Purpose
To research evidence-based practices aimed at reducing frequency of emergency department (ED) utilization for pain management by adult patients with chronic pain diagnoses.

The PICOT Question
Is ED episodic management without opioids for chronic pain (I) more effective at reducing ED visits (O) over a year or more (T), than ED management with opioids (C) among adults with chronic non-malignant pain (P)?

Background
Frequent users of the ED are a small amount of patients that account for a high number of ED visits (LaCalle & Rabin, 2010). Three to four percent of ED patients account for 12 to 20 percent of all ED visits (LaCalle & Rabin, 2010; Svenson & Meyer, 2007), and of those frequent users, 13.7 percent seek treatment for chronic pain (Bernard & Wright, 2004). ED care is expensive and follow-up and management is limited (LaCalle, E., & Rabin, 2010).

Current recommendations for chronic pain management include: Single prescriber, single pharmacy, opiate agreement and urine drug testing for all adults with chronic, non-malignant pain using opioids. This raises concerns about inappropriate use of ER services for episodic rescue in chronic pain management, and the role of the emergency department in the appropriate management of chronic pain care (Washington State Agency Medical Directors' Group (2010)).

Objective
Identify effective strategies at managing and reducing frequent ED visits for pain-related complaints by adults with chronic pain.

Search for Evidence
Each of the members of our group used a combination of online databases to search for evidence relevant to the PICOT question. Members reported using Boolean search terms to seek evidence in the CINAHL/EBSCO database, PubMed, The Cochrane Library, Ovid Nursing Full Text Plus, Science Direct (Elsevier), Google Scholar, as well as review of hardcopy journal subscriptions.

Search terms included Boolean terms for the key concepts presented by the PICOT question, as follows:
Selection criteria followed research standards of seeking research-based studies, Levels I-VI, weighing the quality of evidence with the relevance to practice, spanning everything from prospective observational studies to full-scale meta analyses, as well as some expert-opinion articles. Given the topic, we felt that older evidence may have just as valuable as very recent studies, and thus included material spanning the last 9 years.

**Summaries of Research Evidence**


- Level IV: A retrospective cohort analysis of an emergency department-initiated, web-based, multidisciplinary approach targeting the top frequent ED users, which sought to utilize patient care plans to improve patient care and reduce overall frequency of ED visits.


- Level III: A prospective study used to determine the extent and severity of chronic pain in adult ED patients with some basic observations and recommendations regarding frequency of departmental use for complaints of chronic pain, treatment, education, and follow-up.


- Level 1: A meta-analysis of current literature aimed at assessing the effects of pain contracts between patients and healthcare practitioners on patients’ adherence to treatment, illness prevention and health promotion activities, the stated health or behavior aims of the contract, patient and practitioner satisfaction, behavior and views, health status, and reported harms, costs or denial of treatment as a result of the contract.


- Level I: A systematic review of randomized and nonrandomized controlled trials and other studies describing the type and effectiveness of interventions targeting adult frequent users of EDs with the aim to reduce overall ED use. Of note, case management was seen as the most frequently described intervention and proved to be the most beneficial and justifiable to help reduce ED costs and improve clinical and social outcomes.

• Level VI: A prospective observational study that tested a strict non-narcotic protocol for patients with frequent ED visits for acute exacerbations of chronic, non-malignant pain aimed at reducing the number of ED visits made by these patients while also addressing their pain. Of note, a significant drop in the number of pain-related visits to the ED were noted through implementation of immediate and long-term treatment initiatives.


• Level I: A systematic Review of literature pertaining to frequent ED users, population and subgroup demographics, acuity of illnesses, and patterns of health care utilization aimed at informing development of policies addressing frequent ED use and potential related challenges.


• Level I: A meta-analysis and systemic review of current interagency recommendations and treatment guidelines on opioid administration for chronic non-cancer pain, provided as an educational aid to improve patient care and safety with opioid treatment, as reported by the Washington State Agency Directors’ Group and the U.S. Department of Health & Human Services.


• Level I: A meta-analysis of randomized controlled trials designed to evaluate the efficacy of psychological interventions, such as cognitive-behavioral and self-regulatory treatments, for adults with chronic low back pain. Multidisciplinary approaches that included a psychological component were also evaluated and found to have positive effects.


• Level I: A systematic review of literature aimed at determining the prevalence of opioid analgesic treatment, whether opioid medications are effective, and the prevalence of substance abuse disorders among patients receiving opioid medications for chronic back pain.


• Level I: A systematic review of literature aimed at determining the efficacy of opioid analgesic therapy compared to other forms of treatment in adults with chronic low back pain. Short-term versus long-term use of opiates and the controversies surrounding them are discussed, as well as alternative therapeutic interventions and their effectiveness when used independently or in conjunction with opiate administration.

• Level VI: This prospective study used 2 separate educational interventions for all clinical staff members in 2 urban EDs, including computerized trainings, lectures, journal clubs, and case conferences to reduce the amount of inappropriate opiate “pain packs” prescribed to patients at discharge. The results indicated a reduction from 13.9% to 8.4% of total patients discharged with a “pain pack,” in one ED, and 21.8% to 13.9% at another site.


• Level VI: This retrospective study reviewed claims from two major public and commercial Arkansas insurance companies over a six-month period. The study reviewed a pool of claims numbering 38,491 and 10,159 who used opioids continuously for 90 days at any point during a six-month period without lapse during an evaluation span from 2000 to 2005. Patients who were identified as having “used continuously” were screened for subsequent alcohol or drug-related adverse events within the 12 months following the continuous use. The study found that patients who used opioids had a higher rate of adverse events related to drugs and alcohol, and that these rates increased with the increase in opiate dosing, length of duration (time release) and quantity of medications prescribed.


• Level III: This was a randomized, double-blind parallel study that compared efficacy of ketorolac versus diphenhydramine and metoclopramide in the treatment of non-migraine headaches in a sample pool of 120 subjects that visited an emergency department in New York beginning in 2009 and lasting 35 months. This study showed that the metoclopramide/diphenhydramine combination was more effective for headache relief than ketorolac alone.
Summary of Expert Evidence from Organizations, Experience and/or Experts in the Specialty:

In response to the growing issue of prescription substance use, dependence and abuse in the United States, the need to identify appropriate parameters for safe pain management have arisen. Three expert opinion articles are identified, summarized and reviewed here.


• A position paper that describes their latest practice recommendations related to caring for the chronic pain patient who may also concurrently have a substance use disorder. This position statement is directed at finding a safe balance between safe prescribing and appropriate pain dosing so that pain is actually addressed. This article describes the disease of addiction as chronic and relapsing. It outlines treatment modalities, risk stratification, and philosophies.


• An outline of current treatment modalities for planned opiate withdrawal, and the article describes the prescription parameters for various medication regimens, environments of care, and scenarios for detoxification and recovery from opiate dependence

• Risk stratification and the factors that make a patient more likely to abuse pain medication, are helpful to the practitioner to identify the dependent chronic pain patient or the diversionary chronic pain patient, and allow for earlier intervention when aberrant behavior arises.


• The article outlines standardized definitions regarding medication use, abuse and tolerance and discusses the topic of “substance abuse,” a problematic definition. Some definers include maladaptive behavior related to drug use that causes harm to others, while some include any drug-related behavior that falls outside socially accepted norms. This article discusses the differences between more benign common aberrant behaviors seen in chronic pain patients who are seen in emergency departments and their more insidious counterparts that may indicate addiction.

- Level VII-This paper reviewed the risks and benefits of various system-wide policy changes to reduce inappropriate prescribing and use of opioid medications upon ED discharge, including guidelines set forth by the States of New York, Washington, Wisconsin, Colorado and Utah. Huffman weighs the ethical dilemma of enforcing restrictions on what providers can prescribe versus using more stringent and uniform tools to assess for abuse potential, like the DEA’s Prescription Drug Monitoring Program. This review suggests that a one-size-fits-all system wide policy is a controversial approach that may limit providers and undertreat patients.

7. Critical Analysis:

**Areas Well Understood**

- It is well understood that patients with chronic pain present to the emergency departments with more frequency than patients without chronic pain, and that treatment with opiate pain medication is controversial and efficacy is questionable
- Chronic low back pain (lasting longer than 3 months) affects between 5-8% of “community-dwelling people,” and is reported in 19% of working adults
- Reducing ED visits for chronic pain is an ethical challenge, with valid concerns about restrictions on provider discretion and under-treatment of patients
- Ongoing use of short acting schedule II medications for chronic non-malignant pain is associated with more ED visits per years
- Active case management of patients with frequent ED visits for chronic pain and communication with PCPs about appropriate care significantly reduces frequency of ED visits

**Areas Not Well Understood**

- Subgroups of *types* chronic pain are not well defined or diagnosed in ED encounters, and thus evidence-based treatments are lacking.
- Opiates used in chronic, non-malignant pain management are variable in efficacy

**Stumbling Blocks**

- Frequent ED use data does not account for encounters at multiple EDs.
- Studies are lacking on *long-term* efficacy, safety, side effects and abuse potential of opiate medication in chronic non-malignant pain.
- Studies that are controlled and randomized are not common in this patient population.
- Efficacy and intervention studies with patients with chronic pain have high drop-out rates.
- Tools for assessing aberrant drug behavior, including addiction, pseudo-addiction, dependence, and divergence are not frequently employed in EDs.
Consistencies

- Most studies cited increased use of EDs for chronic pain complaints due to inability to access primary care for pain resolution.
- Repeat frequent ED visitors have at least one psychosocial comorbidity, and many have more than one.
- Most evidence suggests that active case management of chronic pain in either outpatient or ED settings decreases frequency of ED visits.
- Studies consistently found comorbid substance abuse disorders in up to 25% of patients taking opioids for chronic low back pain.
- Providers need to consider all patients equally for opiate treatment when presenting for pain complaints, regardless of past history of visits, substance abuse, current opiate use or provider perception.
- Providers are responsible for being knowledgeable about clinical indications for opiates and differences between use, abuse, misuse, tolerance, withdrawal, diversion, addiction, pseudoaddiction and recovery.
- Some studies showed promising, if minimal, early data that indicated case management was helpful in reduction of repeat ED visits through reduction of complex social and physical issues that make treatment challenging for this population. This data also suggests that more long-term data is indicated.

Inconsistencies

- One study cited 93% of frequent ED users as having a primary care physician (PCP), but data is lacking regarding how accessible they are.
- Data on the efficacy of opioid medications in chronic non-malignant pain is varied, generally low quality and only reflects short-term outcomes.

8. Stakeholders/Change Agents:

Patients: Including all patients, and especially those suffering from non-malignant chronic pain, changing the approach to the treatment of chronic pain in emergency departments could change ED wait times, and further research may influence the way both acute and chronic pain is approached. Likewise, more consistent approach to chronic pain may result in less stereotyping and prejudice.

Nurses: ED nurses may benefit from more consistent, evidence-based approaches to treating chronic pain, and may experience less suspicion, frustration and burnout with better diagnosis and management of patients with chronic pain.

Physicians: Better guidelines, more stringent screening, and more accurate diagnosis may change the way physicians, both in outpatient and ED settings, manage non-malignant chronic pain.

Nurse Practitioners: Nurse Practitioners may benefit similarly to physicians, with the added benefit of better collaborative care and team-based management of patients with chronic pain.
United States Government: Given that many patients with chronic pain and a history of frequent ED visits are insured solely by Medicaid or Medicare, interventions may reduce ED visits and allow for more equitable resource allocation.

Taxpayers: In reducing frequency of ED visits, it is possible that less tax dollars will be spent on high-cost ED visits (as paid for by Medicaid/Medicare)

Hospitals: Hospitals may benefit from reduction of resource and staff allocation to frequent ED users with chronic pain, and may benefit from development of more consistent management, and better patient satisfaction with treatment.

Joint Commission: Consistent with the mission of creating better outcomes for healthcare facilities and patients alike, JCAHO might be implicated in upholding standards of practice as they emerge for the treatment of patients with chronic pain, and could feasibly offer incentives or credit towards JCAHO accreditation for better, safer outcomes, such as reduction of ED visits for chronic pain.

Insurance companies: Insurance corporations may be more likely to insure patients with chronic pain if they have less ED visits per year or display evidence of more effective management over time. Likewise, these patients individual expenditure may reduce with these interventions.

Social service agencies, social workers, case managers: Ideally, better case management in the ED of patients with chronic pain, and better communication with PCPs about frequent ED users will reduce the overall need for social work interventions and allow them time for other important issues, benefitting them in much the same way as physicians, nurses, and nurse practitioners.

Utilization review: With much focus being placed on proper resource allocation, heavy utilizers of services such as frequent ED visitors are likely to receive increasing scrutiny as the paradigm of healthcare shifts even more toward the financial-driven outcomes, which are also tied to best quality outcomes. Methods to prevent recidivism and recurrence will be of utmost interest to groups that focus on utilization review.

Pharmaceutical companies: Further research on the long term effects of these medications in patients with chronic pain may result in more appropriate utilization of their products, a better understanding of side effects and adverse effects, and may lead to more opportunities for development of other technologies and approved indications.

9. Feasibility:

Evidence supports that case management be utilized to manage chronic ED utilization. The studies that this group reviewed demonstrated that various methods to reduce ED utilization through non-narcotic policies, philosophy statements, primary care physician referrals, half-hearted deterrents and other various measures to reduce frequent visits by repeat patients are all failures by differing degrees. Of the studies we considered, the most successful were those that implemented comprehensive case management and follow-through aimed at assisting these patients with appropriate resource allocation and support in a multifaceted, holistic approach.

Physicians generally have varying degrees of support for case management involvement in utilization and treatment decisions. In an emergent setting, consulting a case manager may be difficult after hours or require more effort on the part of the physician to determine plan of care. While taking a moderate amount more time, this process does offer standardization and consistency between providers, and ultimately determines best practice for the patient, who
should receive similar care, no matter which provider they see. In terms of feasibility, it is likely that physicians would overall support this recommendation, given the benefits outweighing the extra work, especially given the extra work repeat presentations to the emergency department demand. It is important to consider that the challenge of treating the vulnerable repeat patient population has been a struggle for many years, and this must be acknowledged when approaching physicians with a potentially effective solution, since so many attempts in the past have proven ineffective.

The cost of a dedicated emergency department case manager is a potential deterrent for the feasibility of case management in the emergency department. Hospital administrators may be hesitant to immediately hire additional staff, especially staff not directly identified as clinical in nature, unless they are presented with appropriate cost reduction figures in the initial presentation for case management in the ED. Overall, case management of repeat ED utilizers has the potential to improve patient satisfaction, increase appropriate resource allocation and utilization, physician and staff satisfaction, reduce risk of non-payment of insurance for unnecessary repeat medical treatment, reduce inappropriate recidivism in the emergency department and provide for ultimate excellence in patient care practices by creating consistency and conformity amongst providers within a facility or even multiple facilities.

The issue of whether or not to treat patients who present with pain complaints to the emergency department is complex and unique depending on the situation. While efforts have been made to standardize the treatment practices and protocols applied to these situations, a common treatment application has not been identified because one is not indicated. Case management appears to be the common treatment application indicated for repeat presenters to emergency departments.

10. Apply the Evidence:

After a critical look at all of the aforementioned research, it was clear that certain practice changes could benefit both patients and providers. It is recommended that:

- ED providers use standardized instruments to assess for presence of substance abuse disorders at any ED encounter where controlled medications are requested or appear indicated. Because of the nature and breadth of pain-related complaints in the ED, this recommendation may apply to all ED encounters.
- ED case managers maintain a list of patients with a history of frequent ED visits for chronic pain, with individualized case management/treatment plans identified and in place for these patients. Implement individualized treatment decision algorithms instead of system-wide policies limiting treatment practices.
- ED case managers communicate with patient’s PCPs to create consistency between providers, collaborate on more effective strategies for pain management or assist patients.
- Providers receive better training in diagnosis and management of subgroups of chronic pain for more effective non-opioid and opioid treatment selection.
- The most conservative, effective and longest acting treatment be offered first, and treatment with opiates be offered per the discretion of ED providers.
• The selection of discharge medication and quantity be based on conservative but realistic estimates of patient’s pain relief and functional requirements.
• Further research be conducted on the long-term efficacy, safety, side effects and abuse potential of opiate medications.

11. References:


Le, C., Ad, F., Deshpande, A., Atlas, S., & De, T. (2013). Opioids compared to placebo or other treatments for chronic low-back pain (Review). *The Cochrane Library, (8).*


