How Do Physicians Adopt and Apply Opioid Prescription Guidelines in the Emergency Department? A Qualitative Study

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Study objective: An increase in prescriptions for opioid pain medications has coincided with increasing opioid overdose deaths. Guidelines designed to optimize opioid prescriptions written in the emergency department have been implemented, with substantial controversy. Little is known about how physicians perceive and apply these guidelines. We seek to identify key themes about emergency physicians' definition, awareness, use, and opinions of opioid-prescribing guidelines.

Methods: We conducted semistructured qualitative interviews with a convenience sample of 61 emergency physicians attending the American College of Emergency Physicians *Scientific Assembly* (October 2012, Denver, CO). Participants varied with respect to age, sex, geographic region, practice setting, and years of practice experience. We analyzed the interview content with modified grounded theory, an iterative coding process to identify patterns of responses and derive key themes. The study team examined discrepancies in the coding process to ensure reliability and establish consensus.

Results: When aware of opioid-prescribing guidelines, emergency physicians often defined them as policies developed by individual hospitals that sometimes reflected guidelines at the state or national level. Guidelines were primarily used by physicians to communicate decisions to limit prescriptions to patients on discharge rather than as tools for decisionmaking. Attitudes toward guidelines varied with regard to general attitudes toward opioid medications, as well as the perceived effects of guidelines on physician autonomy, public health, liability, and patient diversion.

Conclusion: These exploratory findings suggest that hospital-based opioid guidelines complement and occasionally supersede state and national guidelines and that emergency physicians apply guidelines primarily as communication tools. The perspectives of providers should inform future policy actions that seek to address the problem of opioid abuse and overdose through practice guidelines. [Ann Emerg Med. 2014;64:482-489.]

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INTRODUCTION

Background

Overdose deaths from prescription opioid pain medications have escalated in the United States, increasing by 415% among women and 265% among men between 1999 and 2010.[1] This increase in fatalities coincided with a 300% increase in opioid prescriptions from physicians.[2] Emergency physicians are among the most frequent prescribers of opioid medications in terms of prescriptions dispensed, and vary considerably in their prescribing practices.[3-8]

Policymakers have responded with efforts to optimize and standardize opioid prescriptions written in the emergency department (ED). State and municipal governments including Ohio, Washington, and New York City, as well as organizations such as the American College of Emergency Physicians (ACEP), have enacted guidelines to advise emergency physicians.[9-15] However, the guidelines have engendered controversy among physicians and patient advocates.[16-18] Proponents of guidelines, which include recommendations to not prescribe long-acting opioids, to avoid refills for lost prescriptions, and to use prescription drug monitoring programs, contend that they improve patient safety, assist in clinical decisionmaking, and standardize practice patterns.[13-15] Those who have expressed opposition to guidelines have cited their potential for interference with physician autonomy, widened ethnic and racial disparities, patient dissatisfaction, and inadequate analgesia.[17,18]

Editor's Capsule Summary

What is already known on this topic

Opioid-prescribing guidelines are being increasingly used to help curb the epidemic of nonmedical opioid analgesic use.

What question this study addressed

This qualitative study of emergency physicians attempted to gain insight into the adoption, use, and perceived relevance of opioid-prescribing guidelines.

What this study adds to our knowledge

Most of the 61 participants had a positive perspective on the intent and role of such guidelines and used them most commonly as communication tools with patients.

How this is relevant to clinical practice

Although there is no direct support that guidelines reduce opioid misuse, this study suggests that emergency physicians find guidelines a useful way of explaining to patients why no or limited outpatient opioids are being prescribed.

Importance

Preliminary evidence suggests that guidelines can reduce the volume of prescriptions written in the ED, although their ultimate effect on morbidity and mortality is still unknown.[19-22] The effectiveness of clinical guidelines depends on the extent to which they are adopted by providers.[23-25] Many factors have been shown to impede the adoption of clinical guidelines, including unawareness of their existence, disagreement with their content, and the natural inertia of established practices.[23] Little is known about how individual emergency physicians have adopted existing opioid guidelines; recent studies have examined guidelines for specific populations such as patients with dental pain or sickle cell disease.[19,22,26-29] Do opioid guidelines help or hinder physicians in their practice, and what are potential barriers and facilitators to their adoption? Which recommendations are most relevant to physicians, and how are they applied to patients? A nuanced understanding of these factors may aid the implementation of guidelines as well as measurement of their outcomes.

Goals of This Investigation

We sought to better understand the adoption and application of opioid-prescribing guidelines among emergency physicians, identifying factors that may influence the ongoing development, dissemination, and implementation of evidence-based recommendations. We conducted qualitative interviews with emergency physicians to examine their awareness, definition, use, and opinions of opioid guidelines.

MATERIALS AND METHODS

Study Design

We conducted open-ended, semistructured interviews with a convenience sample of emergency physicians who were recruited at a national meeting. We used qualitative methods to uncover new ideas and questions that reflect the real-world concerns and perspective of practitioners who deal with the issues daily.[30,31] The open-ended questions were purposefully designed to elicit a range of responses, which cannot be quantified or considered proportional to the general population of emergency physicians. We intended for the themes derived in this study to generate testable hypotheses around the adoption and application of opioid-prescribing guidelines.[31]

The institutional review board at the University of Pennsylvania approved the study protocol. We used the Consolidated Criteria for Reporting Qualitative Research to guide collection, analysis, and reporting of the data.[32-34]

Selection of Participants and Setting

The study was conducted at a large national research and educational conference, the ACEP *Scientific Assembly* (October 2012, Denver, CO). We recruited emergency physicians with the goal of achieving diversity with regard to age, sex, geographic region, practice experience, and practice setting. After each set of 5 interviews, the investigators reviewed participant demographics and subsequently targeted or rejected potential participants according to demographic characteristics. Participants were recruited through flyers, posters, and direct solicitation. For compensation, participants were entered into a raffle for a tablet computer. Nonphysicians who attended the conference were excluded.

Participants were recruited until thematic saturation for the group as a whole was reached, which was determined by consensus between study investigators (A.S.K., Z.F.M.) through discussion after each set of 5 interviews. Thematic saturation was defined as the point at which additional interviews no longer provided new information but instead restated similar themes and experiences.[30] In our assessment of thematic saturation, we also ensured that our sample reflected diversity in awareness, applications, and opinions of guidelines.

Data Collection and Processing

The interviews were conducted during 4 8-hour sessions of the conference. Each interview was typically 15 minutes in duration, following a standard interview guide (Appendix E1, available online at http://www.annemergmed.com). Two investigators (A.S.K., Z.F.M.) with training in qualitative interviewing and emergency medicine piloted the interview guide and conducted all interviews. Each interview was audiotaped, professionally transcribed, and entered into NVivo (version 10.0; QSR, Doncaster, Australia), a software tool for data management and analysis.

Primary Data Analysis

We used a modified grounded theory approach to the analysis.[35] This approach included the use of an *a priori* set of codes

to ensure that we identified specific constructs that addressed our research question, as well as a set of codes that emerged from the data *de novo*. Four investigators (A.S.K., S.M.G., B.P., Z.F.M.) developed the set of grounded theory codes from a line-by-line reading of the text. The entire team of investigators reviewed the code list. Four codes specifically pertained to guidelines: guideline definition, awareness, use, and attitudes. Other codes supplemented the analysis, including general attitudes toward opioid medications, physician decisionmaking, communication strategies, and perceptions of patient behavior. Each code was defined and then applied to all transcripts by A.S.K. and S.M.G. Interrater reliability was assessed periodically with the function in NVivo designed for this purpose. Discrepancies in coding were discussed and resolved by consensus so that, in the end, all coding was reviewed and confirmed by the study team. We summarized codes and examined relationships among codes to develop a theory about the data.

RESULTS

Characteristics of Study Subjects

The characteristics of study participants are described in Table 1. The 61 emergency physicians who completed interviews varied with respect to age, sex, geographic region, practice setting, and years of experience.

Interview Domains and Themes

We organized the interview content in regard to opioid-prescribing guidelines into 3 domains: definition and awareness, use, and attitudes. Within each domain, we derived the key themes presented below. Table 2 summarizes the key themes and provides representative quotations from study participants.

Table 1. Participant characteristics (N=61).

Characteristic	Total, No. (%)
Sex	
Female	24 (39)
Male	37 (61)
Age, by group, y	
25–29	8 (13)
30–39	24 (39)
40–49	11 (18)
50–59	10 (16)
≥60	8 (13)
Years in practice	
Resident physician (1–4)	17 (28)
4–9	11 (18)
10–19	16 (26)
20–29	8 (13)
≥30	9 (15)
Practice setting	
Academic (teaching) hospital	34 (56)
Community hospital	23 (38)
No response	4 (7)
Region	
Northeast	17 (28)
Midwest	13 (21)
South	20 (33)
West	8 (13)
No response	3 (5)

Definition and Awareness of Guidelines

Participants interpreted the term "guideline" broadly. They commonly used the term to refer to local policies at their own institutions. The participants noted that hospital-based guidelines varied between neighboring hospitals and occasionally complemented or superseded state and national guidelines.

Many participants described policies developed by individual hospitals and EDs, which most commonly targeted opioid prescriptions for patients presenting with acute exacerbations of chronic pain conditions. Other institutional guidelines included rules against filling lost or stolen prescriptions. Physicians commonly cited difficulties in managing and treating patients who visit the ED for chronic pain conditions as the reason for developing institutional guidelines. As one physician noted, "We have a large population of chronic pain management patients…. We will not provide refills of any prescriptions, because that's something that has to come from the person that's managing their pain."

Some physicians were aware of guidelines enacted at other hospitals, which could vary from those at their own institutions. Only in a few instances did physicians mention collaboration between neighboring hospitals. A physician explained that hospitals in his area "have come together…setting hospital policies of not prescribing ongoing opiates for chronic pain patients." Primarily, hospital-based guidelines were formulated by emergency physicians with special interest in the topic. The guideline development process applied evidence to varying degrees: "Several people who are interested culled information from various sources. We then came up with a 1-page policy, vetted it through all of the hospitals within our system and the medical executive committee. Then it just became policy."

Physicians noted opioid guidelines at the state level, such as those in Washington or Ohio, and described their intersection with local policies. In some instances, state guidelines informed the development of hospital-based guidelines. A physician who practices in Colorado described using Washington state guidelines as a model for guidelines at her academic hospital. In other cases, physicians preferred local guidelines to those of their state. One physician helped develop guidelines for his own hospital in Ohio and described them as "reasonably close" to those of the state but criticized the state's 3-day prescription limit as "unrealistic." Another who practices in Florida noted that her department instituted policies to bolster adherence to state guidelines.

Participants were aware of opioid-prescribing guidelines produced by national professional organizations, most commonly ACEP.[12] When participants were aware of national guidelines, they often could not recall the specific recommendations contained within the reports. In other instances, participants mentioned national guidelines but claimed they did not influence their practice, citing a lack of guidance for specific clinical scenarios. As one physician remarked, "They really didn't provide

Table 2. Domains, key themes, and representative quotations from physicians about their definitions, awareness, use, and attitudes toward opioid-prescribing guidelines.

Domain	Key Themes	Representative Quotation
Definition and awareness	Hospital-based guidelines	"For acute pain, we prescribe opioids, but we have an actual policy that we do not prescribe opioids for any chronic pain in our department."
	Relationships between local, state, and national guidelines	"[Our hospital is] going through the process now of deciding on our guidelines. We just started working through it after surrounding hospitals implemented guidelines similar to [those in] Washington State."
	Variation between nearby hospitals	"One of our partner emergency rooms floated the idea to have these guidelines…. I know that our ED does not have one guideline as of yet, but I think we're working on it. I think it's an ED to ED thing."
	Guideline development	"A few of us saw people coming in with overdoses from our clinics…. We came up with a policy that we as a physician group would not prescribe opioids for people with chronic pain anymore. We notified all of our primary care physicians. We developed a patient letter. We actually went to our pain clinic and developed a procedure where we could get next-day appointments for people with chronic pain so we didn't just leave them…in the lurch. And then we brought it to our physician group. If people don't follow our policy, we actually send them to the quality [committee]."
	Lack of awareness or engagement	"I know there are published guidelines. As far as the exact specifics, I couldn't tell you. But I know that there are ACEP guidelines."
Use	Communication; support for limiting prescriptions and adjusting patient expectations	"I think the good thing…about those guidelines [is] you don't have to follow them, but they give you something to fall back on. If, instead of taking it all on yourself and saying no, 'I don't think you need this,' you can say the policy of the [ED] is '[T]his is what we do and I'm following the policy.' It kind of takes [the] onus off the physician which for some people can be difficult."
		"Guidelines are empowering when you want to say no."
	Handouts and posters containing guidelines	"I have a copy of the new law in Washington. Sometimes I give them that and say, 'This is what the consensus in Washington is.'"
Attitudes	Physician autonomy	"I think the good thing about those guidelines is that you don't have to follow them, but they give you something to fall back on."
	Public health	"I don't think a lot of people realize the impact that prescription opioids have on a society. So, that's why our hospital is making decisions not to prescribe in certain scenarios."
	Liability	"I think that guidelines are there to protect us."
	Patient diversion	"All of a sudden all of our patients migrated to the north…to people who didn't have our policy in place so now our policy is starting to spread."
		"Our policy has actually done a great job in decreasing the number of times those people return to the [ED], or at least to our [ED]. I always thought we should do a study, a little more broadly, and see whether they were just going someplace else. My suspicion would be that's what's really happening."

much information.… I always tell patients I'm not going to write for chronic pain. I just didn't find that the guidelines added anything to that."

Several participants had limited awareness of opioid-prescribing guideline content. These physicians acknowledged that guidelines for opioid prescribing were available as potential references but were unable to describe them further and were not planning to adopt them. Some physicians were explicitly uninterested in familiarizing themselves with the guidelines, as evidenced in this example: "I'm sure they're out there, but no, none that I would ever think to try to look up something."

How Physicians Use Guidelines

A dominant theme emerged from descriptions of how existing guidelines are used: participants found them instrumental in the communication and justification of decisions to patients rather than in the decisionmaking process itself. Emergency physicians most commonly used guidelines to support decisions to limit opioid prescriptions to patients on discharge. As one participant said, "It's easier for me when I can point to the official policy and say, 'This is our policy. I'm not deviating from our policy." Participants found the support of the guideline helpful when patients who were not prescribed opioids became challenging: "Sometimes it seems like they can appreciate [an explanation of the guideline], and they respect that. Sometimes they get angry at me. And that's their choice; I can't control the response." Participants found printed or posted versions of the guidelines particularly effective in communicating with patients. Several physicians mentioned distributing copies of the guidelines to patients or including them with discharge paperwork. Another participant described statewide practices in Oregon to post guidelines in all EDs. She found the posters helpful because they adjusted patient expectations and "make for a much better [patient-physician] interaction."

Few participants mentioned the use of guidelines as decisionmaking algorithms for individual patients, and guidelines were rarely thought to contribute to decisions whether to prescribe opioids. Some participants expressed frustration with

existing guidelines and evidence, seeking more practical assistance: "The only thing that would help me would be if I get a…consensus statement on which opiates to use and for what length of time."

Attitudes Toward Guidelines

In general, participants in this study viewed guidelines favorably, although attitudes toward guidelines were often nuanced. As discussed above, physicians commonly endorsed guidelines as communication tools. Additional themes emerged among arguments both for and against guidelines.

Several participants reported that guidelines had successfully standardized practice patterns at the institutional level. They noted that guidelines had encouraged fellow providers to reduce the frequency and dosage of opioid prescriptions while still allowing flexibility. Yet guidelines were not always seen as effective in standardizing practice. One physician concluded that "people use guidelines for how they want to use them. For people who just don't do opioids, they say, 'I don't have to do opioids.'" Another believed that the continuing variability in prescribing was "frustrating to watch." Only a few participants opposed guidelines for interfering with their autonomy as physicians. One physician criticized an "onerous" recent state law that limits opioid prescriptions to 3 days and requires reviewing the prescription drug monitoring program before any opioid prescription. She remarked, "The legislature is practicing medicine without a license."

Many participants described their concerns about patient safety as a reason to implement guidelines. Physicians cited an epidemic of opioid abuse, as well as their own experiences providing for patients who had overdosed or abused opioids. One said, "We feel really passionately that this is a real problem in the country, and we have seen a lot of people whose lives are ruined by these opioid prescriptions, so we have an actual drug-prescribing policy in our department." Participants acknowledged that prescriptions from the ED could have a role in creating or maintaining problems of opioid abuse. Of all the study participants, only 2 explicitly argued that guidelines could result in harm to patients through inadequate analgesia.

A few participants referenced the support that guidelines could provide in the case of liability and patient complaints. One participant appreciated the ACEP guidelines because they "are giving me protection for my current practice." Only 1 physician was concerned that guidelines may have the adverse effect of increasing physician liability: "The guidelines can only get you in trouble because then somebody somewhere will say, 'Oh, you didn't follow these guidelines.'"

Physicians alluded to the role of opioid guidelines in altering the patient population who use their ED. In particular, physicians noted a decrease in patients presenting with chronic pain complaints after a local guideline was implemented. This reduction of patients viewed as challenging was often consistent with the original intent of the guidelines, as in this example: "We were getting beaten up with too many of the opiate seekers…. It's helped out quite a bit." Some physicians conjectured that their own policies might affect neighboring hospitals. One physician expressed concern for the unintended consequences of patient diversion. He detailed his concerns about posted guidelines in waiting rooms: "There could be negative implications to that if patients are actually leaving the ED because of the way they interpret that poster…. There's potential that sick patients could actually leave your ED when they need help."

We compared participants' general attitudes toward opioid medications with their attitudes toward opioid guidelines. To investigate this relationship, we analyzed participant responses about their willingness to prescribe opioids to discharged patients and the processes involved with that decision. We classified participants as liberal, conservative, or neutral opioid prescribers. These classifications were based on participants' responses to questions about general attitudes toward opioid medications and opioid-prescribing patterns.

Liberal prescribers claimed to "err on the side of treating." These physicians preferred to ensure analgesia rather than withhold prescriptions because of suspect behavior or uncertain diagnoses: "I'm more concerned about missing a problem and hurting somebody than giving 1 dose of narcotic to somebody who's here for a suspicious reason, because I have no hope of curing the opiate-seeking person." Other physicians felt compelled to trust patients who presented with pain, and others perceived the risks to be minimal. The participants classified as conservative prescribers emphasized restricting opioid prescriptions because of concerns for abuse at the patient or societal level: "I am a naysayer on opiates…. Too much of my day is spent policing how many [opioids] have been prescribed and how many times a patient is a return patient and how often they visited, requesting opiate prescriptions."

Additional participants were classified in a neutral category, in which they deemed prescriptions for opioids appropriate in certain circumstances but acknowledged risks. For many of these providers, patients with objective, acute causes of pain warranted opioid prescriptions, whereas those with chronic conditions raised concerns. The decisionmaking process varied with patient presentation: "I think for patients with an acute new issue, patients who have a kidney stone, patients who have a fracture that we find, I think that opiates are superior probably in those situations to regular analgesics. I think for patients who have chronic pain, it's more challenging, and I think that's the place where I'm constantly rethinking my practice." Many physicians voiced similar uncertainty about which patients were truly appropriate for opioid prescriptions: "You're always on the fence: am I doing the right thing for my patient?"

Although participants in all 3 categories had favorable opinions of guidelines, several liberal prescribers voiced opposition to them. No conservative prescribers opposed guidelines. In the words of one liberal prescriber, "There's a problem out there, but if you start making it harder for physicians to prescribe for no good reason, I think the patients just end up suffering." Although some liberal prescribers welcomed clinical guidance, physicians who rejected guidelines prioritized pain control for individual patients over any perceived risks.

We also compared physicians' attitudes toward guidelines with their characteristics, including sex, years of practice experience, geographic region, and practice setting. Supporters and opponents of guidelines were balanced across these strata, with the exception that no physicians with fewer than 4 years of experience expressed negative opinions toward guidelines. Other than this group, primarily composed of resident physicians, years of practice experience were not associated with specific attitudes toward guidelines.

LIMITATIONS

The results of this qualitative study are exploratory. Although we identified themes common to study participants, they cannot be quantified or extrapolated to the general population of emergency physicians. The study included participants of a single—albeit major—emergency medicine conference. We may have recruited participants at the conference with particular interest in this topic; however, we did not reveal the contents of the interview questions before enrollment. Because of our study design and recruitment methods, we were unable to track reasons for nonparticipation. The findings therefore may not reflect the thoughts of physicians who did not attend the conference or those who declined to be interviewed. In addition, a greater proportion of study participants were male physicians, practiced in academic settings, and had fewer than 9 years of experience than attendees of the conference as a whole. We found that no resident physicians expressed negative opinions toward guidelines, but further analysis did not reveal other trends for this or any other demographic group. All of these limitations, however, are understood to be part of most qualitative research. Future studies in a larger sample of physicians, nurses, and other providers are required to quantitatively test the hypotheses generated in this study.

Participants may have been susceptible to social desirability bias. While attending an academic and educational conference, participants may have been more inclined to present themselves as engaged with or favorable to evidence-based guidelines. In addition, conference attendees were likely to be ACEP members and supportive of guidelines produced by that organization. However, many of our participants were unaware of opioid guidelines, suggesting that we elicited perspectives from physicians with different levels of engagement.

Finally, an important limitation is that awareness, use, and attitudes toward guidelines likely evolve over time. These qualitative interviews provide only a snapshot of opinions expressed during a few days. Perceptions of the guidelines may change with publication of new evidence, media attention, passage of legislation, or dissemination of resources such as prescription drug monitoring programs. However, the purpose of this study was to identify the range of factors that may influence continuing implementation and revisions of opioid guidelines, as well as measurement of their outcomes. Questions concerning the utility and effects of opioid guidelines are far from settled because the effect of these recommendations has only begun to be measured.

DISCUSSION

We conducted a qualitative study of emergency physicians to ascertain their adoption and application of opioid-prescribing guidelines. We found that guidelines were commonly defined as policies developed by individual hospitals in addition to those at the state or national level. We also found that physicians primarily used guidelines to justify clinical decisions when communicating with patients as opposed to using them as tools for decisionmaking. Participants generally favored guidelines, but some voiced opposition, particularly physicians who were classified as liberal prescribers. Attitudes often reflected observations of the effect of guidelines on physician autonomy, public health, liability, and patient diversion. To our knowledge, to date, only a few studies have examined physician perspectives on opioid-prescribing guidelines in the ED.[19,26]

These qualitative data identify several testable hypotheses and suggest potential barriers and facilitators for guideline implementation. A common theme that emerged was that guidelines can arise locally and spontaneously. An important question is whether local guidelines are more effective and persuasive than state or national guidelines. If hospital-based opioid guidelines are widespread, do they differ in content from guidelines developed by national organizations? The Institute of Medicine recently distinguished clinical practice guidelines from other forms of guidance, defining them as "statements that include recommendations intended to optimize patient care that are informed by a systematic review of evidence and an assessment of the benefits and harms of alternative care options."[36] Clinicians and administrators may incorporate research evidence when formulating local policy, but the degree to which they follow the Institute of Medicine's standards or others is not known.

Future efforts to implement state or national guidelines may need to anticipate discrepancies with existing institutional policies and adaptation of recommendations to local contexts. Approaches to the adaptation of clinical practice guidelines to local settings have been proposed, such as the ADAPTE framework.[37,38] Yet best practices have not been established for modifying guidelines while preserving the validity of evidence-based principles. In addition, differential adoption of state or national guidelines may complicate efforts to measure population-level effects on opioid prescriptions, morbidity, and mortality.

Unintended consequences may arise when guidelines vary between neighboring hospitals. If guidelines are designed to divert patients who are perceived as problematic, where do they go to seek analgesia? Do patchwork guidelines generate prescribing "hot spots" or complicate access to care? Future policy actions may need to incorporate a population-based approach that anticipates small area variations in practice and accounts for patients with restricted access to analgesia. In this vein, opioid guidelines may generate new, unexpected, and potentially measurable challenges for public health.

Another set of hypotheses stems from our findings that guidelines were used primarily to facilitate potentially difficult conversations with patients. Future policies and research should

account for the effect of guidelines on communication, including patient reactions to explanations that cite evidence. How do patients respond to policies that are posted in the ED or disseminated through other approaches? A potential facilitator for guideline adoption may be to enhance their utility by incorporating communication strategies or framing recommendations around conversations with patients.

Our findings suggest that physicians' underlying beliefs about analgesia may influence their acceptance and agreement with guideline recommendations. Although few physicians thought that guidelines imposed undue constraints on their practice, this freedom may imply that physicians choose to follow guidelines only in select situations. Several physicians suggested that the utility of guidelines for decisionmaking would be improved with concrete recommendations for disease conditions, dosing, and frequency. However, there is a paucity of evidence about the management of specific painful conditions with opioid medications both in the ED and after discharge.[12] Furthermore, the relationship between opioid guidelines, prescription frequency, and patient outcomes, including opioid abuse rates and overdose deaths, has not been established.[13,19] Additional evidence about specific clinical scenarios, as well as the benefits of opioid guidelines for patient safety, may be essential to improving adoption of opioid guidelines.

In summary, we conducted interviews with physicians to better understand how physicians define, apply, and perceive opioid guidelines. Our findings suggest that hospital-based guidelines complement and occasionally supersede state and national guidelines, that emergency physicians apply guidelines primarily as communication tools, and that attitudes vary according to physicians' experience with guidelines. The perspectives of providers should inform future policy actions that seek to address the problem of opioid abuse and overdose through practice guidelines.

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APPENDIX E1.

Interview guide for semistructured interviews

Participant number _____

Verify that the patient has been consented and signed the consent form.

After recorder starts, announce the participant number before first question and at conclusion.

Use prompt questions to generate detailed, in-depth responses.

- ☐ What do you think about prescribing opioids for patients who are discharged from the ED?
- ☐ How do you make decisions whether to prescribe opioids to patients who are discharged from the ED?
  - ☐ What resources do you use to help you decide whether to prescribe opioids on discharge?
- ☐ Are you aware of any guidelines about opioid prescriptions for patients discharged from the ED?
  - ☐ How do you use opioid guidelines in your practice?
  - ☐ What do you think about guidelines for opioid prescribing?
  - ☐ How do you use research findings or clinical evidence in the management of pain?
- ☐ How do you use prescription drug monitoring programs in your practice?
  - ☐ What is your awareness of prescription drug monitoring programs?
  - ☐ Does your state have a prescription drug monitoring program?
  - ☐ What is your opinion about prescription drug monitoring programs?

Could you describe a specific professional experience that you have had related to opioids in the ED? Please tell us the story in some detail.