What Factors Affect Physicians' Decisions to Prescribe Opioids in Emergency Departments?

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Objective: *With 42% of all emergency department visits in the United States related to pain, physicians who work in this setting are tasked with providing adequate pain management to patients with varying primary complaints and medical histories. Complicating this, the United States is in the midst of an opioid overdose epidemic. State governments and national organizations have developed guidelines and legislation to curtail opioid prescriptions in acute care settings, while also incentivizing providers for patient satisfaction and completeness of pain control. In order to inform future policies that focus on provider pain medication prescribing, we sought to characterize the factors physicians weigh when considering treating pain with opioids in the emergency department.* ***Methods:*** *We conducted and transcribed open-ended, semistructured qualitative interviews with 52 physicians at a national emergency medicine conference.* ***Results:*** *Participants reported a wide range of factors contributing to their opioid prescribing patterns related to three domains: 1) provider assessment of pain characteristics, 2) patient-based considerations, and 3) practice environment. Pain characteristics include the characteristics of various acute and chronic pain syndromes, including physicians' empathy due to their own experiences with pain. Patient characteristics include "trustworthiness," race and ethnicity, and the concern for risk of misuse. Factors related to the practice environment include hospital policy, legislation/regulation, and guidelines.* ***Conclusion:*** *The decision to prescribe opioids to patients in the emergency department is complex and nuanced. Physicians are interested in guidance and are concerned about the competing pressures placed on their opioid prescribing due to incentives related to patient satisfaction scores on one hand and inflexible policies that do not allow for individualized, patient-centered decisions on the other.* ***Key words:*** *opioid epidemic; guidelines; prescription drugs; emergency physicians; medical decision making; patient satisfaction.* ***(MDM Policy & Practice 2017;2:1–8)***

In 2012, health care providers wrote 259 million prescriptions for painkillers, more than one prescription per American adult.[1] Despite a fall in opioid prescriptions since 2012, overdose deaths from prescription opioid pain medications have soared in the United States, with the rate of opioid overdose tripling from 2000 to 2014.[2,3] Treatment of pain is particularly salient to acute care settings; 42% of emergency department visits are related to pain, and emergency physicians are in the top five prescribers of opioids for patients under the age of 40 years.[4,5]

To address this epidemic, policy makers have sought to enact legislation and guidelines to regulate opioid prescriptions in the emergency department. States including Ohio and Washington, organizations such as the American College of Emergency Physicians (ACEP), and most recently the Centers for Disease Control and Prevention (CDC) have published guidelines to direct emergency physicians in their treatment of pain. In addition to their guidelines discouraging the use of opioids for chronic pain, the CDC has also provided funding to 29 individual states to support their efforts to combat the epidemic through Prescription Drug Monitoring Programs (PDMPs), policy evaluations, and health systems interventions.[6,7] Prior work has used survey methods to describe physician attitudes toward opioid use;[8–10] however, less is known about how physicians describe prescribing opioids in their own words, and the context in which their attitudes have taken shape. A qualitative approach has the potential to provide a more nuanced understanding of this issue.

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Our prior work has assessed how emergency physicians make use of opioid prescribing guidelines as well as the PDMP.[11,12] For this study, our objectives were to readdress these issues in the context of significant changes in the epidemiology, publicity, and policy surrounding the epidemic, and to provide a more complete view of the factors that contribute to this decision making, and how these factors interact with one another. Understanding the changing landscape of physician decision making for treatment of pain can inform policy makers as they attempt to mitigate opioid misuse while optimizing pain control in acute care delivery settings.

METHODS

Study Design

We conducted open-ended, semistructured qualitative interviews with a random sample of emergency medicine physicians attending the largest national physician meeting in emergency medicine, the American College of Emergency Physicians Scientific Assembly (October 2015). The goal was to uncover physician attitudes and practice patterns regarding treatment of pain in the acute setting. The institutional review board at the University of Pennsylvania approved the study protocol. We used the Consolidated Criteria for Reporting Qualitative Research to guide data collection, analysis, and reporting.[13,14]

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Selection of Participants and Setting

In order to recruit a wide array of participants, we mailed study invitations, with a $1 bill enclosed, to 309 physicians who had previously expressed interested in participating in research surveys to ACEP and who had registered to attend the scientific assembly. We followed up with email invitations to schedule appointments for the interviews. We also invited physicians to participate through direct solicitation. For compensation, participants were given a $5 gift card. As we were specifically interested in physician decision making, we excluded nonphysicians from participation. Participants were recruited until thematic saturation was reached as determined by agreement between two authors (LS and ZFM).

Data Collection and Processing

A standard guide was used to conduct the interviews (see the Online Appendix). Four researchers (ZFM, JMP, KVR, LS) with experience in emergency medicine and qualitative interviewing piloted the interview guide and conducted all interviews. The interviews were conducted in a quiet central space at the scientific assembly over a period of 4 days. Interviews were 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. Three investigators (LS, KJW, ZFM) 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. Eleven thematic codes pertained to physician decision making in treating pain: acuity, diagnosis, provider's perception of pain severity, trustworthiness, race and ethnicity, risk of misuse, emergency physician role in the opioid epidemic, hospital policy, patient satisfaction scores, regulatory environment, and guidelines. Each code was defined and then applied to all transcripts by two authors (LS, KJW). Interrater reliability was assessed periodically, with interrater agreement surpassing 90%. Discrepancies in coding were discussed and resolved by consensus. Three investigators (LS, KJW, ZFM) summarized codes and examined relationships among codes to develop a theory about the data.

Table 1 Participant Characteristics ($N = 52$)

Characteristic	n (%)
Sex	
Male	39 (75)
Female	12 (25)
Years in practice	
1–4 (resident physician)	0 (0)
4–9	7 (13)
10–19	21 (40)
20–29	14 (27)
>30	10 (19)
Region	
Northeast	14 (27)
Midwest	14 (27)
South	14 (27)
West	10 (19)

RESULTS

Characteristics of Study Subjects

Table 1 describes the characteristics of our study participants. The participants varied demographically across sex, years in practice, and geographic location.

Interview Domains and Themes

We organized the interview content about provider decision making for prescribing opioids into three domains: 1) provider assessment of pain characteristics, 2) patient-based considerations, and 3) health systems, policy, and practice-related issues. Within each domain, we developed key themes, as presented below. Table 2 summarizes the key themes as well as representative quotations from interview participants.

The interview guide specifically asked about postdischarge prescriptions; however, physicians often also discussed their thought process when prescribing opioids while patients are being cared for in the emergency department. Overall, many physicians expressed that the decision to treat pain with opioids in the emergency department is difficult and nuanced, and requires weighing many different factors. For example, one participant lamented feeling that they were ''pulled in many different directions.'' This difficulty stemmed from having to weigh the many different factors guiding the decision to prescribe opioids, as well as the tension between the existing cultural ethos of ''pain as a fifth vital sign'' and the impetus to restrict prescriptions in light of the opioid epidemic.

Provider Assessment of Pain Characteristics: Acuity, Diagnosis, and Perception of Pain Severity

The majority of physicians in our study indicated that they considered the acuity of pain while making their treatment decisions; participants described that they were far less likely to prescribe opioids for chronic sources of pain than for acute sources of pain. Physicians also considered the specific diagnosis. Some diagnoses were considered by many physicians to objectively warrant opioid pain medication including cancer, long bone fractures, and renal colic. Other diagnoses were much less likely to be treated with opioids like back pain and headaches.

In addition to the acuity and underlying cause of the pain, participants often mentioned severity of pain being a guiding factor in decision making. However, physicians often reported relying on their own interpretation of the severity of pain associated with a given diagnosis, more than the severity of the pain reported by the patient. In fact, none of the participants mentioned relying on self-report of the patient's pain levels to be a guiding factor in decision making. For example, one participant noted that he treats renal colic with opioids because of his personal experience: ''Like the kidney stone . . ., I'll give a pain medicine for that because I've had that.''

Patient-Based Considerations: Trustworthiness, Race and Ethnicity, and Risk of Misuse

Participants also considered characteristics of the patient when prescribing opioids in the acute setting. Many physicians indicated evaluating a patient's trustworthiness to assess whether or not to prescribe opioids. When discussing patients' trustworthiness, participants mentioned relying on information that was presented by the patient that aroused suspicion, such as having a ''clinical story that doesn't quite fit,'' having multiple visits, or being from out of town. Along with information provided by the patient, some participants also referenced relying on clinical gestalt when evaluating patient trustworthiness. Physicians also discussed the PDMP as a tool to gauge whether or not the patient was being honest with the provider. When asked about what circumstances caused

Table 2 Domains, Themes, and Representative Interview Quotations From Emergency Physicians Regarding Their Decision-Making Process to Treat Pain in the Emergency Department (ED)

Domain	Theme	Representative Quotation
Provider assessment of pain characteristics	Acuity	"If it's a chronic pain syndrome, I am far more reluctant to prescribe opioids than if it's an acute pain syndrome."
	Diagnosis	"My approach to patients with cancer pain who come to the ED, I basically give them a blank prescription pad, whatever they want."
		"Something like an ankle sprain or a sore throat doesn't necessarily need [opioids]. A broken arm does."
	Perception of pain severity	"[I consider] the severity of the pain—I guess per the patient, but to be honest, more per my impression of the pain."
		"[I take into account] my experience with the level of pain of their diagnosis or their problem."
		"I think about how much pain I would expect [the] diagnosis to cause, for example, a fractured bone versus a headache or abdominal pain."
Patient-based considerations	Trustworthiness	"Well, sometimes a patient will come in and you think they are drug-seeking, and then you see, well they've had no prescriptions in the past year or two and you may reevaluate their presentation—say that they are a little bit more genuine than you first thought."
		"We have this saying, a patient may be squirrely, but sometimes squirrels are sick. Right? You may have a sick squirrel on your hands."
	Race and ethnicity	"I'll quickly check the patient's race because I'm aware that as a white-skinned, I'm likely to treat a dark-skinned person more slowly. To compensate for that cognitive error, I have a pain set in my electronic record. So, I click over to remind me what to give everybody."
	Risk of misuse	"[I consider] the family history, any history of substance abuse in the prior family—if they have a psychiatric disorder, if they were sexually assaulted—there's higher risk for females than males. And then if they have any history of dependence on—cigarettes not as much, but alcohol definitely or prior substance abuse in the past puts them at higher risk [for aberrant behavior]."
		"I tell people all the time, I said, nobody's ever died from pain, but people die from pain medication all the time."
		"I think actually I probably prescribe less now than I did five years ago just because of the number of addicts that medicine has created."
Health systems, policy and practice-related issues	Emergency physician role in epidemic	"The problem I don't think lies in ED and ED prescribing. We prescribe trivial amounts of this crap."
		"Really, by volume of prescription, we look like a problem. By number of pills, we have nothing to do with the problem."
	Patient satisfaction scores	"I think the biggest [factor] is the emphasis on patient satisfaction. If your medical director, your group practice—if they're getting calls on you because people are unhappy because they didn't get their opioid prescriptions, then you're going to have to find another job somewhere else. . . . I've been more liberal in prescribing opioids to keep complaints from happening. Drastically so."
		"One of the biggest things that we have to worry about is our patient satisfaction scores. And a lot of people think that

(continued)

Table 2 Continued

Domain	Theme	Representative Quotation
		providing opioids will provide higher patient satisfaction scores.''
		''And some of the drivers of what you're going to be rewarded for at the end of the day is your patient satisfaction score.''
	Hospital policy	''Providers at our hospital, as a policy, have a maximum prescription of 15 opioids. Period. Frequently, we'll give a lesser amount. But 15 is the max you can write out of our department.''
		''My facility actually tracks the number of narcotic prescriptions you give. And so then they report it out to us every month and you're rated against everybody else on how much narcotics you've given.''
		''In Milwaukee, the vast majority of emergency departments, the groups have gotten together and decided that for the most part, we're going to be oxy-free. So, we don't prescribe oxycodone and oxycontin.''
	Regulatory environment	''There's the state law that you have a pain contract with your physician, I can't break that, if I break that, you're gonna lose your contract with your physician, you're not gonna have pain control from them anymore. Or, I can't prescribe this to you because this is what your report looks like, and I can't do it because of these laws''
		''The legislators are very anxious to practice medicine a lot of times. And so, they mandate a lot of things, which—that don't necessarily make a lot of sense, but you still have to be aware of them.''
		''. . . some states have had legislation put forth to try and limit the ability for states to prescribe narcotics, which I think's really ill-founded and not well thought through.''
	Guidelines	''I think that we're each the captain of the ship—on our ships. And we're used to making our own decisions and feeling that our clinical decision making is the last word. So I think it's pretty difficult to get emergency physicians to agree to limitations in their practice. It's a herding cats kind of thing.''
		''Then I tell them, sorry, these are the guidelines, and try to express to them that we're trying to take good care of them and thinking about pill abuse and everything like that, too.''
		''What I find nice about the guidelines is it gives you the opportunity to open up the conversation''

them to check these databases (which track controlled substance prescriptions for individual patients within states), many participants mentioned using the PDMP only when they suspected that their patients were being untrustworthy. All physicians in our study were familiar with PDMPs, even if it was not yet available in their state.

While not mentioned by most participants, a few physicians reported consideration of race and ethnicity when treating patients with painful complaints. One of these physicians indicated that they attempted to correct for this bias by creating standardized approaches to prescribing opioids that minimize ''cognitive error.''

Finally, physicians also consider the patient's individual risk of misuse. Many participants indicated that they assess the patient's personal and family history of substance abuse; patients with history of abuse would be less likely to be prescribed opioids. One physician noted the difficulty of making pain treatment decisions in a patient with a history of substance abuse: ''A patient with cocaine abuse, that's tough. Sometimes if they really need

something, then I still prescribe the small limited quantity. But it definitely gives me pause.''

Health Systems, Policy, and Practice-Related Issues: Emergency Physician Role in Epidemic, Patient Satisfaction Scores, Hospital Policy, Regulatory Environment, and Guidelines

Participants in our study cited a large number of environmental and practice factors that influence their opioid prescribing practices. Some physicians were concerned about the disproportionate blame placed on emergency physicians for the opioid epidemic. Several participants mentioned that emergency physicians prescribe relatively few morphine equivalents; therefore, curtailing the amount of opioid prescriptions in the emergency department may not be an adequate solution. One participant indicated, ''I don't think that we're a major player in causing addiction. I think that we do what's right for the patient for that short period of time that they're with us.''

Eight of our participants noted that patient satisfaction scores influence prescribing patterns. Some of these participants expressed that patient satisfaction scores directly resulted in the prescription of more opioids for fear of ramifications from their hospital administrators due to negative patient satisfaction scores.

Some physicians were restricted in their opioid prescribing behavior by local hospital policy. Participants reported policies about number of opioid prescriptions per shift, types of opioids that could be prescribed (''oxy-free'' hospitals), and types of conditions that may be treated with opioids. Some participants also noted hospital policy about emphasizing use of alternative pain medications, including nerve blocks, to avoid unnecessary use of opioids. Participants had mixed favorability reactions to these policies, but did note that they tended to curtail their opioid prescriptions.

In addition to local policy, some physicians noted that they were influenced by the larger regulatory environment. Participants referenced statewide laws regarding PDMP use that influenced their prescribing practices. Participants stated that they ''felt pressure'' from state legislators to curtail the total number of opioid prescriptions written. Some participants expressed concerns about legislature restricting and regulating complicated medical decisions. For example, one participant voiced concern about overly restrictive legislation by stating that physicians ''don't want be told how many doses can prescribe[d] by a state legislature. I want to make that medical decision myself.''

Finally, many emergency physicians stated that they do, with caveats, use national guidelines as a tool in conversation with patients. Some physicians stated that they utilize guidelines to reinforce their treatment decisions that they already have made. Other physicians, however, found challenges in adhering to guidelines. For example, one physician noted, ''It is very difficult to get emergency physicians to commit to prescribing less or prescribing anything according to a certain pattern.''

DISCUSSION

This study has three main findings. First, a wide range of factors contribute to physician decision making for treating pain with opioids. These factors can be divided into three broad domains: 1) provider assessment of pain characteristics, 2) patient-based considerations, and 3) health systems, policy, and practice-related issues. Second, many physicians listed patient satisfaction scores as a factor that influences their prescribing patterns, and some of these physicians directly stated that they prescribe more opioids than they feel are appropriate due to the fear of receiving negative patient satisfaction scores. Finally, provider decision making around the treatment of pain in the acute setting is highly nuanced. Many physicians expressed appreciation for opioid prescribing guidelines and simultaneously voiced concern about opioid restrictions that obviate the application of clinical reasoning.

Participants in this study discussed the importance of the patient's diagnosis when considering prescribing opioids for pain. Physicians expressed greater comfort in prescribing opioids for diagnoses widely understood to be painful with objective findings like renal colic, cancer, and long bone fractures, consistent with existing guidelines about use of opioid pain relievers.[15] While this practice pattern seems likely to adequately treat pain in patients with these disorders, it may indicate that patients with painful conditions without objective imaging or lab findings may be more susceptible to variations in care in pain treatment. Interestingly, patient perception of severity of pain was not mentioned by any of our participants; policy makers, educators, and health system leaders might consider how patient perspectives can be included in the decision making to encourage the delivery of patient-centered care.

Physicians noted the importance of patient-based considerations. Many discussed assessing the patient's trustworthiness. In general, patients perceived to be honest were more likely to receive opioid prescriptions by the participants in our study. Physicians were more likely to check the patients' history, using the PDMP, of those who were perceived to be untrustworthy. While prior work has attempted to elucidate the role of physicians' impressions related to drug seeking behavior, more work is needed to describe patient characteristics associated with perceived trustworthiness in order to further characterize individuals who are more likely to incur suspicion for opioid misuse.[16] In states where the database is robust, the PDMP can provide a tool to objectively test a patient's honesty[11]; however, future research should examine what guides physicians to use Prescription Drug Monitoring databases, and potential biases that may arise. While concerns for biases by race and ethnicity were raised by a few providers as factors to be consciously avoided, this issue should be monitored in a systematic manner.

In our study, some physicians specifically noted prescribing greater amounts of opioids to improve their hospital's patient satisfaction scores. While prior quantitative work has not demonstrated a conclusive association between patient satisfaction scores and quantity of opioids prescribed, these responses contribute to the contextual aspects of the perceived or real pressure to prescribe.[17–20] In fact, due to concern about this association, the Centers for Medicare & Medicaid Services have temporarily removed the pain management questions in the Hospital Consumer Assessment of Healthcare Providers and Systems survey from consideration in the Hospital Value-Based Purchasing score while they research this potential link.[21] In our study, we demonstrated that patient satisfaction scores have driven some of our participants to prescribe more opioids for explicit fear of losing one's employment. Future work should focus on quantifying the prevalence of this fear, and its potential association with an incentive to prescribe opioids in a larger sample of providers.

In our prior work, interviewing emergency physicians in 2012 about their opioid prescribing practices, the use of guidelines in the decision to treat pain with opioid medications were commonly mentioned but PDMPs were rarely used.[11,12] As the opioid overdose epidemic has continued to grow, leading to additional media coverage and policy, and legislation has been passed requiring PDMP registration and clinical use, many more physicians seem to be aware of and actively using their states' PDMPs. In fact, while some complained that their state's PDMPs were difficult to access in the course of clinical care, all physicians in our sample were familiar with the PDMP, representing a growth in awareness of tools to help guide physicians opioid prescribing patterns.

Overall, physicians in our study felt that guidelines are helpful in navigating how to treat pain in the emergency department. Physicians noted that guidelines and policies help start conversations with patients and provide support when deciding against prescribing opioids in patients who have requested opioid pain relief. While appreciative that guidelines can work as a communication tool, many physicians in our study also expressed a concern about broad, rigid opioid restrictions that may hinder the ability to make decisions on a case-by-case basis, interfering with their ability to provide care for their patients. Results from our study would indicate that policy makers striving to address the opioid overdose epidemic by regulating opioid prescriptions in the emergency department should aim to provide physicians with decision support without restricting their ability to make patient-centered care decisions.

Limitations

The interviews conducted for this study were done at a large national conference with emergency medicine physicians who were interested in the topic. A greater number of interview participants were male; however, this accurately reflects the gender breakdown of active emergency medicine physicians in the United States.[22] Race and ethnicity of participants were not collected, limiting the ability for the investigators to incorporate these data into the analysis of participants' reflections on racial and ethnic disparities. Practice setting of participants were not collected, although respondents sometimes discussed how their practice setting plays a contextual role in these medical decisions. When appropriate, these factors were incorporated into the coding and analysis. The findings cannot be generalized to the entire population of emergency physicians, nor to actual prescribing practices. Future work is needed with a greater number of physicians to quantitatively test the distribution of themes generated in this study.

Participants may have been susceptible to social desirability bias. While attending an academic

conference, participants may have been more likely to present their decision making and practices in a positive light.

CONCLUSION

The decision to prescribe opioids to patients in the emergency department is complex. In particular, many physicians expressed concern about how prioritization of patient satisfaction scores has caused them to prescribe greater amounts of opioids. Emergency physicians are clearly interested in guidance in weighing the opioid risks and contributing factors, but are also concerned about inflexible legislation that does not allow for individualized, patient-centered decisions. Policy makers interested in optimizing pain treatment in the emergency department should consider these factors in the guidelines and legislation they hope to enact. Further work is necessary to assess the implications of policy on physician behavior and treatment of pain across different patient populations.

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