

The Emergency Department Pain Registry: Impact Evaluation of the 2012 American College of  
Emergency Physician Opioid Prescribing Guidelines

A proposal submitted to the

Pfizer Medical Education Group

by

American College of Emergency Physicians

November 8, 2012

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## Table of Contents

	Page
<b>D. Main Section of the Proposal</b>	
1. Overall Aims & Objectives	3
2. Current Assessment of Need in Target Area	5
3. Technical Approach, Intervention Design and Methods	8
4. Evaluation Design	11
5. Products and Dissemination	12
6. References	12
<b>E. Detailed Work Plan and Deliverables Schedule</b>	13

## D. Main Section of the Proposal

### 1. Overall Aim & Objectives

Emergency medicine practice is characterized by the need to make **rapid decisions** in the necessary face of **diagnostic uncertainty**. Nowhere is this tension more evident than in an emergency physician's assessment of pain and decision to prescribe opioid analgesics. Pain is the most common single reason for emergency department (ED) visits and rates of substance abuse (including prescription opioid misuse, abuse and diversion) are higher among those served by the ED than in the general population. Emergency physicians' opioid prescribing practices vary widely, even within individual practice groups and small geographic areas. Much of this variation is driven by individual biases regarding the management of pain and the lack of outcome data among patients treated in the ED that should inform practice.

Our proposal addresses this problem by promoting a **more consistent** approach to ED opioid prescribing practice, driven by the **best evidence** currently available and through the development of a regional **emergency department pain registry** to better monitor outcomes among patients treated in the ED and to provide patient-mediated feedback to individual emergency physicians, thus driving improvements in opioid prescribing practice. In meeting these objectives our project will address **two key limitations** of current ED pain treatment practice: (1) **lack of patient outcome data**, and (2) **lack of physician feedback**.

Pain is highly prevalent among patients presenting to the ED and emergency physicians prescribe a number of prescription opioids, including (in order of magnitude) Vicodin, Lortab, Lorcet, Percocet, Percodan, and Tylox, that are associated with increasing levels of abuse. (Todd 2010a, SAMHSA 2004). The **American College of Emergency Physicians (ACEP)**, with support provided by the Centers for Disease Control and Prevention and the Food and Drug Administration, recently developed a clinical policy to guide **opioid prescribing** for patients discharged from the ED. ACEP is the preeminent specialty society in emergency medicine, representing more than 32,000 physicians. The ACEP Opioid Guidelines provide evidence-based recommendations to guide ED opioid prescribing for adults with acute or chronic pain, in recognition of the increasing frequency of adverse consequences of prescription opioids. (Cantrill 2012)

ACEP plans to disseminate the guidelines nationally through our traditional existing communication channels. However, a key limitation of ACEP's dissemination strategy is our **inability to monitor changes in physician practice and patient outcomes** that the guidelines should influence. Emergency department pain registries may provide a critically important tool to monitor the impact of guidelines and to detect both positive and potential negative consequences of guideline implementation.

Therefore, our **PRIMARY AIM** is to compare the effectiveness of ACEP's current opioid guideline dissemination practice to an enhanced strategy that includes patient-mediated interventions and physician audit and feedback. The results of this research will be disseminated through ACEP's communication and educational channels to improve ED pain management care throughout the United States.

## SECONDARY AIMS:

A: To create the Harris County **Emergency Department Pain Registry (EDPR)**, a regional registry and peer network for benchmarking pain management practices, and specifically, opioid prescribing practice, among emergency physicians in Harris County, Texas. The EDPR builds on an existing 24-hospital regional data network developed by collaborators at the University of Texas School Of Public Health to monitor regional primary care access in Houston. This network comprises all emergency departments (EDs) serving Harris County, Texas (Figure 1) and includes over 500 emergency physicians practicing within a 24-hospital network. The EDPR will allow the ongoing systematic collection of data on patients, clinicians and health system variables to track pain-related presentations, assessments, treatments, clinical and safety outcomes, and health economic outcomes among ED patients treated for pain.

Figure 1.



A Ben Taub General	M HCA E. Houston Regional Med. Center
B Lyndon B. Johnson General	N HCA West Houston Medical Center
C Memorial Hermann TMC	O Spring Branch Medical Center
D Memorial Hermann Southwest	P St. Joseph Medical Center
E Memorial Hermann Southeast	Q Texas Children's Hospital
F Memorial Hermann Northeast	R CHRISTUS St. Catherine
G Memorial Hermann Northwest	S CHRISTUS St. John
H Memorial Hermann The Woodlands	T St. Luke's Episcopal Hospital
I Memorial Hermann Memorial City	U Methodist TMC
J Memorial Hermann Katy	V Methodist San Jacinto
K Memorial Hermann Sugar Land	W Methodist Willowbrook
L HCA Bayshore Medical Center	X Methodist Sugar Land

B: To promote online registration and consistent utilization of the new online Texas prescription monitoring program, **Prescription Access in Texas (PAT)**, thereby improving patient outcomes and reducing opioid-related adverse effects, misuse, abuse and diversion. The PAT program, managed by the Texas Department of Public Safety, is an important and timely development that dovetails well with our outreach and evaluation plan. PAT is a statewide online prescription monitoring program providing controlled substance prescription dispensing histories to authorized medical practitioners. PAT was initiated in August, 2012, and provides 24/7 access to the last 365-days' worth of patient prescription history for Schedule II-V controlled substances.

C: To longitudinally and systematically measure the following variables using physician surveys, chart abstraction, patient telephone interviews, and PAT reports:

- Rates of registration and patterns of utilization for the new PAT program
- Patient reported pain relief following ED discharge
- Patient reported satisfaction with ED care
- Physician awareness, acceptance, and adherence to ACEP Opioid Guidelines
- Physician opioid prescribing practices, measured by self-report and PAT query
- Physician awareness, acceptance, and utilization of standard instruments to assess opioid misuse risk
- Rates of potential opioid misuse, abuse or diversion, as evidenced through use of multiple providers, prescriptions, and pharmacies
- Rates of referral to pain medicine clinics or substance abuse counseling

- Patient reported opioid utilization and adverse effects related to opioids, including nausea, vomiting, and constipation
- Patient reported storage and disposal of unused opioids
- ED-related healthcare costs and indirect costs due to delayed return to function

**SIGNIFICANCE AND PROJECT IMPACT:**

Development of the emergency department pain registry will be a **highly significant and innovative** achievement. The EDPR will provide a long-term, continuously growing, medical information repository that will serve to monitor trends in pain management practice and monitor important physician and patient outcomes that all disease prevention and treatment programs are intended to influence. While data from the EDPR will drive local practice in Harris, County, information from the EDPR will be important for a variety of future uses, ranging from surveillance of evolving opioid abuse patterns to pharmacogenetic studies of opioid effectiveness.

While this project will demonstrate the utility of the EDPR by evaluating ACEP’s guideline dissemination strategies, the ultimate impact of a functional regional pain registry is much greater and can inform a wide range of intervention efforts. Patients, clinicians, payors and healthcare systems will benefit greatly from our proposed registry. The EDPR will provide data to guide diagnosis and risk assessment, yield evidence of best practices, and provide real-world practice-based evidence to inform policy makers. This project can be replicated throughout the nation’s EDs to improve pain management and patient care.

**2. Current Assessment of Need in Target Area**

The prevalence of pain among emergency department (ED) patients is as high as 78% (Todd 2010a), and among those with pain, underlying chronic pain conditions are present in 40%. (Todd 2007) In 2007, we reported a study of ED pain treatment in 20 large, urban EDs across the United States (Todd 2007). Patients presenting with moderate to severe pain (NRS pain intensity score > 3) completed a structured interview at the time of ED discharge. A total of 842 patients enrolled in the study. Figure 2 shows that 75% of patients were discharged with moderate (45%, NRS, 4-7) or severe pain (29%, NRS 8-10).

Figure 2.

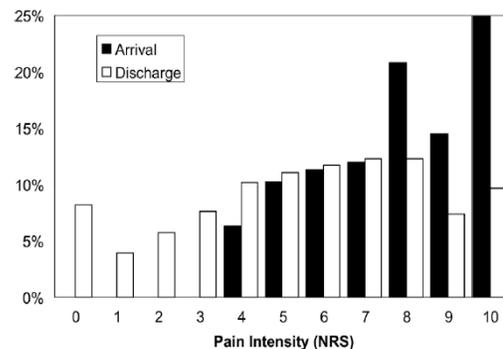
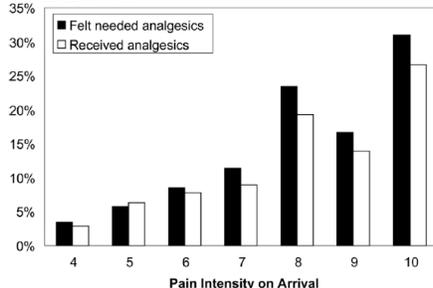


Figure 3.



We also found significant gaps between the desire for analgesics and their provision, particularly for patients presenting with severe pain. Although 590 (70%) of the patients presenting with moderate to severe pain expressed the need for analgesics, only 506 (60%) received them. For patients presenting with severe pain (NRS, 8 to 10), 84% desired analgesics while only 70% received them. (Figure 3)

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Of patients not receiving analgesics, 42% felt they needed medication; however, less than one third of these patients (31%) actually requested analgesics.

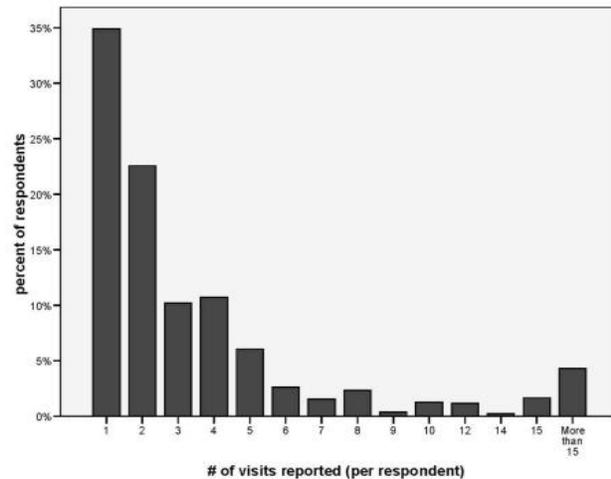
In 2010, we published results from our national random-digit dial survey and estimated that 24 million adults with chronic pain visit the ED annually and that 12 million visits are due to exacerbations of chronic pain syndromes. (Todd 2010b) To conduct this study, we developed a ten-minute national telephone survey and contacted a nationally representative sample of adults with chronic or recurrent pain reporting an ED visit within two years using random digit dial methodology. A total of 500 adults participated in the survey. Sixty percent

were female, two-thirds were under a physician's care, and 14% were uninsured. They reported an average of 4.2 ED visits within the past two years and a significant percentage reported more than six visits. (Figure 4) Almost one-half reported "complete" or "a great deal" of pain relief during the ED visit, while 78% endorsed as "somewhat or definitely true" that "the ED staff understood how to treat my pain." Although over three-fourths of patients felt that receiving additional information on pain management or referrals to specialists was "extremely" or "very" important, only one-half reported receiving such referrals or information. A significant minority (11%) reported that the "ED staff made me feel like I was just seeking drugs." The majority (76%) were "somewhat" to "completely satisfied" with their treatment while 24% were "neutral" to "completely dissatisfied". In multivariate models, age, recurrent pain, waiting time, imaging, receiving analgesics and pain relief predicted patient satisfaction.

Pain management in the ED is an increasing focus of national quality improvement efforts and there is increasing institution emphasis placed on patient satisfaction with ED pain management. Nationally, total opioid analgesic sales have quadrupled between 1999 and 2010. (Paulozzi 2011), while in the ED, opioid prescribing for pain related visits has increased by almost 40% between 1993 and 2005. (Pletcher 2008) Emergency physicians prescribe a number of analgesics, showing recent increases in abuse, including (in order of magnitude) Vicodin, Lortab, Lorcet, Percocet, Percodan and Tylox. (SAMHSA 2004) A possible unintended consequence of efforts to address ED patients' unmet pain treatment needs is an increase in opioid abuse, misuse and diversion. Nationally, reported overdose deaths involving opioid analgesics increased from 4,030 in 1999 to 14,800 in 2008, a 267% increase. (Xu 2010, Paulozzi 2011) Currently, deaths from opioid analgesics are greater in number than those from cocaine and heroin combined.

Among those presenting to the ED with acute exacerbations of chronic pain, the dilemma of maximizing benefits while minimizing harm is further complicated by divergent opinions and

Figure 4.



insufficient data supporting chronic opioid therapy in this population. While opioids are appropriate for the treatment of acute pain, the treatment of chronic pain and breakthrough pain is much more complex. While practice guidelines address this issue, most recommendations are of a consensus nature, and based on low-quality evidence. (Cantrill 2012)

Emergency physicians play an important role in managing patients with acute and chronic pain and consequently, their decisions are of consequence to the issue of opioid diversion and misuse. Among 10-29 year-olds, emergency medicine ranks third among all specialties in terms of the number of opioid prescriptions, writing approximately 12% of opioid prescriptions. Among 30-39 year-olds, emergency medicine ranks fourth. (Volkow 2011) Emergency departments also serve a population with relatively high rates of comorbid pain syndromes and substance use disorders.

Currently, a number of national efforts to address opioid prescribing decisions by physicians are underway. The Food and Drug Administration has established the risk evaluation and mitigation strategies (REMS) program, calling for physician education programs to guide prescribing of long-acting and extended release opioids. (DHHS 2011) At the state and regional level, a number of emergency department opioid prescribing guidelines have been promoted, including those developed by the ACEP Washington State Chapter. (Washington Chapter of ACEP 2011) ACEP has existing policy statements on optimization of pain treatment and implementation of electronic prescription monitoring programs. (ACEP 2010, ACEP 2012)

The recent ACEP Clinical Policy: Critical Issues in the Prescribing of Opioids for Adult Patients in the Emergency Department, (ACEP Opioid Guidelines) addresses several issues in opioid prescribing for adults treated and released from the ED for whom opioids may be an appropriate treatment modality. (Cantrill 2012)

The ACEP Expert Panel attempted to answer the following four critical questions:

- In the adult ED patient with non-cancer pain for whom opioid prescriptions are considered, what is the utility of state prescription drug monitoring programs in identifying patients who are at high risk for opioid abuse?
- In the adult ED patient with acute low back pain, are prescriptions for opioids more effective during the acute phase than other medications?
- In the adult ED patient for whom opioid prescription is considered appropriate for treatment of new-onset acute pain, are short-acting schedule II opioids more effective than short-acting schedule III opioids?
- In the adult ED patient with an acute exacerbation of non-cancer chronic pain, do the benefits of prescribing opioids on discharge from the ED outweigh the potential harms?

While the ACEP Opioid Guideline Panel attempted to provide evidence-based recommendations when data from the medical literature was sufficient, a number of recommendations are based on panel consensus. As examples, while the use of electronic prescription monitoring programs is recommended by ACEP, there is a dearth of evidence about either their acceptance by emergency physicians or the efficacy of these programs in altering prescribing patterns or diminishing prescription opioid misuse, abuse and diversion in the community. Additionally, while patient opioid misuse risk assessment tools are recommended for ED use, none have been validated in this setting, and there have been no

studies of their impact on emergency physician prescribing behavior, patient acceptance, or feasibility of use.

**Although evidence is indeed limited, the use of electronic prescription monitoring programs by emergency physicians was heartily endorsed by the ACEP committee with broad consensus among panel members. Additionally, individualized assessment for opioid misuse risk was another broadly endorsed measure. Results of our proposed project will lend additional evidence to support the incorporation of statewide PMP data as well as implementation of individualized risk assessment procedures in emergency medicine practice.**

While relieving pain and reducing suffering are our primary responsibilities, our specialty has a concurrent duty to limit the societal harm that can result from prescription opioid misuse, abuse and diversion. The ACEP Opioid Guidelines, although based on limited data, are intended to further both aims. Our dissemination and evaluation proposal will aid ACEP’s ongoing efforts to maximize the benefits and minimize risks associated with emergency physician opioid prescribing nationally.

### **3. Technical Approach, Intervention Design and Methods**

Our intervention framework incorporates the Cochrane Effective Practice and Organization of Care (EPOC) taxonomy. (Table 1) (Grimshaw 2006) We will compare the impact of ACEP’s current guideline dissemination practices with an enhanced dissemination strategy that incorporates **patient-mediated interventions, audit and feedback**. We anticipate that by including these **key interventions**, we will enhance guideline compliance, including registration and utilization of the Prescription Access in Texas program. As a result, we expect to observe a reduction in opioid adverse effects, as well as a reduction in frequent emergency department visits by those seeking opioids for non-medical reasons, including diversion. Our project will provide an estimate of the costs and benefits of such an enhanced guideline implementation strategy and help guide the evolution of our efforts to optimize emergency department opioid prescribing practices.

Distribution of educational materials	Local opinion leaders	<i>Patient-mediated interventions**</i>
Educational meetings	Reminders	<i>Audit and feedback**</i>
Local consensus processes	Marketing	
Educational outreach visits	Mass Media	

\* EPOC (Cochrane Effective Practice and Organization of Care) interventions.

\*\*Our project will focus on the impact of patient-mediated interventions, audit and feedback.

#### **Control Arm: Current guideline implementation**

ACEP guidelines are nationally disseminated through print, online and educational meetings, including our annual Scientific Assembly. The guidelines were published in the October, 2012 Annals of Emergency Medicine and are available through the ACEP website. Additionally, the guidelines will be disseminated through a number of print and online channels, including ACEP News, our printed monthly news magazine that is mailed to 36,000 readers. Articles highlighting the guidelines will be emailed to 22,000 subscribers in *EM Today*, our online news brief published five days a week, with an open rate of 34%, and will be included in the Weekend Review, our Saturday news brief sent to 33,000 subscribers. The

guidelines are also disseminated through the ACEP app, accessible to our members through their iPhones and iPads.

To ensure that the national ACEP dissemination strategy is realized in Harris County, we will maximize exposure to the opioid guidelines through targeted mailings and emails to physician members of the Harris County Emergency Department Pain Registry (EDPR). In addition, we will develop four continuing medical education modules addressing the four critical questions answered by the ACEP Opioid Guidelines, which will be provided to all ED medical directors within the EDPR. Each module will include: (1) an interactive PowerPoint module of the content specific to the guidelines, (2) five self-test questions to assess understanding of the materials presented, and (3) a toolbox of supporting physician and patient education materials and handouts. All materials will be made available through the MD Anderson Cancer Center Department of Emergency Medicine website.

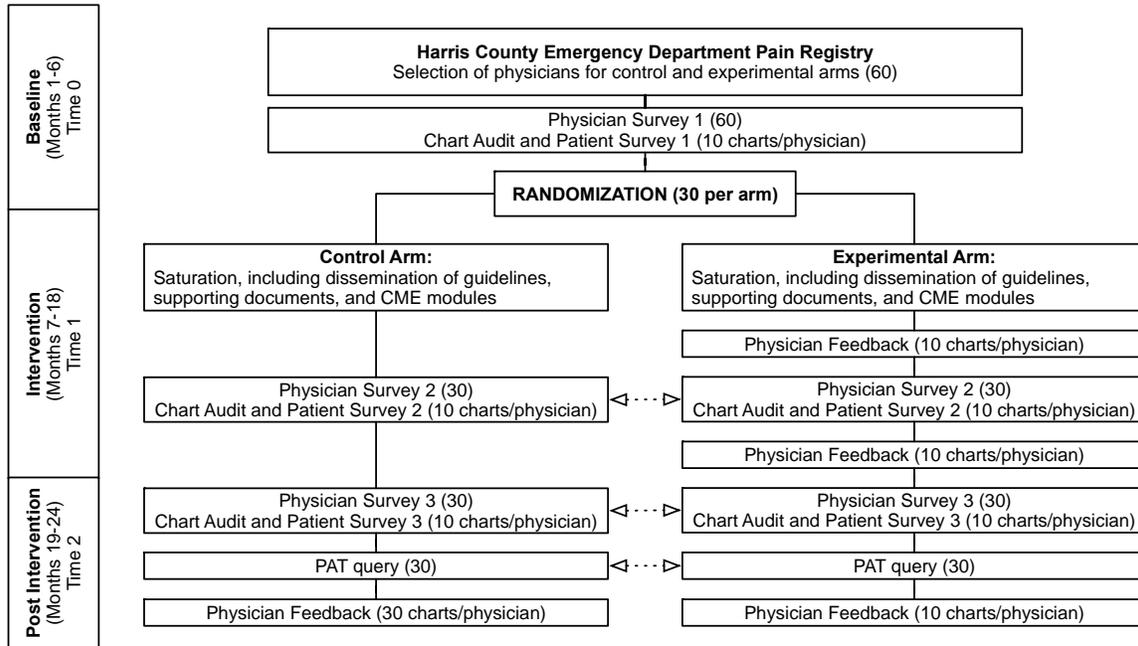
### **Intervention Arm: Enhanced guideline implementation including patient-mediated interventions, audit and feedback**

Beyond the above, physicians assigned to the intervention arm will receive periodic feedback from patient follow-up interviews. We will conduct structured phone interviews with selected patients discharged from the ED. Patients selected will have presented to the ED with pain complaints for which opioid prescriptions are typically considered at the time of ED discharge. We will record information from these patients' charts using a structured chart abstraction instrument. At seven days after ED discharge, we will conduct structured phone interviews with these patients, obtaining information about pain duration and relief, opioid utilization, satisfaction with care, functional outcomes (including return to school or work), and opioid storage and disposal patterns. Physicians assigned to the intervention arm will be provided periodic feedback from these chart reviews and phone interviews. Patients treated by physicians assigned to the control arm will have similar chart abstractions and phone interviews; however, this feedback will be shared with physicians only after the study's end.

### **Study Flow**

Figure 5 provides a flow diagram of the study. We will ask medical directors at each EDPR site to nominate at least two physicians from their practice, matched for potential predictors of pain-related practice (demographics, volume of practice, training). We will randomly assign these physicians to control or intervention arms of the study (30 physicians to each arm). We will conduct chart abstraction and conduct phone follow up with patients presenting with representative pain complaints treated by both groups (10 charts per physician at three time points). Physicians assigned to the intervention arm will receive feedback from these patient follow-up interviews. For the control arm, we will collect identical patient information but provide no physician feedback. At the end of the study, we will provide complete patient follow-up information to physicians in both arms of the study and facilitate PAT registration of any physicians who have not yet registered. We will then perform a PAT query of all physicians' past prescribing behavior. Key comparisons of data from physician surveys, patient chart audits, patient interviews, and PAT queries between control and intervention arms are indicated by arrows.

Figure 5. Study Design



### Feasibility and Sustainability

This project provides a model for guideline dissemination through regional and local networks of influence that will serve ACEP well in future dissemination efforts. In terms of feasibility, the Harris County Emergency Department Pain Registry builds upon existing multi-hospital data sharing efforts and strengthens collaborative relationships between the University of Texas MD Anderson Department Of Emergency Medicine, the University of Texas School of Public Health, emergency department directors within Harris County, and the American College of Emergency Physicians. Letters of support from these institutions are appended to this proposal.

This project will demonstrate the technical feasibility of collecting and registering patient pain outcomes and process data, as well as providing feedback to physicians about opioid prescribing practices. Local benchmarking and feedback is an important aspect of prescription opioid prescribing practices, in which regional risks of prescription opioid abuse vary widely. Our registry will be a valuable resource for ongoing efforts to understand the impact of emergency department decision-making on a number of pain related outcomes and we expect our efforts to garner future support from state, federal, foundation and industry sponsors.

At the local level, our project will support practice-based learning and improvement efforts, and evidence of system-based practice that are required by individual emergency physicians and emergency departments in order to meet individual and hospital certification requirements. Future EDPR activities may be supportable through individual contributions from members of our network. At the national level, our program will provide a blueprint for practice improvement efforts that extend beyond traditional educational interventions to include methods for practice auditing and patient feedback based on real-world experience gained through the EDPR.

#### **4. Evaluation Design**

We will randomly assign physicians from the Harris County EDPR to Control or Intervention arms, comparing survey measures, chart abstraction data, information from patient follow up, and PAT queries.

Table 2. Study variables, sources and key comparisons

<b>Constructs/ Variables</b>	<b>Data Source</b>
Rates of registration and patterns of utilization for the new PAT program***	Physician Survey PAT Query
Patient reported pain relief and satisfaction following ED discharge***	Patient Survey
Physician opioid prescribing practices, measured by self-report and PAT query***	Physician Survey PAT Query
Physician awareness, acceptance, and adherence to ACEP Opioid Guidelines	Physician Survey
Physician awareness, acceptance, and utilization of standard instruments to assess opioid misuse risk	Physician Survey
Rates of potential opioid misuse, abuse or diversion, as evidenced through use of multiple providers, prescriptions, and pharmacies	PAT Query
Rates of referral to pain medicine clinics or substance abuse counseling	Chart Abstraction Physician Survey
Patient reported opioid utilization and adverse effects related to opioids, including nausea, vomiting, and constipation	Patient Survey
Patient reported storage and disposal of unused opioids	Patient Survey
ED-related healthcare costs and indirect costs due to delayed return to function	Patient Survey

\*\*\*Primary variables for comparisons between control and intervention arms.

#### **Analysis Overview**

We will employ a pre/post/post study design with concurrent controls. As shown in Figure 5, we will randomly assign 60 emergency physicians practicing in Harris County (EDPR) into one of two intervention groups. The pre-period (baseline) will be project months 1-6. The post-period will be project months 7-18, and the post-post period will be project months 19-24. We will test the sensitivity of results to different post-periods. Assuming the intervention has an impact, we will be able to test the duration and decay of any effect by examining trends in care patterns in the post-intervention period.

As shown in Table 2, we will measure variables through physician and patient surveys, chart abstraction and queries of the PAT. We will concentrate on three primary variables in making comparisons between control and intervention groups, including registration and utilization of the PAT system, patient pain relief and satisfaction with ED care at 7 days after discharge, and physician opioid prescribing practices. Secondary variables are listed in the table. Additionally, we will collect demographic data, zip codes, service dates, diagnosis and procedure codes, and prescription of non-opioid medications.

Additional analyses. We will examine the impact of the intervention on physician awareness and acceptance of the ACEP opioid guidelines, use of standard opioid misuse risk instruments, rates of referral to pain medicine clinics or substance abuse counseling; as well as patient-reported opioid-related adverse effects, safe storage and disposal of unused opioids, and estimates of ED related healthcare costs from multiple ED visits and indirect costs due to delayed return to function. We will also estimate rates of potential opioid misuse as indicated by the use of multiple providers, prescriptions, and pharmacies.

## **Proposed Products and Tools and Planned Dissemination**

This project will produce a number of educational tools and instruments for use in our nation's EDs, including four CME modules addressing the four critical questions answered by the ACEP Opioid Guidelines, sample chart abstraction instruments, patient follow-up questionnaires, and physician survey instruments. These modules and instruments will be assembled into ED practice-based toolkits suitable for implementation by ED medical directors and quality improvement officers. These toolkits will be made available for dissemination nationally by the ACEP through our multiple dissemination and education avenues.

## **References**

Cantrill SV, Brown MD, Carlisle RJ, et al. Clinical policy: critical issues in the prescribing of opioids for adult patients in the emergency department. *Ann Emerg Med.* Oct 2012;60(4):499-525.

Department of Health and Human Services, Food and Drug Administration. Draft blueprint for prescriber education for longacting/ extended-release opioid class-wide risk evaluation and mitigation strategy. *Fed Reg.* 2011;76:68766-68767.

Grimshaw J, Eccles M, et al. Toward evidence-based quality improvement: evidence (and its limitations) of the Effectiveness of Guideline Dissemination and Implementation Strategies 1966-1998. *J Gen Intern Med* 2006;21:S14-20.

Paulozzi LJ, Jones CM, Mack KA, et al. Centers for Disease Control and Prevention. Vital signs: overdoses of prescription opioid pain relievers—United States, 1999-2008. *Morb Mortal Wkly Rep.* 2011;60:1487-1492.

Pletcher MJ, Kertesz SG, Kohn MA, Gonzales R. Trends in opioid prescribing by race/ethnicity for patients seeking care in US emergency departments. *JAMA.* Jan 2 2008;299(1):70-78.

Substance Abuse and Mental Health Services Administration. Overview of Findings From the 2003 National Survey on Drug Use and Health. Rockville, MD: Office of Applied Studies; 2004. NSDUH Series H-24. DHHS Publication No. SMA 04-3963.

Todd KH. Pain and prescription monitoring programs in the emergency department. *Ann Emerg Med.* Jul 2010;56(1):24-26.

Todd KH, Cowan P, Kelly N, Homel P. Chronic or recurrent pain in the emergency department: national telephone survey of patient experience. *West J Emerg Med.* Dec 2010;11(5):408-415.

Todd KH, Ducharme J, Choiniere M, et al. Pain in the emergency department: results of the pain and emergency medicine initiative (PEMI) multicenter study. *J Pain.* Jun 2007;8(6):460-466.

Volkow ND, McLellan TA, Cotto JH. Characteristics of opioid prescriptions in 2009. *JAMA.* 2011;305:1299-1301.

Xu J, Kochanek KD, Murphy SL, et al. Deaths: Final Data for 2007. Hyattsville, MD: National Center for Health Statistics; 2010. National Vital Statistics Reports; Vol 58 No. 19.

### E. Detailed Work Plan and Deliverables Schedule

Months	Work Plan and Deliverables
1-6	<p>Four CME modules will be designed and ACEP staff to address the four critical questions answered by the ACEP Opioid Guidelines. A toolbox of supporting documents and patient educational materials and handouts will be assembled.</p> <p>Site Medical Directors of the 24 hospital EDs within Harris County will be contacted to participate in this ACEP-sponsored quality improvement project. Medical Directors (or their designee) will identify at least two physicians and two alternates from each site to participate in the project. Six larger hospitals within Harris County will identify four physicians and two alternates for the project.</p> <p>Project staff will develop physician surveys, patient follow-up tools, and chart audit instruments.</p>
6	<p>Deliverables:</p> <p>Study CME modules and supporting materials, made available through the MD Anderson Department of Emergency Medicine website</p> <p>Physician surveys, patient follow-up tools, and chart audit instruments for study use</p>
7-18	<p>Conduct Physician Survey 1 among 60 physicians.</p> <p>Site Medical Director will select 10 charts per physician per site (600 charts) for audit and follow-up. MD Anderson study staff will abstract charts and conduct phone follow-up interviews with all patients.</p> <p>Randomize 60 physicians into control and intervention arms.</p> <p>CME modules, supporting documents, and patient educational materials and handouts will be provided to all sites.</p> <p>Provide patient feedback to physicians randomized to the intervention arm (10 charts per physician).</p> <p>Conduct Physician Survey 2.</p> <p>Conduct chart abstraction and patient follow-up for second 10 charts per physician per site.</p> <p>Provide patient feedback to physicians randomized to the intervention arm (10 charts per physician).</p>
19-24	<p>Conduct Physician Survey 3.</p> <p>Conduct chart abstraction and patient follow-up for third and final 10 charts per physician per site.</p> <p>For physicians not yet enrolled, register all for PAT program and conduct inquiry of prescribing practice for the past 12 months.</p> <p>Provide remaining patient feedback to physicians randomized to the both arms.</p>
24	<p>Deliverables:</p> <p>Revised CME modules and supporting materials made available for national distribution through ACEP</p> <p>Revised physician surveys, patient follow-up tools, and chart audit instruments for general use</p>

	Project database, final monograph, initial abstracts and draft of manuscripts for publication.
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### **Post Award – Sustainability and Dissemination and Education**

Following the grant period, ACEP will disseminate the CME products generated by the project as well as practice audit and feedback tools through its many communication and education avenues. ACEP has a number of communication resources to disseminate this education, including: *Annals of Emergency Medicine*, a peer-reviewed leading journal in the specialty, ranking first among the 13 titles in the emergency medicine category of Thomson Scientific; *ACEP News* (printed monthly news magazine - 36,000 readers); *EM Today* (online news brief, five days a week - 22,000 emails – open rate is 34%); the *Weekend Review* (online Saturday news brief - 33,000 emails), *The Central Line* – ACEP’s official blog (<http://thecentralline.org>), and ACEP’s website. ACEP has also developed digital applications, including an ACEP app, to support dissemination of educational materials. The CME and practice audit and feedback toolkit resulting from this project will also be disseminated at ACEP’s Scientific Assembly, a 5-day, 350 course educational conference for over 6,000 participants and at our Research Forum.