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Identification of barriers to safe opioid prescribing in primary care:

a qualitative analysis of field notes collected through academic detailing

Abstract

Background

Understanding barriers to safe opioid prescribing in primary care is critical amid the epidemic of prescription opioid abuse, misuse, and overdose in the US. Educational outreach strategies, such as academic detailing (AD), provide a forum for identification of barriers to, and strategies to facilitate, safe opioid prescribing in primary care.

Aim

To identify barriers to safe opioid prescribing among primary care providers (PCPs) through AD.

Design and setting

Qualitative analysis of data was collected through an existing AD intervention to improve safe opioid prescribing in primary care. The AD intervention was delivered from June 2018 to August 2018 to licensed PCPs with prescriptive authority within a large independent health system in the metropolitan Chicagoland area.

Method

The AD intervention involved visits by trained detailers to PCPs who contemporaneously documented details from each visit via field notes. Using qualitative analysis, field notes were analysed to identify recurring themes related to opioid prescribing barriers.

Results

Detailer-entered field notes from 186 AD visits with PCPs were analysed. Barriers to safe opioid prescribing were organised into six themes: 1) gaps in knowledge; 2) lack of prescription monitoring programme (PMP) utilisation; 3) patient pressures to prescribe opioids; 4) insurance coverage policies; 5) provider beliefs; and 6) health system pain management practices.

Conclusion

Barriers to safe opioid prescribing in primary care, identified through AD visits among this large group of PCPs, support the need for continued efforts to enhance pain-management education, maximise PMP utilisation, and increase access to, and affordability of, non-opioid treatments.

Keywords

academic detailing; opioids; primary health care; qualitative research.

INTRODUCTION

The opioid epidemic in the US has become a major health crisis, with President Donald Trump declaring opioids a 'public health emergency' on 26 October 2017.¹ Over 46 000 opioid-related overdose deaths occurred in the US in 2018, of which, about 32% involved a prescription opioid.² Compared with other specialties, primary care practitioners (for example, family medicine and internal medicine) comprise approximately 50% of controlled-substance prescribers and account for the majority of dispensed opioid prescriptions.^{3–5} Primary care providers (PCPs) have reported feeling uncomfortable prescribing opioids and have expressed concern regarding opioid misuse, abuse, and addiction.⁶ Moreover, limited pain management training provided in US health professional schools and during postgraduate training⁷ has also contributed to the lack of confidence PCPs express in their ability to manage patients with chronic pain.^{8,9} Targeted education, such as academic detailing (AD), is a means of modifying and improving opioid prescribing behaviour.

AD is a form of educational outreach strategy that leverages the tenets of social marketing theory to increase awareness and use of evidence-based practices to improve prescribing and other medical decisions.^{10,11} AD uses specially trained

personnel (that is, detailers) to provide healthcare practitioners with current unbiased, evidence-based information through individual, face-to-face visits.¹¹

AD has been demonstrated to work best in areas where gaps in knowledge are present among clinicians. For example, AD has been used to improve clinician prescribing behaviour related to antihypertensives,¹² antimicrobial agents,¹³ and naloxone.¹⁴ The Centers for Disease Control and Prevention (CDC) have advocated the use of AD as part of their strategy to combat the opioid epidemic in the US.¹⁵ Studies using AD to modify prescribing behaviour related to opioids have found associations with modest reductions in prescription opioid-related mortality¹⁶ and high-dose opioid prescribing.¹⁷ Additionally, AD studies have found substantive improvements in adherence to opioid guidelines¹⁸ and prescription monitoring programme (PMP) use.^{19,20}

The AD visit represents not just an opportunity to share evidence-based practices, but it can also be leveraged as a tool to gather information from providers. Although previous AD studies have focused on the impact of direct educational outreach visits to improve prescribing activities related to opioids,^{16–22} there was a limited focus on barriers that may preclude safe opioid prescribing behaviour. Understanding these

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Submitted: 20 November 2019; **Editor's response:** 8 December 2019; **final acceptance:** 17 December 2019.

©British Journal of General Practice

This is the full-length article (published online 16 Jun 2020) of an abridged version published in print. Cite this version as: **Br J Gen Pract 2020**; DOI: <https://doi.org/10.3399/bjgp20X711737>

How this fits in

Identifying barriers to safe opioid prescribing in primary care is of major importance amid the opioid crisis in the US. Educational outreach strategies, such as academic detailing (AD), provide ample opportunities to elucidate these barriers from clinicians. This research highlights several barriers related to safe opioid prescribing in primary care, identified through AD, including knowledge gaps and limited utilisation of the state prescription monitoring programme. These findings can be used to inform the development of targeted efforts aimed to facilitate improved clinical decision making related to opioid prescribing and pain management in primary care.

barriers can help to inform new strategies and reinforce existing ones intended to facilitate safe opioid prescribing practices. Prior research conducted on small samples within the Veterans Health Administration (VHA) examined barriers to safe opioid prescribing in primary care.^{23–25} To build on the existing literature, the objective of this study was to identify barriers to safe opioid prescribing among PCPs through an existing opioid-focused AD intervention.

METHOD

This was a qualitative analysis of data collected as part of an existing AD intervention focused on safe opioid prescribing in primary care. The AD intervention is a part of a larger overall study focused on evaluating the effectiveness of AD on changing opioid prescribing behaviour in primary care. At present, this study leveraged the qualitative data collected during the existing AD intervention to identify barriers to safe opioid prescribing in primary care.

Informed consent was obtained from all participants. Prior to signing the consent form, participants were made aware that the visit would be documented and that any information collected would be kept secure, confidential, and not identifiable if used for any peer-reviewed research. No compensation was provided to participants for their involvement in the study.

Setting

The AD intervention was developed and implemented through a partnership with a large independent health system in Illinois, serving residents in Chicago and its surrounding suburbs. All participating

PCPs were employees of the health system and provided care to patients with both private and public insurance.

Participant recruitment

Health system leadership (that is, Chief Medical Officer and Medical Director of Pain Management) supported the delivery of the AD intervention to their PCPs and encouraged voluntary participation through a system-wide email describing the initiative. The health system provided a list of PCPs that contained names of PCPs and clinic managers, provider specialties, and clinic locations and contact information to facilitate the delivery of the AD intervention. Research staff from the UIC College of Pharmacy attempted to schedule a 15–30-minute appointment with PCPs through the clinic managers. Up to two contact attempts were made to schedule visits. If PCPs agreed to participate, a visit was scheduled. Detailers from the UIC College of Pharmacy presented to clinic locations for their scheduled appointments and met with the PCPs, one-on-one, in a private location where they presented the study and obtained their written informed consent.

Academic detailing intervention

The AD intervention was delivered from June 2018 to August 2018. Licensed healthcare practitioners with prescriptive authority (physicians, that is, doctor of medicine and doctor of osteopathy; nurse practitioners; and physician assistants) who specialised in primary care (limited to family medicine or internal medicine including geriatric medicine) were eligible to participate. Visits were conducted at the health system's immediate-care/walk-in clinics throughout the Chicago metropolitan area during regular office hours. Visits included the following components: 1) a review of six key messages from the CDC Guideline for Prescribing Opioids for Chronic Pain;²⁶ 2) provision of individualised provider-specific information obtained from the Illinois PMP on opioid prescribing behaviour in the 6 months prior to implementation of the AD intervention (December 2017 to May 2018); 3) administration of a measure to assess provider satisfaction with the AD intervention; and 4) additional resources to facilitate safe opioid prescribing practices (Supplementary Table S1). These four components were decided upon by the research staff in consultation with external content experts.

Specially trained detailers (specifically trained personnel) consisted of eight first-

and second-year Doctor of Pharmacy students and two licensed pharmacists from the UIC College of Pharmacy. The detailers were selected from a pool of interested candidates based on their ability to effectively communicate and present evidence-based information during simulated AD visits with the trained research staff. Detailers were not required to have previous experience or knowledge in qualitative research or AD. The detailers received standardised AD training from research staff who had completed formal training from the National Resource Center for Academic Detailing (NaRCAD).²⁷ The training occurred over 2 days and included presentations on AD, the visit components, logistics (for example, scheduling of AD visits, travel to clinic sites, and reimbursement), simulated visits, and the visit documentation process. Each detailer's ability to deliver the AD was assessed during the simulation where direct feedback was provided by the trained research staff.

Data collection

Following each AD visit, detailers entered field notes into a secure, internet-based application. Detailers were instructed to describe all aspects of each encounter including questions and concerns expressed by providers. Of note, PCPs were not asked directly about perceived barriers to safe opioid prescribing using standardised questions. The field notes collected during the AD visits are from the detailers' perspective of their encounters with PCPs. The research staff implemented several strategies to ensure trustworthiness, rigour, and quality of the documented field notes. These strategies included regular checking of the internet-based application where the field notes were entered to ensure data completeness, and debrief sessions with the detailers on a weekly basis, a component of which included a reminder to continue to comprehensively capture their field notes after each visit.

Data analysis

Thematic analysis was used to identify themes described within the field notes related to opioid prescribing barriers in primary care. This analytic method was used because of its ability to summarise large amounts of data to allow for a rich and detailed account of the data collected.^{28,29} Subthemes were represented as a statement or phrase that captured something important about the data in relation to the research objective. Based on the literature and experience of what the barriers would

be, themes were generated using a mix of inductive and deductive reasoning. Provider characteristics were removed from the field notes prior to analysing the data to mitigate bias. The process used to conduct the thematic analysis involved the following iterative steps.

Analytic reviewers consisted of a clinical psychologist with qualitative research experience, a pharmacist and PhD student, and a research assistant. Reviewers met initially to become familiar with the data and discuss the coding scheme. An initial list of codes and definitions was developed by the three reviewers over two meetings. Additional codes were added as coding proceeded. The three reviewers independently coded the first 10 sets of field notes to identify and systematise the concepts and categories into subthemes. After initial coding, reviewers met to compare codes and refine definitions. This process was repeated on the next 10 field notes. After meeting again to compare codes, no discrepancies were noted. Two reviewers independently coded the remaining field notes. Subsequently, the three reviewers met to compare codes with the principal qualitative reviewer leading discussion to resolve the remaining discrepancies. A final meeting focused on organising the codes into larger themes, where six overarching themes related to opioid prescribing barriers were identified.

RESULTS

A total of 226 eligible PCPs were identified. Of these, AD visits were conducted with 186 providers who agreed to participate. The majority of providers who participated were female physicians specialising in family medicine (Table 1). Barriers to opioid prescribing were organised into six themes: 1) gaps in knowledge; 2) lack of PMP utilisation; 3) patient pressures to prescribe opioids; 4) insurance coverage policies; 5) provider beliefs; and 6) health system pain-management practices. The themes are described below with representative examples from the field notes and in decreasing frequencies of themes identified. In total, 75.8% ($n = 141$) of PCPs reported at least one barrier, 50% ($n = 93$) of PCPs reported at least two barriers, and nearly 19.9% ($n = 37$) of PCPs reported three or more barriers (Figure 1).

Barriers to opioid prescribing

Theme 1: gaps in knowledge

One hundred and twenty-two field notes identified six barriers coded as gaps in knowledge. Two barriers in this theme related

Table 1. Primary care provider characteristics

Characteristic	Total (N= 186)
Sex, n (%)	
Female	103 (55.4%)
Male	83 (44.6%)
Provider type, n (%)	
(Doctor of Medicine) MD	96 (51.6%)
(Doctor of Osteopathy) DO	64 (34.4%)
(Nurse practitioner) NP	18 (9.7%)
(Physician assistant) PA	8 (4.3%)
Provider specialty, n (%)	
Family medicine	149 (80.1%)
Internal medicine	37 (19.9%)
Years of practice	
Median	12
Interquartile range	3–23
AD visit length, minutes	
Median	15
Interquartile range	12–15
Pre-AD intervention, mean monthly per provider prescribing statistics (SD)	
Total opioid prescriptions	15.2 (18.8)
High-dose opioid prescriptions	0.9 (2.3)
Day supply per opioid prescription	17.2 (9.5)
Daily MME per opioid prescription	27.8 (20.1)
Patients co-prescribed opioids and benzodiazepines	3.7 (5.8)
Illinois PMP searches	6.3 (17.0)

AD = academic detailing. MME = morphine milligram equivalents. PMP = prescription monitoring programme.

SD = standard deviation.

barriers in this theme related to opioid and non-opioid treatments. Providers expressed a lack of knowledge about particular drugs qualifying as prescription opioids (for example, acetaminophen with codeine and tramadol) and an inability to calculate morphine milligram equivalents (MME), a conversion factor for standardisation and comparison of opioid doses. Further, providers expressed uncertainty about safe non-opioid treatments to prescribe for patients with pain and common comorbidities (for example, hepatic or renal insufficiency). The final barrier in this theme was the lack of providers' awareness of their personal opioid prescribing habits prior to initially being presented with individualised opioid prescribing data during AD visits.

Theme 2: lack of prescription monitoring programme (PMP) utilisation

Sixty-seven field notes identified four barriers coded as lack of PMP utilisation. Three of the barriers in this theme related to the PMP website. Providers indicated that they had difficulty registering for the PMP, problems logging in after successful registration, and difficulty navigating the PMP website.

The final barrier in this theme related to the time required to look up patients on the PMP website, which ultimately led to a lack of use of the PMP. Collectively, these logistical PMP utilisation factors hindered providers from consistently using the state PMP.

Theme 3: patient pressures to prescribe opioids

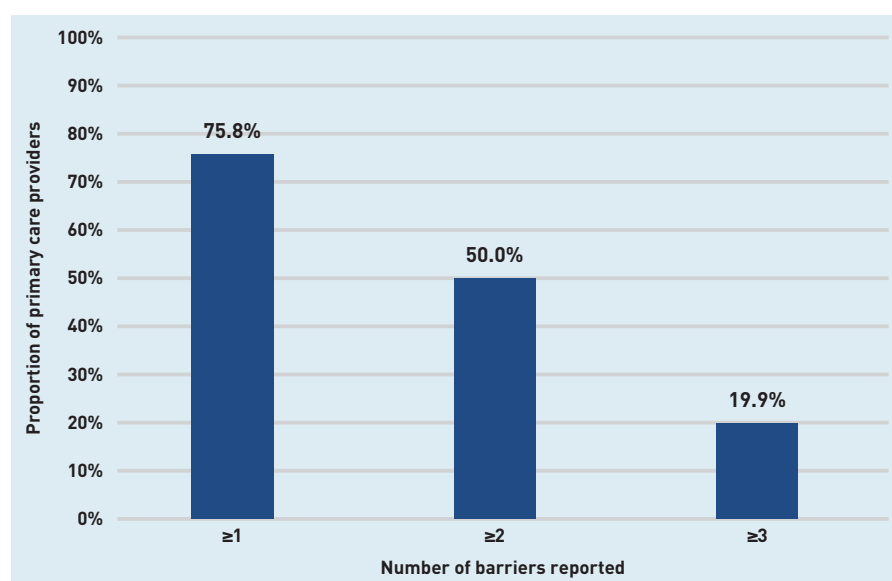
Nineteen field notes identified patient pressures as a barrier believed to impact safe opioid prescribing. For example, PCP participants expressed feeling pressured to renew opioid prescriptions among patients from other PCPs who previously managed them with opioids. Patient demands for opioids complicated providers' ability to assess the actual need for opioids. Thus, a few providers were concerned about the impact of having dissatisfied patients in the health system. Additionally, mid-level providers (for example, nurse practitioner or physician assistant) expressed challenges when attempting to discontinue concurrent opioid and benzodiazepine prescriptions to patients regularly receiving them from other PCPs.

Theme 4: insurance coverage policies

Twelve field notes identified two insurance coverage-related barriers. First, providers indicated that coverage policies (for example, prior authorisations) limited access to,

to naloxone. Providers indicated a gap in knowledge regarding patient access to, and affordability of, naloxone and administration techniques for commercially available naloxone formulations (that is, intranasal versus intramuscular). Three additional

Figure 1. Proportion of primary care providers reporting barriers to safe opioid prescribing.



and affordability of, prescribed non-opioid treatments (for example, lidocaine patches, diclofenac gel, and acupuncture).

Providers reported that their ability to prevent initial exposure to opioids among their patients was affected by insurance coverage policies where prescription opioids were more accessible and less costly compared with some non-opioid treatments.

Second, providers reported that utilisation management policies (for example, visit limits) curtailed some patients from visiting pain specialists at internal outpatient pain management clinics within the health system. As a result, PCPs expressed frustration about insurance coverage limiting their ability to refer certain patients who required more specialised pain management.

Theme 5: provider beliefs

Nine field notes identified two barriers related to provider beliefs. The first barrier was providers simply not believing that their personal practice was impacted or at risk of being impacted by opioid dependence. They recognised that there was an opioid epidemic nationally; however, they felt that their patients were not involved or at risk. The second barrier in this theme was providers' experiences with personal tragedy due to the opioid epidemic, such as the loss of a family member from an opioid overdose. As a result, some providers admitted to rarely prescribing opioids and often referred patients to outpatient pain clinics whenever possible.

Theme 6: health system pain-management practices

Five field notes identified three barriers related to health system pain-management practices. First, providers reported ambiguity regarding pain-management policies about the clinical use of tramadol. Second, providers indicated time constraints to perform a full pain assessment of each patient during routine encounters as an impactful system-wide issue.

Lastly, some providers expressed disagreement with the medication-assisted treatment (MAT) practices (for example, use of methadone) at internal outpatient pain management clinics for the treatment of mutual patients with opioid use disorder, because of personal experiences with patients unable to be tapered off of MAT once initiated.

DISCUSSION

Summary

In order to identify important targets for interventions, it is necessary to understand

the challenges that providers experience when considering the use of opioids in the management of patients with pain.

An existing AD intervention targeted to PCPs was leveraged to identify barriers related to safe prescribing of opioids. The coding of field notes obtained through open-ended feedback from 186 AD visits with PCPs resulted in the identification of six themes related to barriers impacting safe opioid prescribing in primary care. Gaps in knowledge and lack of PMP utilisation were most commonly identified. Additional, albeit less commonly identified, issues raised by providers included pressure from patients to prescribe opioids, limited patient access to other pain treatments/specialists due to insurance coverage, provider beliefs, and health system pain management practices.

Overall, the findings from this study underscore issues relevant to safe opioid prescribing and pain-management practices to improve patient outcomes.

Strengths and limitations

To the authors' knowledge, the current study is the largest qualitative study focused on the identification of barriers to safe opioid prescribing in primary care and the first to describe barriers among PCPs practising outside of the VHA. This study also demonstrated that field notes associated with an AD visit can be used as a novel approach to identify and facilitate barriers to safe opioid prescribing among PCPs within a health system on a large scale.

The themes identified in this study must be interpreted in consideration of several limitations. Themes were generated from open-ended questions and feedback as PCPs were not interviewed or asked directly about barriers they perceived to opioid prescribing through standardised questions. Because field notes documented from the perspective of the detailer were solely used to identify opioid prescribing barriers, this may have limited the depth and breadth of the barriers identified relative to other qualitative approaches (for example, interviews, focus groups). Detailers were asked to provide information on all aspects of the visit; however, there was much variation in the length and detail of the field notes for each documented visit.

The AD intervention was delivered to providers regardless of their prior opioid prescribing patterns, which may have impacted the barriers identified. Providers specialising in paediatrics and obstetrics/gynaecology were not included among the PCP participants, which may have impacted

the barriers identified. Participating providers specialised in primary care and practised within a single health system in the Chicagoland region, potentially limiting the generalisability of the findings. However, this subgroup of providers prescribes the largest proportion of opioids, and, therefore, the findings remain relevant.

Comparison with existing literature

Direct educational outreach through AD is an increasingly used strategy to supplement providers' knowledge with the most current, evidence-based information related to pain management and safe opioid prescribing.^{12–19} The results from this study were largely consistent with those reported among PCPs within the VHA, including knowledge gaps, provider attitudes and beliefs, patient-provider interactions, and health system pain-management practices.^{23–25}

The identified barriers related to PMP use were consistent with previous studies, which included online registration and access difficulties, lack of time to access PMPs, and lack of PMP usability.^{30,31} Novel findings from this research highlighted the impact of insurance policies on opioid prescribing due to limited reimbursement for alternative pain management and the PMP as barriers to safe opioid prescribing in primary care.

Implications for research and practice

Gaps in knowledge were the most commonly identified barriers to safe opioid prescribing. This finding is not surprising given the limited number of courses incorporating pain management in US health professional schools.⁷ Due to the evolving pain-management landscape, there is a clear need for increased pain-management education.³² AD programmes can be developed and tailored to include relevant resources and materials to facilitate safe opioid prescribing (Supplementary Table S1) that are applicable to the targeted setting (for example, primary care). However, implementation on a large scale in the targeted setting may be challenging due to factors that may impact provider engagement such as time constraints and uncertainty about the value of AD. Thus, incorporating useful incentives into the AD programme may overcome challenges to provider engagement and large-scale AD programme implementation within a health system. A potential incentive may be to provide continuing medical education (CME) on safe opioid prescribing through an accredited AD programme. Expanding

opportunities for providers to gain opioid-related CME credit are especially relevant due to growing the state legislative requirements for licensed controlled-substance prescribers in order to maintain their licensure.³³

Barriers to PMP utilisation were the second-most frequently reported theme. PMPs are state-wide electronic databases that collect timely information from retail pharmacies on dispensing of schedule II through V controlled-substance prescriptions (for example, drug name, payment type, and prescriber information).³⁴ Thus, PMPs can be used to identify problematic controlled-substance utilisation behaviours and support clinical decision making to reduce prescription opioid misuse, abuse, and diversion.³⁵ Effectiveness of PMPs relies on prescribers to access and review the database prior to prescribing controlled substances, but prescribers have reported a lack of routine use even though many are aware of the PMP and its utility.^{36,37} Based on the identified barriers to PMP use, potential strategies to overcome these barriers include mandatory PMP use to facilitate increased utilisation,^{38,39} and integration of PMPs with electronic medical records to improve direct PMP access.⁴⁰ Additionally, consent for authorised delegates to access the PMP on the provider's behalf may be a useful strategy to reduce time constraints on providers.⁴⁰ Implementation of these strategies has been associated with modest reductions in unsafe opioid prescribing and prescription opioid overdose deaths, which suggest PMPs can be helpful, although insufficient on their own.^{41–43} However, the PMP is the main tool that providers have at their disposal to assess a patient's controlled-substance history. Therefore, the development of user-centred online training programmes by state PMPs can help to improve the utilisation and navigation of the PMP database.⁴⁴ Aligning such training programmes with evidence-based guidelines may facilitate more effective use of the PMP and enhance clinical decision making.

Less frequently reported, although critically important, were insurance-related barriers that impacted access to, and affordability of, pain treatments and specialists. Providers reported that patients' insurance often lacked coverage for non-opioid treatments. This left providers with few options outside of prescription opioids, which were more often covered. Although non-opioid treatments are recommended as initial pain management options by

evidence-based guidelines for chronic pain,^{26,45} coverage policies are inconsistent and were noted as factors impeding access to, and affordability of, non-opioid treatments relative to prescription opioids.^{46,47}

Based on the identified insurance-related barriers, adoption of coverage policies aligned with evidence-based guidelines, such as step therapy requirements with non-opioid treatments prior to opioid initiation, would incentivise PCPs to use non-opioid treatments initially when managing patients with chronic pain. Implementation of such policies could broaden the selection of non-opioid treatments to make guidelines easier to follow, which may help to reduce prescription opioid misuse, abuse, and overdose death.^{46,48} Moreover, providers expressed a desire to refer patients for specialised pain management, but those efforts were hindered by utilisation management policies. The affordability of visits to pain specialists may be increasingly challenging for patients when insurance coverage is limited. By revising current coverage and reimbursement policies to reflect evidence-based guidelines that support increased access to non-opioid treatments and pain management services,⁴⁹ insurers can play a pivotal role in facilitating safe opioid prescribing practices in primary care.

Although AD has typically aimed to modify prescribing behaviour at the provider level, collecting information from providers during the AD visit and

sharing it with health system leadership may provide an opportunity for system-wide improvements. With challenges to implementing the CDC guideline in practice becoming more prominent,⁴⁹ this study's findings demonstrate that AD can be used as an opportunity to clarify evidence-based recommendations with providers to ensure their appropriate application. However, solutions to address insurance-related barriers require action at the health plan/insurer level, which influences guideline-concordant opioid prescribing practices.

In conclusion, six themes were identified related to barriers impacting safe opioid prescribing among a large group of PCPs through AD. These findings can be used to inform targeted efforts to facilitate improved clinical decision making related to opioid prescribing and pain management. Gaps in knowledge and lack of PMP utilisation were most frequently identified. These findings support the need for enhanced pain-management education and continued efforts to maximise PMP utilisation to facilitate safe opioid prescribing in primary care. Additionally, this study's findings suggest a need for adoption of evidence-based coverage and utilisation management policies by insurers that increase access to, and affordability of, non-opioid treatments and pain management services. This study also highlights the use of AD as an approach to identify barriers to safe opioid prescribing and facilitate solutions to the identified barriers.

Funding

This research was funded in part by the Centers for Disease Control and Prevention. Grant #1U17CE002739-01.

Ethical approval

The institutional review board at the University of Illinois at Chicago (UIC) gave ethical approval for this study. Protocol number: 2018-0265.

Provenance

Freely submitted; externally peer reviewed.

Competing interests

Michael A Fischer is a clinical consultant for Alosa Health, a health education non-profit that provides academic detailing services.

Acknowledgements

The authors thank and acknowledge the PCPs who participated in this study and the following individuals for their contributions: Mary Smart, Sarette Tilton, Aleksandrina Ruseva, Dayna Redini, Esther Lee, Nevena Varagic, Shannon Menard, Victoria Kulbokas, and Ammarah Nadeem, who participated as academic detailers from the University of Illinois at Chicago College of Pharmacy; Darin Jordan, Ankur Dave, and Reinhold Llerena, MD from AMITA Health; Craig Berberet, Stanley Murzynski, Edward Dowllar, Sarah Pointer, and Andrew Hollo from the Illinois Prescription Monitoring Program; Dejan Jovanov from the Illinois Department of Public Health; Jamie Mells, and Wes Sargent, from the Centers for Disease Control and Prevention.

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