Impact of a Chronic Pain Protocol on Emergency Department Utilization
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Abstract

Objectives: Patients suffering from chronic painful conditions frequently present to the emergency department (ED) for pain control. In an effort to better manage these patients we implemented and measured the effect of enrollment in a chronic pain protocol in a single ED.

Methods: A retrospective (pre) and prospective (post) study design was utilized. We identified 46 frequent ED users suffering from chronic painful conditions. We then retrospectively documented their ED use and prescription controlled substance use for 6 months prior to enrollment in a chronic pain protocol and then 6 months postenrollment.

Results: Preenrollment participating patients visited the ED on average 6.2 times in a 6-month period. Postenrollment their mean number of visits in the following 6 months decreased significantly to 2.2 times, or a 65% decrease (p < 0.001). Similarly, preenrollment, the patients were prescribed a median of 664 controlled substance pills in the entire state compared to 471 pills in the 6-month period postenrollment, or a 29% decrease (p < 0.022).

Conclusions: Through instituting a chronic pain protocol, we found significant reductions in the number of return visits to a single ED and the number of controlled substance medications prescribed by all providers. Additional studies using similar protocols could help establish their impact on the care of patients suffering from chronic pain and the potential to reduce healthcare costs, ED overcrowding, and prescription drug abuse.

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Patients suffering from chronic pain frequently present to the emergency department (ED) seeking relief from their pain. Controlled substances such as narcotics and benzodiazepines are often used to manage their symptoms. In 1997 the American Pain Society and American Academy of Pain Medicine issued a consensus statement regarding the use of opioid medications for chronic pain stating that narcotic analgesics are an essential part of a pain management plan. They reported that the de novo development of addiction when opioids are used for the relief of pain is low and that known addicts can still benefit from the carefully supervised, judicious use of opioids. An accompanying editorial discussed the need to balance the judicious use of opioids with the theoretical harms and potential for diversion and misuse. It states that although opioids should be considered only after all other reasonable analgesic therapy has failed, much of the conventional wisdom surrounding opioids is unfounded folklore, with little progress being made in dispelling the myths. Additionally, in 2001, the Joint Commission on Accreditation of Healthcare Organizations mandated that hospitals focus on the treatment and monitoring of pain as the fifth vital sign. From 1999 to 2008 there was a concomitant increase in prescription drug abuse with reported opioid overdose deaths tripling. Healthcare providers wrote 259 million prescriptions for painkillers in 2012, enough for every American adult to have a bottle of pills. Approximately 16,000 deaths in the United States are attributed to prescription opioid overdose annually. Volkow et al. reported that emergency medicine physicians

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ranked as high as third among specialties in opioid prescriptions dispensed to the 10- to 29-year-old patient population and fourth in the 30- to 39-year-old patient group, although likely for a limited number of pills compared to other specialties.

Efforts are now being engaged to address the growing epidemic of opioid abuse. U.S. states such as Utah, Washington, and New York have put forth opioid prescription guidelines in an effort to curtail abusive patterns. The American College of Emergency Physicians (ACEP) has developed a clinical policy for the prescription of opioids since the ED patient population is at high risk for opioid abuse. The policy recommends avoidance of the routine prescribing of outpatient opioids for patients with acute exacerbations of chronic, noncancer pain in the ED. The policy notes that although it is the ethical and moral imperative of each emergency physician to manage a patient’s pain, there is also a coexisting individual and public responsibility to limit prescription drug abuse.

Studies show that although “superutilizers” or “frequent flyers” account for a relatively small number of patients, they account for significant health care costs. Johnson et al. tracked 4,774 patients in an urban integrated delivery system and found 3% of adult patients were superutilizers but accounted for 30% of patient charges. LaCalle and Rabin described frequent ED users comprising 4.5% to 8% of all ED patients but accounting for 21%–28% of all visits. A subgroup of these patients present for exacerbations of chronic pain. Zechnich and Hedges reported that patients with drug seeking behavior presented a mean of 12.6 visits/year and visited a mean of 4.1 different hospitals in a year seeking pain medications. The importance of investigating this patient population is that by reducing the number of visits by these patients, it may be possible to reduce ED crowding and utilization. This could result in a significant cost savings for the healthcare system.

The development of care plans and a multidisciplinary approach for frequent visitors to the ED with chronic pain have been shown to reduce visits, admission rate, and costs and increase patient satisfaction. Svensson and Meyer found that after implementation of a chronic pain policy in their ED there was a significant decrease in ED from 19 to two visits over a 12-month time period and half of the patients were weaned off of narcotics, implying improved patient outcomes. Dixon and Fry recommend the use of ED pain contracts, protocols, and policies along with involvement with primary care physicians (PCP), multidisciplinary care plans, and case management for the pain recidivist patient. Kilaru et al. surveyed ED physicians and found that they generally favored the use of chronic pain management guidelines and used them to justify clinical decisions regarding opioid prescribing when communicating with patients.

Goals of This Investigation

We sought to determine the impact of a chronic pain protocol on ED patients suffering from chronic painful conditions. We investigated if the frequency of ED visits following enrollment in a chronic pain protocol in our ED would decrease. We also evaluated the prescription history 6 months pre-post implementation of our protocol. We hypothesized that individual care plans designed to treat chronic pain patients who frequent the ED could reduce visits and prescription controlled substance use.

MATERIALS AND METHODS

Study Setting and Population

The study was conducted in the ED of a suburban, Level I trauma center with an annual volume of 66,000 visits beginning July 2013 and ending in July 2014. The site is a primary teaching site for an emergency medicine residency training program. During the study period our physician group consisted of 25 board-certified emergency medicine attending physicians and residents in training from emergency, family, and internal medicine residency programs.

Patient enrollment criteria for our protocol are listed in Figure 1. Inclusion criteria included the presence of chronic pain and one of more of the following: frequent ED visits or deceitful behavior about their prescription history. Potential adult patients >18 years of age were identified by the treating ED physician. All attending physicians were aware of the study protocol and were instructed to refer the name of all potential study patient to the study authors to confirm they met inclusion criteria. Patients were recruited during all shifts every day of the week. Their names were forwarded to one of two attending physicians/authors (JCO or JLO) who reviewed the electronic medical record (EMR) to confirm eligibility. If the study authors were the treating physicians for patients that met inclusion criteria they were enrolled during their ED visit, otherwise they were contacted and enrolled within 1 week of their visit. We did not review the medical records of every ED patient during the study period to confirm inclusion of every potential patient so it is possible that some patients that met the inclusion criteria were missed. Patients excluded included those suffering from terminal illness such as cancer, prisoners, and pregnant women.

Study Protocol

We utilized a retrospective (pre) and prospective (post) study design. A retrospective analysis of ED visits and prescriptions for 6 months preenrollment in the chronic pain protocol was followed by a prospective analysis for 6 months of similar data postenrollment. If the patient met the inclusion criteria, the patient’s primary care or chronic pain specialist was contacted to review the patient medical history, ED visit history, and controlled substance (narcotic and benzodiazepine) prescription history on the Illinois Prescription Monitoring Program (IPMP) website (https://ilipmp.org). An ED treatment plan for future ED visits was then agreed upon with the patient’s treating physician and the patient was informed of this plan either in person or by phone. If the patient did not have a PCP the “on-call” PCP for the ED was contacted and a follow-up treatment plan was discussed and the patient referred to them for outpatient follow-up. The treatment plan generally precluded the use of narcotics or benzodiazepines during future ED visits for their chronic painful
Adult patients (>18 years of age) with a chronic painful condition including but not limited to: migraine headache, back and neck pain, pelvic or abdominal pain, dental pain, fibromyalgia or other musculoskeletal pain and one or more of the following:

- > 3 visits for the same or similar complaint in the past 6 months
- > 6 visits for the same or similar complaint in the past year
- Behavior that can be documented such as:
  - Lack of effort or appearing deceitful about follow-up with primary physician or specialist

Evidence on the Illinois Prescription Monitoring Program website ([https://ilpmp.org](https://ilpmp.org)) of inappropriately obtaining opioid or benzodiazepine prescriptions

- Prescriptions written by multiple providers or locations
- Overlapping prescriptions
- Patient not forthcoming or appearing deceitful about prescription history

**Figure 1.** Criteria for inclusion in chronic pain protocol. Exclusion criteria include a terminal condition such as cancer, prisoners and pregnant women.

condition although there were exceptions if the patient’s treating physician felt the patient could receive a limited dose of narcotics or benzodiazepines. A copy of the treatment plan document is listed in Figure 2.

A standard approach was followed in notification of the patient that they had been enrolled in the chronic pain protocol (Figure 3). This included informing the patient that their chronic painful condition was best managed by a single treating physician and not by the episodic care of different providers in the ED. They were informed that the treatment plan would be entered into the EMR and future treating ED physicians would have access to this information. If enrolled in the ED by one of the physician study authors, the patient was handed a written copy of the chronic pain protocol during their ED visit. If the patient was enrolled after ED discharge, he or she was notified within 1 week of the protocol by a phone call from one of the study authors. If unable to be contacted by phone, they were sent a certified letter informing them of their enrollment in the protocol. Patients that were identified by the treating ED physician as possibly narcotic addicted or having acute withdrawal symptoms were offered detoxification treatment.

When a patient returned to the ED after enrollment in the protocol, his or her name was identified with an icon in the EMR that identified the patient as having been enrolled. A summary note of the individualized treatment protocol was easily accessible to guide the treating physician on pain management. The physician would provide a screening examination to rule out an acute medical condition unrelated to the patient’s chronic painful condition. If it was determined that the patient was returning with his or her chronic painful condition the treating physician was allowed to deviate from the treatment plan if in his or her clinical judgement it was justified. We did not monitor compliance with the protocol by the attending physician for each individual patient return ED visit.

**Measurements**

Demographic data collected included patient age, sex, and chronic painful condition. Pre- and postenrollment ED visits were collected from patient’s EMR. We also determined if the patient followed with a PCP or pain specialist or was referred to the on-call physician for the ED. Visits for complaints unrelated to their chronic painful condition were not included.

Pre- and postenrollment narcotic or benzodiazepine pills prescribed was obtained by reviewing the patient prescription history on the IPMP. This Web-based system monitors patient prescription histories documenting the date filled, number of pills, medication name, and prescriber on a rolling basis. Access to the website was made available via a secure password protected website ([https://ilpmp.org](https://ilpmp.org)).

**Data Analysis**

The sample size estimate, which was calculated using G*Power 3, called for a minimum number of 35 patients to achieve a 4-point absolute difference in the primary outcome of interest, ED visits pre- and postenrollment (effect size = 0.5, α = 0.5, and power = 0.8). To account for statistically significant differences for the secondary outcome of interest, mean number of pills prescribed, the sample size was increased to 46 patients. Descriptive statistics are reported as mean ± standard deviation (SD) for the normally distributed continuous variables or as median and range for the nonnormally distributed continuous variable, versus number and percent for the categorical variables. Paired-sample t-tests were performed to compare the number of ED visits pre- and postenrollment. The related samples Wilcoxon signed rank test was performed to compare the median number of pills prescribed pre- and postenrollment. A two-tailed p-level of 0.05 was considered statistically significant in all analyses. Statistical analyses and graphs were performed using SPSS for Windows, Version 22.0 (SPSS Inc., Chicago, IL).
The study was approved by the facility’s institutional review board as an exempt study and by the IPMP administrator. The need for consent was waived by the institutional review board.

RESULTS

Characteristics of Study Patients
Forty-six patients were enrolled in the study. The mean (±SD) age of patients was 39.9 (±12.5) years, with a range of 21 to 73 years. Fourteen (30%) were male and 32 (70%) were female. Chronic painful conditions included a primary complaint of headache (n = 15, 23%), abdominal pain (n = 15, 23%), back pain (n = 14, 22%), extremity pain (n = 9, 14%), neck pain (n = 3, 5%), fibromyalgia (n = 3, 5%), chest pain (n = 3, 5%), sickle cell pain (n = 1, 2%), and toothache (n = 1, 2%). Some patients had pain in more than one location.

Thirty-one patients (67%) of patients were followed by their PCP, six (13%) by a chronic pain specialist, and nine (20%) lacked a treating physician and were referred to the on-call PCP for follow-up of their chronic painful condition. Thirty-three (72%) of patients were contacted by phone following their ED visit, eight (17%) were enrolled during their ED visit, and five (11%) were unable to be contacted by phone follow-up and were sent certified letters notifying them of their enrollment in the chronic pain protocol.

Main Results
Before enrollment in the protocol, patients presented with their chronic painful condition a mean of 6.2 times in the previous 6 months compared to 2.2 times in the postenrollment 6-month period (p < 0.001), or a 65% reduction (Table 1). A breakdown of each patient and their number of ED visits pre- and postenrollment is shown in Figure 4. Of note, patient 2 is an individual who suffers from chronic headaches and a coexisting psychiatric illness of schizoaffective disorder. He would request and often receive narcotics for his headaches before enrollment in the pain protocol. After discussion with his PCP, it was agreed to manage his pain with acetaminophen and ibuprofen. Even with this understanding he continued to present to the ED on a regular basis complaining of a headache along with feelings of being alone, although he no longer requested narcotic analgesics.

Review of the IPMP website found the median number of controlled substance pills (narcotics and benzodiazepines) prescribed in the 6-month preenrollment
TO PATIENT RE:

XXXX Hospital Chronic Pain Management Guidelines

The staff in the Emergency Department at XXX Hospital is dedicated to providing the best possible care for each and every patient that we see. In doing so, we consider both the short and long term outcomes of treating our patients. This includes the use of pain medicine for patients suffering from chronic painful conditions. All of the physicians in the Emergency Department have agreed to follow these guidelines.

Based upon review of your medical records, we see that you are suffering from a chronic painful condition. We feel that it is in your best interest to have a single physician manage your chronic pain. Therefore we have instituted pain management guidelines for chronic pain patients that require you to work with your physician in a treatment care plan that we can follow in the Emergency Department.

By receiving this letter we are asking you to schedule an appointment with your physician to discuss the treatment of your chronic pain. We have contacted your doctor and together have developed a written treatment care plan on how to manage your pain if you return to the Emergency Department. Your medical record documentation includes notice that you have been informed of our chronic pain management guidelines.

These guidelines do not apply to any other acute (non-chronic) painful medical condition for which you seek treatment in the Emergency Department.

Your discharge instructions will include the name of a primary care physician for follow-up if you do not already have one. It is your responsibility to call this physician to schedule a doctor’s appointment as soon as possible. If you have questions about these guidelines, you may call Dr. XXX in the Emergency Department at XXX-XXX-XXXX.

The XXX Hospital Emergency Department Team

Figure 3. Program informational letter.

<table>
<thead>
<tr>
<th>Variable</th>
<th>6 Months Preenrollment</th>
<th>6 Months Postenrollment</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ED visits, mean (±SD)</td>
<td>6.2 (4.3)</td>
<td>2.2 (6.2)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Controlled substance pill counts, median (range)</td>
<td>664 (70–3340)</td>
<td>471 (60–3400)</td>
<td>&lt;0.022</td>
</tr>
</tbody>
</table>

Table 1

Number of ED Visits and Controlled Substance Pill Counts, Pre- and Postenrollment in the Chronic Pain Protocol

period was 664 pills per patient in the entire state. The median number of pills prescribed in the postenrollment 6-month period was 471 pills per patient, or a 29% reduction ($p = 0.022$; Table 1). Individual patient pill counts are shown in Figure 5. Results for the number of ED visits and pill counts pre- and postenrollment in the chronic pain protocol revealed statistically significant decreases.

**DISCUSSION**

Implementation of a chronic pain protocol at our institution significantly reduced both the number of ED visits and the number of narcotic/benzodiazepine pills prescribed. Ours is the largest study to date to confirm the impact of a chronic pain protocol on ED visits and controlled substance pills prescriptions. Svenson and Meyer$^{24}$ studied a similar protocol but with only 15 patients and found a significant drop in the number of pain-related visits to the ED (a mean of 19 visits to two visits annually) that were not offset by a significant increase in the number of clinic visits for pain complaints. Pope et al.$^{23}$ described a case management program for 24 frequent ED patients and found a decrease in ED visits decreased from a median of 26.5 to 6.5 visits in a 12-month period. Only 63% of patients were
seeking narcotic prescriptions in the ED as their study patients also suffered from chronic medical and psychiatric conditions. Carter\textsuperscript{19} described the implementation of premade electronic individualized ED care plans for 25 of their frequent visitors in collaboration with specialists, primary care doctors, and ED physicians and found a 55\% reduction in ED visits and a 60\% reduction in charges. Fox et al.\textsuperscript{27} noted a 17\% decreased rate of prescription opioid use in patients with dental pain. Their guidelines encouraged the use of dental injections and noncontrolled medications, follow-up with a regular provider, and controlled substances only being written on an exceptional one-time basis. Althaus et al.\textsuperscript{18} reviewed studies examining the effectiveness of interventions targeting frequent users of the ED, which included various clinical (alcohol and drug use), psychiatric symptoms, and social issues. They concluded that case management reduced costs and seemed to improve social and clinical outcomes.

Multiple investigations reveal that the ED is not the appropriate treatment area for chronic pain.\textsuperscript{28–30} Patients who present to the ED for chronic pain contribute to the increasing cost of healthcare and ED overcrowding with issues that are best treated elsewhere given the complexity of the physical and psychosocial components of these patients. A thorough physical, cognitive, behavioral, and psychosocial assessment is required for the management of chronic pain yet this is not practical in the hectic ED setting. Hansen\textsuperscript{29} wrote that systems need to be implemented to identify patients who frequent the ED to obtain controlled substance prescriptions, which ultimately compromise their continuing and long-term management by causing psychological or tolerance-induced complications of frequent opioid use secondary to chronic pain. Additionally, studies show that effective system implementation of managed care plans are best done via a multidisciplinary approach.\textsuperscript{20–23,31} These care plans should involve PCPs, chronic pain specialists, and ED physicians and nurses, in collaboration with the patient. However, as Baker\textsuperscript{30} suggests, a consistent, well-versed strategy for management of chronic pain is lacking and Wilsey et al.\textsuperscript{32} acknowledges that the ED is not the optimal venue for the treatment of chronic pain.

Implementation of a similar protocol at other institutions will require education and motivation of staff to develop protocols and then identify and enroll patients in similar protocols. The time and effort involved is best accomplished by dedicated individuals (nursing and physicians) willing to lead this effort in their institution. Bernard and Wright\textsuperscript{27} called for increased education of physicians in the management of patients suffering from chronic pain. They recommended continued medical education courses for attending physicians and improved residency training resident physicians. Todd et al.\textsuperscript{33} propose education for both ED staff and patients with regard to appropriate use of imaging studies in the acute care setting for this patient population. They also suggested that patients require increased education about their pain syndromes, referrals, access to
specialty care, pain management, and explanations as to why specific treatment was not pursued.

Clinicians have concerns that not adequately treating pain may result in decreased patient satisfaction with their care. This is a concern in our current practice environment with the increased use of patient satisfaction surveys potentially impacting physician compensation and employment. Although not well studied, some literature has looked at this area of concern. Schwartz et al. found that Press Ganey ED satisfaction scores were not primarily based on in-ED receipt of analgesic medications or opioid analgesics. McLeod and Nelson report that systematically limiting opioids through consistent, clear guidelines did not result in decreased patient satisfaction and that both patient and staff satisfaction increased overall although they note a lack of much research on this topic. Hawkins et al. implemented pain treatment guidelines in their ED, which restricted the use of opioids and found an increase in overall patient satisfaction along with ED physicians reporting a perception of increased quality of patient care as well and increased job satisfaction.

The vast majority of the U.S. states now have the availability of real-time Web-based state prescription monitoring systems although they are likely underutilized. This has been a much needed addition to the armamentarium of caregivers and pharmacists to obtain information on the prescription history of patients. Our use of the IPMP website allowed us to review retrospectively and prospectively our patient’s prescription history. We noted a 19% decrease in the pill counts for narcotics and benzodiazepines following enrollment in our chronic pain protocol, which suggests that our patients were not simply going to other sites of care to obtain their prescriptions. The ACEP clinical policy on ED opioid prescribing recommends the use of these state prescription monitoring programs to help identify patients who are at high risk for prescription opioid diversion or doctor shopping where patients see multiple providers to obtain prescriptions. Likewise, the American Academy of Emergency Medicine Model ED Treatment Guidelines recommends accessing the clinician’s respective state database to help identify patients with suspected substance abuse behavior.

In theory, continued use and implementation of our protocol, which resulted in a statistically significant decrease of pills prescribed or similar protocols, should help to curtail abusive patterns of behavior and the potential for abuse and overdose. This is important to note that because those individuals who become addicted or die from an overdose typically have a first experience with opiates obtained through prescription and not theft. Jones also reported that chronic opioid abusers (6.6–12 months of use) obtain their medications from physician prescriptions more than any other single source.

LIMITATIONS

The study has several limitations. Patients were identified by treating physicians on an ongoing basis as opposed to a consecutive chart review of all ED patients to identify patients that met the inclusion criteria. During the study period, the ED physicians were reminded weekly about the study protocol, but it is possible that patients that met the inclusion criteria were missed resulting in a referral bias. While the inclusion criteria were set forth to guide objective screening and enrollment, some of the criteria were subjective. This may have biased our results as the determination of who is deceitful about his or her prescription history or multiple prescriptions by different providers does not necessarily determine drug seeking behavior. We also did not monitor physician compliance with following the individualized ED treatment plan listed in the EMR for return visits following enrollment. It is possible that some physicians ignored the plans and found it more expeditious to give the patients their requested medications to disposition the patient out of the ED. We attempted to overcome this option via peer pressure from their colleagues, but this could have biased our results.

We also did not study a comparison group for patients enrolled in the study. Previous studies such as Johnson et al. found that the majority of superutilizers of healthcare services experienced brief periods of superutilization and then returned to lower utilization. This may have accounted for the decrease in return ED visits and pill counts in our study patients rather than their enrollment in a chronic pain protocol. Future studies that randomize patients to an intervention group (chronic pain protocol) and no intervention (comparison group) might help to determine if a decrease in ED visits and pill use is the natural history of this patient population rather than the intervention of enrollment in a chronic pain protocol.

We did not review ED visits for chronic painful conditions at other local EDs or follow up with their PCP to evaluate frequency of ED visits or follow-up visits postenrollment. Patients may have been going elsewhere such as multiple physician offices or EDs for treatment of their chronic painful condition. We attempted to control for this by using the proxy of monitoring prescription pill use in the entire state pre- and postenrollment. Our finding that the number of prescription pills decreased suggest that patients were not simply diverting to other EDs and care providers as a substitute for coming to our ED and hopefully were following up with their PCP resulting in improved continuity of care for their chronic painful conditions. Additionally, patients may also have had prescriptions filled in adjacent states (e.g., Wisconsin/Indiana) and/or obtained controlled substances by Internet or street purchases rather than by a healthcare provider in Illinois. We measured controlled substance pill count totals as a simple measure of medication use. We did not collect data on specific drugs and dosages prescribed such as differentiating between a 5/325-mg hydrocodone/acetaminophen tablet versus a 10/325-mg oxycodone/acetaminophen tablet or 40-mg oxycodone tablet. Thus, pill counts alone do not necessarily equate with the patient’s controlled substance use.

Our study required patients to have a PCP or chronic pain specialist involved in their care. The patient population in our hospital is fortunate to have readily available access to primary care and chronic pain specialists.
for follow-up care of their chronic pain. This was evidenced by 67% of our study patients being followed by a PCP and 13% followed by a pain specialist. Only 20% of our patients were not being followed by a physician and referred to the on-call physician for follow-up. This is not the case in all healthcare systems and thus our results may not be reproducible when follow-up care is not as readily available.

Additional metrics that would have been helpful to study include ED length-of-stay data and cost of care along with patient and staff satisfaction. We did not calculate the potential cost savings related to a decrease in ED visits following enrollment in the chronic pain protocol, although the savings could be significant. We also did not evaluate physician and patient satisfaction or dissatisfaction with the program. Anecdotally, our ED physicians reported satisfaction with implementation of the chronic pain protocol, but no firm conclusions can be made until a formal assessment is conducted. Our general experience with the patient was that although a few expressed anger and disgust with enrollment in the protocol, the vast majority seemed to understand the need for follow-up and management of their chronic pain by a PCP or pain specialist rather than the episodic care of multiple providers in the ED; however, we did not collect data on the patient experience.

CONCLUSIONS

Chronic pain affects about 100 million American adults—more than the total affected by heart disease, cancer, and diabetes combined. Pain also costs the nation up to $365 billion each year in medical treatment and lost productivity. Clinicians need to educate and inform chronic pain patients that treatment for their condition is best delivered through a protocol in coordination with their primary care physician or pain specialist. Our study found a 65% decrease in ED visits and a 29% reduction in controlled substance use following implementation of a chronic pain protocol. Further study is needed to address the impact of similar protocols at other institutions in an effort to improve the care of patients suffering from chronic pain. It may also help to reduce the scourge of overdoses and prescription drug abuse plaguing our country.

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