

# Regulation attenuation: Cross-border spillovers and prescription drug monitoring program efficacy in the opioid epidemic

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## JOB MARKET PAPER

### Abstract

Prescription drug monitoring programs (PDMPs)—online systems that providers and pharmacists can use to query patient prescription records—are one of the most widely-used state tools in regulating the prescribing and dispensing of opioids. However, the staggered adoption of PDMPs over the years has created opportunities for patients to evade detection by the system by crossing into a state that does not have a PDMP. This paper fills a gap in the existing literature by evaluating the impact of attenuating spillovers that arise when states in proximity to each other do not coordinate their PDMP policies. I first provide a theoretical framework to predict the expected outcomes in states affected by two types of spillovers: those from a state with a PDMP to a state without the policy and vice versa. I then test the predictions by estimating the direct and spillover effects of a PDMP in counties with and without the policy on the quantity of opioids shipped to retail pharmacies and opioid-related mortality. The design of the event study accounts for the fact that counties over time can be exposed to different types of spillovers. I find that, consistent with predictions, opioid quantity and prescription opioid-related mortality decrease in treated counties insulated from spillovers and counties with and without a PDMP that are exposed to spillovers. Contrary to predictions, mortality due to illicit opioids also decreases in these counties. I provide additional robustness checks for the results.

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