Pain Medicine, 22(8), 2021, 1870–1876
doi: 10.1093/pm/pnab017
Advance Access Publication Date: 27 January 2021
Original Research Article

OXFORD

CO-MORBID PAIN & SUBSTANCE USE DISORDERS SECTION

Changes in Quantity of Opioids Dispensed following Florida's Restriction Law for Acute Pain Prescriptions

Juan M. Hincapie-Castillo, PharmD, MS, PhD*,†,‡ Taylor Easey, BS* Carlos Hernandez, BS* Michael Maguire, MS*,† Silken A. Usmani, PharmD†,§ Scott Martin Vouri, PharmD, PhD*,†,§ and Amie Goodin PhD, MPP*,†

*Department of Pharmaceutical Outcomes and Policy, University of Florida, Gainesville, Florida, USA; †Center for Drug Evaluation and Safety, University of Florida, Gainesville, Florida, USA; ‡Pain Research and Intervention Center of Excellence, University of Florida, Gainesville, Florida, USA; §UF Health Physicians, Gainesville, Florida, USA

Correspondence to: Juan M. Hincapie-Castillo, Pharm.D, M.S., Ph.D., Address: PO Box 100496, Gainesville, FL 32610-0496, USA. Tel: 352-273-5526; Fax: (352) 273-6270; E-mail: j.hincapie@ufl.edu.

Abstract

Objective. To assess the impact of Florida's 3-day opioid prescription supply law, effective July 2018, on opioids dispensed for acute pain patients. **Methods**. Pharmacy claims from a health plan serving a large Florida employer from January 2015 through March 2019 were analyzed. We used an interrupted time series study design accounting for autocorrelation of trends before and after policy change. Acute pain patients met inclusion criteria if they had not received any opioid containing medications in the past 180 days. Patients could contribute to additional new use time if subsequent opioid claims occurred ≥180 days since the previous claim. Outcomes included mean number of units dispensed of the initial opioid prescription, mean morphine milligram equivalents (MMEs) per day of initial prescription by month, and mean total MMEs per initial prescription by month. **Results**. A total of 8,375 enrollees had 10,583 unique opioid starts in the given timeframe. Following the policy, there was an immediate significant decrease in the units dispensed per prescription of 4.9 (95% confidence interval [CI] −8.95, −.82 units). Additionally, there was a significant immediate reduction in total MMEs dispensed per prescription of 25.6 (95% CI −44.76, −6.44 MMEs). **Conclusions**. Among a group of privately-insured plan enrollees in Florida, and as a result of the law, there were significant decreases in the number of units dispensed, and total MMEs of opioid prescriptions. The immediate reduction in new opioid utilization following policy implementation suggests effective policy; however, impacts on chronic pain patients were not assessed.

Key Words: Opioids; Health Policy; Policy Evaluation; Acute Pain

Introduction

According to the Centers for Disease Control and Prevention (CDC), there were nearly 47,000 poisoning deaths involving opioids in 2018. Opioids accounted for almost 70% of all overdose (poisoning) deaths that year (n = 67,367) [1]. In recent years, both national and state-level regulations and statutory actions have been enacted to address opioid prescribing and dispensing behaviors to mitigate the risk of opioid-related harms. As of February 2020, 37 states have enacted exposure-avoidance policies to limit either opioid prescription days' supply or morphine milligram equivalents (MMEs) for the treatment of acute pain conditions, with the majority of these laws enacted since 2018 [2, 3]. The state of Florida implemented House Bill 21 (HB21) on July 1, 2018, which limited the days' supply of Schedule II opioids (e.g., hydrocodone) to3 days for a prescription for patients with acute pain, in most cases [4]. The prescription may extend to a 7-day's supply if the prescriber documents this as an "acute pain exception" [5]. The acute pain definition in Florida statute exempts pain related to cancer, terminal conditions, incurable or progressive illnesses during palliative care, or traumatic injury with an Injury Severity Score of 9 or greater.[5] HB21 contains no

limitations on the days' supply of opioids prescribed for non-acute pain (i.e., chronic pain) outside of the current federal regulations or on non-Schedule II opioids. HB21 does not impose limitations to prescribed dosage strength (MMEs) or number of units dispensed.

A recent paper that evaluated the impact on opioid restricting policies in Massachusetts, Connecticut, and New York, all with a seven-day restriction on new opioid prescriptions [6], identified reductions in prescription duration immediately following implementation, along with reductions of MMEs in the subsequent months. These new laws, along with similarly structured payer and health-system restriction policies, have the potential to impact care decisions and access to opioid therapies for several million patients.

Our previous evaluation of the Florida HB21 law showed a significant decrease in both the number of opioid users and the number of days supplied among amongst a population of enrollees in a single health plan who were classified as new users of opioids [7]. We found that the incidence of opioid use decreased immediately following the policy to 4.6 per 1,000 enrollees (change of −.92 per 1,000 enrollees, 95% CI −1.53, −.31 per 1,000 enrollees). Similarly, we found an immediate reduction in day's supply of 4.2 days per prescription (change of −1.13 days, 95% CI −1.78, −.48 days) with a continuous decreasing trend over the following 8 months. We focused this analysis on enrollees with new opioid use as the intent of the policy was reduction of opioid supply in the setting of acute pain, and not those individuals with chronic opioid therapy. With a decrease in the number of day's supply, we hypothesized that prescribers would counter this limitation with either an increase in the strength of the opioid medication or an increase in the number of units (e.g., tablets) for the prescription. In this study, we aimed to assess the impact of the days' supply restriction from the HB21 law on opioid prescribing changes. We evaluated the pre- and post-policy changes on 1) number of units dispensed per prescription, 2) MMEs per day, and 3) total MMEs per prescription.

Methods

Study Population

We analyzed pharmacy prescription claims for opioid medications dispensed from January 1, 2015, through March 31, 2019 from a single health plan that serves over 45,000 employees of a large university and health system employer in Florida. Our study period started on January 1, 2015 to avoid contamination with the rescheduling of hydrocodone-containing products implemented on October 2014 from Schedule III to the stricter Schedule II. We included single entity and combination products of hydrocodone, oxycodone, morphine, hydromorphone, oxymorphone, codeine, tramadol, meperidine, and tapentadol. This study received approval from the institutional review board at the University of Florida.

Inclusion/Exclusion Criteria

Individuals were required to be enrolled for at least 180 days prior to their initial opioid claim to be eligible for inclusion. The enrollee was considered opioid naïve if there were no other prescription claims for any of the previously defined opioid medications in the preceding 180 days. Individuals could contribute to additional new use time if subsequent opioid claims occurred ≥180 days since the previous opioid claim.

Opioid claims were excluded if the first opioid was nonoral (e.g., injectable, patch). We also excluded opioid claims not filled in a Florida pharmacy since HB21 would not be applicable to enrollees prescribed opioids from outside of this state.

Outcomes

We calculated: 1) the mean number of units dispensed of the initial opioid prescription by month (i.e., number of tablets, capsules, or number of each 5 mg of oral oxycodone solution dispensed); 2) the mean MMEs per day of the initial prescription by month; and 3) the mean total MMEs per prescription of the initial prescription by month. We analyzed each of the three outcomes separately for prescriptions of all opioid containing medications, prescriptions for hydrocodone, prescriptions for oxycodone, and prescriptions for non-Schedule II drugs.

Statistical Analyses

Demographic data were reported using descriptive statistics. We conducted analyses for all outcomes using interrupted time series (ITS) models accounting for autocorrelation of error terms. ITS is the preferred quasi-experimental study design for policy analyses as it allows for an assessment of pre-existing trends in the data prior to implementation (i.e., time effect) and both immediate changes in the outcome (i.e., level effect) and changes in the outcome trend after the interruption (i.e., trend effect) [8]. Using the "nlme" R package, we fitted generalized least squares linear models with an autoregressive-moving average (ARMA) correlation structure of order (p, q) [9].The p and q parameters were obtained from analyzing the autocorrelation and partial autocorrelation functions of each time series (auto-correlation function and partial auto-correlation function, respectively). A 2-sided $P < .05$ was considered statistically significant in evaluating the model coefficients for the time effect, and the level and trend changes resulting from the policy interruption. All analyses were conducted with R (R Foundation for Statistical Computing, Vienna, Austria) and SAS 9.4 (SAS Institute, Inc., Cary, NC, USA).

Table 1. Coefficients from interrupted times series models using autoregressive moving averages (monthly)

Analysis	Opioid type	Intercept (95% CI)	Time (95% CI)	Level (95% CI)	Trend (95% CI)
Units dispensed per Rx	All opioids	33.444 (31.558, 35.329)	−.156 (−.232, −.081)	−4.887 (−8.951, −.823)	−.336 (−1.011, .340)
	HCP	32.220 (29.104, 35.336)	−.140 (−.265, −.015)	−7.383 (−13.986, −.780)	−.112 (−1.214, .990)
	OCP	32.512 (31.178, 33.846)	−.170 (−.224, −.116)	−4.759 (−8.195, −1.322)	−.145 (−.715, .425)
	Non-CII opioids	37.851 (33.228, 42.473)	−.140 (−.327, .047)	−2.945 (−13.700, 7.810)	−.717 (−2.493, 1.059)
MME per Day	All opioids	38.858 (37.396, 40.320)	−.099 (−.158, −.040)	2.694 (−.505, 5.893)	.109 (−.427, .645)
	HCP	31.464 (30.369, 32.560)	−.018 (−.063, .026)	1.138 (−1.602, 3.878)	.019 (−.432, .471)
	OCP	54.706 (52.808, 56.604)	−.209 (−.286, −.133)	2.307 (−2.183, 6.797)	.293 (−.450, 1.035)
	Non-CII opioids	21.973 (21.163, 22.783)	−.014 (−.047, .019)	.824 (−1.288, 2.936)	.249 (−.100, .598)
Total MME per Rx	All opioids	191.211 (183.457, 198.963)	−.697 (−1.011, −.383)	−25.602 (−44.765, −6.438)	−1.925 (−5.082, 1.232)
	HCP	137.905 (131.385,144.424)	−.304 (−.567, −.040)	−24.244 (−39.792, −8.696)	−1.245 (−3.809, 1.319)
	OCP	265.687 (252.521, 278.852)	−1.313 (−1.848, −.779)	−38.871 (−73.295, −4.448)	−.353 (−6.053, 5.346)
	Non-CII opioids	162.175 (148.708, 175.642)	0	−24.819 (−57.567, 7.929)	−4.904 (−10.299, .492)

CI = confidence interval; CII = Schedule II; HCP = hydrocodone containing products; OCP = oxycodone containing products; MME = morphine milligram equivalents; Rx = prescription.

Results

Overall, there were a total of 54,409 individual opioid prescriptions dispensed to plan enrollees between January 2015 and the end of March 2019. After applying the exclusion criteria, there were a total of 8,375 enrollees with 10,583 unique opioid starts. Specifically, 21.3% (n = 1,788) of patients contributed to ≥ 2 unique opioid starts. The median age of opioid new-users was 36 (IQR 27–49) years old and 63.3% (n = 5,298) were female. There were 0.71% of enrollees who filled two unique opioids on the day of the initial fill, which was incorporated into the number of tablets and MMEs evaluations. The most commonly utilized opioid was hydrocodone, which accounted for 44.5% of prescriptions, followed by oxycodone (37.6%), and tramadol (12.0%).

Changes in the Number of Units Dispensed per Prescription

There was an overall decreasing trend in the number of units dispensed per opioid prescription among opioid naïve enrollees prior to HB21 (rate of −.16 units per study month, 95% CI −.23, −.08) (Table 1, Figure 1A; $P < .001$). Following the policy, there was a significant immediate decrease of 4.9 units per opioid prescription, 95% CI −8.95, −.82 units ($P = .023$). Prior to HB21, there were decreasing trends in the number of units per prescription for hydrocodone (rate of −.14 units per study month, 95% CI −.26, −.02 units per study month) ($P = .033$) and oxycodone (rate of −.17 units per study month, 95% CI −.22, −.12 units per study month) ($P < .001$) (Figure 1B and 1C). There were immediate reductions in the number of units dispensed per prescription for hydrocodone (26.3 to 18.9, $P = .033$) (change of −7.38 units, 95% CI −13.99, −.78 units) and oxycodone (25.4 to 20.6, $P = .009$) (change of −4.76 units, 95% CI −8.19, −1.32 units). There were no statistically significant changes in the number of units per prescription for non-Schedule II opioids (Figure 1D).

Change in Morphine Milligram Equivalents

Prior to HB21, there was a decreasing trend in MMEs per day (rate of −.09 MMEs per study month, 95% CI −.16, −.04 MMEs per study month) ($P = .002$) with a mean MMEs per day of 34.7 for all opioids during the study period; following implementation there was a non-significant increase in MMEs for all opioids to 37.4 (change of 2.69 MMEs, 95% CI −.51, 5.89 MMEs) ($P = .105$) (Table 1; Figure 2). However, after incorporating the total MMEs (MMEs multiplied by days' supply), there was an immediate mean reduction of 25.6 MMEs per prescription (95% CI −44.76, −6.44 MMEs) ($P < .001$, Figure 2). For hydrocodone-containing products, there was an immediate significant reduction of 24.2 mean MMEs per prescription (95% CI −39.8, −8.7 MMEs) ($P = .004$). Similarly, for oxycodone-containing products, there was an immediate significant reduction of 38.9 mean MMEs per prescription (95% CI −73.3, −4.4 MMEs) ($P = .032$) (Supplementary material). There were no statistically significant changes in MMEs for non-Schedule II opioids.

Discussion

This study documents an immediate and significant decrease in the number of units dispensed per opioid prescription and total number of MMEs per prescription following the implementation of a 3-days' supply opioid prescription policy in Florida within a large employer-provided health plan, while controlling for previous trends in opioid utilization. These findings were consistent for opioids overall, but the magnitude of the observed effect was larger for Schedule II opioids, such as hydrocodone and oxycodone, than for non-Schedule II opioids. There are few evaluations of this or similar policies by which to compare these findings. Dave and colleagues also reported a reduction in total MMEs of opioid prescriptions in an analysis of commercial prescription claims from three states, where each of these

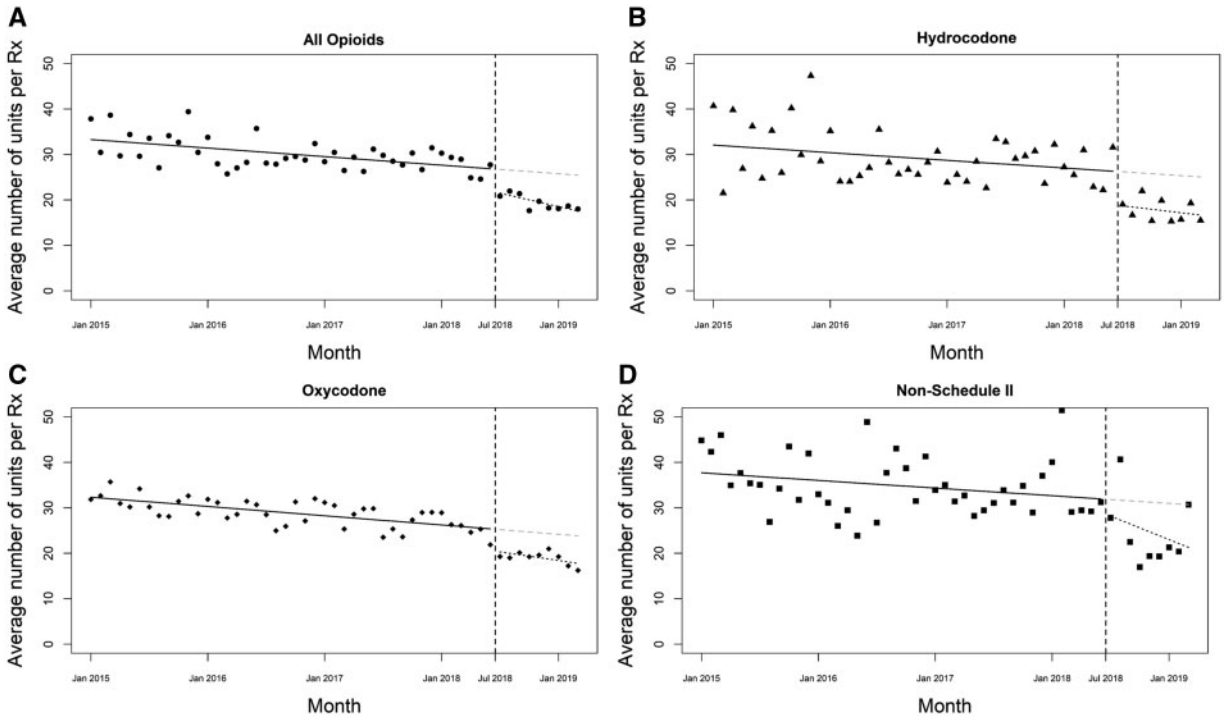

Figure 1. Changes in the number of units dispensed per prescription for **(A)** All Opioids, **(B)** Hydrocodone, **(C)** Oxycodone, and **(D)** Non-Schedule II opioids.

Vertical dashed lines indicate implementation of opioid restriction law.

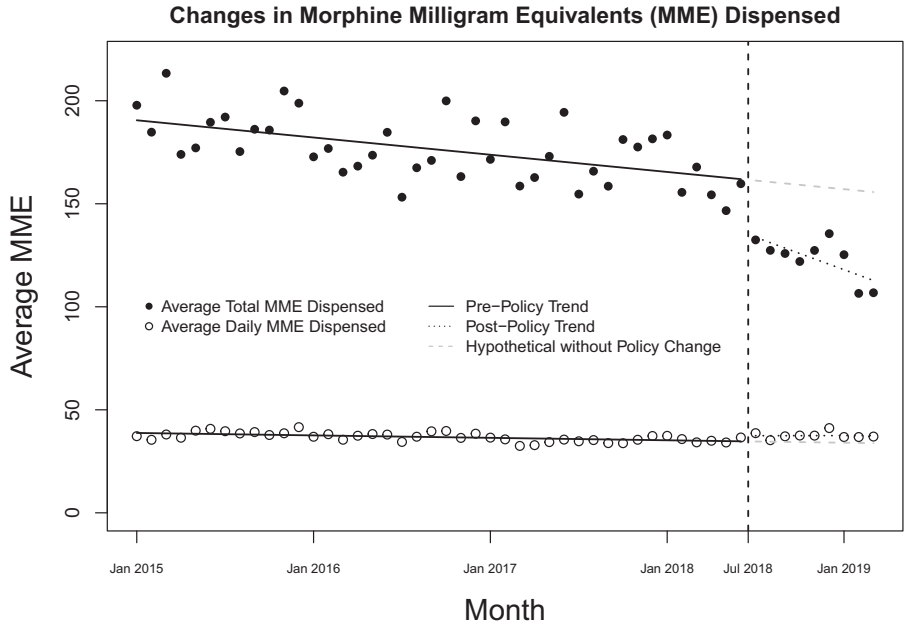

Figure 2. Change in Morphine Milligram Equivalents dispensed: **(A)** Total MME dispensed and **(B)** Average daily MME.

Vertical dashed line indicates implementation of opioid restriction law.

states implemented seven-days' supply restrictions in 2016.[4] These findings align with that report.

When extrapolating the observed reduction in the mean number of units dispensed per prescription (4.9) to the approximately 3.5 million individuals in Florida who would be categorized as opioid naive new users in 2016 (according to our definition and as calculated in previously published reports), we estimate that this policy may result in an approximate reduction of 17 million units of opioids available in the community in the first year following

implementation in Florida alone [10]. In fact, the annual report for the Florida's Prescription Drug Monitoring Program (E-FORCSE) indicates that across the state, there were significant reductions in opioid supply [11].

The intention of this policy was to restrict initial Schedule II opioid prescriptions for acute pain indications, but one potential unintended consequence resulting from quantity restrictions could be an observed increase in the number of doses per day within the shortened prescription duration. The slight increase in observed MMEs per prescription in this study, which is a marker of this unintended consequence, was nonsignificant, and ultimately the reduction in days' supply was more impactful than adjustments to doses per day within prescriptions. There are also numerous other potential unintended consequences that may arise from this or similar prescription opioid restriction policies.

Legislative policies that limit both the allowed MMEs and the total day's supply to be prescribed for new prescription orders for Schedule II controlled substances indicated for acute pain exist in other states in the United States (Arizona [12], Maine [13], Nevada [14], Ohio [15], Rhode Island [16], Tennessee [17], and Vermont [18]). In addition to those 7 states mentioned above that have legislation restricting both the MME/day and the day's supply of initial opioid prescriptions that can be prescribed, there are currently a total of 30 other states in the United States that have legislation in place restricting only the day's supply allowed to be prescribed for initial opioid prescriptions. Some states with unique legislation include Pennsylvania [19, 20] with a 7-day's supply limit only in Schedule II prescriptions prescribed to children, Maryland [21] with a requirement for health professionals to prescribe the lowest effective dose of an opioid, and Illinois [22] with a maximum day's supply limit of 30 days.

Limitations

In addition to the restriction in days' supply for opioid naive enrollees who filled a Schedule II opioid for 3 days (or 7 days with an exception), this health plan also enacted pharmacy-level opioid policy "edits" that were implemented by the pharmacy benefits manager in conjunction with the HB21 policy, where edits are defined by pharmacy benefits managers as conditions to be satisfied in order to receive coverage for medical goods and services. With this particular edit, patients in the health plan were limited to a seven-day's supply of opioids regardless of the Schedule (i.e., limited prescribing of codeine combination products and tramadol to 7 days). Additionally, a prior authorization was required if a subsequent opioid was attempted to be filled within 29 days of the previous opioid. The study as designed could not completely disentangle the effects of the policy edit from HB21; however, it should be noted that they occurred simultaneously, and we stratified each outcome in the analysis to examine the impact specifically on non-Schedule II opioids to tease out potential effects of the edit. This analysis was also limited to a patient population that is relatively younger and healthier than the typical opioid initiator, given that they are recipients of employer-sponsored insurance coverage, and so it is unclear whether the magnitude of the observed effect would be consistent in other populations. Similar methodology used in this study can be applied to evaluate the impact of opioid restriction policies for publicly-insured patients and other vulnerable populations. Other major events in the medico-legal landscape occurred prior to and during the study period and each of these may have influenced the trends reported in our findings. In particular, the 2014 rescheduling of hydrocodone likely resulted in lasting impacts on opioid use and prescribing behavior, which thus far have been associated with decreases in hydrocodone prescribing and utilization as well as increases in the prescribing of alternative Schedule III analgesics (e.g., tramadol, acetaminophen-codeine products) [23–25].

Clinical and Public Health Implications

The rapidly shifting medico-legal environment for opioids may also have unintended consequences for pain management and medication access for patients who are maintained on chronic opioid therapy regimens in addition to initiators for acute conditions, despite not being the target for these policies [26]. Furthermore, preliminary evidence suggests that a more restrictive control of prescribing and dispensing of opioid medications is associated with increased nonmedical use of opioid analgesic prescriptions as well as increased use of illicit opioids like heroin and illicitly manufactured fentanyl across the population overall [27, 28]. We did not study the implications of the FL HB21 policy on these patient outcomes and we propose to investigate the effects of this and similar policies on chronic users in future studies. Similarly, additional research is needed to evaluate the downstream effects of this and similar policies to examine the relationship between prescription opioid restrictions and changes in utilization for appropriate and inappropriate treatment alternatives as well as changes in illicitly manufactured alternatives.

Pharmacists often have limited access to information regarding the indication for a prescription, but they are charged with ensuring both the safety of the patient as well as compliance with legislative restrictions on supply, which could place additional burden on both pharmacists and prescribers by necessitating prescription verifications and could delay or prevent access to care for patients [29, 30]. Specific guidance for managing the care of patients with acute and chronic pain conditions will require tailoring and adapting health technology to ensure that pharmacists and prescribers can seamlessly communicate with each other and their patients to promote continuity

of care. As states and the federal government scramble to implement policies that mitigate opioid-related harms such as opioid use disorder and overdose, it is imperative that intended and unintended consequences be evaluated to inform best practices for opioid prescribing policy. Recent national debate on opioid prescribing restrictions was sparked by the introduction of a bipartisan bill in the United States Senate titled the "John S. McCain Opioid Addiction Prevention Act" [31]. This legislation seeks to enforce a 7-day supply limit nationally for Schedule II opioids prescribed for acute pain. While the bill has provisions similar to those of FL HB21 that exclude opioid prescriptions intended for chronic pain, cancer pain, hospice and end-of-life, and palliative care, there is public concern that unintended consequences on patient access can occur [32]. Broadly, supply-side opioid policies such as HB21 and similar prescription quantity restrictions from payers and health-systems have demonstrated mixed effectiveness towards reducing opioid-related harms, which suggests that innovative policy that incorporates funding and mechanisms for improved access to care for both pain management as well as opioid sequelae mitigation should be prioritized [33, 34].

Conclusion

Among a group of privately insured plan enrollees in Florida and as a result of the HB21 policy implementation, we reported significant decreases in the number of units dispensed and total morphine milligram equivalents of prescriptions. The immediate reduction in new opioid utilization following policy implementation suggests effective policy; however, unintended consequences were not assessed.

Acknowledgments

None

Conflicts of interest:

There are no report no conflicts of interest to report.

Meeting Presentation

Results from this study were presented at the 2019 Addiction Health Services Research Conference in Park City, Utah, on October 17, 2019.

Supplementary Data

Supplementary data are available at *Pain Medicine* online.

References

1. Wilson N, Kariisa M, Seth P, Smith H, Davis NL. Drug and opioid-involved overdose deaths - United States, 2017–2018. MMWR Morb Mortal Wkly Rep 2020;69(11):290–7.
2. Davis CS, Lieberman AJ, Hernandez-Delgado H, Suba C. 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.
3. National Conference of State Legislatures. Prescribing Policies: States Confront Opioid Overdose Epidemic [Internet]. 2018 [cited 2019 Jul 1]; Available from: http://www.ncsl.org/research/health/prescribing-policies-states-confront-opioid-overdose-epidemic.aspx
4. Fla. STAT. § 456.44(5) (2018).
5. Fla. STAT. § 456.44(1) (2018).
6. Dave CV, Patorno E, Franklin JM, et al. Impact of state laws restricting opioid duration on characteristics of new opioid prescriptions. J Gen Intern Med 2019;34(11):2339–41.
7. Hincapie-Castillo JM, Goodin A, Possinger M-C, Usmani SA, Vouri SM. Changes in opioid use after Florida's restriction law for acute pain prescriptions. JAMA Netw Open 2020;3(2):e200234.
8. Shadish WR, Cook TD, Campbell DT. Experimental and quasi-experimental designs for generalized causal inference/William R. Shedish, Thomas D. Cook, Donald T. Campbell. repository.fue.edu.eg; 2002.
9. Pinheiro J. Package "nlme." 2017.
10. Delcher C, Wang Y, Goodin A, Freeman PR, Reisfield GM. Rapid expansion of the opioid ecosystem: national implications for prescriber-pharmacist communication. Am J Prev Med 2018;55(5):656–61.
11. Florida Department of Health. Florida's 2018–2019 Prescription Drug Monitoring Program Annual Report; 2019.
12. Ariz. 32 § 3248.01 (2019).
13. Me. 32 § 2210 (2016).
14. Nev. A.B. 474 § 52 (2018).
15. Ohio Amin. Code 4731-11-13 (2017).
16. R.I. Gen. Laws § 21-28-3.20 (2018).
17. Ten. PUB. CH. 1039 (2018).
18. VT. STAT. 18 § 4289 (2019).
19. Pa. S.B. 1367 § 5203 (2016).
20. Pa. H.B. 1699 § 3 (2016).
21. MD. CH. 570 HB 1432 (2017).
22. Ill. COMP. STAT 720 ILCS 570 § 312.
23. Shumway JW, Ran R, McClusky J, et al. Impact of rescheduling hydrocodone-combination products in an urban Texas county healthcare system. J Opioid Manag 2018;14(4):257–64.
24. Schultz S, Chamberlain C, Vulcan M, Rana H, Patel B, Alexander JC. Analgesic utilization before and after rescheduling of hydrocodone in a large academic level 1 trauma center. J Opioid Manag 2016;12(2):119–22.
25. Oehler EC, Day RL, Robinson DB, Brown LH. Has the rescheduling of hydrocodone changed ED prescribing practices? Am J Emerg Med 2016;34(12):2388–91.
26. Mojtabai R. National trends in long-term use of prescription opioids. Pharmacoepidemiol Drug Saf 2018;27(5):526–34.
27. Scholl L, Seth P, Kariisa M, Wilson N, Baldwin G. Drug and opioid-involved overdose deaths: United States, 2013–2017. MMWR Morb Mortal Wkly Rep 2018;67(5152):1419–27.
28. Alpert A, Powell D, Pacula RL. Supply-side drug policy in the presence of substitutes: Evidence from the introduction of abuse-deterrent opioids. American Economic Journal: Economic Policy 2018;10(4):1–35.

29. Norwood CW, Wright ER. Integration of prescription drug monitoring programs (PDMP) in pharmacy practice: Improving clinical decision-making and supporting a pharmacist's professional judgment. Res Social Adm Pharm 2016;12(2):257–66.
30. Schiff GD, Seoane-Vazquez E, Wright A. Incorporating indications into medication ordering: time to enter the age of reason. N Engl J Med 2016;375(4):306–9.
31. John S. McCain Opioid Addiction PreventionAct.S.724, 116th Cong. (2019).
32. Human Rights Watch. "Not allowed to be compassionate": Chronic pain, the overdose crisis, and unintended harms in the US. 2018.
33. Barglow P. Commentary: the opioid overdose epidemic: evidence-based interventions. Am J Addict 2018;27(8):605–7.
34. Hodge JG, Gulinson CL, Barraza L, et al. Innovative law and policy responses to the opioid crisis. J Law Med Ethics 2019;47 (1):173–6.