

# A Comparison of Trends in Opioid Dispensing Patterns between Medicaid Pharmacy claims and Prescription Drug Monitoring Program Data

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## Background and Objective

- ❖ Prescription opioids were the primary catalyst in the evolving opioid epidemic and continue to be involved in over a third of all opioid deaths.
- ❖ The Oregon Health Authority (OHA) launched many initiatives to reduce opioid harms in patients especially targeted to the Medicaid program.
- ❖ There are growing concerns and emerging evidence that restrictive policies may have unintended negative consequences such as sub-optimal pain treatment, self-harm, increased demand for illicit or diverted opioids (e.g. heroin), and that individuals may circumvent policy restrictions by paying cash out-of-pocket for opioid prescriptions.
- ❖ This study aims to compare trends in prescription opioid utilization using Medicaid pharmacy claims and PDMP data in a cohort of Medicaid beneficiaries in Oregon from 2015 to 2017.
- ❖ We hypothesize that there will be increasing discrepancy in opioid fills “unaccounted for” within the Medicaid program as a function of increasing cash payments observed in the PDMP. These trends will also vary by prescription metrics (e.g. morphine equivalent dose (MED) tiers and co-prescribed opioid and benzodiazepine prescriptions).

## Methods

- ❖ Data from the Oregon Prescription Drug Monitoring Program (PDMP) and Oregon Medicaid administrative claims were used to identify Medicaid beneficiaries 18 years and older enrolled at least one full month from 2015 to 2017.
- ❖ Generalized linear models assessed trends in monthly rates of opioid PDMP prescription fills and pharmacy claims per 1,000 eligible members.
- ❖ Rates by morphine equivalent dose (MED) tier (<50, 50-89, 90-120, >120 MED) and co-prescribed opioid and benzodiazepine were also assessed.

## Results

- ❖ Eligible members (495,355) had 2,797,054 opioid PDMP fills and 2,472,155 opioid pharmacy claims
- ❖ Study participants had on average 15.4 (95% confidence interval (CI) 13.6 to 17.0; p<0.001) more prescriptions per 1000 members per month in the PDMP data (114.1 (SD 7.4)) compared to the Medicaid claims data (98.7 (SD 7.9)) (Table 1).
- ❖ Opioid prescriptions identified in both the PDMP and claims data declined significantly over time (2.1% per month, p<0.001). However, the percent difference between the opioid fills and claims rates increased significantly by 0.01% per month (p<0.001) (Figure 1).
- ❖ The PDMP fills were consistently higher than the claims by MED tiers (p<0.001), however, the gap was greater for low MED prescriptions (MED<50) compared to the other tiers (Figure 2).
- ❖ The average rate of co-prescribed opioids and benzodiazepines within the same month was higher in PDMP fills compared to pharmacy claims by 2 prescriptions per 1,000 members per month (95% CI 1.7 to 2.1; p<0.001) (Table 1).



## Principal Findings & Implications

- The Oregon Medicaid program implemented many policies to reduce opioid harms
- We detected significant discrepancies between the Oregon PDMP opioid prescription dispensing and Medicaid pharmacy claims (more dispensed than claimed)
- Up to two in ten opioid fills were likely paid by cash by Oregon Medicaid beneficiaries
- This indicates that patients may circumvent restrictive policies by paying out-of-pocket
- There is a need to balance the intended effects of policies that aim to increase patient safety and fight an epidemic and the potential unintended effects that could limit progress or cause harm

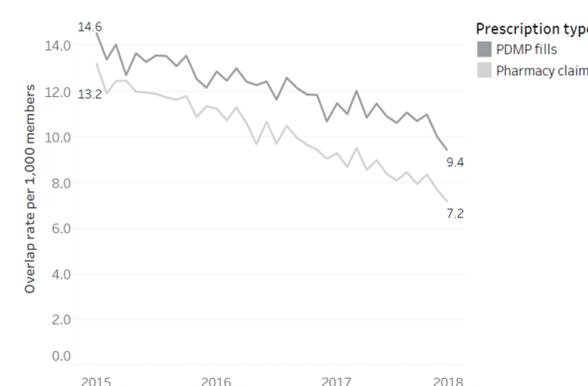


Figure 1. Trends in overlapping opioid and benzodiazepine PDMP fills rates and Medicaid pharmacy claims rates per 1,000 members per month

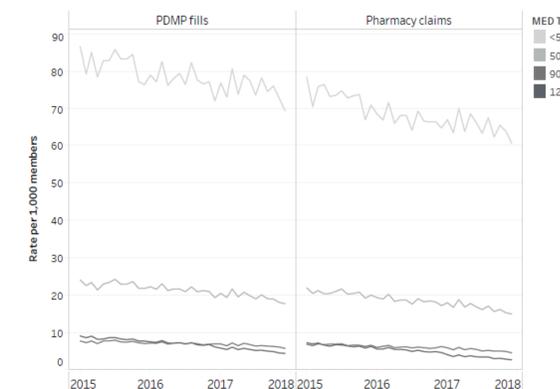


Figure 2. Trend in PDMP fills rates and Medicaid pharmacy claims rates per 1,000 members per month by MED tiers

Table 1. Average monthly opioid prescriptions identified in PDMP vs. Medicaid pharmacy claims

Rate metric**	PDMP fills		Medicaid pharmacy claims		P value <sup>†</sup>	Estimates*	
	Mean (95% CL)	SD	Mean (95% CL)	SD		(95% CL)	p value <sup>‡</sup>
Opioid rx rate	114.1 (111.6 to 116.6)	7.4	98.7 (96.0 to 101.4)	7.9	<0.001	15.4 (13.6 to 17.0)	<0.001
O&B overlap rate	12.1 (12.0 to 12.5)	1.2	10.2 (9.7 to 10.7)	1.5	<0.001	1.9 (1.7 to 2.1)	<0.001
<b>MED tier rate</b>							
tier1 (<50 MED)	78.5 (77.1 to 80)	4.1	68.7 (67.2 to 70.1)	4.3	<0.001	9.8 (8.6 to 11.1)	<0.001
tier2 (50-90 MED)	21.4 (20.8 to 21.9)	1.8	18.7 (18.1 to 19.4)	1.7	<0.001	2.7 (2.3 to 2.9)	<0.001
tier3 (90-120 MED)	7.1 (6.9 to 7.3)	0.5	6.1 (5.9 to 6.3)	0.6	<0.001	1.0 (0.9 to 1.1)	<0.001
tier4 (>120 MED)	7.0 (6.5 to 7.5)	1.3	5.1 (4.7 to 5.6)	1.3	<0.001	1.8 (1.7 to 1.9)	<0.001

CL: confidence limits; MED: morphine equivalent dose; O&B: opioid and benzodiazepine; rx: prescription; SD: standard deviation.  
\*Parameter estimates of fills vs claims

\*\* All rates are per 1,000 members per month  
†two sample t-test p value.  
‡Generalized linear model p values adjusted for time.