

Original Contributions



EMERGENCY PHYSICIANS' PERCEPTION OF BARRIERS AND FACILITATORS FOR ADOPTING AN OPIOID PRESCRIBING GUIDELINE IN OHIO: A QUALITATIVE INTERVIEW STUDY

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Abstract—Background: Ohio has the fifth highest rate of prescription opioid overdose deaths in the United States. One strategy implemented to address this concern is a state-wide opioid prescribing guideline in the emergency department (ED). **Objective:** Our aim was to explore emergency physicians' perceptions on barriers and strategies for the Ohio ED opioid prescribing guideline. **Methods:** Semi-structured interviews with emergency physicians in Ohio were conducted from October to December 2016. Emergency physicians were recruited through the American College of Emergency Physicians Ohio State Chapter. The interview guide explored issues related to the implementation of the guidelines. Interview data were transcribed and thematically analyzed and coded using a scheme of inductively determined labels. **Results:** In total, we conducted 20 interviews. Of these, 11 were also the ED medical director at their institution. Main themes we identified were: 1) increased organizational responsibility, 2) improved prescription drug monitoring program (PDMP) integration, 3) concerns regarding patient satisfaction scores, and 4) increased patient involvement. In addition, some physicians wanted the guidelines to contain more clinical information and be worded more strongly against opioid prescribing. Emergency physicians felt patient satisfaction scores were

perceived to negatively impact opioid prescribing guidelines, as they may encourage physicians to prescribe opioids. Furthermore, some participants reported that this is compounded if the emergency physicians' income was linked to their patient satisfaction score. **Conclusions:** Emergency physicians interviewed generally supported the state-wide opioid prescribing guideline but felt hospitals needed to take additional organizational responsibility for addressing inappropriate opioid prescribing. © 2018 Elsevier Inc. All rights reserved.

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INTRODUCTION

The number of opioid-related drug overdoses in the United States quadrupled from 1999 to 2015, with more than half a million deaths (1). Opioid-related drug overdose deaths continue to rise and are now the leading cause of drug overdoses (2). Over the same time frame, the number of prescription opioids sold in the United States

quadrupled (1). This has almost certainly contributed to the temporally correlated explosion in addiction and overdose, but has not led to a corresponding decrease in the pain reported by Americans (3).

Ohio has been strongly affected by the growing opioid epidemic, as it has the fifth highest rate of prescription opioid overdose deaths in the United States (4). In response to this, Ohio implemented multifaceted strategies to address opioid use disorder and overdose deaths, including a strong focus on preventing the nonmedical use of prescription drugs (5). Since 2011, the Governor's Cabinet Opiate Action Team was formed to 1) promote the responsible use of opioids, 2) reduce the supply of opioids, and 3) support overdose prevention and expand access to naloxone (6).

As a result, in 2012 the Ohio Department of Health disseminated guidelines for opiate prescribing by emergency departments (EDs) (7). Estimates indicate that 39% of ED visits are for painful conditions, with emergency physicians among the most frequent prescribers of opioids (8,9). Furthermore, estimates show that up to 42% of opioids prescribed on discharge in EDs may be misused (10). As such, the Ohio guidelines recommend that, if needed, prescriptions for opioids should be limited to a 3-day supply and should not routinely include long-acting opioids or be provided to replace prescriptions that were lost, destroyed, or stolen (7). EDs contributions toward the supply of opioids and their potential misuse have also been recognized nationally with the development of the American College of Emergency Physicians (ACEP) clinical policy on opioids in 2012, and the Centers for Disease Control and Prevention Guideline for Prescribing Opioids in 2016 (11,12).

The Ohio guidelines also recommend emergency physicians use Ohio's prescription drug monitoring program (PDMP) before prescribing opioids. Ohio's PDMP, known as the Ohio Automated Rx Reporting System (OARRS), allows prescribers or pharmacists to track patients' dispensing history of controlled medications. OARRS can give a prescriber or pharmacist critical information regarding a patient's controlled substance prescription history to help them identify high-risk patients who would benefit from early interventions. In 2014, Ohio made it mandatory that an OARRS check be conducted by prescribers before initially prescribing or personally furnishing opioids (providing "drugs to a patient for the patient's personal use") and at least 90 days after the initial report is requested (13,14). However, emergency physicians are usually exempt from mandatory OARRS checks, as they prescribe opioids for fewer than 7 days (14). Despite this exception, the practice of accessing and reviewing patients OARRS reports is encouraged by all prescribers in Ohio, including emergency physicians, and has been

emphasized in the Ohio's guidelines for EDs since they were released in 2012 (7).

Previous research has shown that emergency physicians vary in their attitudes toward opioid prescribing guidelines for EDs. Interviews of 61 emergency physicians at the 2012 national ACEP research and education conference explored how physicians perceived and applied opioid prescribing guidelines in EDs (15). They found that although most physicians were supportive of such guidelines, few could recall any specific recommendations contained within them (15). Those who were familiar with the guidelines often used them as a way of supporting their practice to limit opioid prescribing on discharge and justifying their practices to patients. However, as the majority of participants were unfamiliar with specifics regarding opioid prescribing guidelines, little was identified about how to effectively implement such guidelines or what barriers may prevent their implementation. The current study explores emergency physicians' perceptions of barriers to, and strategies for, implementing a state-wide opioid prescribing guideline.

METHODS

We used semi-structured interviews with emergency physicians in Ohio for this study. The study was approved by the Institutional Review Board at the University of Cincinnati and the Ohio Department of Health. Qualitative interviews were conducted, as they allowed us to understand social phenomena in natural settings, giving emphasis to the perceptions, meanings, and experiences of participants (16). These interviews will provide a deeper understanding on why guidelines or interventions can be implemented in some settings but not others. As a result, qualitative interviews are particularly suited to answer our research question. Hence, we recruited emergency physicians for interviews through an e-mail distributed through the ACEP Ohio Chapter from October to December in 2016. Emergency physicians could respond to the e-mail if they were interested in participating in our interviews. We obtained consent either written or verbal during the interview. After the interview, we asked the participants to identify any other emergency physicians that should be interviewed. It was estimated that 15–30 interviews would be conducted to reach saturation, based on previous studies (17,18).

We developed the interview guide based on the consolidated framework for implementation research (CFIR) to explore all issues related to the implementation of the opioid prescribing guidelines (Appendix 1) (19). The CFIR has been used extensively to retrospectively evaluate the implementation of an intervention in order to provide a working hypothesis that would explain success or failure (20–22). In preparation for the interviews, we sent participants a copy of

the ED opioid prescribing guidelines at least 1 week in advance. During the interview, we asked participants general questions about their knowledge of the ED opioid prescribing guidelines and their support for them. Also, we asked specific questions about the barriers affecting the implementation of the guidelines, including their design, complexity, workload, peer pressure, patients' perception, and organizational culture.

We contacted all interviewees via e-mail to arrange a time for the interview. Interviews were then conducted over the telephone by one of two trained researchers using a consistent approach. Interviews lasted between 30 to 60 min, were audio-recorded, and field notes were taken to augment interview data. We offered interviewees a \$50 debit card at the completion of the interview. We analyzed data from each interview and discussed the results among the team each day to identify any emerging themes that could be further explored in future interviews.

Data Analysis

We transcribed the interview data and thematically analyzed it in NVivo 10 (QSR International, Burlington, MA), and coded using a scheme of inductively determined labels pertaining to opioid prescribing in ED and related topics. Data analysis followed the methodology proposed by Bernard and Ryan (17). Concordant processes of memo-ing on codes (and data tagged with specific codes) enabled the elaboration of codes and the clustering of related codes into categories. Constant comparative analysis was used to examine the data in order to refine codes and categories (17). CFIR was used to guide the analysis, but an inductive approach using a constructivist paradigm was used to identify main codes and issues from the participants interviewed. The analysis was undertaken by two independent researchers that did not work in the ED setting and did not have any relationship with any of the participants. Any disagreement identified by the two researchers was relayed back to the research team, using de-identified information, for consensus. All codes and themes reached full consensus with the research team. Respondents were classified as working primarily at either an urban or rural hospital based on the Federal Office of Rural Health Policy definition (23).

RESULTS

In all, 20 interviews were conducted with emergency physicians. Of these, 11 were also the ED medical director at their institution. Eleven participants were male and 11 worked in an urban region. Data saturation was reached by the 17th interview, however, a further 3 interviews were conducted to confirm results. All participants interviewed were familiar with the Ohio ED opioid prescribing

guidelines and knew its specific recommendations. All participants supported the guidelines and believed all their peers did as well. In addition, participants were positive about the design and presentation of the guidelines, as it was limited to one page.

Participants discussed a variety of themes regarding barriers affecting the implementation of the guidelines, their workload, patients' perception, and organizational culture regarding the guidelines. Main themes regarding the implementation of the ED opioid prescribing guideline were grouped into: 1) organizational responsibility, 2) prescription drug monitoring program (PDMP) utilization, 3) patient satisfaction scores, and 4) patient involvement. Numerous barriers and facilitators to implementing opioid prescribing guidelines were identified for each theme. We also suggest future strategies based on interviews, when applicable (Table 1).

Increased Organizational Responsibility

Emergency physicians expressed the importance of organizational responsibility to reduce inappropriate opioid prescribing in ED and implement the opioid prescribing guidelines. Emergency physicians commented that they

Table 1. Major Themes Identified from Interview Participants (n = 20)

Major Themes	Suggested Future Strategies
Increased organizational responsibility	Appoint an individual/group responsible for opioid prescribing in the hospital Timely pain consultations Provide physicians feedback on their opioid prescribing behavior compared to their peers
Improved prescription drug monitoring program (PDMP) integration	State-wide integration of PDMP and workflow systems Provide administrative assistance for PDMP (e.g., pharmacists) Development of a patient-friendly PDMP report/summary
Concerns regarding patient satisfaction scores	Increased awareness of opioid prescribing's impact on patient satisfaction scores Ensure physicians' income are not linked with opioid prescribing habits.
Increased patient involvement	Development of patient-friendly material Increased public awareness of opioid prescribing issues in emergency departments
Guideline recommendations	Provide information of alternate therapies to replace opioids

supported the guidelines but were limited in their ability to implement them consistently and effectively without hospital administrator's support. Emergency physicians felt that unless the hospital organizations took responsibility for opioid prescribing, it was difficult to change the prescribing practices of their department.

Unless there's some sort of a carrot or stick for this, it's very difficult to get [the guidelines] implemented at some facilities. And I'm talking about administrative support. Because the ER doctors are on-board with this. (Interview 2)

Since facilities are always trying to minimize their expenses and dump the responsibility on people already there [emergency physicians]. This is an area of significant concern. (Interview 1)

Interviewees suggested improving organizational support for implementing the guidelines by appointing an individual to be responsible for opioid prescribing in the hospital, ensuring recalcitrant patients receive timely pain consultations, and providing feedback to emergency physicians on their opioid prescribing behavior.

[I think we need to] have somebody own the progress, saying, "look, I'm going to own that we're going to have 20% fewer opioid deaths next year than this year." Who's going to own that? I haven't seen somebody at the system level own that. (Interview 7)

There [needs to be] a hospital mandate ... which said that those [recalcitrant] patients would receive a timely, contemporaneous, pain consultation. (Interview 1)

I would like to see me compared to the next ER doctor across the street. How much opioids am I prescribing per day or per month compared to everybody else.... I think it would be a good wake up call. (Interview 7)

Improved PDMP Integration

Emergency physicians were generally positive about Ohio's PDMP, known as OARRS, and saw it as an important step to improving opioid prescribing. That being said, inefficiencies in Ohio's PDMP were the most commonly cited barrier to full implementation of the guidelines.

Because there are so many fields. [...] 12 fields. Not key strokes but fields. [...], Especially when people interrupt you when you're trying to type in the OARRS information because there's no autofill. (Interview 10)

Many physicians commented on the benefits of using other programs, like NARxCHECK, which automatically accesses a patients' PDMP data, while also summarizing the data for clinical use. These programs allowed physicians to obtain PDMP without interrupting their workflow, but were also seen as costly for some institutions.

NARxCHECK actually takes the information, does analytics, and basically gives you information that's useful ... it pulls in the information from OARRS. So I can still look at it and say, "Okay, this person does have a high score, but they've been going to the same prescriber." (Interview 4)

I think the state of Ohio should mandate all electronic medical records have NarxCheck ... having that one-touch system increases their compliance of checking OARRS. (Interview 7)

In hospitals that did not have programs to automatically access PDMP data, participants suggested that additional administrative support should be obtained to generate PDMP reports to reduce the burden on emergency physicians. In particular, one interviewee recommended using pharmacists saying:

OARRS should be mandated to pharmacy because it's a secretarial function, it is not a clinical function. It is a piece of data that I should integrate into my clinical decision making. But obtaining the report is not a clinical function, so why is the physician doing it? (Interview 10)

Concerns Regarding Patient Satisfaction Scores

Many physicians believed patient satisfaction scores were a major influence on the implementation of opioid prescribing guidelines. Physicians worried that their own income and employment would be affected by low patient satisfaction scores if they prescribed fewer opioids. Physicians who did not have their own income tied to patient satisfaction scores often saw this as an industry-wide problem, even if they were not personally affected.

I think every emergency physician knows that the pain question [in the patient satisfaction survey] is an obvious problem in the opioid problem. I mean, reimbursement based on whether or not we prescribe pain medication or treat people's pain is, I think, detrimental to the health of the nation. (Interview 4)

I think the biggest barrier that I see in the whole opioid thing as a physician, is the fact that patient satisfaction scores [...] some groups actually tie—our group doesn't—but some groups actually tie your pay to ... complaint letters. (Interview 20)

However, some physicians also commented that prescribing fewer opioids did not adversely affect patient satisfaction scores.

People were really worried that if they didn't prescribe pain medicine, that the patient's satisfaction would suffer. And we haven't seen that. So I think that was very helpful to demonstrate to people that that's not the issue of what patients are concerned about (Interview 14)

Increased Patient Involvement

Communication with patients was a major and significant theme throughout the interviews. A strong desire for increasing patient involvement in the opioid prescribing process appeared to be a facilitator for successfully implementing guidelines. Physicians described the guidelines as aiding in communication with patients, as it highlights that the organization and profession also supported their decision.

I know patients will give us a hard time and demand medication. They'll get angry if they don't get what they want. (Interview 5)

I think [the guidelines are] good for physicians. I think maybe a patient education handout that says the same things in a simpler manner given to patients would be even more useful. (Interview 8)

Physicians also wanted to ensure that information displayed or given to patients was approved by their legal department, as some had previously had negative experiences. For instance, some physicians reported that they had displayed information on opioid prescribing guidelines in the waiting rooms of their EDs, but that legal departments had requested they be removed, as this violated the Emergency Medical Treatment and Labor Act (EMTALA) (24).

We had a placard at the sign-in area of the emergency department that we were forced by hospital administration to take down about a year and a half ago. It related to those very same principles [as are found in the guidelines], but because of concerns from our hospital legal department [... they] forced us to take them down. (Interview 1)

Guideline Recommendations

Although many participants were satisfied with the opioid prescribing guidelines, some wanted it to contain more clinical information and provide advice on alternatives that they could prescribe.

[I think the guidelines needs more] alternative treatment options ... options to say, "Okay, well I'm not gonna do that. But what am I gonna do? Here's what I can do. I can do all these things." (Interview 4)

Also, participants had mixed reactions to the wording in the guidelines. Some physicians believed the guidelines were well written, while others wanted a stronger stance against opioid prescribing in general.

It's not specific or aggressive enough for the destruction and death that we're facing on a day to day basis. It sounds like it was written by a politician and not somebody that's working actively in ERs. (Interview 7)

If you changed the "shoulds" to "musts" [...] then I would have a lot of problems here. But as it now stands I think [the guidelines are] pretty sensible. (Interview 15)

DISCUSSION

Similar to Ohio, a recent review found that 17 states in the United States had an ED opioid prescribing guidelines (25). The review showed that all of the guidelines recommended limiting the number of opioids prescribed from ED and many of them encouraged the use of a PDMP (25). As such, issues surrounding the implementation of ED opioid prescribing guidelines in Ohio may be applicable to other states.

This study found that the Ohio opioid prescribing guidelines are generally well received by the emergency physicians interviewed. Interviewees generally supported initiatives aimed at addressing inappropriate use of opioids. In particular, they supported the use of Ohio's PDMP and believed it assisted them to prescribe opioids more appropriately. These findings are consistent with a recent report indicating a decline in opioid prescribing by Ohio emergency physicians since the release of the Ohio ED Opioid Prescribing Guidelines (26). Interviewees' main concern with Ohio's PDMP is that it should be integrated into their workflow and its reports should be easily interpreted.

Similar to previous research, emergency physicians often used the guidelines to communicate opioid prescribing decisions instead of as a decision making tool (15). In particular, physicians used external guidelines as endorsements of their practice and to communicate to patients that they were practicing in line with their peers. This external support was so well received that some physicians wanted to display the guidelines in their EDs to inform patients of the issues surrounding opioids. However, many interviewees commented that their hospital administration was not supportive of this practice and that they were perceived as violating EMTALA. Although the Ohio Department of Health has publically stated that EMTALA "does not require the emergency medical clinician to provide pain relief for patients that do not have an emergency medical condition" and that "EMTALA does not state that severe pain is an emergency medical condition", it is apparent that many hospital administrators were uncomfortable informing patients of the opioid prescribing guidelines (27).

Furthermore, some emergency physicians believed that hospitals were encouraging overprescribing of opioids, as they linked physicians' income to their patients' satisfaction scores. While there is no evidence that opioid prescribing practices affect patient satisfaction scores in the ED, hospital administrators do not appear to be communicating this effectively to staff (28). This lack

of communication was interpreted as implicit support of opioid prescribing and lack of organizational support for the opioid prescribing guidelines. With the issues surrounding EMTALA and patient satisfaction scores, emergency physicians often felt that the implementation of the opioid prescribing guidelines were their responsibility and not supported by the hospital.

Many interviewees felt that they could not implement change in their department alone without the support of the whole hospital. Physicians believed that having organizational support would not only allow them to communicate more effectively with patients, but also provide them with valuable feedback concerning their opioid prescribing, and ensure that adequate pain services were available. Many interviewees felt that having an individual or team be responsible for the opioid prescribing in the hospital would be an effective strategy to show organizational support of the guidelines. As such, interviewees believed that the guidelines should place more emphasis on the importance of organizational support for improving opioid prescribing. Successful stewardship programs led by organizations have improved antimicrobial prescribing, which is now common practice in hospitals in the United States (29). An opioid stewardship program may provide the organizational support suggested by emergency physicians and may result in reductions in opioid prescribing.

Limitations

Emergency physicians self-selected to participate and may hold strong views about opioid prescribing in ED and implementation of the Ohio guidelines. In particular, our study had a high proportion of ED medical directors participate due to recruitment through ACEP Ohio Chapter and snowballing. Furthermore, due to the sample size, detection of all different viewpoints across Ohio may not have been captured, limiting the generalizability of this study. Although these views might not reflect the general view held by emergency physicians, they highlight important system-level issues that affect appropriate opioid prescribing, despite individuals' support for the guidelines. Also, social desirability bias may have occurred due to the topical nature of opioid prescribing in Ohio. Although individual interviews were conducted to ensure privacy and interviewees were guaranteed that their responses would remain confidential, participants may still have felt the need to provide us with information that would be viewed as favorable by others.

CONCLUSIONS

The emergency physicians who were interviewed supported the Ohio opioid prescribing guidelines and believed the Ohio PDMP assisted them to prescribe opi-

oids appropriately. However, Ohio's PDMP were not integrated into current workflow practices and did not operate efficiently. Interviewees also believed hospitals needed to take additional organizational responsibility for addressing inappropriate opioid prescribing to assist with the implementation of the guidelines. Some interviewees felt hospitals were encouraging inappropriate opioid prescribing by linking emergency physicians' income to patient satisfaction scores and hindering EDs from communicating the opioid guidelines to patients. There was also a lack of consensus about how safe or unsafe opioid prescribing is for acute pain in the ED. This study highlights that the opioid prescribing guidelines need to be integrated within the larger system, be made operationally efficient, and be appropriately flexible where strong consensus does not exist.

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Authors' contribution: J.P. and N.M. conceived the study and designed the study protocol in collaboration with M.L., E.H., E.W., S.C., J.B., K.K., and J.D. J.P., R.M., C.C., and E.T. undertook recruitment and data collection. J.P. and R.M. conducted the interview. J.P. and C.C. performed the thematic analyses and drafted the article. All authors contributed substantially to its revision. J.P. takes responsibility for the paper as a whole. All authors attest to meeting the four [ICMJE.org](http://www.icmje.org) authorship criteria.

Disclosures

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SUPPLEMENTARY DATA

Supplementary data related to this article can be found at <https://doi.org/10.1016/j.jemermed.2018.09.005>.

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ARTICLE SUMMARY

1. Why is this topic important?

Ohio has one of the highest rate of prescription opioid overdose deaths in the United States.

2. What does this study attempt to show?

This study aims to show emergency physicians' perceptions on barriers and strategies for a state-wide opioid prescribing guideline for emergency departments (EDs).

3. What are the key findings?

Emergency physicians generally support opioid prescribing guidelines but support from hospital administration is also required to deliver a consistent message across the health system. Prescription drug monitoring programs assist physicians to prescribe opioids appropriately but should be integrated into current workflow to be effective in the ED setting.

4. How is patient care impacted?

Consistent messaging around opioid will ensure patients expectations are aligned with current pain management practices. Improved patient understanding of opioids and their role in pain management will empower patients to take control of their pain relief.