforts focused on opioid therapy for chronic pain. Improving chronic pain management remains a critically important issue, but the health care community also needs to address the prescribing patterns and behavior that lead to chronic opioid use. The pain-pill-problem story is too familiar and health care providers have an important role in preventing the progression from opioid use for acute pain to long-term opioid therapy. The Opioid Prescribing Improvement Program (OPIP) emphasizes the need to move upstream in the opioid prescribing cycle to prevent chronic opioid use.

Beginning in 2014, the Department of Human Services began analyzing opioid utilization among Minnesota Health Care Programs (MHCP) enrollees to better understand the health of the population. Initial analysis of the MHCP enrollee population identified about 19,000 individuals on chronic opioid therapy, or approximately 3.5 percent of the total population. This percentage is consistent with

national estimates of the number of U.S. adults prescribed long-term opioid therapy *(Boudreau, 2009)*. DHS analyzed the data to determine the existence of an inflection point early in the duration of opioid use that could predict long-term use. The goal was to develop a clinically useful, system-level measure of the transition from acute to chronic use.

There are three major findings from the initial analysis. First, the analysis found that over 5,000 enrollees transition from being opioid naïve to being new chronic opioid users in each year analyzed. That number represents 1 percent of the individuals included in the analysis. Second, the analysis also found that 80% of enrollees who became new chronic users had a previous diagnosis of substance use, mental health or both. Third, among Medicaid enrollees who were previously opioid naïve, 80% of enrollees who received a 45 day supply of opioids over a 90 day period went on to receive a 90 day supply of opioids following the initial fill. *Martin et al*, found that 65% of individuals who receive a 90 day supply of opioids continue opioid use at 3 years *(Martin, 2011)*.

Opioid Prescribing Improvement Program

In 2015, recognizing the need to address opioid prescribing practices within the state, the Minnesota legislature authorized the Opioid Prescribing Improvement Program (OPIP), which in turn called for the formation of the OPWG, an external, community-based group of experts. (Minnesota Statute § 256B.0638 Opioid Prescribing Improvement Program) See Appendix A for a list of OPWG members.

Acute pain: Pain occurring the first 4 – 7 days after an acute event.

Post-acute pain: Pain occurring up to 45 days following an acute event.

Chronic pain: Pain lasting > 45 days after an acute event; or beyond the normal expected time of tissue healing.

The legislation charges the OPWG to recommend statewide opioid prescribing guidelines for acute pain, post-acute pain and chronic pain intervals, which this document comprises. In addition, the OPWG is also charged with making recommendations for the following OPIP components:

- A set of sentinel opioid-prescribing measures to be used for quality improvement;
- A quality improvement program for MHCP-enrolled health care providers who are identified to have excessive opioid prescribing compared to peers;
- Disenrollment criteria from the Minnesota Health Care programs of providers who continue to have inappropriate prescribing despite quality improvement activities; and
- An education campaign targeted to prescribers to support communicating with patients about pain and the use of opioids to treat pain.

A framework for opioid prescribing within the context of pain management

The principles that underlie these recommendations aim to create an environment of safe and cautious opioid prescribing across all pain phases. The three principles include:

1. ***Prescribe the lowest effective dose and duration of opioid analgesia when an opioid is indicated for acute pain. Clinicians should reduce variation in opioid prescribing for acute pain.***

   Opioid analgesia is often indicated for severe, acute pain due to a major trauma or surgical procedure. Yet, a growing body of evidence indicates that any opioid use is a risk factor for long-

term use. The risk relationship is exposure-dependent; a greater amount of initial opioid exposure confers a greater amount of risk of chronic use (Deyo, 2017; Shah, 2017). Health care providers are challenged to find a balance between prescribing a sufficient supply of opioids to treat severe, nociceptive pain, e.g., initial tissue recovery, and prescribing the lowest effective dose and smallest number of tablets. Most experts agree that acute pain caused by minor trauma or outpatient procedures can be effectively managed with a 100 MME dose or < 3 days supply of opioids. Limiting the dose and duration to cover only the expected duration of acute pain severe enough warrant opioid therapy should minimize the unintentional initiation of long-term opioid use and reduce the quantity of opioid pills available for diversion.

Limiting the initial opioid dose also addresses the vast variation found in opioid prescribing patterns for acute pain management. A recent study of variation in emergency department prescribing found that rates of opioid prescribing varied from 7.3% among low-density prescribers to 24.1% among high-density prescribers (Barnett, 2017). Analysis of opioid prescribing rates among MHCP-enrolled providers demonstrates significant variation within specialty groups. An analysis of index opioid prescriptions written to previously opioid naïve enrollees found that prescribing rates between the lowest and highest quartile of prescribers varied by factors of 4 to 22 depending on the specialty. The dramatic variation in prescribing at all levels of analysis is not surprising, given the lack of opioid prescribing guidance until recently. However, the health care community must address the variation in order to improve patient safety and quality of care and reduce unintended harms and costs.

2. ***The post-acute pain period—up to 45 days following an acute event—is the critical timeframe to halt the progression to chronic opioid use. Clinicians should increase assessment of the biopsychosocial factors associated with opioid-related harm and chronic opioid use during this period.***

The progression from acute pain to chronic pain is not fully understood, yet it is evident that psychosocial variables—in addition to biomedical factors—play a role in the transition (Turner, 2000; Leeuw, 2007). This is consistent with the shift towards understanding and treating chronic pain using a biopsychosocial model of care. The transition from acute pain to chronic pain has drawn more attention from the medical and scientific research community in recent years; however there is no definitive evidence on the characteristics associated with the transition from opioid use for acute pain to long-term opioid use. One population-based study of the progression from short-term to long-term opioid prescribing found that past substance abuse was significantly associated ($P<0.001$) with a long-term opioid prescribing pattern (Hooten, 2015). Past or current nicotine use or past substance use were also associated with long-term opioid prescribing patterns.

Three common and influential factors that can predict the progression from acute pain to chronic pain:

- Pain catastrophizing
- Fear avoidance
- Depressed mood

Additional studies have found that other common and influential factors in the transition include mood disorders, pain catastrophizing behavior and fear avoidance tendencies (Halbert, 2016; Turner, 200; Leeuw, 2007). A retrospective study of the association of mood disorders with new opioid use and the transition to longer-term opioid use found that among respondents with likely acute pain conditions, those with mood disorders initiated opioids more frequently for that pain condition compared to those without mood disorders. After initiation, they also transitioned to longer-term opioid therapy more frequently (Halbert, 2016).

The post-acute pain timeframe (up to 45 days or 6 weeks following an acute event) represents a significant opportunity to stop the transition from opioid therapy related to acute pain to chronic opioid use associated with chronic pain. The interval also presents challenges, given that each patient's recovery trajectory is dependent on numerous factors. The guidelines provide a framework for appropriate opioid use in this interval that is based on considerations of tissue healing or expected nociceptive pain, and calls for escalating assessment of the psychosocial factors that may lead to long-term opioid use. The Opioid Prescribing and Assessment Guide provides recommendations on when assessments should occur based on the time passed since the acute event and with consideration of expected tissue healing (See Appendix B).

3. ***Chronic Pain - The evidence to support chronic opioid analgesic therapy for chronic pain is insufficient at this time, but the evidence of harm is clear. Providers should avoid initiating chronic opioid therapy and carefully manage patients who remain on opioid medication.***

There is limited and insufficient evidence to support the long-term of use of opioid analgesic therapy. Until recently, the existing placebo-controlled, randomized trials of opioids lasted 6 weeks or less and no study compared opioid therapy with other treatments in terms of long-term (more than one year) outcomes related to pain, function or quality of life (CDC, 2016a). A recent study—the Strategies for Prescribing Analgesics Comparative Effectiveness (SPACE) trial—provides evidence about the comparative effectiveness of opioid therapy and non-opioid therapy. The pragmatic, randomized trial compared benefits and harms of opioid therapy versus non-opioid medications therapy over 12 months among patients with moderate-to-severe chronic pain (Krebs, 2017). The study found a comparable effect of opioid and non-opioid pharmacological therapy on pain-related function; pain intensity scores were significantly better for the non-opioid treatment group. Importantly, the study found that adverse medication-related symptoms were significantly more common in opioid-treatment groups (Krebs, 2018).

The risks and harms associated with chronic opioid use are well known. These include increased rate of falls, fractures, traffic accidents, sleep disordered breathing, endocrine dysfunction, opioid misuse, OUD, non-fatal overdose and overdose deaths. However, in the existing pain management environment, patients receive opioids for chronic pain and some clinicians will continue to use opioids as a component of pain management. Clinicians must recognize that the decision to prescribe opioids for chronic pain requires frequent monitoring, responsibility for

that patient's safety and management of all of the conditions that contribute to the patient's pain experience.

What is Chronic Pain?

Chronic pain is a complex condition involving neurological, emotional and behavioral changes that often impact a patient's quality of life and ability to function in his or her social roles. Neurological features of chronic pain involve a complex interaction of initial pain generation followed by central neuroplastic changes—central sensitization—in the brain and spinal cord (Ray, 2012). When central sensitization occurs, transmission, modulation and interpretation functions may become maladaptive and signal the development of chronic pain. Central sensitization is characterized by a heightened sensitivity of pain and the sensation of touch, due to the nervous system's persistent state of reactivity. Allodynia occurs when a person experiences pain with things that are normally not painful. Hyperalgesia occurs when a stimulus that is typically painful is perceived as more painful than it should. When a patient's central nervous system is stuck in this state of heightened reactivity, pain may continue even after the initial injury or illness heals. Increased understanding of the central nervous system when pain becomes persistent or chronic has prompted some pain experts to define chronic pain as a disease in its own right (EFIC, 2001).

Certain individuals may be more likely to develop chronic pain because their nervous system is in a heightened state of reactivity prior to an initial acute event. For example, patients with chronic pain tend to report higher rates of having experienced traumatic events in their past, compared to people without chronic pain. A traumatic event is an event (or series of events) in which an individual has been personally or indirectly exposed to actual or threatened death, serious injury or sexual violence (APA, 2013). Traumatic events illicit a number of predictable responses, including anxiety, physiological arousal and avoidance behaviors. A growing body of evidence finds that individuals who have experienced trauma may develop a persistently aroused or reactive nervous system. When confronted with an acute injury or pain following a surgical procedure, people whose nervous systems are already in a state of persistent reactivity due to a past trauma may be more likely to transition from acute to chronic pain.

Individuals may also develop or exacerbate conditions after the onset of pain that play a role in the development of central sensitization. Acute painful events, including injuries or surgical procedures, may lead to depression, anxiety, fear-avoidance behaviors or feelings of injustice. The stress of these responses further exacerbate the reactivity of the nervous system, leading to central sensitization (Curatolo, 2006; Diatchenko, 2006). Additionally, negative emotions can increase the perception of chronic pain, while pain has a reciprocal effect on mood states. Positive emotions are associated with better outcomes in people with chronic pain with respect to improvements in their ability to cope with pain and their social functioning (Park, 2010). In addition to the emotional context of pain, patients' beliefs about pain influence their experience with chronic pain. In the case of chronic pain, beliefs also affect how well people adjust to pain and whether they actively attempt to cope with it (Balderson, 2004). Beliefs, anticipation and expectation are better predictors of pain and disability than any physical pathology (Turk, 2011).

Clinicians should also be aware of the adverse selection phenomenon that occurs among chronic pain patients receiving opioid analgesic therapy. Adverse selection describes a counter-intuitive process when the likelihood of a patient receiving an opioid regimen increases as the associated risks increase (Sullivan, 2014). High-risk patients with substance abuse and mental health disorders are actually more likely to receive contra-indicated high-risk opioid regimens involving high opioid daily doses, high potency Drug Enforcement Agency (DEA) Schedule II opioids (opioids with medical use but high risk for abuse) and concurrent sedative-hypnotic medications (Saunders, 2012).

The historically inaccurate assumption that the pathophysiological mechanisms associated with chronic pain were a continuation of mechanisms for acute pain may have inadvertently encouraged a "magic bullet" approach to treatment, deemphasizing the many other factors that, when overlooked, can impede rehabilitation (NIH, 2016). We now understand that assessment and treatment of psychological conditions (e.g., depression, post traumatic stress disorder (PTSD), anxiety) is necessary to guide diagnosis and treatment decisions for patients experiencing chronic pain. Clinicians should screen patients for mental health conditions for which standardized assessments are available and address other cognitive factors known to be associated with maladaptive responses to pain and its perpetuation. Clinicians who are uncomfortable or unable to evaluate all factors should consult with additional mental and health care providers for assistance.

Statement from the Opioid Prescribing Work Group members on chronic pain

Opioid analgesics should not be used to manage chronic pain. There is very limited shorter-term evidence on the efficacy of opioids for chronic pain management and a growing body of evidence of significant harm associated with use. When clinicians and patients decide to initiate or continue chronic opioid analgesic treatment (COAT), they must do so with awareness of and responsibility for adverse events associated with use. Patient safety must be the paramount concern of clinicians and health care systems when continuing or initiating COAT.

Glossary of Terms and Abbreviations

Aberrant Drug-Related Behaviors	A set of behaviors suggestive of problematic prescription opioid use, including: aggressively requesting medications, reports of lost or stolen prescriptions, decreasing functionality or frequent accidents while using opioids, repeat noncompliance, unsanctioned dose escalations, early refill requests, obtaining opioids from multiple sources and use of non-prescribed drugs.
Addiction *(not specific to substance use)*	A primary, chronic disease of brain reward, motivation, memory and related circuitry. Dysfunction in these circuits leads to characteristic biological, psychological, social and spiritual manifestations. Addiction is characterized by the inability to abstain consistently, impairment in behavioral control, craving, diminished recognition of significant problems with one's behaviors and interpersonal relationship and a dysfunctional emotional response. Like other chronic diseases, addiction often involves cycles of relapse and remission. Without treatment or engagement in recovery activities, addiction is progressive and can result in disability or premature death *(ASAM, 2011).*
Acute Pain	Acute pain is an expected physiologic experience to noxious stimuli that can become pathologic, is normally sudden in onset, time limited and motivates behaviors to avoid actual or potential tissue injuries *(National Pain Strategy, 2016).*
Biopsychosocial	A medical problem or intervention that combines biological, psychological and social elements or aspects.
Chronic Opioid Analgesic Therapy (COAT)	Opioid therapy prescribed > 45 days following an acute event.
Chronic Pain	Pain persisting longer than 45 days following an acute event and beyond normal tissue healing time
Chronic Non-Cancer Pain	Chronic pain that is not due to a malignancy.
Cumulative Morphine Equivalence Exposure (Cumulative MME)	The sum of all MME prescribed over a prescribed period of opioid exposure.
Hospice	A model of care that focuses on relieving symptoms and supporting patients with a life expectancy of six months or less. Hospice involves an interdisciplinary approach to provide health care, pain management and emotional and spiritual support. The emphasis is on comfort, quality of life and patient and family support. Hospice can be provided in the patient's home as well as in freestanding hospice facilities, hospitals, nursing homes, or other long-term care facilities.
Medication-Assisted Treatment (MAT)	The use of medications in combination with counseling and behavioral therapies for the treatment of substance use disorders.
Minnesota Health Care Programs (MHCP)	The public health care programs administered by the Department of Human Services under chapters 256B and 256L and the Minnesota restricted recipient program. Minnesota Health Care Programs include Medical Assistance (Medicaid) and MinnesotaCare.

Morphine Milligram Equivalence (MME)	The equipotent dose of an opioid expressed as the equivalent dose of oral morphine determined by using the Center for Medicare and Medicaid Services conversion factors.
Opioid Prescriber	A licensed health care provider authorized to prescribe Schedule II-V medications by the Drug Enforcement Agency.
Opioid Prescribing Improvement Program (OPIP)	A comprehensive effort led by the Department of Human Services to improve opioid prescribing by health care providers in light of the current epidemic of opioid misuse and abuse. Resources developed under the program include: these guidelines on appropriate opioid prescribing; opioid prescribing sentinel measures; educational resources for providers; and an opioid-prescribing quality improvement program among Minnesota Health Care Program-enrolled providers.
Opioid Prescribing Work Group (OPWG)	A legislatively-mandated expert panel tasked with developing recommendations to DHS about the OPWG program components. See Appendix A Opioid Prescribing Work Group Membership.
Opioid Therapy (OT)	The use of opioid medications for pain.
Opioid Use Disorder (OUD)	A problematic pattern of opioid use leading to clinically significant impairment or distress, as manifested by at least two of the current Diagnostic and Statistical Manual of Mental Disorders (DSM) diagnostic criteria.
Opioid-induced Hyperalgesia	Opioid-induced hyperalgesia (OIH) is defined as a state of nociceptive sensitization caused by exposure to opioids. The condition is characterized by a paradoxical response whereby a patient receiving opioids for the treatment of pain could actually become more sensitive to certain painful stimuli. The type of pain experienced might be the same as the underlying pain or might be different from the original underlying pain *(Lee, 2011).*
Pain Phase	Refers to specific time intervals within the cycle or continuum of pain. The three pain phases addressed in the Opioid Prescribing Improvement Program are: 1) acute pain; 2) post-acute pain; and 3) chronic pain.
Palliative Care	Palliative care includes a multidisciplinary approach to treating physical, emotional, psychological and spiritual sources of distress to promote quality of life for individuals with a life-limiting disease or condition. Chronic pain and hospice care can be considered palliative care within these principles. The distinction occurs when there is a shift in goals from disease-directed/curative therapies to focusing on comfort, hygiene and dignity. Symptom management becomes the forefront to ensure the greatest degree of comfort and is supported by clear ethical guidelines *(Private communication with Gillette's Children's Hospital)*.
Physical Dependence	A state of adaptation manifested by a drug-class specific withdrawal syndrome that can be produced by abrupt cessation, rapid dose reduction, decreasing blood level of the drug and/or administration of an antagonist.
Post-Acute Pain	Pain occurring up to 45 days after an acute event.
Prevention – Chronic Pain	Prevention as it relates to pain addresses three tiers. *Primary prevention* includes efforts to reduce injuries or diseases that may result in pain. *Secondary prevention* includes interventions designed to reduce the likelihood that acute pain transitions into chronic pain. *Tertiary prevention*

	interventions attempt to limit the development of disabilities and other complications of chronic pain after it has developed.
Prevention – Opioid Overdose	*Primary prevention* includes efforts to reduce the supply of opioids in the community and address conditions that create health. *Secondary prevention* includes interventions that assist individuals already taking prescription opioids and/or using illicit opioids. *Tertiary prevention* includes harm reduction efforts and emergency responses to opioid overdoses.
Recurrent Acute Pain	Severe, acute painful episodes caused by tissue damage, for which the underlying mechanism is a chronic disease. An example of recurrent acute pain is sickle cell anemia.
Sentinel Measures	Measures of opioid use that identify variations in prescribing practices during the prescribing intervals
Substance Use Disorder	The essential feature of substance use disorder is a cluster of cognitive, behavioral and physiological symptoms indicating that the individual continues using the substance despite significant substance-related problems. SUD diagnosis is based on a pathological pattern of behaviors related to use of the substance. The diagnostic criteria can be considered to fit within the following groupings: impaired control, social impairment, risk use and pharmacological criteria *(APA, 2013*).
Tolerance	A state of adaptation in which exposure to a drug induces changes that result in diminution of one or more the drugs' effects over time.

Summary of Opioid Prescribing Recommendations

#	Recommendations	Acute	Post-Acute	Chronic
Patient Safety Recommendations: All Pain Phases				
1.	Check the Prescription Monitoring Program whenever prescribing opioid therapy for pain.	●	●	●
2.	Avoid prescribing opioid therapy and benzodiazepines or other sedative hypnotics concurrently.	●	●	●
3.	Avoid prescribing opioids for 1) fibromyalgia, 2) headache, including migraine, 3) self-limited illness, e.g., sore throat, 4) uncomplicated, acute neck and back pain and 5) uncomplicated, acute musculoskeletal pain. Provide appropriate non-opioid alternative pain management for acute conditions not indicated for opioid analgesic therapy.	●	●	●
4.	Use extreme caution when prescribing opioids to patients with comorbid conditions that may increase the risk of adverse health outcomes.	●	●	●
5.	Provide patient education on an ongoing basis that addresses: • Risks and benefits associated with opioid use • Self-management of painful conditions • Safe use, safe storage and disposal	●	●	●
6.	Consider co-prescribing naloxone to patients at elevated risk for overdose who receive opioids for pain management.	●	●	●
Biopsychosocial and Risk Assessment				
1.	Assess and document pain, function and quality of life using validated (if available) or standardized assessment tools.	●	●	●
2.	Screen patients for **depression and anxiety** using a validated tool at each follow-up visit for pain management. If screening tools indicate an active mental health condition, provide aggressive treatment concomitant to analgesia strategies.		●	●
3.	Assess and document **suicidality** in every setting for every initial opioid prescription. Reassess suicidality in patients receiving COAT at least once a year.	●	●	●
4.	Assess patients for **substance use disorders** using a brief, validated tool. Conduct a structured interview using the DSM-5 criteria when the patient screens positive, or refer patient to a specialist for additional screening.		●	●
5.	Assess patient for **fear avoidance tendencies or pain catastrophizing** using a brief, validated tool. Refer patients who screen positive to a physical therapist or pain psychologist.		●	●
6.	Assess patients for a **history of trauma or abuse** prior to initiating chronic opioid analgesic therapy. Refer patients with a history of trauma or abuse who have not been previously treated for appropriate psychotherapy.		●	●
7.	Discuss with the patient **sources and/or targets of anger or injustice** related to his or her own pain.		●	●
8.	Ask patients about their **beliefs and attitudes about pain**, its origin and what it represents during an initial clinic visit.		●	●

Non-opioid and Non-pharmacologic Pain Management				
1.	Utilize alternatives to opioid analgesia for mild-to-moderate acute pain. Consider additional non-opioid pain management for acute pain when opioids are prescribed.	●		
2.	Introduce multi-modal therapies to all patients in the post-acute pain period.		●	
3.	Include pain education—such as therapeutic neuroscience education—as part of the multi-modal therapeutic plan for all patients.		●	●
4.	Implement a multidisciplinary approach to chronic pain management and tailor treatment modalities based on the patient's biopsychosocial factors.			●
Opioid Prescribing for Acute Pain (0 to 4 days following an acute event)				
1.	Use multi-modal, non-opioid analgesia (e.g., NSAIDS and acetaminophen) as the first line of drug therapy for acute pain management.	●		
2.	Avoid prescribing more than 100 MME of low-dose short acting opioids. Limit the entire prescription to 100 morphine milligram equivalents (not 100 MME per day).	●		
3.	Limit the initial prescription for acute pain following an extensive surgical procedure or major traumatic injury to no more than 200 MME, unless circumstances clearly warrant additional opioid therapy.	●		
4.	a) Avoid prescribing more than the recommended dose following a dental procedures (100 MME of low-dose, short acting opioids). b) Non-dental providers: Use an appropriate non-opioid medication for pain management prior to examination and diagnosis by a dental provider.	●		
5.	a) Avoid prescribing opioids to patients with a history of substance use disorder and those with an active substance use disorder. b) Use extreme caution, frankly discuss the risks and plan for close follow-up when opioids are necessary.	●		
6.	a) Consult with a clinician trained in the pharmacology of buprenorphine or naltrexone when prescribing opioids to a patient receiving either medication for Opioid Use Disorder. b) The general dose and duration limit is appropriate for patients receiving methadone for OUD.	●		
7.	a) Use the recommended dose and duration limit for chronic pain patients with an identifiable, new injury or procedure (100 MME total prescription). b) For patients who are already on COAT of ≥ 90 MME/day, manage new acute pain in collaboration with the COAT prescriber and acute pain prescriber (e.g., a surgeon).	●		
8.	Do not increase opioid dosage for acute pain for COAT patients in the absence of a verifiable new injury.	●		
9.	a) Acute opioid dosing for children should be proportional by weight to the acute pain dose and duration limit. b) Screen children over the age of 10 for risk of opioid-related harm. c) Check the PMP for all children prescribed an opioid for acute pain, to confirm that the child is not at risk for parental diversion. d) Avoid prescribing children codeine in any setting given the high risk posed to ultra-fast metabolizers.	●		
Opioid Prescribing for Post-Acute Pain (5 to 45 days following an acute event)				
1.	a) Assess and document pain at each follow-up visit. Consider the patient's presentation of pain in relation to tissue damage and healing following an acute event, whenever possible.		●	

	b) Assess and document function at each follow visit. Do not continue opioid therapy solely based on reports of improved physical function once the tissue healing is sufficient.		●	
2.	Consider re-evaluating the etiology of the pain for those patients who do not demonstrate expected improvements based on the nature of the injury or pathology.		●	
3.	Increase assessment of risk factors for opioid-related harm and chronic opioid use over the post-acute pain period for patients who request continued opioid analgesic therapy. See the Acute and Post-Acute Pain Prescribing and Assessment Guide for recommended screenings and timelines.		●	
4.	Introduce multi-modal therapies to all patients in the post-acute pain phase.		●	
5.	Prescribe opioids in multiples of 7 days, with no more than 200 MME per 7 day period and no more dispensed than the number of doses needed. Prescribing should be consistent with expected tissue healing, with expected tapering.		●	
6.	Avoid prescribing in excess of 700 cumulative MME in order to reduce the risk of chronic opioid use and opioid-related harm.		●	
7.	Consider a formal taper schedule if patient demonstrates withdrawal symptoms as he or she attempts dose reductions or based on the duration of use.		●	
8.	Taper COAT patients receiving additional opioid therapy for acute pain to the pre-surgical or pre-injury dose as tissue healing progresses.		●	
Opioid Prescribing for Chronic Pain				
1.	a) Perform a detailed evaluation of the patient with chronic pain and establish or confirm the etiology of pain, whenever possible. b) Avoid initiating or continuing COAT as an interim therapy while diagnosing or confirming pain etiology. An unknown or unconfirmed pain generator is not a reason to prescribe opioid therapy.			●
2.	Assess patient with indeterminate pain generators and/or whose pain generators inadequately explain their pain experience for opioid-induced pain.			●
3.	Perform a thorough assessment of mental health conditions prior to initiating COAT and ongoing assessment if COAT is prescribed.			●
4.	Establish specific, measurable treatment goals with the patient prior to initiating COAT. Assess potential barriers to active participation in the treatment plan with the patient.			●
5.	Implement a multidisciplinary approach to treating patients with chronic pain. Identify in the treatment plan the person who will coordinate care across providers and services.			●
6.	Initiate a patient provider agreement or understanding prior to beginning COAT for every patient, or continuing opioid therapy in a new patient.			●
7.	a) Prescribe opioids at the lowest dose, with no more than 50 MME/day. Avoid increasing daily dosage to 90 MME/day. b) Clinicians who decide to increase daily dose to 90 MME/day must carefully document that the risks and benefits were weighted and benefits warrant the risk.			●
8.	Limit the duration of the prescription to one month. Prescribe so that the end date is not on the weekend or a holiday. Face to face visits with the prescribing provider should occur at least every three months.			●
9.	Offer to taper to a reduced dose or to discontinuation at every face to face visit.			●
10.	Avoid initiating COAT in patients with untreated substance use disorder or a history of substance use disorder.			●

11.	a) Prescribe immediate release/short acting opioids when initiating COAT. b) Avoid routine rotation or substitution of opioids. c) Avoid using methadone interchangeably with other extended release/long acting opioids. d) Exercise extreme caution when considering fentanyl therapy for pain.			●
12.	Implement risk mitigation strategies when initiating COAT and continue through the duration of therapy. Strategies and frequency should be commensurate with risk factors and include: • Ongoing urine drug screening • Pill count call backs • Checking the PMP • Monitoring for overdose potential and for the presence of OUD • Providing overdose education			●
13.	Offer or arrange evidence-based treatment for patients with OUD.			●
Tapering or Discontinuing Opioid Therapy				
1.	Address tapering and discontinuing opioid therapy in advance of initiating chronic opioid analgesic therapy and with every dose increase.			●
2.	Offer to taper COAT to a reduced dosage or to discontinuation at least every 3 months. Offer tapering to all patients, regardless of their risk of harm.			●
3.	a) Taper opioid therapy to a reduced dose or to discontinuation when the risks of continued opioid therapy outweigh the benefits. b) Tapering high-risk patients to less than 50 MME/day is reasonable initial goal.			●
4.	Offer non-opioid and non-pharmacologic therapies to treat pain that may re-emerge during the opioid taper and to treat any withdrawal symptoms that occur during the taper.			●
Women of Childbearing Age				
1.	Assess pregnancy risk in all women of childbearing age prior to prescribing an opioid.	●	●	●
2.	Avoid prescribing opioids to pregnant women. Educate pregnant women about the known risks of opioids to both the mother and the fetus.	●	●	●
3.	Prescribe no more opioids than will be needed for initial tissue recovery following a cesarean section or complicated vaginal birth. Consider prescribing 100 MME post-discharge (100 MME total prescription).	●		
4.	Provide proper pain control to lactating women experiencing acute pain following birth and surgical procedures. If opioids are prescribed to lactating women for acute pain, prescribe the lowest dose and duration adequate to manage the pain.	●		
5.	Monitor reproductive health in all women of childbearing age who receive COAT or MAT.			●

Note: This table serves as a summary of the complete set of guidelines. The order of the summary recommendations does not match the order of the full recommendations.

Part I. Responsible Opioid Prescribing in all Pain Phases

Section A. Patient Safety

The current opioid crisis calls on health care providers to embrace a cautious new approach to opioid prescribing that emphasizes safety. The following recommendations address key safety concerns that are relevant to all pain phases.

Clinical Recommendations

1. Check the Prescription Monitoring Program (PMP) whenever prescribing an opioid for acute pain, prior to each refill during the post-acute pain period, prior to initiating and routinely during chronic opioid analgesic therapy (COAT).

2. Avoid providing concurrent prescriptions of opioids and benzodiazepines or other sedative-hypnotic medications. Use extreme caution when prescribing opioids to patients using benzodiazepines or other sedative-hypnotic medications on an on-going basis. Advise patients intermittently using benzodiazepines to stop use while taking opioids for acute pain. Frankly discuss the risks of concomitant use with the patient and conduct close follow-up during the period in which opioids are used.

3. Address concomitant use of benzodiazepines and other sedative hypnotics for patients receiving COAT. Patients receiving potentially dangerous drug combinations require care coordination and medication management. Obtain a patient release of information and contact the relevant prescribers. Consider prescribing naloxone to patients with concomitant use.

4. Avoid prescribing opioids for 1) fibromyalgia, 2) headache, including migraine, 3) self-limited illness, e.g. sore throat, 4) uncomplicated, acute neck and back pain and 5) uncomplicated, acute musculoskeletal pain. Complicated, acute back, neck or musculoskeletal pain is objectively verifiable and includes pain accompanied by severe or rapidly progressive neurological deficit, evidence of infection, new cancer diagnosis or metastasis or fracture. Provide appropriate non-opioid alternative pain management for conditions not indicated for opioid analgesic therapy.

5. Use extreme caution when prescribing opioids to patients with comorbid conditions that may increase risk of adverse outcomes. Comorbid conditions associated with elevated risk include Chronic Obstructive Pulmonary Disease, Congestive Heart Failure, obstructive sleep apnea, history of alcohol or substance use disorder, advanced age, or renal or hepatic dysfunction.

6. Provide patient education about opioid use and pain management beginning with the first opioid prescription. Engage the patient in shared decision-making. Carefully describe the risks and benefits associated with opioid analgesic use and repeat patient education on an ongoing basis.

7. Provide safety information about safe use, safe storage and disposal with every opioid prescription. Provide information, both oral and written, to patient, family members and caregivers, if appropriate.

8. Educate patients receiving opioids that the medications impact their ability to safely operate motor vehicles. Advise patients who are initiating opioid therapy or who just had a dose increase not to operate heavy machinery, including driving a car, or participate in activities at home that may be adversely effected by the sedating effect of opioids.

   > In Minnesota it is illegal to operate a motor vehicle when the person is under the influence of alcohol, under the influence of a controlled substance, or the person's body contains any amount of a controlled substance listed in Schedule I, II or its metabolite, other than marijuana or tetrahydrocannabinols.[1]

   See the Joint Statement on the Impact of Health Conditions and Medication Use on the Operation of Vehicles.

9. Advise patients, family members and caregivers to dispose of opioids not used for a period of two weeks after discontinuation of therapy. *[Acute Pain; Post-Acute Pain]*

10. Monitor patients for opioid-related adverse outcomes, especially when opioid use continues for more than a couple of days. Adverse outcomes associated with longer term use include central sleep apnea, endocrine dysfunction, opioid-induced hyperalgesia, opioid use disorder and signs of acute toxicity.

11. Naloxone is a pure opioid antagonist that reverses opioid overdose when administered correctly. Consider co-prescribing naloxone to patients at elevated risk for overdose who receive opioid analgesia.

Discussion

Prescription Drug Monitoring Program (PMP) Use

Empirical research examining the effect of PMPs on opioid prescribing behavior is growing; however to date the evidence remains mixed. Among states that have implemented mandatory registration and use laws among providers, reductions in opioid prescribing is demonstrated *(Bao, 2015; Wen, 2017).* However, evidence from states where use is voluntary suggests a more limited impact of PMPs on prescribing behavior *(Finley, 2017).* Based both on the growing body of evidence that supports the effectiveness of PMPs in states where use is mandatory and on expert consensus, the PMP is an effective patient safety tool for providers and should be used whenever opioid therapy is considered.

Concomitant prescribing of opioid analgesics and benzodiazepines

[1] Minnesota Statute 169A.20 DRIVING WHILE IMPAIRED

Concomitant use of benzodiazepines and opioid analgesics creates significant risk for opioid-related harm and overdose deaths. Three studies of fatal overdose deaths found evidence of concurrent benzodiazepine use in 31% to 61% of decedents *(Gomes, 2011; Dasgupta, 2015; Nuckols, 2014)*. In addition, emergency visits and substance abuse treatment admissions involving the combined use of these two drug classes are also increasing *(Jones, 2015)*.

Nearly all recent opioid prescribing guidelines recommend against the concomitant use or prescribing of opioids and benzodiazepines, yet concomitancy remains common. A recent study of concomitant use found that the proportion of opioid users who were co-prescribed benzodiazepines nearly doubled from 9% in 2001 to 17% in 2013 *(Sun, 2017)*. Clinicians should be extremely cautious about concomitant prescribing and use among their patients. Check with the PMP for current benzodiazepine use frequently and inquire about intermittent use when prescribing opioid analgesic therapy.

Conditions not indicated for opioid therapy

There are a number of conditions associated with significant opioid use for which the evidence strongly discourages opioid therapy. These conditions include: fibromyalgia; headache, including migraine; self-limited illness, e.g. sore throat; and uncomplicated, acute neck, back and musculoskeletal pain. Two longitudinal studies found that outcomes in fibromyalgia in opioid-treated participants were worse than those treated with non-opioid drugs *(Fitzcharles, 2013; Peng, 2015)*. There is no evidence from randomized controlled trials to support the use of opioids for fibromyalgia. Systematic reviews of opioid efficacy for low back pain demonstrate modest improvements in pain, but little improvement in function and no evidence that pain relief will be sustained *(Chou, 2007; Chaparro, 2014)*. Evidence from a population-based, prospective study of a low back pain cohort in Washington State's workers compensation program supports non-opioid therapy for acute pain. The study found that even minimal use of opioids in the first six weeks following an acute low back injury was associated with doubling the risk of disability one year later *(Franklin, 2008).* The American Academy of Neurology recommends against the use of opioids for conditions such as headache, fibromyalgia and chronic low back pain, given that the risk of death, overdose, opioid use disorder or serious side effects outweighs any benefit *(Franklin, 2014)*.

Conditions that elevate the risk of opioid-related adverse effects

Certain medical conditions significantly increase the risk of opioid related harm for patients on long-term opioid therapy. Two large observational studies of patients with a history of chronic obstructive pulmonary disease (COPD) and sleep apnea who were prescribed opioids showed a weak, but positive association with opioid-related toxicity/overdose and overdose-related death *(Zedler, 2015; Bohnert, 2011)*. Zedler et al, found that sleep apnea and chronic pulmonary disease as well as renal disease, moderate or severe liver disease and age > 55 years were associated with increased risk for life-threatening respiratory central nervous system depression or overdose. Reduced renal and/or hepatic function results in decreased ability to process and excrete drugs, which can result in greater peak effect and longer duration of action. Although the evidence primarily examines the effect of long-term opioid use, clinicians should consider these comorbidities in the risk-benefit analysis anytime opioids are considered for pain management.

Patient education about pain management and opioid use

Address the following at each visit:

- Pain following an injury or surgery does not represent harm;
- Expected duration and severity of pain;
- Warning signs that require immediate medical attention;
- When to resume normal activities and return to work, if applicable;
- How to prevent future episodes of pain, especially for patients with back pain;
- The importance of pain self-management and active participation in pain control; and
- The patient's questions, especially those related to concerns about the severity of pain.

Shared decision-making about opioid therapy for pain management should begin with the first opioid prescription. Carefully describe the risks and benefits of opioid use to every patient, regardless of their perceived risk profile or the intended duration of opioid therapy. Explain the harms associated with opioids in an objective, non-judgmental manner and repeat patient education often. Clinics and health systems should have a variety of patient education materials—written materials, references to online content, suggested videos on platforms such as YouTube—available to patients beginning with the first opioid prescription.

Safe Use, Storage and Disposal

Address the following safety considerations with the patient at every visit when opioid therapy is initiated or continued *(SAMHSA, 2016)*:

- Take prescription medicine only if it has been prescribed to you by your doctor;
- Do not take more medicine or take it more often than instructed;
- Call your doctor if your pain gets worse;
- Never mix pain medicine with alcohol, sleeping pills, or any illicit drug;
- Do not operate heavy machinery, including vehicles, when initiating opioid therapy or increasing dosage;
- Store prescription opioids in a locked container, whenever possible, and in a place where children and pets cannot access them; and
- Dispose of unused opioids appropriately.

Naloxone

Co-prescribing naloxone with opioid analgesia and providing the necessary information about naloxone administration are important risk mitigation strategies to prevent opioid overdose-related death. A systematic review of 22 observational studies provided moderate-quality evidence that take home naloxone programs are effective in improving overdose survival and decreasing mortality, with a low rate of adverse events *(McDonald, 2016)*. Prescription of naloxone kits and accompanying education have also been found to reduce opioid-related emergency department visits *(Coffin, 2016)*.

Clinicians should ask their patients whether they have received a previous prescription for naloxone and whether it was filled. Educate patients that naloxone is not a self-administered drug. Review the following with the patient and a family member, friend or caregiver prior to prescribing naloxone: 1) how to identify an overdose; 2) how to properly use naloxone; and 3) safe storage. Educational

resources are available on the Minnesota Department of Health's Expanding Access to Naloxone and Preventing Opioid Overdose web site: http://www.health.state.mn.us/naloxone.

Consider prescribing naloxone to the following populations at high-risk of opioid overdose:

1. Individuals with substance use disorder;
2. Individuals concomitantly using benzodiazepines;
3. Individuals on chronic opioid analgesic therapy with an acute injury;
4. Individuals with a past overdose;
5. Individuals with respiratory insufficiency, especially sleep apnea; and
6. Individuals who were recently incarcerated with a history of substance abuse.

Other patient populations who are at elevated risk of opioid-related harm, especially when prescribed long-term opioid therapy, include:

1. Pediatric patients;
2. Geriatric patients;
3. Individuals referred to addiction specialists, pain medicine specialists or mental health providers. These patients may be at risk for overdose during care transitions; and
4. All patients receiving chronic opioid analgesic therapy (COAT).

Section B. Biopsychosocial Assessment

The underlying concept of the biopsychosocial model of pain is that pain perception and its effects on the patient's function is mediated by multiple factors (e.g., mood, social support, prior experience, biomechanical factors) and not just physiology alone *(IOM, 2011)*. The following recommendations address key components of the biopsychosocial assessment and should be tailored according to the pain phase. It is expected that providers will increase the number, frequency and depth of the assessments as a patient continues opioid therapy and that the treatment plan is tailored accordingly.

Note: Certain recommendations are indicated for a specific pain phase. The relevant pain phase is provided after the recommendation in italics.

Clinical Recommendations

1. Assess and document pain, function and quality of life using validated (if available) or standardized assessment tools. Validated tools include the Three Item Pain Intensity, interference with Enjoyment of life and interference with General activity (PEG) Assessment Scale *(Krebs, 2009)*, the Pain Numeric Rating Scale (NRS) *(Krebs, 2007)* and the Brief Pain Inventory (BPI) *(Tan, 2004)*.

    - Assess and document the patient's presentation of **pain** at every clinical encounter. Documentation of pain should include use of the pain scale as a relative tool and concordance of the patient's assessment of his or her own pain with the prescriber's objective observations. *[All pain phases]*

- Assess and document the patient's diminished **physical function** at every clinical encounter. Use functional assessments—in concordance with pain assessments—to guide patient-provider conversations about pain management and psychosocial factors that may contribute toward the experience of pain. *[All pain phases]*

- Assess and document how the patient's pain and diminished function affect **quality of life** prior to initiating chronic opioid analgesic therapy and at every follow-up visit for pain management. *[Chronic Pain]*

2. Review the patient's medical record prior to continuing opioid analgesic therapy in order to understand why opioids were initially prescribed. *[Post-Acute Pain; Chronic Pain]*

3. Assess and document other medical conditions that may complicate pain symptoms and/or treatment. *[All pain phases]*

4. Screen patients for depression and anxiety using a brief, validated tool at each follow-up visit for pain management.

    - If screening tools indicate an active mental health condition, provide aggressive treatment concomitant to analgesia strategies. *[Post-Acute Pain]*

    - Refer patients with depression or anxiety that has not been previously treated or successfully treated for appropriate psychotherapy. *[Chronic Pain]*

5. Assess and document suicidality in every setting for every initial opioid prescription. Reassess suicidality in patients receiving chronic opioid analgesic therapy at least once a year. *[Acute Pain; Chronic Pain]*

6. Screen patients for substance use disorder using a brief, validated tool. Conduct a structured interviewing using the current Diagnostic and Statistical Manual of Mental Disorders (DSM) criteria when the patient screens positive, or refer to a specialist for diagnosis.

    - Screen patient for substance use disorders one week after the acute event, or at the first opioid refill request. If assessment indicates elevated risk for substance abuse, review and determine tapering strategy. *[Post-Acute Pain]*

    - Assess patients for substance use prior to initiating chronic opioid analgesic therapy. If assessment indicates an active substance use disorder, provide the patient evidence-based treatment or refer to a specialist. Continue to screen for substance use disorders for the duration of the opioid therapy. *[Chronic Pain]*

7. Assess patient for fear avoidance tendencies or pain catastrophizing using a brief, validated tool. If assessment indicates the presence of fear avoidance and elevated risk for chronicity, consider referring patient to a physical therapist or a pain psychologist. *[Post-Acute Pain; Chronic Pain]*

8. Assess patients for a history of trauma or abuse if depression or anxiety screening tool scores remain elevated during initial treatment. If a patient has a history of trauma or abuse, clinicians

should not initiate chronic opioid analgesic therapy. Refer patients with a history of trauma or abuse who have not been previously treated for appropriate psychotherapy. *[Post-Acute Pain; Chronic Pain]*

9. Discuss with the patient sources and/or targets of anger or injustice related to his or her pain. Consider using the Injustice Experience Questionnaire (IEQ) when a patient's pain is related to an occupational injury or motor vehicle accident. *[Post-Acute Pain; Chronic Pain]*

10. Ask patients about their beliefs and attitudes about pain, its origin and what it represents during an initial clinic visit. *[Chronic Pain]*

Discussion

Pain, Function and Quality of Life Assessments

It is the consensus of the Opioid Prescribing Work Group that standardized assessment procedures will minimize variability and potential bias, stereotyping and prejudice among health care providers towards pain patients. Standardized assessment procedures will improve the accuracy of pain assessment. It is important that health care providers develop a standardized approach to the assessment process, given the inherent difficulty of assessing a subjective experience.

Pain, function and quality of life assessments should guide clinician-patient conversations about pain and selection of treatment modalities. Assessment and reassessment of pain and function following an acute event is especially important in tracking improvement and gauging whether healing and recovering is progressing normally.

Depression and anxiety

A strong relationship exists between chronic pain and mental health conditions. Evidence suggests that a bidirectional relationship exists between chronic pain and mental health disorders, meaning that depression and anxiety are predictors of chronic pain and chronic pain is a strong predictor of depression and anxiety *(Hooten, 2016)*. Among Minnesota Health Care Program (MHCP) enrollees, approximately 80% of chronic opioid users had a mental health diagnosis within the past two years *(2013 MHCP administrative claims data)*.

Screening and treatment of mental health conditions will likely lead to better pain-related treatment goals. Depression symptoms, including fatigue, insomnia and dysphoric mood can limit the patient's ability to follow the treatment plan. Patients experiencing chronic pain and mild-to-moderate major depression should be treated concomitantly for both conditions *(Bair, 2003).* If a patient is diagnosed with severe major depressive disorder concurrent with chronic pain, the depressive symptoms should be the primary focus of treatment *(Kroenke, 2009)*.

Suicidality

A number of observational and epidemiological studies suggest that certain chronic non-cancer pain conditions represent an independent risk factor for suicide *(Chou, 2015; Fishbain, 2009; Ilgen, 2013; Ilgen, 2008; Ratcliffe, 2008; Scott, 2010; Tang, 2006).* Among the conditions that represent an

independent risk factor are back pain and migraine headaches. Emerging evidence also suggests an association between opioid dose and suicide mortality. A recent study among Veteran's Affairs patients found that higher prescribed opioid doses were associated with elevated suicide risk *(Ilgen, 2016).*

Use clinical judgement to determine the appropriate method of screening for suicidality and document the assessment. Suicide risk screening tools include the Columbia-Suicide Severity Rating Scale (C-SSRS) and the SAFE-T (Suicide Assessment Five-Step Evaluation and Triage).

History of Trauma and PTSD

Given the sensitive nature of the topic, clinicians should judge whether asking the patient about a history of trauma or using a formal assessment is appropriate. Documentation should include a summary of the conversation or the results of a screening tool. The Primary Care Post Traumatic Stress Disorder (PTSD) Screening tool (PC-PTSD) is a commonly used tool to screen for PTSD.

The Institute for Clinical Systems Improvement Pain Guideline (2017) addresses elevated risk of developing chronic pain among patients with a history of trauma or abuse:

> **When evaluating patients with pain, it is important to determine whether there is a history of trauma/abuse. A meta-analysis by Afari, et al. *(2014)* found that individuals who reported exposure to trauma (psychological, emotional, sexual, physical, combat) were 2.7 times more likely to have a functional somatic syndrome. Sexual abuse and rape victims have been shown to be 2.4 to 4 times more likely to develop functional gastrointestinal disorders and chronic pelvic pain. In addition, sexual abuse is associated with non-specific chronic pain and psychogenic seizures, while rape is associated with fibromyalgia *(Paras, 2009)*.**
>
> **Adverse childhood experiences (ACES) are a strong predictor for multiple chronic illnesses in adulthood. These include both depression and substance abuse, conditions that exacerbate the pain response and impede treatment response. A review of the literature shows that abuse in childhood is a strong predictor of depression and physical complaints, both explained and unexplained, in adulthood *(Arnow, 2004)*.** (**pg. 30)**

Anger and Injustice

A common negative emotion associated with chronic pain is anger, arising through frustration of personal goals and unmet expectations. Anger may block motivation for and acceptance of, treatments oriented toward rehabilitation and disability management rather than a cure *(Scott, 2013).* Research suggests that both anger intensity (state/trait) and regulation style (inhibition/expression) negatively impact pain outcomes *(Bruehl, 2006; Burns, 2008)*.

Perceived injustice is an appraisal reflecting the severity and irreparability of pain-related loss, blame and unfairness *(Sullivan, 2008)*. Perceptions of injustice can ensue from acts or conditions that might cause someone to suffer hardship or loss undeservedly *(Hamilton, 1992; Lind, 1988).* The potential devastating consequences of debilitating injury have been well documented. At least for a certain percentage of individuals, life following injury will be characterized by persistent physical and emotional

suffering *(Berglund, 2006).* In addition, post-injury life might be replete with losses such as the loss of employment, the loss of financial security, loss of independence and loss of sense of identity *(Lyons, 1998; Sullivan, 2002).* Some of these losses might be temporary, while others might be permanent. Recent research suggests that perceived injustice consequent to injury might represent one of the strongest predictors of problematic outcomes. Injured individuals who report high levels of perceived injustice also experience more intense pain, more severe depression and are less likely to return to work. Individuals with high levels of perceived injustice display more pain behavior and rate themselves as being more severely disabled. Perceptions of injustice are also associated with the persistence of post-traumatic stress symptoms consequent to injury.

Fear avoidance and pain catastrophizing

Negative appraisals of pain or maladaptive beliefs about pain increase pain and dysfunction, as well as slow recovery and adjustment. Pain catastrophizing and fear avoidance are common maladaptive beliefs found in patients with chronic pain. Pain catastrophizing can be defined as an exaggerated negative orientation toward actual or anticipated pain experiences *(Gatchel, 2007).* Individuals ruminate about their pain, magnify pain sensations and feel helpless about their ability to manage the pain. Patients who catastrophize their pain both increase pain and dysfunction, as well as slow recovery and adjustment *(Sullivan, 2001; Keefe, 2009).* The Pain Catastrophizing Scale is a brief, validated screening tool for patients experiencing pain and is not condition-specific. The Keele's STarT Back Screening tool is a brief, validated screening tool for patients with chronic back pain in primary care settings *(Hill, 2008)*.

The fear avoidance model articulates the maladaptive belief that pain means harm and activity should be avoided in order to prevent future harm. The tenets of contemporary fear avoidance models can be summarized as follows: When pain is perceived following injury, an individual's idiosyncratic beliefs will determine the extent to which pain is catastrophically interpreted. A catastrophic interpretation of pain gives rise to physiological (arousal), behavioral (avoidance) and cognitive fear responses *(Gatchel, 2007).* The cognitive shift that takes place during fear enhances threat perception and further feeds the catastrophic appraisal of pain *(Asmundson, 2004).*

The fear avoidance model describes how individuals experiencing acute musculoskeletal pain may develop chronic pain as a result of avoidance behavior based on fear. The Keele's STarT Back Screening tool is a brief, validated screening tool for patients in primary care *(Hill, 2008).* The Pain Catastrophizing Scale is a brief, validated screening tool for patients experiencing pain and is not condition-specific *(Sullivan, 1995).*

If the assessment indicates the presence of fear avoidance or pain catastrophizing, consider whether the patient's risk from continued opioid treatment outweighs the benefit and refer the patient to a physical therapist or pain psychologist. If needed, include in the discussion supporting family members and/or caregivers identified by the patient.

Substance Use Disorders

A number of brief, validated substance use screening tools are used in clinical settings. The tools include:

- The National Institute for Drug Abuse (NIDA) Quick Screen is a single screening question that identifies substance use in primary care patients *(Smith, 2010).*

- The Tobacco, Alcohol, Prescription medication and other Substance abuse (TAPS) tool consists of a 4-item screening for tobacco use, alcohol use, prescription medication misuse and illicit substance use in the past year *(McNeely, 2016).*
- The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) is an 8 item questionnaire designed to be administered by a provider to a client.
- CAGE-AID (Adapted to Include Drugs) is a version for the CAGE alcohol screening questionnaire, adapted in include drug use. It assesses likelihood and severity of alcohol and drug abuse *(Leonardson, 2005).*

Consider using a urine drug screen (UDS) in conjunction with other screening tools to identify patients who may need further assessment for substance use disorder (SUD). Discuss abnormal UDS results with a patient in order to identify the underlying issue. Refer patients with SUD to an addiction specialist.

Section C. Non-Opioid and Non-Pharmacologic Treatment Modalities

It is outside the scope of the DHS Opioid Prescribing Improvement Program to provide specific recommendations about non-pharmacologic and non-opioid treatment modalities. For a thorough examination of the evidence base for non-opioid and non-pharmacologic treatment approaches, please see the ICSI Pain Health Care Guideline, 2017 and the CDC Chronic Pain Prescribing Guidelines, 2016 (and the accompanying Contextual Evidence Review).

Clinical Recommendations

1. Utilize alternatives to opioid analgesia for mild-to-moderate acute pain. Consider additional non-opioid pain management for acute pain when opioids are prescribed. *[Acute Pain]*

2. Introduce multi-modal therapies to all patients in the post-acute pain period. Discuss evidence-based pain management options; discuss the risks and benefits of the options to guide discussion and support shared-decision making. *[Post-Acute Pain]*

3. Provide basic pain education during the post-acute and chronic pain period to all patients. Basic pain education resources include patient handouts and online resources. *[Post-Acute Pain; Chronic Pain]*

4. Consider pain education—such as therapeutic neuroscience education—for patients whose pain experience is disproportionate to the nature of the injury or pathology, or who are found to be at high risk for chronicity or disability. Therapeutic neuroscience education involves education about the brain, spinal cord and descending pathway nature of pain. Refer patient to an appropriate clinician, such as a pain psychologist or a physical therapist. *[Post-Acute Pain; Chronic Pain]*

5. Implement a multidisciplinary approach to treating all patients with chronic pain. Tailor treatment modalities to the patient's individual needs as determined by the biopsychosocial assessment. *[Chronic Pain]*

Discussion

Non-Opioid Analgesics

Non-opioid analgesics and adjuvant analgesics are equally or more effective than opioid analgesics for most pain types, with potentially less risk of harm to the patient. Appropriate prescribing of non-opioid and adjuvant analgesics will depend on the patient's diagnosis, symptoms, pain type, comorbid conditions and overall risk for adverse drug events. Non-opioid medications used to treat pain include non-opioid analgesics, nonsteroidal anti-inflammatory drugs (NSAIDS), selected anticonvulsants and selected antidepressants.

Non-pharmacological Therapy

Non-pharmacological therapies include, but are not limited to, physical modalities, behavioral approaches, interventional approaches and patient education. Examples include:

- Exercise therapy
- Cognitive Behavioral Therapy
- Group Support Activities
- Spinal manipulation, acupuncture or yoga
- Physical therapy
- Multimodal integrative therapies
- Mindfulness and stress reduction
- Patient education

Pain Education

Emerging research suggests that patient education about the neurobiology and neurophysiology of pain reduces pain, disability, anxiety and stress associated with the pain experience *(Louw, 2011).* This type of education—often referred to as therapeutic neuroscience education (TNE)—typically includes an educational session or sessions describing the neurobiology or neurophysiology of pain and pain processing by the nervous system. The aim of this type of pain education is to teach patients to re-conceptualize their pain as the nervous system's interpretation of the threat of injury, rather than an accurate measure of the degree of injury in their tissues.

Multi-disciplinary pain management

The complexities of pain—and specifically chronic pain--requires a multidisciplinary approach to pain management, tailored to the patient's individual needs and circumstances. Providers should use the biopsychosocial assessment completed during initial visits to guide decision-making about what treatment modalities may be beneficial to the patient.

The ability to treat chronic pain patients using a multidisciplinary approach may be limited due to the provider's geographic location or practice setting. Clinicians with limited access to specialists and other health care providers should explore telemedicine options for providing multidisciplinary care.

Multi-modal therapy addresses the various biopsychosocial factors that influence the pain experience. Treatment modalities should include those appropriate for the pain diagnosis, as well as comprehensive psychosocial support. Treatment may include, but is not limited to:

- Psychotherapy strategies (e.g., Cognitive-Behavior Therapy (CBT), , Acceptance and Commitment Therapy (AACT), Relaxation Therapy, Mindfulness-Based Stress Reduction and hypnosis)
- Complementary and Integrative Medicine (e.g., acupuncture)
- Active physical therapy (e.g., structured exercise program or physical therapy)
- Passive modalities (e.g., spinal manipulation therapy)
- Interventional treatment (e.g., diagnostic injections or therapeutic injections)
- Interdisciplinary pain rehabilitation programs
- Pharmacologic treatment: Non-opioid medications including acetaminophen, anticonvulsants, antidepressants, glucocorticosteroids, muscle relaxants and antispasmodics and non-steroid anti-inflammatory drugs

Part II. Acute Pain Phase Prescribing Recommendations

The acute phase of pain is one to four days after a severe injury or a severe medical condition and up to seven days following a major surgical procedure or trauma. Use caution when prescribing opioids even in this timeframe, given the potential for patients to experience harm related to any new opioid prescription. Avoid using opioids to treat pain in the acute phase unless the severity of the pain warrants the use of opioid analgesia and non-opioid alternatives are ineffective or contraindicated.

Clinical Recommendations

1. Use multimodal analgesia (e.g., NSAIDS and acetaminophen) as the first line of drug therapy for acute pain management. The evidence base demonstrates optimal doses of NSAIDS are superior in efficacy to single entity opioids, and are at least as efficacious as optimal doses of opioid combination drugs.

2. Provide documentation of the patient's presentation of pain and diminished physical function. Documentation should include use of the pain scale as a relative tool and concordance of the patient's assessment of his or her own pain with the prescriber's objective observations.

3. Know the status of your patient's risk factors for opioid-related harm. Consider any relevant risk factors not already documented in the patient's record.

4. Check the PMP whenever prescribing an opioid for acute pain.

5. Avoid prescribing more than 100 MME of low-dose, short-acting opioids. Limit the entire prescription to 100 morphine milligram equivalents (MME) (not 100 MME per day).

6. Prescribe no more opioids than will be needed for initial tissue recovery following more extensive surgical procedures and traumatic injury. Limit the initial acute prescription to no more than 200 MME, unless circumstances clearly warrant additional opioid therapy. Certain surgical procedures may require additional pain management (e.g., total joint replacement, major spine surgery).

   In the event that greater than 200 MME is prescribed for the discharge prescription for major surgical procedures, complete the recommended mental health, chemical health and chronicity risk assessments recommended in Appendix B. Complete the assessments recommended for the appropriate dosage.

7. Use appropriate non-opioid medication to manage acute oral or facial pain in patients presenting to a medical facility with no dentist available. Do not prescribe opioids to patients without an examination and diagnosis by a dental provider. Refer to a dental provider and assist with access to follow-up when possible.

8. Post-surgical prescribing recommendation apply to patients undergoing dental extractions or other invasive procedures (See Recommendation 6). Avoid prescribing more than 100 MME total supply of low-dose, short-acting opioids following a dental procedure.

9. Avoid prescribing opioids to patients with a history of substance use disorder and to those with an active substance use disorder. Maximize appropriate non-opioid therapies. If opioids are necessary, use extreme caution, frankly discuss the risks with the patient and plan for a close follow-up. Obtain a specific patient release to consult with a substance use disorder provider.

10. Consult with a prescriber or pharmacist specifically trained in the pharmacology of buprenorphine or naltrexone when prescribing opioid analgesia to a patient already receiving buprenorphine or naltrexone for Opioid Use Disorder (OUD).

    Limit opioid analgesia to 100 MME total when prescribing opioids to a patient on methadone to treat OUD.

11. For an identifiable, new injury in a patient receiving chronic opioids, dosage for the new injury will be the same as for any patient not already on opioids.

12. Manage acute pain in patients on chronic opioids undergoing invasive procedures with additional pain resources, such as the prescriber of chronic opioid therapy, pain specialists, anesthesiology and psychologists.

13. For patients already receiving chronic opioids and in the absence of a verifiable new injury, do not increase opioid dosage for acute pain at a new site or the acute exacerbation of a chronic pain. Offer the patient non-opioid treatments.

14. Acute dosing for children should be proportional by weight to the dosing guidance in Recommendation 3. Screen all children over the age of 10 per the recommendations for adults (See Recommendation 2). Prescribers should check the PMP for all children prescribed an opioid for acute pain, in order to confirm that the child is not at risk for parental diversion of the opioid. Avoid prescribing children codeine in any setting given the high risk posed to ultra-fast metabolizers.

Discussion

The acute phase of pain is one to four days after a severe injury or a severe medical condition and up to seven days following a major surgical procedure or trauma. The first-line pharmacologic therapy for mild to moderate acute nociceptive pain is acetaminophen or a non-steroidal anti-inflammatory drug (NSAID) such as ibuprofen. Multiple guidelines recommend these two drugs as first-line pharmacologic therapy for pain, however acute pain characteristics and patient risk factors must be considered when prescribing either medication. Acetaminophen should be avoided in patients with liver failure, and dosage should be reduced in patients with hepatic insufficiency or a history of alcohol abuse *(FDA, 2015; Guggenheim, 2011)*. Monitor patients receiving NSAIDS carefully due to the risk of cardiovascular, gastrointestinal, and renal adverse effects *(CDC, 2016)*.

Use caution when prescribing opioids for acute pain, given the potential for patients to experience harm related to any new opioid prescription. A growing body of evidence supports the association between opioid therapy for acute pain and long-term opioid use. A retrospective, observational study examined the probability of long-term use based on a number of characteristics of the initial opioid prescription. The study found that the largest increments in probability of continued opioid use were observed after

the fifth and thirty first days on therapy; the second prescription; 700 morphine milligram equivalents cumulative dose; and first prescriptions with 10- and 30-day supplies *(Shah, 2017)*. Acute pain can often be managed without opioid therapy. Clinicians should avoid using opioids to treat pain in the acute phase unless the severity of the pain warrants the use of opioid analgesia and non-opioid alternatives are ineffective or contraindicated.

Clinicians must employ effective risk management in order to prevent overdose, misuse and diversion when considering prescribing opioids during the acute phase. Opioids have a wide range of adverse effects that can predispose a patient to serious morbidity and mortality. This includes respiratory depression *(Koo, 2011)*, negative impact on endocrine function *(Vuong, 2010)*, immunosuppression *(Vallejo, 2004)*, opioid-induced hyperalgesia *(Ballantyne, 2007)* and possibly heightened fracture risk related to falls *(Saunders, 2010)*.

Risk Assessment

It is the opinion of the OPWG that all prescribers of opioid analgesia for acute pain should be aware of the patient's risk factors for opioid-related harm. It is not recommended that formal risk assessments occur in every instance of acute pain in every setting. Yet, prescribers should be aware of the patient's major risk factors.

The Institute for Clinical Systems Improvement Acute Pain Assessment and Opioid Prescribing Protocol work group developed a helpful mnemonic for screening for potential contraindications to opioid use.

> **The ABCDPQRS mnemonic is one useful tool that addresses potential contraindications/risks to opioid use. Please see Appendix A of the Institute for Clinical Systems Improvement Pain Health Care Guideline (2017) for more detailed information (pg. 59).**
>
> **A – Alcohol Use**
> **B – Benzodiazepines and Other Drug Use**
> **C – Clearance and Metabolism of Drug**
> **D – Delirium, Dementia and Falls Risk**
> **P – Psychiatric Comorbidities**
> **Q – Query the Prescription Monitoring Program**
> **R – Respiratory Insufficiency and Sleep Apnea**
> **S – Safe Driving, Work, Storage and Disposal**

Dose and Duration

A number of opioid prescribing guidelines have included dosage and duration recommendations for acute pain *(CDC, 2016a, ICSI, 2017)*. In addition, several states have passed opioid prescribing limits for acute pain. A majority of the recommendations and the state limits acknowledge that 3 to 7 days of opioid therapy for severe, acute pain is sufficient. The work group concurred with these recommendations, noting that the lowest effective dose and duration is necessary given the risks related to opioid exposure at any amount.

In most cases, pain from surgical procedures—especially outpatient procedures—can be managed effectively without opioids or with up to 100 MME total supply of low-dose, short-acting opioids. However some surgical procedures and traumatic injuries require greater pain management, because of an expectation of increased tissue damage and subsequent inflammatory response. This may include, but is not limited to, procedures and injuries that require more than a 48-hour hospital stay. Experts agreed that up to 200 MME total is an appropriate opioid dose for prescribing in the 7 days post-surgery for most surgical procedures.

Acute Oral Pain

Patients presenting with acute oral or facial pain require adequate pain management. If a patient presents in pain in a medical facility or hospital with no dentist available, the treating provider should use an appropriate non-opioid medication for pain management prior to diagnosis and treatment for the underlying source of pain. Non-dental providers should not prescribe an opioid without examination and diagnosis of the underlying reasons for the oral or facial pain. Opioids can mask pain and allow the patient to ignore an underlying serious dental problem, such as an abscess. Diagnosis should include appropriate tests and x-rays. Refer the patient to a dental provider and assist with access to follow-up when possible.

Acute Pain in Patients Receiving Chronic Opioid Analgesic Therapy

Prescribing opioid analgesia for acute pain requires additional consideration when the patient is on COAT, has a history of substance use disorder or an active substance use disorder. Providers should treat patients with extreme caution, appropriately balancing the need to relieve severe acute pain caused by an injury or surgical procedure and the need to prevent opioid-related harm. It is the expert opinion of the work group that individuals with acute pain generated by an objectively identifiable injury should be treated under the same dosage and duration guidelines. Greater caution should be employed when the patient does not have an objectively, identifiable new injury and providers should treat pain with non-opioid and non-pharmacologic therapies.

Effective management of acute, postoperative pain in opioid tolerant patients may require additional education and resources. It is important to effectively manage acute, post-operative pain and opioid tolerant patients should receive no less treatment than opioid naïve patients. For opioid tolerant patents taking up to 90 MME/day, the standard postoperative dose and duration recommendations apply. Postoperative pain management for patients taking over 90 MME/day should involve the prescriber of chronic opioid therapy, pain specialists, anesthesiology and psychologists.

Part III. Post-Acute Pain Phase Prescribing Recommendations

The post-acute pain prescribing interval is between four and forty-five days following a severe injury, severe medical condition, or a major surgical procedure or trauma. This timeframe represents a critical period for secondary prevention of chronic opioid use and substance use disorder. Opioid use for acute pain is associated with long-term opioid use and a greater amount of early opioid exposure is associated with greater risk for long-term use *(Alam, 2012; Deyo, 2016, Guy, 2017).* In addition, because physical dependence on opioids is an expected physiologic response in patients exposed to opioids for more than a few days, it is imperative that a prescriber work with the patient to limit the days of opioids prescribed following an acute event.

Clinical Recommendations

1. Assess and document pain and function at each follow-up visit. Pain assessment and reassessment during the post-acute pain period is valuable for tracking improvement and gauging whether healing and recovery is progressing normally.

    - Consider the patient's presentation of pain in relation to tissue damage and healing following an acute event, whenever possible.

    - Do not continue opioid therapy solely based on reports of improved physical function once the tissue healing is sufficient.

    - Evaluate whether changes in perceived pain and function demonstrate a trajectory of pain reduction and improved function at each follow-up visit during the post-acute period.

2. Strongly consider reevaluation of the etiology of the pain for those patients who do not demonstrate expected improvements based on the nature of their injury or pathology. Reevaluate patients who experience severe acute pain that continues longer than the expected duration of recovery. Confirm or revise the initial diagnosis and adjust pain management accordingly.

3. Assess and document risk factors for opioid-related harm and chronic opioid use during the post-acute pain phase, including depression, anxiety, substance abuse, fear avoidance and pain catastrophizing. Refer to the Acute and Post-Acute Pain Prescribing and Assessment Guide for the recommended risk assessment screenings prior to prescribing additional opioids for pain management during the post-acute pain period.

4. Introduce multi-modal therapies to all patients in the post-acute period. Discuss evidence-based pain management options with the patient and provide risks and benefits of the options to guide discussion and support shared decision-making.

5. Prescribe opioids in multiples of 7 days, with no more than 200 MME per 7 day period and no more dispensed than the number of doses needed. Prescribing should be consistent with expected tissue healing, with expected tapering.

6. Avoid prescribing in excess of 700 MME (cumulative) in order to reduce the risk of chronic opioid use and other opioid-related harms.

7. Patients should discontinue opioid therapy as tissue healing progresses. Consider a formal taper schedule if patient demonstrates withdrawal symptoms as he or she attempts dose reductions or based on his or her duration of use. If a taper regimen is required, tapering is generally accomplished over two weeks either to wean the patient off opioids completely or down to pre-surgical dose.

8. For patients receiving chronic opioid analgesic therapy and additional opioid therapy for acute pain, taper patient to the pre-surgical or pre-injury dose as tissue healing progresses. Patients receiving COAT who undergo surgery should have a coordinated pain management plan in place prior to surgery. Follow through with the agreed upon treatment plan.

9. Develop a referral network for mental health, substance use disorder, pain education and pain medicine.

Discussion

Pain intensity and pain interference with normal function should decrease during the post-acute pain phase as part of the natural course of recovery following surgery or injuries. Patients may continue to experience acute pain induced by a severe injury or invasive procedure and treatment should continue accordingly. Patients who experience pain during this phase should receive aggressive, multi-modal pain treatment in order to improve function, manage pain and prevent future transition to chronic pain and chronic opioid use. Avoid continued use of opioids to treat post-acute pain and plan to taper patients off opioids by 45 days after the acute event.

Clinicians must be aware that patients may become opioid-dependent within this timeframe. Physiologic pain processes may begin to transition from acute to chronic mechanisms. Assessment of pain and function at each follow-up visit during this period is necessary to document changes over time. Early and ongoing risk assessment is necessary to identify psychosocial risk factors that may predict chronic use, the development of opioid use disorders and the transition from acute to chronic pain.

Pain, Function and Quality of Life Assessments

Continued assessment of pain interference and functional status in the post-acute period can be valuable for tracking improvement and gauging whether healing and recovery is progressing normally. Use functional assessments—in concordance with pain assessments—to guide patient-provider conversations about pain management and psychosocial factors that may contribute to the experience of pain.

Patients that report pain intensity or severity beyond the anticipated treatment duration, or functional limitations disproportionate to the nature of the injury or trauma, will require additional assessment. Clinicians should obtain contextual information from the patient regarding his or her experience and limitations with pain and assess whether psychosocial issues are potentially affecting the pain experience.

Risk Assessment

Refer to the Acute and Post-Acute Pain Prescribing and Assessment Recommendations Guide for recommended screenings and timing of the screenings in the post-acute pain interval, as well as Part II. Biopsychosocial Assessment and Risk Assessment for discussion and additional recommendations about assessments. See Appendix B for the Acute and Post-Acute Pain Prescribing and Assessment Guide.

Dose and Duration

Opioid prescribing patterns in the post-acute pain interval present challenges to monitoring utilization and safety. The patient may obtain prescriptions from a number of different prescribers based on the nature of the acute event. Prescribers may be located in different medical groups, or separated by significant geographic distance. Prescriptions written with intended tapering may appear larger than the intended use. On the other hand, patients may not understand how to gradually discontinue their dosage. Checking the PMP every time a refill is requested in the post-acute pain interval provides the prescriber with a history of the patient's past opioid and other medication use.

Experts agreed that a standard dosage and duration recommendation is helpful in this interval, despite the nuances related to dose reduction and discontinuation. The work group members also agreed that prescribers should understand the cumulative morphine equivalence exposure of the patient since the initial prescription for acute pain. Two recent studies suggest significant risk points related to cumulative morphine equivalence exposure. One study found that the largest increment in probability of continued use was observed at 700 MME cumulative dose. *(Guy, 2017)* The other study found that opioid naïve patients who received a cumulative dose of 400 – 799 (versus ≤ 120) MME in the first month of use were 2.3 and 3.0 times as likely to become chronic opioid users *(Deyo, 2016).*

Discontinuing Opioids during the Post-Acute Pain Period

Patients exposed to opioids for a short period are not likely to need a formal taper regimen. Patients exposed to opioids for greater than two weeks following an acute event may require a formal taper. Explain to the patient that mild withdrawal symptoms are expected and do not represent a need to adjust the taper. Discuss symptoms of withdrawal with the patient and instruct the patient to contact you if he or she experiences any of these symptoms. Withdrawal signs and symptoms may include gastrointestinal symptoms, anorexia, yawning, lacrimation, salivation, rhinorrhea, piloerection, insomnia, anxiety, irritability, dysphoria and manifestations of sympathetic hyperactivity such as diaphoresis, tachycardia, fever, mydriasis or mildly elevated blood pressure *(Farrell, 1994).*

Decisions regarding a tapering schedule should be made on an individual basis, in consideration of the patient's symptoms and in conjunction with the patient and his or her caregivers, if appropriate. Patient education is essential to a successful taper. Provide clear written and verbal instructions to patients to educate them about the taper protocol, ways to minimize withdrawal symptoms and the proper way to dispose of opioids. Consider adjuvant medications—antidepressants, NSAIDS, clonidine, anti-nausea and anti-diarrhea agents, as indicated—for patients experiencing withdrawal symptoms.

Seek consultation or refer a patient to a pain medicine specialist when the taper regimen is complex, when the patients fails to taper successfully in an outpatient setting, or when pain continues after tissue healing progresses

Part IV. Chronic Pain Opioid Prescribing Recommendations

While the safest possible course of treatment is to avoid initiating chronic opioid analgesic therapy (COAT) for chronic pain, patients already receiving COAT must be carefully managed to mitigate the potential for opioid-related adverse effects. This includes opioid use disorder (OUD), non-fatal overdose, and fatal overdose.

The Opioid Prescribing Work Group recommends that patient safety is a paramount treatment consideration when prescribing opioids for chronic pain. Improving functional status and reducing pain intensity also remain important treatment goals. Develop a multi-modal, active pain management plan with the patient to achieve these goals. Titration of opioids only to pain or self-reported functional status is not recommended. This often leads to accelerating doses based on a perception that higher doses will effectively ameliorate pain or improve function. Reduce daily dosage to under 50 MME/day or taper completely, while monitoring the patient for signs of OUD.

The following recommendations promote careful monitoring of patients receiving COAT. The recommendations are divided into three sections:

1. Assessments and considerations when initiating COAT; dosage recommendations
2. Formulation recommendations
3. Risk mitigation strategies

Clinical Recommendations:

1. Perform a thorough assessment of mental health conditions prior to initiating COAT and continue assessment for the duration of the opioid therapy. See Part I. Section B. Biopsychosocial assessment.

2. Establish specific, measurable treatment goals with the patient prior to initiating COAT. Create treatment goals in terms of improvement in function and quality of life. Treatment goals must be realistic and obtainable. Resolution of pain should not be a treatment goal for chronic opioid therapy, as evidence indicates that this is not an achievable goal.

3. Assess potential barriers to active participation in the treatment plan with the patient. Assess the patient's physical limitations and document physical recommendations in clear and simple language. Help the patient identify modifications that will allow him or her to maintain daily routines, when needed.

4. Identify in the treatment plan the person who will coordinate care across the providers and services identified. Offer the patient access to a care coordinator via the telephone in case an issue arises. If possible, identify the pharmacy that the patient will use to fill all medications included in the treatment plan.

5. Initiate a patient provider agreement or understanding prior to beginning COAT for every patient, or continuing opioid therapy in a new patient.

6. Use caution when prescribing opioids at any dosage and make every effort to keep daily dosage under 50 MME/day. Re-evaluate the patient's individual risks and benefit of continued treatment when increasing dosage. Avoid increasing daily dosage to ≥ 90 MME/day. Clinicians who decide to increase the daily dosage to ≥ 90 MME/day must carefully document that the risks and benefits were weighted and benefits warrant the risk.

7. Limit the duration of the prescription to one month and prescribe so that the prescription does not end during a weekend or on a holiday. Face to face visits with the prescribing providers should occur at least every three months, based on the patient's risk profile. Patients at higher risk for adverse events should be seen more frequently.

8. Offer to taper to a reduced dose or to discontinuation at every face to face visit. See Part V. Opioid Taper or Discontinuation.

9. Avoid initiating COAT for pain in patients with untreated substance use disorder or a history of substance use disorder.

Formulation recommendations

10. Prescribe immediate release/short acting opioids when initiating COAT. Long-acting/extended release opioids should be reserved for patients with established opioid tolerance and in whom the prescriber is confident of the patient's medication adherence.

11. Avoid routine rotation or substitution of opioids. If substitution or conversion is indicated, use opioid conversion tables only as guidance. Doses of the new opioid should be reduced by 30-50% of the daily MME dose of the previous stable opioid agent to account for incomplete cross-tolerance.

12. Avoid using methadone interchangeably with other extended-release/long-acting opioids for chronic pain. Only clinicians trained or experienced in the appropriate dosing and management of methadone therapy should consider using methadone for chronic pain.

13. Exercise extreme caution when considering fentanyl therapy for pain, given the potential for diversion and harm. Clinicians trained or experienced with the dosing and absorption properties of transdermal fentanyl are best equipped to prescribe, educate and monitor patients appropriately.

Risk Mitigation Strategies

14. Complete a urine drug screen (UDS) prior to initiating or continuing COAT in a new patient and consider a random UDS at least twice a year. Complete a UDS when patients come to the clinic for a pill count. Standardize UDS policies at the clinic or health system level in order to destigmatize their use.

Use the UDS results to guide treatment decisions, improve patient-clinician communication and monitor patient safety. Consider ordering a confirmatory test for positive results to confirm substance identification. Clinicians should not dismiss patients from care solely based on UDS results that contradict the patient's self-reported adherence to therapy.

15. Consider pill count call backs for high risk patients. Call backs generally require patients to come to the clinic to count remaining opioid pills within 24 hours of being notified. If the pill count results in fewer or greater pills than expected, schedule a visit with the patient to discuss the results.

16. Monitor patients receiving COAT for the presence of Opioid Use Disorder (OUD). Clinicians who are unable to diagnose OUD using the DSM-5 criteria can use a brief, standardized screening tool and make a referral as appropriate.

17. Offer or arrange evidence-based treatment for patients with OUD. Clinicians who are not authorized to provide evidence-based treatment should work with their practice group to build capacity for treatment and/or build a referral network of treatment providers.

18. Consider consulting specialists trained in pain, addiction or mental health conditions when initiating COAT. Early consultation may help identify the potential for increased risk, even in patients at low risk of adverse events, if opioid therapy continues.

    Refer patients receiving COAT to addiction and mental health specialists when there is a significant risk for opioid-related harm, as appropriate for the patient's needs. The referring clinician should continue to treat the patient until a successful transfer of care has occurred, or until the patient fails to follow through on the referral and continues to be at risk.

Discussion

Assessment: Pain and Function

Assessment of pain intensity alone for patients experiencing chronic pain is insufficient. Research demonstrates that pain intensity scores of chronic pain patients are not predicted by etiology of the pain *(Hashmi, 2013).* Therefore, assessment tools are more likely to be useful when function and quality of life are included in the assessment.

Diagnose or confirm the origin of the pain at the time of assessment. Former injuries and diagnoses should be considered in the differential diagnosis, however it is possible that they are no longer the pain generator. Consider opioid-induced hyperalgesia in the differential diagnosis when the patient has long-term opioid exposure. The correct diagnosis of the etiology of the pain is necessary to guide effective selection of patient-specific treatment modalities. Diagnostic evaluation should be complete, but should avoid exhaustive testing that has no reasonable expectation of providing a nociceptive etiology.

Treatment planning: Barriers to treatment

Not all patients have the resources needed to use health care services, engage in healthy behaviors and participate in treatment plans. Socioeconomic factors clinicians need to consider include, but are not limited to: geographic location; housing; employment; transportation; social support; education. Health care systems or practices with access to a social worker should include the social worker in the health care team. Social workers can help patients address resource/socioeconomic barriers that hinder patient engagement in the treatment plan.

Treatment planning: Goals

Clinicians should carefully discuss goals with patients experiencing chronic pain. Explain to patients that while a reduction in pain intensity is an important treatment goal, the goals should also include engagement in valued life activities through improved social function and social interaction. Elimination of pain is never a realistic goal. Treatment goals should be tailored to the individual. Clinicians should encourage the patient to drive the goal-setting process and provide input on improvement that is objective, attainable and measurable.

Patient Provider Agreement (PPA)

Patient Provider Agreements (PPA) are typically written treatment plans that identify the clinician and patient's roles and responsibilities related to initiating long-term opioid therapy. Clinicians should approach initiating the PPA as a means to educate the patient about best practices for opioid use. In addition, the PPA may serve as a diagnostic tool to identify concerns as the patient continues his or her opioid therapy. Review the agreement with the patient at regular intervals determined by the patient's risk profile. In general, review the agreement with the patient at least annually.

Components of an effective PPA include:

- Clearly defined roles and responsibilities for both the clinician and the patient
- Requirements related to other pain medications
- One physician/one pharmacy
- Consent to disclose information to or discuss care with other prescribers identified in the Prescription Monitoring Program (PMP)
- Agree to take the medication as prescribed/no early refills
- Patient responsibility for safeguarding the prescription and supply, including planning ahead so that supply does not end on weekend or holiday
- Required reporting of side effects
- Required appointments and screenings
- An exit strategy for when it is determined that harms outweigh the benefit of continued COAT
- Situations in which opioids will be discontinued or doses tapered (e.g., if treatment goals are not met, opioids are no longer needed, or adverse events put the patient at risk) to improve patient safety *(CDC, 2016a)*.
- Training of family members, friends, or caregivers in naloxone administration
- Referral or evaluation of OUD if patient becomes unable to follow the terms of the agreement, or the provider or patient become concerned about OUD.

It is not demonstrated that PPAs improve clinical outcomes related to opioid therapy, however the PPA can serve as an important educational, communications and diagnostic tool. (*CDC, 2016a; Starrel, 2006*)

Clinicians should consider the multiplicity of objectives that a PPA serves and stress the importance of the PPA to set expectations about both the clinician's and patient's responsibilities during opioid therapy. When used appropriately, a PPA can help prevent patient provider disagreement and allow the clinic to insist on consistent and universal practices for opioid-receiving patients *(ICSI, 2017)*.

Clinicians should avoid dismissing patients from care when the patient is unable to comply with the terms provided in the PPA. This may be an indicator that the patient is developing dependence or OUD and the patient should be referred to the appropriate care.

Prescribing: Dose and duration

Clinicians should consider opioid-induced pain, a newly onset opioid use disorder and/or the potential for drug diversion prior to increasing the daily dose. Tolerance at high doses is not a sufficient reason to increase dosage to ≥ 90 MME/day. Dosages greater than 90 MME/day should be considered temporary (e.g., acute on chronic pain for verifiable new condition) and every effort should be made to reduce the dosage as soon as possible.

Several studies have examined the relationship between the total daily dose of oral opioids—expressed as total MME per day—and opioid related harm. Evidence supports a dose-response relationship, with risk of overdose-related death increasing significantly at 100 MME/day. Studies examining other opioid-related harms demonstrate increasing risk of harm between 50 and 100 MME/day *(Han, 2015; Gomes, 2011; Dunn, 2010).* It is the belief of the work group that as the dose-response relationship is further studied, the evidence may support even lower daily doses of opioids to avoid opioid-related harm. Clinicians are encouraged to keep daily doses under 50 MME/day and continually offer to reduce doses for those patients whose daily dose exceeds the 50 MME/day limit.

Opioids incur greater risk of overdose in certain populations, including patients with substance use disorder *(CDC, 2016a; Han, 2015; Turner, 2015)*. Given the inherent risk of prescribing opioids to a patient with untreated substance use disorder, clinicians should use non-opioid and non-pharmacologic therapies when treating the patient's pain.

Formulation

Extended release/long acting (ER/LA) opioids include extended-release versions of oxycodone, oxymorphone, hydrocodone and morphine. There is limited evidence on the increased efficacy or safety of ER/LA opioids versus intermittent use of immediate-release opioids *(CDC, 2016a).* One clinical study found a higher risk for overdose among patients initiated on treatment with ER/LA than among those initiated on treatment with immediate release opioids *(Miller, 2015).*

The FDA notes that "because of the greater risks of overdose and death with extended-release opioid formulations, reserve ER/LA opioids for use in patients for whom alternative treatment options (e.g., non-opioid analgesics or immediate-release opioids) are ineffective, not tolerated, or would be otherwise inadequate to provide sufficient management of pain." *(FDA, 2014*). FDA has also noted that some ER/LA opioids are only appropriate for opioid-tolerant patients, defined as patients who have received certain dosages of opioids (e.g., 60 mg daily of oral morphine, 30 mg daily of oral oxycodone, 8 mg oral hydromorphone/day, 25 mg oral oxymorphone/day, or an equianalgesic dose of another opioid) *(FDA, 2014).*

Contraindications to ER/LA opioids listed in the FDA safety information include, but are not limited to:

- Respiratory depression that is significant
- Asthma that is severe or acute, in an unmonitored setting or without equipment for resuscitation
- Paralytic ileus
- Hypersensitivity to the opioid

Rotation and Substitution

Routine rotation or substitution of opioids should be avoided, however there may be circumstances in which it is appropriate to change to a different opioid. These circumstance include, but are not limited to:

- Patients with renal failure
- Change of health insurance and/or drug formulary
- Hospice/terminal cancer care

Opioid conversion tables do not account for incomplete cross-tolerance in opioid-tolerant patients *(AMDG, 2015, Webster, 2012).* Therefore, doses of the new opioid should be reduced by 30-50% of the previous daily MME dose to avoid any harm related to incomplete cross-tolerance.

Methadone and fentanyl

Methadone has unique pharmacokinetic and pharmacodynamics properties, including a long and variable half-life that is not consistent among patients. It is highly lipophilic and the respiratory depressant effect lasts longer than the analgesic effect *(Chou, 2009).* Clinicians trained in prescribing methadone are better prepared to educate patients on methadone's unique risk profile, dose appropriately and provide the ongoing monitoring and assessment necessary to manage risk appropriately.

Methadone treatment for chronic pain may be indicated for a small, sub-set of patients, including patients with incurable, chronic neuropathic pain that has not responded to other opioid formulations.

Transdermal fentanyl is a long-acting, renal-safe synthetic opioid. Clinicians who prescribe fentanyl for chronic pain should consider the following:

- Patients initiated on transdermal fentanyl must be opioid tolerant (greater than 60 MME/day) and possess the cognitive ability to apply, remove and dispose of the patches safely *(FDA, 2013)*.
- Patients require ongoing education about appropriate use and disposal of fentanyl patches. Patches should be removed after 72 hours, folded upon themselves sticky side inward and promptly flushed down the toilet. *Note: This disposal recommendation is unique to fentanyl patches given the high risk that even used patches pose to children and other family members.*
- Transdermal fentanyl should not be given in addition to any other long-acting agents.
- Do not prescribe fentanyl to patients with a history of substance use disorder.

Sublingual fentanyl should be reserved for only those in need of palliative care for extreme pain and unable to take any alternatives.

Monitoring and Risk Mitigation

All patients receiving COAT should be monitored for opioid-related harms and misuse, however there is not a specific monitoring protocol indicated in the scientific literature. Clinicians should monitor use using the following risk management strategies, depending on the patient's risk:

Prescription Monitoring Program

Query the PMP each time opioids are prescribed to patients on COAT.

Urine Drug Screening

Urine drug screens can play an important role in monitoring patients on chronic opioid analgesic therapy (COAT). Although there is limited evidence that routine use of UDS improves patient outcomes, current opioid prescribing guidelines recommend routine use of UDS in chronic pain patients (*CDC, 2016a; ICSI, 2017*). Urine drug screens can identify other substances used by the patient and/or when the patient is not adherent to his or her treatment regimen. Clinicians should use the results of a UDS to guide treatment decisions and referral to the appropriate level of care. The results of UDS cannot be used to diagnose substance use disorder or confirm diversion.

Interpreting urine drug screens is highly complex. In order for UDS to be an effective component of clinical management of chronic pain patients, clinicians must develop knowledge regarding proper specimen collection and validation, interpretation of positive and negative results and the role and need for confirmatory testing. Clinicians and health systems are encouraged to take an active role in the design and development of their UDS processes. An "on-call" toxicologist or addictionologist is a useful resource for assistance with inconsistent drug screens.

Pill Count Callbacks

Although the medical literature has shown no well-established benefit of callbacks, it is the opinion of the OPWG that pill count callbacks are useful for certain patient populations. These patient populations include those with demonstrated difficulty taking their medicine as prescribed and those for whom there is suspicion of diversion *(ICSI, 2017)*.

Pill count callbacks are often a burden to patients. Include pill count callbacks in the patient-provider agreement and risk monitoring discussions, if appropriate. Patients should be aware that pill counts are possible as part of their COAT and contact information should be kept updated.

If the pill count results in fewer or greater pills than expected, schedule a visit with the patient to discuss the results. Possible reasons for a discrepancy in the number of pills include diversion and misuse, but may also be a result of misunderstood directions, overprescribing, opioid-induced hyperalgesia, or an attempt to cope with an emerging mental health condition.

Consultation and referral

Patients who receive COAT should be managed by a multi-disciplinary care team, including, but not limited to, medical providers, mental health providers and other providers such as physical therapists. In addition, health care providers who prescribe opioids should develop a referral network of specialists for patients at higher risk of opioid related harm. The network should include mental health providers, addiction specialists, pain medicine specialists and medication assisted treatment providers. These services can also be provided in the clinic, especially in situations where an office based medication assisted treatment program exists.

Clinicians, especially those who practice in rural settings, are encouraged to develop referral networks using existing and developing technology, such as telemedicine and Project ECHO.

Clinicians are encouraged to complete the DATA 2000 Qualifying Buprenorphine training in order to be able to treat opioid use disorder in emergency department, primary care, obstetric, or pain medicine settings. Clinicians, especially those who practice in rural settings, are encouraged to develop referral networks or obtain support for their Medication Assisted Treatment (MAT) practice using existing and developing technology, such as telemedicine and Project ECHO.

The guidance below provides an overview of when referral to a specialist or a substance use disorder evaluation program may be appropriate. The guidance is not intended to be all-inclusive.

a. Addiction Specialists and Medication Assisted Treatment (MAT) Providers

- Assessment and/or diagnosis of substance use disorder;
- Patient gains access to MAT for an established or past opioid use disorder;
- Patient presents with behaviors suggestive of substance use disorder (any substance), including but not limited to:
  - Failed opioid taper,
  - Concerning aberrant behaviors, including overuse or misuse of opioids and dangerously combining opioids with other substances, or
  - Known harm from opioids with an ongoing indication for opioid analgesia;
- Patient presents with evidence of an emerging opioid use disorder or other substance use disorder, or an untreated OUD; or
- Patient is unable to taper in an outpatient setting or OUD is unmasked during the taper process.

b. Pain Medicine Specialists

Physicians are certified as specialists in the treatment of pain through the American Board of Medical Specialties and the American Board of Pain Medicine. Pain medicine specialists provide a broad range of services and not all specialists treat pain with the same modalities. Referring clinicians should become familiar with the pain specialists in their geographical area and the types of treatment modalities provided. When a referral is appropriate, refer the patient to a pain medicine specialist with experience in the appropriate treatment modality and who is able to engage in multi-disciplinary patient care.

c. Mental Health Providers

All patients receiving opioids, regardless of the patient's risk profile, should receive care from a multi-disciplinary team, including mental health screening and monitoring. It is the opinion of this work group that most chronic pain patients with functional limitations will benefit from treatment by a pain psychologist.

Coping with limitations caused by pain is a major reason to refer a patient to a pain psychologist, even if no mental health disorder or no behavioral issues are present.

The indications for referral listed below—with exception—address circumstances in which the patient is at high-risk for opioid-related harm. DSM-5 Axis One disorders confer mortality risk and predict development of opioid use disorder in patients who are prescribed opioids for chronic pain. Any patient receiving chronic opioids for pain who has such a mental health disorder should be evaluated and optimally treated for their mental health. This may require a psychology or psychiatric referral. Determine whether referral to a psychologist or a psychiatrist is appropriate based on the patient's risk factors and medical history.

Indications for referral:

- Patient expresses interest in alternative approaches;
- Patient demonstrates behavioral issues in the clinic;
- Patient does not regain function or social relationships after treatment is initiated;
- Patient demonstrates high-risk behaviors suggestive of suicidal ideation or verbalization of suicidal thoughts;
- Exacerbation of underlying psychotic disorder;
- Patient has an uncontrolled, severe psychiatric disorder or emotional instabilities; or
- Patient has psychological trauma-related conditions.

A psychiatry referral is appropriate at any time a patient has a major mental illness that cannot be satisfactorily managed by the primary care provider. The patient should be seen by a psychiatrist as a condition of being on opioids. A psychiatry referral is also appropriate when seeking a diagnosis or for suicidal/homicidal/psychotic thoughts or emotional instability.

Screening for Opioid Use Disorder

A systematic review of 38 studies by Vowles et al. (2015) found that the rates of opioid misuse averaged between 21 and 29% among adult patients with chronic non-cancer pain. Misuse in this review was defined as opioid use contrary to the directed or prescribed pattern of use, regardless of the presence or absence of harm or adverse effects *(Vowles, 2015).* Opioid misuse and OUD are adverse events that can occur in all patients and clinicians should monitor all patients and provide universal screening *(Volkow, 2016b; Kirschner, 2014; Dowell, 2013).*

Patients with opioid use disorder receiving opioid analgesia for pain are at high risk for opioid-related harm, including fatal overdose. Clinicians who prescribe COAT are responsible for being able to recognize the symptoms of opioid use disorder in their patients and provide referrals to treatment, or offer medication assisted treatment with behavioral therapies. The State recognizes that while many

clinicians are largely untrained to recognize opioid use disorder (OUD), there are a growing number of resources available to clinicians to enhance their training and knowledge about this disease.

Consider the current Opioid Use Disorder diagnostic criteria when monitoring patients for signs of opioid misuse *(APA, 2013)*. Clinicians who are unable to provide a diagnostic assessment for OUD should screen patients using the Tobacco, Alcohol, Prescription medication and other Substance abuse (TAPS) tool. The TAPS tool consists of a 4-item screening for tobacco use, alcohol use, prescription medication misuse and illicit substance use in the past year and can detect clinically relevant problem substance use in a primary care setting *(McNeely, 2016)*. Refer patients who screen positive for substance use disorder for treatment.

Evidence-Based Treatment for Opioid Use Disorder

Clinicians should be knowledgeable about evidence-based OUD treatment options (see below) and consider offering MAT to their patients with OUD. Clinicians who choose not to directly offer MAT should work within their group to provide treatment capacity or develop a strong referral network for MAT and behavioral therapies.

Medication assisted treatment (MAT) offers stabilization of OUD through buprenorphine-containing products or opioid antagonists integrated with behavioral health interventions and recovery-based supports. MAT has been shown to be safe and effective in suppressing illicit use, improving physical and mental well-being and reducing all cause and overdose mortality *(Mattick, 2014; Department of Veterans Affairs, 2015)*. MAT has also been shown to be successful among patients who experience chronic pain *(Weiss, 2011; Dennis, 2015)*.

Clinicians may refer to the Department of Human Services Health Services Advisory Council Recommendations for Medication Assisted Recovery.

Evidence-Based Opioid Use Disorder Treatment Options:

The following evidence-based treatment [modalities] should be delivered in conjunction with behavioral health interventions and recovery-based supports:

- Medication-assisted treatment with buprenorphine containing products. A DATA 2000 waiver is needed to prescribe sublingual buprenorphine products for opioid use disorder in an office-based setting.

- Methadone liquid from a federally licensed opioid treatment program (OTP. It is illegal to prescribe methadone tablets for opioid use disorder.

- Intramuscular naltrexone delivered under direct supervision by a physician with appropriate training.

Pain management in patients with OUD

Patients receiving COAT can develop an OUD. Patients with OUD may continue to have chronic pain *(Neumann, 2013; Alford, 2006)*. Patients who have developed OUD as a result of COAT tend to be more sensitive to pain and develop painful conditions *(Compton, 2012; Doverty, 2001)*.

In some instances, the pain provider may discover that there is an OUD and in fact, no pain generator, or the pain generator has resolved but the OUD persists. In these cases, OUD may masquerade as pain and the pain treatment can be discontinued.

When OUD is diagnosed, pain management should continue in conjunction with addiction treatment when there is ongoing chronic pain. Address ongoing chronic pain with a selection of non-opioid and non-pharmacologic therapies, concurrent with initiation of an evidence-based addiction treatment modality. Clinicians who are unable to directly provide addiction treatment in an office-based setting should work closely with the addiction treatment provider to address ongoing pain. This requires ongoing consultation including a specific patient release to consult with the addiction treatment provider.

Part V. Tapering and Discontinuing Opioid Use

The goal of opioid tapering is to improve the risk benefit profile for patients on COAT. Changes in co-occurring conditions, diagnoses, medications, functional status and the duration of opioid therapy affect the risk benefit analysis.

Tapering COAT to a reduced dosage or to discontinuation is challenging for both the clinician and the patient. Preparing a patient for a taper is challenging and takes considerable time. For this reason it is recommended to routinely discuss tapering with patients at every face to face visit, including when COAT is initiated. Clearly communicate about the following issues prior to initiating a taper and throughout the taper process, while monitoring for signs of Opioid Use Disorder (OUD):

- Reasons for tapering opioids;
- Taper process;
- Pain management during the taper; and
- Management of withdrawal symptoms.

Clinical Recommendations

1. Discuss tapering and discontinuing use in advance of initiating chronic opioid analgesic therapy and with each dose increase. Providers and patients should identify situations in which a taper is indicated and document those situations in the treatment plan or agreement.

2. Routinely discuss tapering or discontinuing COAT with patients, regardless of their risk of harm. Tapering should be addressed at least every 3 months.

3. Taper opioid therapy to a reduced dose or taper to discontinuation when the risks of continued opioid therapy outweigh benefits. Tapering high-risk patients to less than 50 MME/day is a reasonable initial goal. The taper protocol must be individualized to the patient's circumstances and address all of the biopsychosocial factors that may impact the taper process.

4. Offer non-opioid and non-pharmacological therapies to treat any pain that may re-emerge during the opioid taper and to treat any withdrawal symptoms that occur during the taper. Patients will likely benefit from Cognitive Behavioral Therapy during the taper process.

Discussion

It is the consensus of the OPWG that opioid tapering should be offered and discussed at every face to face visit, or at least every 3 months. Discussing tapering early and often may assist with setting the expectation that COAT should not be continued indefinitely.

Indications for (Non-Rapid) Taper or Discontinuation

- Patient expresses desire to reduce opioid dosage or discontinue opioid therapy;
- Resolution or healing of a painful condition;
- Decreasing analgesic effect for pain condition;

- The condition being treated is contraindicated for opioid therapy, e.g. migraine or fibromyalgia;
- Prescribed dose is higher than the maximum recommended dose of 50 MME/day;
- Patient is non-adherent to the treatment plan or non-compliant with the Patient-Provider Agreement;
- Treatment goals are not being met; or
- Adverse effects of opioid therapy are not tolerated or are unmanageable.

Patients receiving a low, daily dose of opioids, e.g., <30 MME/day, are less likely to experience severe withdrawal symptoms during a rapid taper. However, some patients may benefit from the structure and support provided by a taper regimen. Develop a brief taper plan with patients on low daily MME doses who exhibit distress about discontinuing opioid therapy.

Indications for Rapid Taper or Discontinuation

A rapid taper or an abrupt discontinuation of opioids is generally not recommended, however it may be appropriate in the following circumstances:

- Patient has a severe adverse reaction or an allergic reaction to opioid formulation(s);
- Patient has already discontinued opioids and gone through withdrawal;
- Confirmed diversion of prescription opioids;
- Patient preference; or
- Patient with a history of non-fatal opioid overdose.

A 2015 cohort study of non-fatal opioid overdoses found that 91% of patients are maintained on opioids after surviving an overdose. Continuing opioids after surviving an opioid overdose confers risk of repeated overdose and death *(LaRochelle, 2016)*. If it is not possible or inappropriate to abruptly discontinue opioids following a non-fatal overdose, clinicians should significantly increase visit frequency, monitoring and harm reduction strategies.

Immediately assess patients who experience a non-fatal overdose or for who diversion is confirmed for a substance use disorder and provide follow-up care as appropriate.

Circumstances in which a taper may not be appropriate and ongoing therapy is determined to be the safer treatment option

- Patients with Opioid Use Disorder or other substance use disorders. See Referral below.
- Patients in an active mental health crisis.
- Patients with cognitive impairments who are on very low daily doses, e.g. patient receives 30 MME/day in a controlled environment.

Assessment

Complete a biopsychosocial assessment of the patient prior to initiating an opioid taper, including evaluation of medical, psychiatric and any substance use conditions. Discuss current living arrangements and social support networks with the patient in order to assess the stability of the patient's environment during the taper. Clinicians should pay careful attention to the factors that may predict difficulties tapering, including depressive symptoms, anxiety related to the taper, high pain scores, past failed taper

and high opioid doses. Patients with depressive symptoms at initiation of an opioid taper are more likely drop-out of the taper and return to opioid use *(Berna, 2015)*.

Maximize mental health conditions prior to initiating a taper. Patients with depression or elevated anxiety should be receiving treatment for those conditions prior to initiating the taper. It is expected that all patients on COAT have a multi-disciplinary treatment plan, appropriate to their risk level and access to services. If a patient does not have a multi-disciplinary treatment plan, the treating clinicians should refer the patient to the appropriate level of psychiatric care.

Reassess the patient's medical and psychological conditions—as well as support network and living conditions—throughout the taper. Frequency of assessment and evaluation should be determined by the patient's risk level. In general, follow-up with the patient within one week to one month after any opioid dosage change.

Taper Process and Treatment

The optimal timing and approach to tapering depends on a number of patient factors, including: opioid dose; duration of therapy; type of opioid formulation; concomitant medication use; and the patient's medical, psychiatric and social conditions. In addition, the patient's risk of harm for continued opioid use is a key factor in determining the taper strategy.

When the risk of harm is not imminent, the taper should be slow enough to minimize symptoms and signs of opioid withdrawal. A decrease of 10% of the original dose per week is a reasonable starting point when developing the taper strategy *(CDC, 2016a)*. Patients in need of a more rapid taper may tolerate dose reductions up to 20% per week. Patients in need of a more gradual taper over months—or even years—may reduce doses by 5-20% every four weeks *(Berna, 2015; CDC, 2016a)*.

Educate patients about expected withdrawal symptoms and pain outcomes prior to initiating the taper and throughout the process. Consider assessing the patient's withdrawal symptoms with a brief, validated screening such as the patient self-rated Subjective Opiate Withdrawal Scale or the practitioner assessment Clinical Opiate Withdrawal Scale *(Handelsman, 1987; Wesson, 2003)*. Optimize non-opioid and non-pharmacologic treatment modalities for pain and withdrawal symptoms during the taper process.

Clinicians should consider the following when developing a taper strategy with a patient:

- Patients may tolerate larger dose reductions in the beginning of the taper and then require smaller dose reductions as daily MME is decreased.
- Providing patients with the option to pause the taper may reduce the risk of a failed taper.
- Tapers should be considered to be successful as long as the patient is making progress at reducing opioid dosage.
- Consider tapering daily dose to less than 50 MME for patients who do not concomitantly use benzodiazepines or other sedative-hypnotics. This may be considered a successful taper, because it has reduced the daily dose to a level where known harms from the medication are reduced. Patients may be able to reduce dosage more easily than discontinue opioids, as an initial step.

A multi-disciplinary approach to the taper process may be required, based on the patient's needs. Consider involving the following providers in the taper plan and process:

- Primary care providers
- Mental health providers
- Pharmacists
- Physical Therapy
- Addiction specialists

Trust and open communication between the clinician and provider are key to a successful taper process.

Concomitant COAT and Benzodiazepines

Consider sequential tapers for patients concomitantly on COAT and sedative hypnotics. There is a paucity of evidence related to which medication should be tapered first, therefore the approach should be individualized. The 2016 CDC Chronic Pain Prescribing Guidelines suggest tapering the opioid first, given the greater risks of benzodiazepine withdrawal relative to opioid withdrawal and the possibility of increased anxiety related to the opioid taper *(CDC, 2016a).* However, concurrent use of benzodiazepines and opioids multiplies the risk of opioid-related harm. Given that benzodiazepines are risk multipliers, tapering the benzodiazepines first may be appropriate. Patients receiving high daily MME and intermittent benzodiazepines may be able to successfully taper benzodiazepines first.
For patients who receive therapies from two different clinicians, care must be coordinated between the prescribers.

Referral

During the course of an opioid taper, symptoms of an Opioid Use Disorder or other mental health conditions requiring treatment may be revealed or exacerbated. Clinicians must remain vigilant for signs and symptoms of OUD during the taper process. If there is concern about OUD or another substance use disorder, treat the patient for OUD using an evidence-based treatment approach or refer the patient to an evidence-based treatment provider. Patients on COAT with untreated OUD who are tapered off opioids are at risk for harm unless referred to treatment *(Compton, 2016; Nagar, 2015)*. Refer patients with exacerbated or emerging mental health conditions to the appropriate mental health care provider. All patient undergoing a taper are likely to benefit from enhanced mental health care and support.

Part VI. Women of Childbearing Age

The OPWG reached consensus to develop opioid prescribing recommendations specific to women of childbearing age. Given the potential risk of maternal opioid use to both the mother and the baby, the work group determined that it was important to specifically address this population.

Clinical Recommendations

1. Assess pregnancy risk in all women of childbearing age prior to prescribing an opioid.

2. Avoid prescribing opioids to pregnant women. Educate pregnant women about the known risks of opioids to both the mother and the fetus.

3. If opioids are prescribed to a pregnant woman for acute pain, prescribe the lowest dose and duration appropriate.

4. Prescribe no more opioids than will be needed for initial tissue recovery following a cesarean section or complicated vaginal birth. Consider prescribing 100 MME when opioid therapy is prescribed.

5. Provide proper pain control to lactating women experiencing acute pain following birth and surgical procedures. If opioids are prescribed to lactating women for acute pain, check an evidence-based resource (e.g. LactMED) for preferred opioid types and prescribe the lowest dose and duration adequate to manage the pain.

6. Monitor reproductive health in all women of childbearing age who receive COAT or MAT. Provide family planning services and counsel women on using effective contraception while on COAT or MAT. Effective contraception is the primary way to prevent unintended pregnancy and risk of delivering a baby with Neonatal Abstinence Syndrome (NAS) or Neonatal Opioid Withdrawal Syndrome (NOWS).

Discussion

Maternal opioid use is associated with pregnancy-related maternal and fetal morbidity and mortality. Babies exposed to opioids in utero are likely to develop symptoms of Neonatal Abstinence Syndrome (NAS) or Neonatal Opioid Withdrawal Syndrome (NOWS). NAS or NOWS are terms used to represent the pattern of clinical findings typically associated with opioid withdrawal in newborns.

The Minnesota Department of Human Services conducted a study in 2014 to determine trends and levels of opiate exposed newborns in the Minnesota Health Care Programs (MHCP) population. Analysis of the MHCP population found that:

- Diagnosed neonatal opiate withdrawal use has risen from 0.04% of all births in 2010, to 1.0 % in 2014.

- The per-capita rate for opiate abuse diagnosis in pregnancy is one and a half times greater in rural Minnesota than in the seven-county metro area.
- Only 50% of NAS newborns were born to moms with a noted diagnosis of opiate dependency, implying that providers were unaware of the exposure.
- 30% of NAS newborns were born to moms who received MAT (Medication Assisted Therapy), while 70% of such newborns had moms who did not receive this standard treatment for opiate dependency in pregnancy.
- 24% of NAS newborns are born premature.
- Mothers of NAS newborns are 12 times more likely to have not received any prenatal care.
- Over half of all NAS newborns are white and over a quarter are American Indian.
- More than one in ten pregnancies among American Indian women have a diagnosis of opiate dependency or abuse.
- Compared to whites, American Indian women are more than 8 times more likely to be diagnosed with maternal opiate dependency and more than 7 times more likely to give birth to a NAS newborn.

Clinicians should consider pregnancy risk in all women of childbearing age prior to prescribing opioids. Given that many pregnancies are unplanned, assessment of pregnancy risk should be included in the overall biopsychosocial assessment.

Acute Pain in Pregnant Women and Lactating Women

Pain during pregnancy and following childbirth is common. However, it is beyond the scope of the OPWG to make specific recommendations about non-opioid pain management options. Prescribe the lowest dose and duration appropriate when a pregnant woman experiences acute pain and the benefit of using an opioid outweighs the risk to the woman and fetus. Educate the women about the risks and unknown effects of opioids when pregnant, to both the mother the fetus.

Consider prescribing 100 MME when prescribing opioids to women following a cesarean section. Two recent studies analyzing the patterns of opioid prescribing and opioid use following a cesarean section found that most women are prescribed opioids in excess of the amount needed *(Osmundson, 2017; Bateman, 2017)*. A survey of women who underwent cesarean sections at six academic health centers in the U.S. found that the median number of tablets prescribed was 40, and the median number of tablets consumed was 20 *(Bateman, 2017)*. This suggests that post-discharge opioid prescribing to women who underwent a cesarean section can be aligned with acute pain opioid prescribing recommendations (100 MME total prescription).

If opioids are prescribed to lactating women for acute pain, prescribe the lowest dose and duration adequate to manage the pain. The American College of Obstetricians and Gynecologists (ACOG), the Society for Maternal-Fetal Medicine (SMFM), the Academy of Breastfeed Medicine (ABM) and the American Academy of Pediatrics cautions against the use of codeine and tramadol for lactating women *(ACOG, 2017)*. Recommended opioids for lactating women—based on lower rates of excretion into breast milk--include hydromorphone and oral morphine. Consult LactMed for current and comprehensive information about the secretion of specific opioids into breastmilk.

Encourage breastfeeding for women using opioids to manage acute pain following delivery and surgical procedures, but provide education about how to minimize opioid exposure in the baby. Educate the

mother and other caregivers to monitor the baby for excess sedation, constipation and failure to achieve weight milestones.

Pregnant Women and Chronic Opioid Analgesic Therapy

Clinicians should not initiate COAT in pregnant women. Opioid therapy for pain during pregnancy has been associated with stillbirth, poor fetal growth, pre-term delivery, neonatal abstinence syndrome or neonatal opioid withdrawal syndrome and birth defects *(CDC, 2016b)*. For women of child bearing age on COAT, clinicians should carefully monitor reproductive health. This may include, but is not limited to: contraceptive counseling; prevention, diagnosis and treatment of sexually transmitted infections (STI); and options counseling for unintended pregnancies.

Clinicians caring for pregnant women on COAT should access appropriate expertise if considering tapering opioids due to the possible risk to the pregnant woman and fetus if the woman goes into withdrawal *(CDC, 2016a)*. Clinicians should routinely screen all pregnant women receiving COAT for opioid use disorder, using a brief validated assessment tool.

For pregnant women who develop opioid use disorder, medication assisted treatment with buprenorphine or methadone has been associated with improved maternal outcomes *(ACOG, 2017)*. Abrupt discontinuation of opioids during pregnancy can result in premature labor, fetal distress and miscarriage. Because NAS is treatable, MAT is recommended instead of withdrawal or abstinence *(Jones, 2008)*. Offer the patient MAT, or refer to a MAT provider. The use of MAT, in combination with counseling and behavioral therapies, and access to a range of supportive services, such as housing and employment services, assists the mother in achieving a more stable life. MAT also stabilizes the intrauterine environment and avoids subjecting the fetus to repeated episodes of withdrawal, which places the fetus at higher risk for morbidity and mortality.

Providers caring for pregnant women with OUD should arrange for delivery at a facility prepared to monitor, evaluate for and treat NAS *(CDC, 2016a)*. Studies suggest that somewhere between 30-80% of newborns exposed to opioids in utero develop symptoms of NAS/NOWS. A multi-site, randomized clinical trial found that among women maintained on methadone or buprenorphine, 53% of the infants born required treatment for NAS *(Kaltenbach, 2017)*. The range and severity of the symptoms experienced by the infant depends on a variety of factors, including the type of opioid the infant was exposed to and whether the infant was exposed to multiple substances. Treatment of NAS includes non-pharmacologic and pharmacological methods.

Appendix A. Opioid Prescribing Work Group Membership

Julie L. Cunningham, PharmD, BCPP Mayo Clinic Health System *Nonphysician health professional who treats pain*	**Matthew Lewis, MD** (not practicing) Medtronic *Consumer representative*
Senator Chris Eaton, RN Minnesota State Senate *Consumer representative*	**Pete Marshall, PharmD** HealthPartners *Health plan pharmacy director*
Tiffany Elton, PharmD, NCPS Fond du Lac Human Services Pharmacy *Pharmacist*	**Murray McAllister, PsyD, LP** Courage Kenny Rehabilitation Institute *Nonphysician health professional who treats pain*
Dana Farley, MS Minnesota Department of Health, Injury and Violence Prevention Unit *Minnesota Department of Health Representative; non-voting*	**Richard Nadeau, DDS, MPH** University of Minnesota School of Dentistry *Dentist*
Rebekah Forrest, RN, CNP Native American Community Clinic *Nurse Practitioner*	**Mary Beth Reinke, PharmD, MSA** Department of Human Services *Pharmacy unit representative; non-voting*
Ifeyinwa Nneka Igwe, MD Essentia Health *Physician*	**Charles Reznikoff, MD** Hennepin County Medical Center *Mental health professional*
Bradley Johnson, MD South Country Health Alliance *Health plan medical director*	**Jeffrey Schiff, MD, MBA** Department of Human Services *Minnesota Health Care Programs Medical Director; non-voting*
Chris Johnson, MD – OPWG Chair Allina Health *Health Services Advisory Council Member*	**Detective Charles Strack** Little Falls Police Department *Law enforcement representative*
Ernest Lampe, MD Minnesota Department of Labor and Industry *DLI Medical Director; non-voting*	**Lindsey Thomas, MD** Hennepin County Medical Examiner (retired) *Medical examiner*

Former Opioid Prescribing Work Group members:

Alvaro Sanchez, MD
Sargent Matthew St. George

Appendix B. Opioid Prescribing Work Group: Acute and Post-acute Pain Prescribing and Assessment Guide

The purpose of this chart is to guide clinicians on the responsible prescribing of opioids through the acute and post-acute pain period. Complete the recommended assessments based on the pain phase prior to prescribing opioids. In general, providers should increase the use of pain, function, mental health, chemical dependency and chronicity risk assessment tools during the post-acute period in order to differentiate treatment and identify patients at increased risk for opioid dependency and abuse. Guidance about how to use this chart is available on the next page.

Total Morphine Milligram Equivalence (MME) Exposure is the cumulative morphine milligram equivalents for all outpatient opioid prescriptions written in the acute pain and post-acute pain prescribing interval. Avoid prescribing in excess of 700 MME (cumulative), in order to reduce the risk of chronic opioid use and other opioid-related harms.

[a] Screen for depression and anxiety using brief, validated tools, such as the PHQ-2, PHQ-9 or the GAD-7.

	Pain Phase/Days Past Acute Event	Total MME Exposure	Pain and Function: Nociceptive Pain	Pain and Function: Tissue Healing Sufficient	Pain and Function: Perceived pain & function match expected progress	Risk Assessment: Mental health[a]	Risk Assessment: Chemical dependency[b]	Risk Assessment: Chronicity risk assessment[c]	Reassess etiology of pain	Non-opioid pain management	Taper
1	Acute (0-4 days)	0 to 100 MME	Expected	No	Yes	No	No	No	No	Yes	No
2	Major acute/post-acute (5- 14 days)	101 to 400 MME	Expected	No	Yes	No	No	No	No	Yes	No
3			Not expected	Yes	No	Yes	Yes	No	Yes	Yes	Yes*
4	Post-Acute (After 14 days)	401 to 600 MME	Expected	No	Yes	Yes	No	No	No	Yes	No
5			Not expected	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes*
6	Post-Acute (After 21 days)	601+ MME	Expected	No	Yes	Yes	Yes	Yes	No	Yes	Yes
7			Not expected	Yes	No	Yes	Yes	Yes[d]	Yes	Yes	Yes

[b] Screen for chemical dependency using a brief, validated tool, such as the NIDA Quick Screen.

[c] Screen for fear avoidance behaviors using a validated tool such as the Keele's STarT Back, TSK-11 or FABQ. Screen for pain catastrophizing using the Pain Catastrophizing Scale (PCS).

[d] Consider other risk factors for chronic pain and chronic opioid use such as Post-Traumatic Stress Disorder (PTSD), adverse childhood events, and sexual abuse.

* Determine the need for a taper and the taper rate based on the patient's withdrawal symptomology, and dose and/or duration considerations.

How to Use this Chart:

1. Identify the number of days that have passed since the date of injury or procedure (acute event). Complete the assessments indicated in the corresponding row prior to prescribing opioids. The chart also indicates the expected cumulative MME exposure at that point in the pain phase, based on the OPWG dose and duration recommendations.

   Example 1: A patient requests additional pain relief 16 days after a surgery. Ongoing nociceptive pain is not anticipated and the patient's pain experience does not match the tissue healing progress. The clinician provides the recommended risk assessments in Row 5. If the clinician determines that additional opioid analgesia is appropriate, then he or she should check the PMP. It is expected at this point that the cumulative MME exposure is under 600 MME.

   OR

2. Identify the recommended risk assessments to conduct prior to writing a prescription, based on the amount of MME prescribed or the time period that the prescription is intended to cover.

   Example 2: A patient undergoes major orthopedic surgery. The clinicians prescribes the patient 30 tablets of Oxycodone HCL/Acetaminophen (10 MG-325 MG). The total MME of the prescription is 450. Given the amount of MME prescribed, the clinician should perform the assessments indicated in Row 4 of the chart.

Appendix C. Morphine Milligram Equivalence

1. General Morphine Milligram Equivalence (MME) Conversion Formula

a. Total MME Prescribed (MME of the entire prescription)

Quantity of tablets (number) x MME Conversion Factor = Total MME Prescribed

b. Daily MME Prescribed

Dose per unit (tablet) X (Number of units/Days supply) = MME/day

2. Morphine Milligram Equivalence Conversion Factors

Table 1. MME Conversion Factors	
Type of Opioid	**MME Conversion Factor**
Codeine	0.15
Dihydrocodeine	0.25
Fentanyl transdermal	7.2
Hydrocodone	1
Hydromorphone	4
Morphine	1
Oxycodone	1.5
Oxymorpohone	3
Tramadol	0.1

3. Methadone Morphine Milligram Equivalence Conversion Factors

Table 2. Methadone MME Conversion Factors	
Methadone Daily Dose	**Conversion Factor**
1-20 mg/day	4
21-40 mg/day	8
41-60 mg/day	10
≥ 61-80 mg/day	12

4. How much is 50 MME/day or 90 MME/day for commonly prescribed opioids?

50 MME/day	• 50 mg of hydrocodone (10 tablets of hydrocodone/acetaminophen 5/300) • 33 mg of oxycodone (~2 tablets of oxycodone sustained-release 15 mg) • 12 mg of methadone (< 3 tablets of methadone 5 mg)
90 MME/day	• 90 mg of hydrocodone (9 tablets of hydrocodone/acetaminophen 10/325) • 60 mg of oxycodone (~ 2 tablets of oxycodone sustained-release 30 mg) • ~ 20 mg of methadone (4 tablets of methadone 5 mg

Appendix D. Resources

Name of Screening Tool	Administration	Time to Complete	Length	Notes
Assessing Function and Pain				
Pain Intensity, Enjoyment of life, General activity (PEG) Assessment Scale http://www.mytopcare.org/wp-content/uploads/2013/06/PEG-Pain-Screening-Tool1.pdf	Patient self-report	1 minute	3 items	
Pain Numeric Rating Scale https://www.va.gov/PAINMANAGEMENT/docs/Pain_Numberic_Rating_Scale.pdf	Patient self-report	1 minute	1 item	
Brief Pain Inventory https://legacybhsapps.beaumont.edu/Global/Urology/Brief_Pain_Inventory_WUC.pdf/	Patient self-report	5 minutes (Short Form)	9 items	
Screening for Mental Health Conditions				
PHQ-2 or PHQ-9 http://www.apa.org/pi/about/publications/caregivers/practice-settings/assessment/tools/patient-health.aspx	*Patient self-report*	*<5 minutes*	*10 items (PHQ9); 2 items (PHQ2)*	
GAD-7 https://www.integration.samhsa.gov/clinical-practice/GAD708.19.08Cartwright.pdf	*Patient self-report*	*<5 minutes*	*7 items*	
PC-PTSD https://www.integration.samhsa.gov/clinical-practice/PC-PTSD.pdf	*Clinician interview*	*<5 minutes*	*4 items*	
Abbreviated PCL-C https://www.integration.samhsa.gov/clinical-practice/Abbreviated_PCL.pdf	*Patient self-report*	*<5 minutes*	*2 or 6 items*	
Columbia-Suicide Severity Rating Scale https://www.integration.samhsa.gov/clinical-practice/Columbia_Suicide_Severity_Rating_Scale.pdf	Clinician interview		6 items	
SAFE-T (Suicide Assessment Five-Step Evaluation and Triage) https://www.integration.samhsa.gov/images/res/SAFE_T.pdf				
Keele's StarT Back Screening Tool https://www.keele.ac.uk/sbst/startbacktool/	Patient self-report	<5 minutes	9 items	
Pain Catastrophizing Scale http://sullivan-painresearch.mcgill.ca/pdf/pcs/Measures_PCS_Adult_English.pdf	Self-report	<5 minutes	13 items	

http://sullivan-painresearch.mcgill.ca/pdf/pcs/PCSManual_English.pdf				
TSK-11				
FABQ http://www.clinicalprediction.com/wp-content/uploads/2015/06/FABQ.pdf https://www.physio-pedia.com/Fear%E2%80%90Avoidance_Belief_Questionnaire	Patient self-report	<10 minutes	16 items	
Screening for Substance Abuse and Risk of Opioid Addiction				
NIDA Quick Screen https://www.drugabuse.gov/publications/resource-guide-screening-drug-use-in-general-medical-settings/nida-quick-screen	Clinician administers	<5 minutes	4 items	
Tobacco, Alcohol, Prescription medication and other Substance Abuse (TAPS) tool https://cde.drugabuse.gov/instrument/29b23e2e-e266-f095-e050-bb89ad43472f https://cde.drugabuse.gov/sites/nida_cde/files/TAPS%20Tool%20Parts%20I%20and%20II%20V2.pdf	Patient self-report or clinician administers	<5 minutes	4 items	
Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) http://apps.who.int/iris/bitstream/10665/44320/1/9789241599382_eng.pdf	Clinician administers	5-10 minutes	8 item	
NIDA-Modified ASSIST https://www.drugabuse.gov/sites/default/files/pdf/nmassist.pdf	Clinician administers	15 minutes	Prescreen + 7 items	
CAGE-AID (Adapted to Include Drugs) https://www.integration.samhsa.gov/images/res/CAGEAID.pdf	Clinician administers	<5 minutes	*5 yes/no questions*	
Clinical Opiate Withdrawal Scale (COWS) https://www.drugabuse.gov/sites/default/files/files/ClinicalOpiateWithdrawalScale.pdf	Clinician administers		11 items	

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Minnesota Department of Human Services

Policy staff: Sarah Rinn, MPH (OPIP Coordinator); Ellie Garrett, JD; Robert Lloyd; Dave Hoang, PharmD; Chad Hope, PharmD; Tara Holt, Assistant Commissioner Nathan Moracco. DHS Health Research & Quality Division: David Kelly, Titi Adeniyi, Jeff Abbas, Lori Allerson, Kevan Edwards, PhD, Mark Foresman, PhD, Barbara Frank, Monica Patrin, Shu Zhu. DHS Communications: Elizabeth Cooper, Terry Gunderson, Mehgan Lee, Jeanine Nistler, Jon Wittman; MN.IT VidyoNow team.

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