Real World Example
Anne Arundel Medical Center

At Anne Arundel Medical Center, one of the earliest initiatives of the opioid stewardship committee was for each medical director to review their opiate prescribing patterns and update or establish best practices for their service lines to standardize upon. The committee realized that it was going to be impossible to hold prescribers to any standard if it wasn't clear what the best practices were. As each medical director reviewed this in their area, a common theme arose that while medical opinions were changing about the best prescribing patterns, the EMR defaults weren't evolving to match the newly forming schools of thought.

This launched a major system-wide order set review process. It was done through a combination of user feedback and data review. Each medical director sent feedback directly to the CMIO on any commonly used order sets that had default prescriptions that exceeded the standard they wanted to establish. In addition to this, IT compiled a report of all commonly used order sets and their default opioid prescriptions for each medical director to review.

This two-way process allowed the team to quickly change the defaults that were being presented to users across the entire health system. Over the course of just a few short months, prescribing patterns quickly evolved in response.

But not all defaults are encoded inside of order sets. Data analysis showed that defaults are also encoded in human habits that are taught in medical training or passed generationally from doctor to doctor. The clearest example of this that AAMC saw was in the prescribing patterns for patients after a C-section. Many of these clinicians were averaging exactly 30 pills per prescription – not 29, not 31, but exactly 30, month after month. It was clear from the data that this couldn't arise solely from the needs of each individual patient but was most likely a result of habit and training.

As a result, the service line's medical director started a mantra: "20 is the new 30." This slogan meant that it's OK that humans are sometimes creatures of habit. But those habits should be based on best practice, and 20 was the new "correct" habit. Similar to other interventions, this visual management technique based on the data aided the medical director in leading his team to a rapid change in ordering patterns.

Real World Example
Methodist Hospital

The multidisciplinary Pain Management Committee at Methodist Hospitals (Northwest Indiana) includes representatives from pharmacy, nursing education, quality, IT and clinical informatics.

Methodist Hospitals rarely puts any opioids on a post-op order set. In most cases, physicians must go *outside* the order set if they want to prescribe a narcotic. According to Rhonda Planck, RN, BSN, CNRN, "We've left controlled substances on a few order sets because the physicians really pushed for it. However, when it comes to opioids, they cannot order a refill and can only write the prescription for a maximum of seven days. We are really trying to get away from making opioids a default option. Every patient's pain level is different, and it is important to be able to take that into consideration."

Methodist Hospitals runs their order sets through a third-party vendor to keep up-to-date with evidence-based content. According to Planck, "We run a report to extract the order sets out of our EHR and then import them into the third-party system. It looks at our order sets compared to evidence-based and helps us determine what might be missing." Order Sets must be evidence based with hyperlinks out to the supporting evidence.

There is a clearly defined process at Methodist Hospitals for updating and reviewing any order sets that include opioids – involving a wide range of stakeholders, such as representatives from pharmacy, nursing, nursing education and quality. Order sets are grouped by specialty, and the division chief over each specialty is ultimately in charge of providing final sign-off. Approval from the Methodist Hospitals and Medical Council is then required before implementing any order set into production.

Notably, the order set review process is completely electronic. According to Planck, "Each reviewer – usually starting with our pharmacist – receives an email with a link that takes them to the third-party system. They can review the order set, make comments and mark it as 'complete.' The system then notifies us, and we can assign the order set to the next group of reviewers." Planck notes that the fact that stakeholders can work on – and approve – order sets electronically has been key. "We don't have to call a meeting to get everyone in the same room every time we want to update or review an order set," says Planck. "People can do the work on their own time – which really helps streamline the process and makes everything much more efficient."

"From a CIO viewpoint, I love it when interdepartmental committees form to utilize the EHR and other accenting applications to take on critical issues that impact the community we serve. Best practice knowledge and evidence-based solutions provide our clinicians with the data they need to make appropriate decisions for the care of our patients. Providing clinicians with the proper tools and data to address the opioid crisis is key to saving lives."

Tim Diamond, CIO, Methodist Hospitals

Introduction/Background: Care Pathways

Care pathways are more than just order set maintenance. Truly caring for the patient requires more than adjusting orders on how to medicate them (or not). It requires a comprehensive approach, complete with diagnostic and multimodal treatment protocols, expectation setting, education, communication, pre- and after-care planning, coordination of care between facilities, care providers and other experts. Care pathway protocols can be different in different institutions, but often include many of the components listed below.

What resources and special skills will it require? Who should be included? Ownership and involvement can vary by institution, but there are several major themes. First and foremost, at the leadership level, an Opioid Stewardship Committee (or similar organizational body) often sets policy and guidance on care pathway implementation and compliance (*see chapter 1*). IT and clinical informatics teams often play a vital role in driving implementation and adoption. Clinical leadership and subject matter experts (such as department chiefs or pain management specialists) also play a pivotal role. Ultimately, most clinicians and support staff are affected by care pathways, so buy-in by all these stakeholders is necessary. The aspects of care pathways directly leverage IT interventions to affect the greatest impact require human resources and skillsets to perform order set revision and maintenance, install and maintain clinical decision support, enable provider and patient engagement tools, and integrate workflows with EHR's, eRx modules, prescription drug monitoring programs, and other systems can be most beneficial.

Is there anything specific to opioids that needs to be considered? Care pathways are complex and involve multiple dimensions. First, there are considerations specific to treating patients in *acute* pain. Second, *chronic* pain patients have very different issues and care pathways (and these pathways differ depending on the expected course of the underlying etiology). For example, the approach to treating the end-stage cancer patient on palliative care is different from the patient being treated for residual back pain after a motor vehicle crash. Third, acute *overdose* patients require distinct care pathways. Fourth, identifying and treating patients with *addiction* to controlled substances may raise different considerations and require different pathways. Fifth, *withdrawal* from controlled substances is another concern and requires specific interventions and treatment pathways. Ultimately, all these pathways tie into a cycle of addiction that can occur with opioid treatments, and these pathways must be optimized to prevent or break this cycle.

Care providers must also recognize that in addition to prescribed medications, a major component of the opioid crisis stems from the use of *illicit drugs*, such as heroin, fentanyl and car-fentanyl. While this aspect of the opioid crisis is a major source of morbidity and mortality, it is often enabled by "gateway" drugs prescribed by healthcare providers. Aspects of the addiction cycle that IT interventions can directly affect include maximizing treatment of pain by minimizing over-prescribing of controlled substances, maximizing non-opioid treatment modalities, and preventing drug abuse, diversion and addiction.

Guidance and Reference Resources

- **CDC Guideline for Prescribing Opioids for Chronic Pain**

In 2016, the Centers for Disease Control and Prevention (CDC) developed and published the evidence-based *CDC Guideline for Prescribing Opioids for Chronic Pain* to provide recommendations for the prescribing of opioid pain medication for patients 18 and older in primary care settings. Recommendations focus on the use of opioids in treating chronic pain (pain lasting longer than three months or past the time of normal tissue healing) outside of active cancer treatment, palliative care and end-of-life care.

> "Improving the way opioids are prescribed through clinical practice guidelines can ensure patients have access to safer, more effective chronic pain treatment while reducing the number of people who misuse, abuse, or overdose from these drugs."
>
> *— CDC Guideline for Prescribing Opioids for Chronic Pain*

Provider and IT-based organizations have incorporated the 12 evidence-based CDC recommended guidelines into provider-based workflows as a strong foundation for improvement. As is discussed in the next section (EHRA Opioid CDC CDS Implementation Guide), the 12 guidelines can be incorporated as EHR-based pathways and clinical decision support interventions.

CDC Guideline for Prescribing Opioids for Chronic Pain

The CDC Guideline addresses patient-centered clinical practices including conducting thorough assessments, considering all possible treatments, closely monitoring risks, and safely discontinuing opioids. The three focus areas in the guideline include:

1. **Determining when to initiate or continue opioids for chronic pain**

   • Selection of non-pharmacologic therapy, nonopioid pharmacologic therapy, opioid therapy
   • Establishment of treatment goals
   • Discussion of risks and benefits of therapy with patients

2. **Opioid selection, dosage, duration, follow-up, and discontinuation**

   • Selection of immediate-release or extended-release and long-acting opioids
   • Dosage considerations
   • Duration of treatment
   • Considerations for follow-up and discontinuation of opioid therapy

3. **Assessing risk and addressing harms of opioid use**

   • Evaluation of risk factors for opioid-related harms and ways to mitigate patient risk
   • Review of prescription drug monitoring program (PDMP) data
   • Use of urine drug testing
   • Considerations for co-prescribing benzodiazepines
   • Arrangement of treatment for opioid use disorder

- '*CDC Guideline for Prescribing Opioids for Chronic Pain'— United States, 2016, Recommendations and Reports / March 18, 2016 / 65(1);1–49*

- **HIMSS EHRA (Electronic Health Record Association) Opioid CDC CDS Implementation Guide**

The [HIMSS Electronic Health Record Association](#) (EHRA) is an association of Electronic Health Record (EHR) companies, addressing national efforts to create interoperable EHRs in hospital and ambulatory care settings. The EHR Association operates on the premise that rapid, widespread adoption of EHRs will help improve the quality of patient care as well as the productivity and sustainability of the healthcare system.

In 2018, the EHRA vendor community formed an opioid task force to research and provide recommendations on how EHR technology can address the opioid crisis. The clinical practice guideline subgroup worked on identifying a set of clinical practice guidelines that can be operationalized to improve opioid stewardship in clinical practice. The group decided to utilize the CDC Guideline for Prescribing Opioids for Chronic Pain. The result is the EHRA Opioid CDC Clinical Decision Support (CDS) Implementation Guide.

In the EHRA implementation guide, there is a section for each of the 12 CDC recommendations for prescribing opioids for chronic pain (outside of active cancer, palliative, and end-of-life care). For each recommendation, details are provided on what EHR's offer to address each item as well as guidance on how a healthcare organization can implement. While there may be some differences across EHR vendors as to how each recommendation is operationalized, the functionality and recommendations are generally available and in common across vendors.

Measuring Success

Care pathways have multiple components, so measuring the success of interventions requires a multifaceted approach. Healthcare systems can track compliance with pathways and recommended best practices, including order set utilization, and alert/clinical decision support acceptance vs. overrides. Most institutions have begun to track total morphine equivalents prescribed by providers. Some institutions track PDMP usage (*see Chapter 6 on PDMP*) and of course, those that have EPCS systems have more robust reporting and auditing mechanisms available (*see Chapter 5 on EPCS*). It should be noted that, whenever possible, metrics should be benchmarked against similar cohorts (i.e. palliative care provider prescription patterns may be markedly different than a typical primary care provider patterns). These are a few key examples, and best practices are likely to evolve over time. Continually tracking progress and finding ways to improve are essential to long-term success. These methods are discussed in greater detail in *Chapter 2 on Dashboards* and *Chapter 3 on Education*.

Patient Considerations

Care pathways can only succeed if they are patient-centric. They should be optimized to achieve the highest quality of care and the best possible patient outcomes, with lowest morbidity and mortality, highest patient safety, highest patient satisfaction, and best possible overall patient experience as possible. The purpose of care pathways is ultimately to treat patients as safely and effectively as possible. They are meant as guidelines to help alleviate pain while minimizing the risk of addiction and substance abuse. They also may provide methods to intervene in cases of "at risk" and already addicted patients in order to treat ongoing pain syndromes and the underlying substance abuse or addiction disorder(s).

Clinical care scenarios are often complex and there are many factors contributing to the cycle of addiction, drug use and abuse. Some of these social determinants and medical comorbidities are beyond the scope of this chapter, but many of the common presentations for acute or chronic pain conditions do have common themes that offer opportunities for intervention. Therefore, the pathways discussed here focus on the interventions that IT leadership can deploy and track to have the highest impact on specific patient outcomes and well-being. Patient engagement, communications, and involvement is essential throughout the process, whether that is in automated triage questions, pre-op care order sets, or discharge paperwork. This is further discussed in *Chapter 7 on Patient Education*.