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A RANDOMIZED CONTROLLED TRIAL OF AN EMERGENCY DEPARTMENT INTERVENTION FOR PATIENTS WITH CHRONIC NONCANCER PAIN

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☐ **Abstract—Background: Emergency Departments (EDs) are beginning to notify their physicians of patients reporting chronic noncancer pain (CNCP) who frequent EDs, and are suggesting that the physicians not prescribe opioids to these patients. Objectives: We hypothesized that this intervention would reduce both the number of opioids prescribed to these patients by their ED physicians and the number of these patients' return visits to the ED. Methods: We conducted a randomized controlled trial of this intervention in 13 electronically linked EDs. Patients eligible for the study were characterized by CNCP, lacked evidence of sickle cell anemia and suicide ideation, and made frequent (>10) visits to the EDs over a 12-month period. We randomly assigned 411 of these patients to either an intervention group or a control group. Our intervention comprised both an alert placed in eligible patients' medical files and letters sent to the patients and their community-based providers. The alert suggested that physicians decline requests for opioid analgesic prescriptions and instead refer these patients to community-based providers to manage their ongoing pain. Results: During the 12 months after randomization, patients in the intervention and control groups averaged 11.9 and 16.6 return visits, and received prescriptions for opioids on 16% and 26% of those visits, respectively. Altogether, patients in the intervention group made 1033 fewer return visits to the EDs in the follow-up year than those in the control group. Conclusion: This intervention constitutes a promising practice that EDs should consider to reduce the number of visits made by frequent visitors with CNCP.** © **2015 Elsevier Inc.**

☐ **Keywords—chronic noncancer pain; frequent visitors; emergency departments**

INTRODUCTION

Deaths due to the misuse of opioids nearly doubled in the 10-year period ending in 2007 (1). The age-adjusted death rate from unintentional poisoning in the United States increased by 125% from 1999 to 2007, and prescription drugs have accounted for at least 90% of the deaths over that period (2). Between 1999 and 2008, the rate of admissions to drug treatment facilities reporting pain medication abuse increased by 400% (3). Further, between 1999 and 2006, the use of prescription opioids quadrupled in the United States (4). There is a linear relationship between sales of prescribed opioids and mortality attributable to drug poisoning (5). In 2012, about 2.6% of Americans aged 12 years and over reported that they had used prescription psychotherapeutic drugs in the past year that had not been prescribed to them, and about 8000 people develop opioid addiction daily (6,7). In 2006, the nonmedical use of oxycodone

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and hydrocodone accounted for 120,000 emergency department (ED) visits, and rates of ED visits related to narcotic analgesics rose by 155% between 2004 and 2009 (8,9). The total costs of prescription opioid abuse to society as of 2009 were estimated at $55.7 billion, of which $25.0 billion were borne by the health care system, $25.6 billion related to workplace costs, and $5.1 billion were associated with costs related to criminal justice (10).

Deaths attributable to opioid analgesics are increasingly recognized as preventable (9). Hospital EDs, which are a source of prescription drugs that patients may then either misuse or provide to others, constitute one appropriate target for prevention efforts (11). In response, some EDs have begun to develop a strategy to notify their providers of patients who frequently visit EDs seeking treatment for chronic noncancer pain (CNCP). The strategy typically suggests that the ED provider decline the patients' requests for controlled substances and instead advise them to seek help managing their chronic pain from a community-based primary care provider (12). Given that repeat visitors often appear at EDs due to pain-related symptoms, they are at elevated risk of being prescribed medications associated with increased risk of injury (13,14). One study found that repeat visitors with 25 or more visits in the prior year had five times the odds of having a past prescription for an opioid compared to individuals with no history of an ED visit in the prior year (15).

Two previous evaluations of ED-based interventions of this nature have noted substantial reductions in ED visits, one by 40.9% and the other by 71.6% (16,17). However, both used single-group designs with very small samples (36 and 24 patients, respectively). In addition, unpublished data available from studies of interventions that have been conducted in Olympia and Spokane, Washington have reported reductions in ED visits of 55% and 48%, respectively (18,19). However, this approach to the care of patients with CNCP in EDs has yet to be subjected to a formal evaluation.

In this article we present the results of a randomized controlled trial of an intervention designed to reduce both the number of opioids prescribed by ED physicians to repeat ED visitors reporting CNCP, and the number of hospital visits made by these patients. The intervention in the study consisted of an alert placed in patients' medical files and a letter sent to the patients and their community-based providers. The alert suggested that physicians decline requests for repeat opioid prescriptions and instead refer these patients to community-based providers to manage their ongoing pain. The letter informed patients and their community-based providers of this protocol. We hypothesized that patients in the intervention group would manifest both fewer return visits to the EDs and fewer prescriptions for opioid medications from study ED providers, compared to patients in the control group.

MATERIALS AND METHODS

Setting

The Injury Prevention Research Center of the University of North Carolina at Chapel Hill conducted this study in collaboration with Carolinas HealthCare System (CHS), located in Charlotte, North Carolina. CHS constitutes one of the largest public hospital systems in the United States, and contributed 13 of their electronically networked EDs to the study. The EDs participating in the study were located in five contiguous counties that included both metropolitan and rural areas.

Intervention

The intervention for this study comprised two components, of which the first consisted of an alert placed in patients' electronic medical records. The alert informed pertinent ED staff that the patients were enrolled in the study's intervention group, that a multidisciplinary review team at CHS had determined that the patients had made multiple visits to various CHS EDs for treatment of CNCP, and that it was in the patients' best interests to receive treatment for their pain from a community-based provider. The alert continued by recommending that the ED provider should suggest to these patients that they visit a community-based primary care provider, pain clinic, or other facility such as a drug treatment or mental health facility. In addition, we instructed ED staff to give each of these patients a list of appropriate community resources, which the study provided to ED staff. The intervention also invited the ED provider not to prescribe opioid medications to the patient, and not to write prescriptions for any medications that the patient reported as lost or stolen. However, the alert also stated that the provider should follow a customary standard of care for patients presenting with acute pain, and that the provider's clinical judgment should ultimately determine the nature of the care offered for both acute and chronic pain.

The second component of the intervention was a letter sent to both patients and their community-based providers. The letter informed patients that a group of medical providers affiliated with CHS had determined that they should no longer receive opioid pain medication for their CNCP from a CHS ED, and their pain would best be treated by a community-based provider. However, to avoid discouraging use of the ED for medical emergencies, the letter encouraged the patient to return to the ED for assistance with other medical needs. The letter also