1-8-2021

Obstetrician-Gynecologist Perceptions and Utilization of Prescription Drug Monitoring Programs: A Survey Study

Amie Goodin
University of Florida

Jungjun Bae
University of Kentucky, june.bae@uky.edu

Chris Delcher
University of Kentucky, chris.delcher@uky.edu

Joshua Brown
University of Florida

Dikea Roussos-Ross
University of Florida

Obstetrician-Gynecologist Perceptions and Utilization of Prescription Drug Monitoring Programs: A Survey Study

Digital Object Identifier (DOI)
https://doi.org/10.1097/md.0000000000024268

Notes/Citation Information
Published in *Medicine*, v. 100, issue 1, e24268.

Quality Improvement Study

Medicine®

OPEN

Obstetrician-gynecologist perceptions and utilization of prescription drug monitoring programs

A survey study

Amie Goodin, PhD, MPP[a,b,*], Jungjun Bae, BS[d], Chris Delcher, PhD[c,d], Joshua Brown, PharmD, PhD[a,b], Dikea Roussos-Ross, MD[e,f]

Abstract

Query of Prescription Drug Monitoring Programs (PDMPs) is recommended before prescribing opioids by the US Centers for Disease Control and Prevention, to inform clinical practice and aid diversion prevention. Many states mandate prescriber PDMP use; however, little is known about PDMP perception of utility and use among Obstetricians-Gynecologists (OB/GYN), who are the primary provider for most women during pregnancy.

This study examined OB/GYN perceptions and utilization of their state PDMP.

Survey items were developed by expert consensus. A voluntary anonymous survey was emailed to a random sample of 5000 OB/GYNs (adjusted participants n = 1470, minus unread/refusals). Responses were stratified by state policy environment, where response frequency distributions were compared for OB/GYNs practicing in states with mandatory vs voluntary PDMP query.

Adjusted response rate was 27% (n = 397). Most OB/GYNs (78%) were registered with their PDMP. The majority agreed that " . . . mandating physician use of the PDMP was a good idea" (51.4% mandatory state vs 58.3% voluntary state). Respondents in mandatory states reported that the primary purpose of the PDMP was "to allow the physician to verify medications that the patient is being prescribed" less frequently than those in voluntary states (38.3% vs 52.8%). Several report speaking with patients about controlled substance prescriptions after viewing PDMP reports (27.8% in mandatory vs 26.3% in voluntary states). In qualitative responses, reported frustration with PDMPs was evident.

OB/GYNs are diverse in their perceptions regarding the utility and purpose of PDMPs. Tailored education is needed regarding clinical utility of PDMPs for OB/GYN practice.

Abbreviations: ACOG = American College of Obstetricians and Gynecologists, ASAM = American Society of Addiction Medicine, CDC = Centers for Disease Control and Prevention, OB/GYNs = Obstetricians-Gynecologists, PDMPs = Prescription Drug Monitoring Programs.

Keywords: opioid abuse, opioid diversion, prescription drug monitoring programs, primary prevention tools, women's health

1. Introduction

The US Centers for Disease Control and Prevention (CDC) issued guidelines in 2016 recommending that clinicians review their state Prescription Drug Monitoring Program (PDMP) data when initiating and/or continuing opioid therapies under certain clinical circumstances.[1] PDMPs provide opioid and other controlled substance dispensing histories and other measures to clinicians for patients in their care. The American College of Obstetricians and Gynecologists (ACOG) and the American Society of Addiction Medicine (ASAM) jointly released a committee opinion to clarify recommendations for obstetrician-gynecologists (OB/GYN) that treat patients who are

Editor: Ediriweera Desapriya.

The authors have no financial conflicts to declare and funding was not acquired for this project.

Supplemental Digital Content is available for this article.

The datasets generated during and/or analyzed during the current study are not publicly available, but are available from the corresponding author on reasonable request.

[a] Department of Pharmaceutical Outcomes and Policy, [b] The Center for Drug Evaluation and Safety (CoDES), University of Florida, Gainesville, FL, [c] Department of Pharmacy Practice and Science, [d] Institute for Pharmaceutical Outcomes and Policy, University of Kentucky, Lexington, KY, [e] Department of Obstetrics & Gynecology, [f] Department of Psychiatry, University of Florida, Gainesville, FL.

[*] Correspondence: Amie Goodin, Department of Pharmaceutical Outcomes and Policy, University of Florida, 1225 Center Drive, Gainesville 32610, FL (e-mail: amie.goodin@ufl.edu).

How to cite this article: Goodin A, Bae J, Delcher C, Brown J, Roussos-Ross D. Obstetrician-gynecologist perceptions and utilization of prescription drug monitoring programs: a survey study. Medicine 2021;100:1(e24268).

Received: 24 September 2020 / Received in final form: 10 December 2020 / Accepted: 12 December 2020

http://dx.doi.org/10.1097/MD.0000000000024268

prescribed or may use opioids during pregnancy, medically or non-medically, following the release of the CDC guidelines.[2] The ACOG-ASAM recommendations endorse OB/GYN usage of PDMPs as a primary prevention tool for opioid-related adverse events.

As of mid-2020, most states now a) mandate that all controlled substance prescribers register with their state PDMP and b) require all or certain prescribers to check the PDMP when initiating controlled substance prescriptions, particularly for US Drug Enforcement Agency (DEA) Schedule II opioids.[3] Physician use of PDMPs increases when administrative registration with the state is mandated,[4] and prescribers reportedly comply with PDMP usage mandates.[5] However, prescribers across multiple specialties report that stand-alone PDMP data is difficult to access and incorporate into their workflow.[6] For OB/GYNs in particular, PDMPs are viewed as less effective, positive, or useful when compared to other primary care physicians.[7] In this literature, OB/GYNs sample sizes are low and they have sometimes been categorized with "other" prescriber specialties [8] making it difficult to understand their nuanced PDMP use and perceptions. One study in Washington Medicaid reported that OB/GYNs had the second lowest uptake in both PDMP registration and usage when compared with other physician specialties.[9]

Since OB/GYNs are the primary source of care for many women and comprise the majority of care during pregnancy;[10–12] they are well-positioned to provide screening and intervention for opioid-related sequelae. The purpose of this study was to assess OB/GYN utilization and perceptions of their state PDMP as stratified by practice location in states with and without mandated PDMP query.

2. Methods

2.1. Instrument development

A workgroup consisting of an OB/GYN, a pharmacist, and health services researchers reviewed survey items from several publicly available state-level PDMP survey instruments.[13] Survey items from previously published instruments were adapted for OB/GYNs to assess the perception of PDMP effectiveness, knowledge of PDMP functions, and self-reported use of PDMPs. The survey instrument was reviewed and approved by the ACOG District XII Committee on Health Care for Underserved Women prior to release and is available in Supplementary Materials, http://links.lww.com/MD/F548.

2.2. Study design and protocol

The study design was a cross-sectional survey. The research team partnered with ACOG leadership, who oversaw dissemination of the survey link and accompanying study description and explanation via email to a random sample of 5000 ACOG members with an active license to practice in the United States in May 2018. A reminder email was sent each week following the initial email invitation for a period of 6 weeks and the survey link remained active for a period of one week following the final reminder in July 2018. Survey responses were anonymous, but email read receipt data from the invitation were collected to calculate an adjusted response rate. Data were collected in Qualtrics (Qualtrics, Provo, Utah, USA). The University of Florida Institutional Review Board reviewed and approved this study.

2.3. Analysis

Response frequencies were calculated for each item and all surveys with >1 item response were included in the analysis (n = 397). State regulatory environment was classified as "mandatory" or "voluntary" based on the legal requirements for PDMP query (as of July 2018) and the physicians primary practice location. Chi square analysis was used to compare differences in response distribution between respondents practicing in mandatory versus voluntary PDMP states. A priori significance was set at 0.05.

Qualitative and free-text survey items were analyzed and coded for instances of similar thematic content by 3 reviewers, and, in instances of disagreement, our OB/GYN acted as a fourth and deciding vote. All analyses were conducted in Excel and SAS 9.4 (SAS Institute Inc., Cary, North Carolina, USA).[14,16]

3. Results

A total of n = 1470 survey invitations were opened and read, resulting in an adjusted response rate of 27% (n = 397 surveys completed). About a third of respondents were in private practice settings, and few were still considered trainees (60.7% classified as Attending). Most respondents practiced in a mandatory PDMP state (80.6%), 9.6% practiced in voluntary PDMP states, and 9.8% did not indicate their practice location. The majority were currently registered with the PDMP (77.6%). To gauge OB/GYN familiarity and understanding of PDMP data, respondents were asked to identify what information is provided by the PDMP from a list of options. Approximately, 30% were unaware that the PDMP identifies the prescriber writing each prescription and nearly half of respondents were unaware that the PDMP identifies dispensing pharmacies. A summary of other respondent characteristics is shown in Table 1.

Those practicing in mandatory versus voluntary states perceived the primary purpose of PDMPs differently (Table 2) and the majority of respondents suspected that 0 to 10% of their patients misuse or abuse opioids (Fig. 1). In free-text responses regarding the primary purpose of PDMPs, a majority of respondents that selected "other" purpose expressed frustration with PDMP usage and/or mandatory use laws (n = 14, Table 2). Three content themes of PDMP purpose emerged from these free-text responses:

1. Increase in physician burden [sample response: "To burden physicians with police work"],
2. Skepticism of government involvement [sample response: "Government bull [expletive]"], and
3. Oversight of prescriber activity [sample response: "So that state government and legislators can say they are doing something about the "opioid crisis""].

Respondents report most frequently querying the PDMP for patients that are currently using or prescribed opioids, and when they treat patients suspected of drug abuse (Fig. 1). Respondents most frequently report taking action as a result of using the PDMP by confirming prescription fills (31.3% in mandatory states; 23.7% in voluntary states), followed by speaking with patients about controlled substance use (27.8% mandatory states; 26.3% voluntary states). About 1 in 5 respondents indicated they confirmed doctor shopping behaviors as a result of querying the PDMP. No respondents reported referring patients to law enforcement (0%) and Child Protective Services referrals were also rare (1.9% in mandatory states; 0.0% in voluntary states; Table 3).

Table 1

Obstetrician-Gynecologist (OB/GYN) Survey Respondent Characteristics.

	Respondents (n = 397)
Practice Setting	
Academic/University-affiliated medicine	116 (29.2%)
Private Practice	144 (36.3%)
Hospital-based practice	57 (14.4%)
Federally qualified heath center	16 (4.0%)
Other settings	8 (2.0%)
No response	56 (14.1%)
Level of Training	
Attending	241 (60.7%)
Resident physician	62 (15.6%)
Fellow	33 (8.3%)
Other	5 (1.3%)
No response	56 (14.1%)
Sex	
Female	238 (59.9%)
Male	100 (25.2%)
Prefer not to answer or No response	59 (14.9%)
Currently Registered with the Prescription Drug Monitoring Program (PDMP)	
Yes	308 (77.6%)
No or I cannot access the PDMP	71 (17.9%)
No response	18 (4.5%)
Census Region of Practice Location	
Northeast	70 (17.6%)
Midwest	98 (24.7%)
South	121 (30.5%)
West	69 (17.4%)
Missing	39 (9.8%)
Practice Legal Environment*	
Mandatory PDMP Use	320 (80.6%)
Voluntary PDMP Use	38 (9.6%)
Unknown Practice Location	39 (9.8%)
Mean Years in Practice (SD)	16.14 (12.82)
Last time using the PDMP	
Within last week	81 (20.4%)
Within the last month	84 (21.2%)
Within the 6 months	55 (13.9%)
Within the last year	17 (4.3%)
Longer than one year ago	10 (2.5%)
I have never used the PDMP	45 (11.3%)
I cannot access the PDMP	2 (0.5%)
No response	103 (25.9%)
PDMP provides the following information	
Prescribed medication type	324 (81.6%)
The quantity of medications dispensed	311 (78.3%)
Name of provider on prescription	281 (70.8%)
The pharmacy dispensing medication	217 (54.7%)
The PDMP will tell me the primary reason why the medication is prescribed	13 (3.3%)
None of the above	3 (0.8%)
No response	58 (14.6%)

* Mandatory use indicates that the OB/GYN practices within a state that requires that the prescriber query the PDMP prior to initiation of a new controlled substance prescription; whereas voluntary use indicates that querying the PDMP was not required in the state of practice at the time of data collection.

Overall, 53% of OB/GYNs agreed that " . . . mandating prescriber use of the PDMP was a good idea." A greater proportion (58.3%) of respondents practicing in voluntary states agreed or strongly agreed with this statement (Fig. 2).

Table 2

Obstetrician-Gynecologist (OB/GYN) Perceptions of the Prescription Drug Monitoring Program Purpose*,†.

	Practice Legal Environment	
"The purpose of the PDMP is . . . "	Mandatory Query (n = 290)	Voluntary Query (n = 36)
To identify patients who are using medications that they haven't disclosed to their current provider	98 (33.8%)	11 (30.6%)
To identify patients who are "doctor shopping" for medications	67 (23.1%)	6 (16.7%)
To allow the physician to verify medications that the patient is being prescribed	111 (38.3%)	19 (52.8%)
Other (please specify)	14 (4.8%)	0 (0.0%)

* Missing responses (n = 30) were not included in denominators.
† Respondents who did not provide their state location (n = 39) were not included.

4. Discussion

Our study is the largest to-date on OB/GYN perceptions and use of their state PDMPs, and is among the first to assess perception of opioid use among the patients in their care. These findings suggest that OB/GYN perceptions may be tied to experience with the PDMP as evidenced by a significantly different stated purpose of the PDMP when examined by practice legal environment. The skepticism expressed by many respondents regarding PDMP effectiveness as a primary prevention tool for several opioid-related sequelae is concerning, despite recommendations. The findings regarding PDMP utility as a primary prevention tool were documented in a separate report analyzing these same data.[7]

A recent survey of ACOG Fellows and Junior Fellows reported that most OB/GYN respondents continue to prescribe opioids for a variety of indications, but few reported adherence to opioid prescribing guidelines.[15] In that ACOG survey, 81% of respondents also reported that they were unaware that the primary source of diverted opioids were prescriptions from friends and family members.

4.1. Clinical and research implications

Many states have recently adopted legislation to restrict opioid prescribing and dispensing by limiting quantities of outpatient prescriptions of opioids for acute pain[16] and several other states have similar legislation under consideration.[17] Additionally, federal legislation has been proposed to limit new opioid prescriptions for acute pain conditions to a 7-day supply.[18] These changes in the medico-legal landscape suggest that all prescribers, including OB/GYNs, will be checking PDMPs more frequently. Of particular importance for OB/GYN clinical practice, pregnancy may be the only time a woman with opioid use disorder or other forms of SUD engage in medical treatment,[19] which suggests that OB/GYNs are optimally positioned for screenings and interventions.

The delegate model, whereby a prescriber assigns responsibility for logging in and obtaining reports to another qualified health professional, for PDMP usage has been demonstrated to be more cost-effective than prescriber-initiated PDMP query and could reduce time and resource burden for OB/GYNs.[20] As of 2020, all states (with the exception of Missouri, which is the only state that has not yet implemented a statewide PDMP) permit prescriber delegates to access the PDMP.[3] After resolving workflow issues regarding PDMP access, however, there is evidence to suggest that

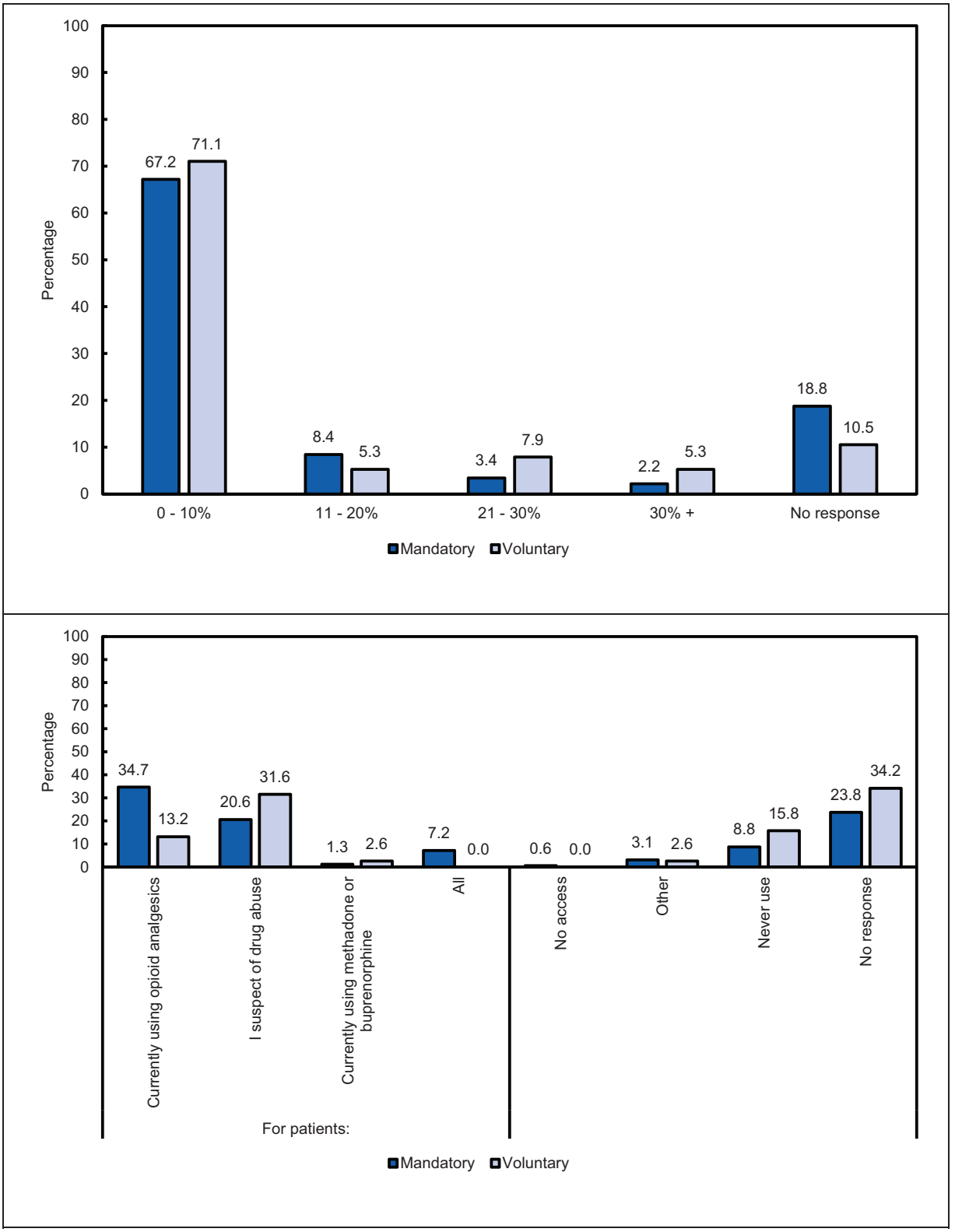

Figure 1. Obstetrician-Gynecologist (OB/GYN) Estimates of the Proportion of their Patients Suspected of Abusing Opioids (Top) and OB/GYN Reported Reason for Querying the Prescription Drug Monitoring Program (Bottom), by Practice Legal Environment*.

physicians are uncertain about how and when to discuss information gleaned from PDMPs with their patients.[21] This uncertainty may contribute to decreased perceptions of PDMP utility.

4.2. Strengths and limitations

This study employed evidence-based practices for maximizing physician response rates, including the use of multiple, timely follow-up invitations,[22] as well as delivery of the invitation via a

Table 3

Obstetrician-Gynecologist (OB/GYN) Actions Taken as a Result of Using the Prescription Drug Monitoring Program (PDMP)[*,†,‡].

	Practice Legal Environment	
	Mandatory Query (n = 320)	Voluntary Query (n = 38)
Action		
Spoken with patients about their controlled substance use	89 (27.8%)	10 (26.3%)
Contacted other providers or pharmacies	44 (13.8%)	9 (23.7%)
Confirmed patient was filling prescriptions as prescribed	100 (31.3%)	9 (23.7%)
Confirmed patient was doctor shopping	65 (20.3%)	8 (21.1%)
Established a controlled substance agreement ("opioid contract" with patient)	29 (9.1%)	5 (13.2%)
Reduced or eliminated controlled substance prescriptions for a patient	73 (22.8%)	10 (26.3%)
Changed controlled substance prescriptions to non-controlled substance prescriptions for a patient	42 (13.1%)	4 (10.5%)
Dismissed patient from practice	11 (3.4%)	3 (7.9%)
Referred or recommended for substance abuse treatment	30 (9.4%)	7 (18.4%)
Referred or recommended for pain management	58 (18.1%)	7 (18.4%)
Referred or recommended for psychiatric management	17 (5.3%)	4 (10.5%)
Referred or recommended for high-risk obstetric services	26 (8.1%)	1 (2.6%)
Referred or recommended to Child Protective Services	6 (1.9%)	0 (0.0%)
Referred to law enforcement	0 (0.0%)	0 (0.0%)
No action taken or required	24 (7.5%)	2 (5.3%)
I cannot access the PDMP	6 (1.9%)	3 (7.9%)
Other (please specify)	9 (2.8%)	0 (0.0%)
No response	91 (28.4%)	14 (36.8%)

[*] Respondents may select multiple options for this question item, totals do not sum to 100%.
[†] Missing responses (n = 19) were not included in denominators.
[‡] Respondents who did not provide their state location (n = 39) were not included.

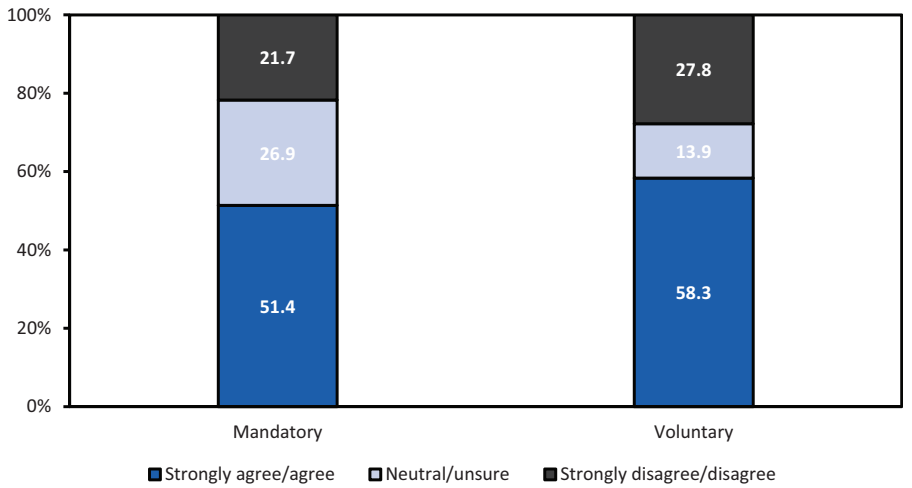

Figure 2. Obstetrician-Gynecologist (OB/GYN) Perception of Whether Prescription Drug Monitoring Program Use Should Be Mandatory, by Practice Legal Environment[*].

trusted professional association (here, ACOG). Despite these efforts, the response rate to this survey is in line with typical response rates for web-based surveys to physicians[23] that do not include financial incentives.[22] An additional limitation is that we were reliant on self-reported measures of OB/GYN PDMP usage and were unable to compare these self-reports with patterns of actual PDMP use.

5. Conclusions

ACOG members are diverse in their perceptions regarding the utility and purpose of PDMPs; though, the majority agree that PDMPs are a primary prevention tool for drug abuse and diversion. However, a knowledge translation gap may still exist-as only a third of OB/GYNs report checking the PDMP for their patients with opioid prescriptions. Increased training is needed regarding clinical utility of PDMPs along with practical guidance for incorporating the PDMP into OB/GYN practice.

Acknowledgments

The authors wish to thank the leadership of the American College of Obstetricians and Gynecologists (ACOG) for disseminating the survey to ACOG members and for providing feedback on the survey instrument. Additionally, the authors would like to thank the members of ACOG District XII for providing comment on

the preliminary findings. Preliminary findings were presented at the 2019 ACOG Annual Clinical and Scientific Meeting in Nashville, Tennessee.

Author contributions

Conceptualization: Amie Goodin, Chris Delcher, Joshua Brown, Dikea Roussos-Ross.
Data curation: Jungjun Bae.
Formal analysis: Amie Goodin.
Methodology: Amie Goodin, Chris Delcher, Joshua Brown, Dikea Roussos-Ross.
Project administration: Amie Goodin.
Supervision: Amie Goodin, Chris Delcher, Dikea Roussos-Ross.
Visualization: Jungjun Bae.
Writing – original draft: Amie Goodin.
Writing – review & editing: Amie Goodin, Jungjun Bae, Chris Delcher, Joshua Brown, Dikea Roussos-Ross.

References

[1] Dowell D, Haegerich T, Chou R. CDC guideline for prescribing opioids for chronic pain — United States, 2016. MMWR Recomm Rep 2016;65:1–49.
[2] Committee Opinion No. 711: Opioid Use and Opioid Use Disorder in Pregnancy. Obstet Gynecol. Aug 2017; 130(2):e81-e94.
[3] Prescription Drug Monitoring Program Training and Technical Assistance Center. 2019; http://www.pdmpassist.org/content/pdmp-maps-and-tables. Accessed March 19, 2019.
[4] Shev AB, Wintemute GJ, Cerda M, et al. Prescription drug monitoring program: registration and use by prescribers and pharmacists before and after legal mandatory registration, California, 2010-2017. Am J Public Health 2018;108:1669–74.
[5] Williams KS, Magalotti S, Schrouder K, et al. Prescription drug monitoring programs: relationships among program awareness, use, and state mandates. J Pain Palliat Care Pharmacother 2018;32:1–5.
[6] Rutkow L, Turner L, Lucas E, et al. Most primary care physicians are aware of prescription drug monitoring programs, but many find the data difficult to access. Health Aff (Millwood) 2015;34:484–92.
[7] Goodin AJ, Brown JD, Delcher C, et al. Perception of prescription drug monitoring programs as a prevention tool in primary medical care. Res Social Adm Pharm 2019;16:1306–9.
[8] Irvine JM, Hallvik SE, Hildebran C, et al. Who uses a prescription drug monitoring program and how? Insights from a statewide survey of Oregon clinicians. J Pain 2014;15:747–55.
[9] Sun BC, Lupulescu-Mann N, Charlesworth CJ, et al. Variations in prescription drug monitoring program use by prescriber specialty. J Subst Abuse Treat 2018;94:35–40.
[10] Kozhimannil KB, Fontaine P. Care from family physicians reported by pregnant women in the United States. Ann Fam Med 2013;11:350–4.
[11] Mazzoni S, Brewer S, Durfee J, et al. Patient perspectives of obstetrician-gynecologists as primary care providers. J Reprod Med 2017;62:3–8.
[12] Harris KR, Ahlers-Schmidt CR, Weeks KL. Young mothers lack plans to receive preventive health care. J Prim Care Community Health 2014;5:144–7.
[13] Prescription Drug Monitoring Program Training and Technical Assistance Center: PDMP Evaluations. 2019; http://www.pdmpassist.org/content/pdmp-evaluations. Accessed March 1, 2019.
[14] SAS Version 9.4. Cary, NC. SAS Institute, Inc: 2014. [computer program].
[15] Madsen AM, Stark LM, Has P, et al. Opioid knowledge and prescribing practices among obstetrician-gynecologists. Obstet Gynecol 2018;131:150–7.
[16] Davis CS, Lieberman AJ, Hernandez-Delgado H, et al. Laws limiting the prescribing or dispensing of opioids for acute pain in the United States: a national systematic legal review. Drug Alcohol Depend 2019;194:166–72.
[17] Delcher C, Wang Y, Goodin A, et al. Rapid expansion of the opioid ecosystem: national implications for prescriber-pharmacist communication. Am J Prev Med 2018;55:656–61.
[18] H.R.1614 - John S. McCain Opioid Addiction Prevention Act. 1st Session ed 2019.
[19] Reddy UM, Davis JM, Ren Z, et al. Opioid use in pregnancy, neonatal abstinence syndrome, and childhood outcomes: executive summary of a joint workshop by the Eunice Kennedy Shriver National Institute of Child Health and Human Development, American Congress of Obstetricians and Gynecologists, American Academy of Pediatrics, Society for Maternal-Fetal Medicine, Centers for Disease Control and Prevention, and the March of Dimes Foundation. Obstet Gynecol 2017;130:10–28.
[20] Bachhuber MA, Saloner B, LaRochelle M, et al. Physician time burden associated with querying prescription drug monitoring programs. Pain Med 2018;19:1952–60.
[21] Hildebran C, Cohen DJ, Irvine JM, et al. How clinicians use prescription drug monitoring programs: a qualitative inquiry. Pain Med 2014;15:1179–86.
[22] Brtnikova M, Crane LA, Allison MA, et al. A method for achieving high response rates in national surveys of U.S. primary care physicians. PLoS One 2018;13:e0202755.
[23] Cunningham CT, Quan H, Hemmelgarn B, et al. Exploring physician specialist response rates to web-based surveys. BMC Med Res Methodol 2015;15:32.