

# Opioid Rx dosages drop 22% in Penn Medicine's NJ practices following changes to state law

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The total amount of opioids dispensed per new opioid prescription decreased by 22 percent in Penn Medicine outpatient practices in New Jersey after the state passed a law limiting prescriptions to a five-day supply for new opioid prescriptions. Penn Medicine implemented an electronic health record (EMR) alert, or "nudge," to notify clinicians if that limit had been reached. The study, published online today in the *Journal of General Internal Medicine*, is one of the first evaluations of a state law's impact on prescribing outcomes, and is the first report of an EMR being used to make compliance with prescribing limits easier. Importantly, after the prescribing limit and alert went into effect there was no evidence to suggest pain control worsened.

"Our study provides early evidence that this type of on-the-ground approach from a health system driven by a state law can be an effective strategy to influence prescribing behavior and safely reduce the amount of new opioid [prescriptions](#) given to patients with acute pain," said the study's first author Margaret Lowenstein, MD, MPhil, a general internist and National Clinician Scholar in the Perelman School of Medicine at the University of Pennsylvania. "Importantly, we didn't see any ill effects in the short term, like early refills or an increase in telephone calls or hospital visits, that might suggest inadequate pain control or delayed recoveries in patients."

To help reduce the risk of both chronic use and opioid use disorder, 33

states, Medicare, and some insurers and pharmacy chains have implemented limits for new opioid prescriptions as a means of decreasing opioid exposure. In May 2017, New Jersey passed a law that limited new opioid prescriptions to a five-day supply for patients who had not been on opioids for over a year prior. Pennsylvania currently has a seven-day limit, but it doesn't apply to all care settings, including outpatient clinical practices.

Under direction from the University of Pennsylvania Health System (UPHS) Opioid Task Force to facilitate compliance with the law, UPHS implemented an EMR best practice alert in New Jersey clinical practices notifying prescribers if new prescriptions exceeded the five-day limit. Prescribers were required to make an active choice to acknowledge the alert before continuing with the original order or adjusting the prescribed quantity to comply with the law.

To evaluate the impact of the alert, researchers analyzed patient data over a two-year period in the EMR supplied by the Penn Data Analytics Center, which represented time before and after the law had taken effect. Over that time, there were a total of 668 new prescriptions from 10 New Jersey practices, and 4,368 prescriptions in Pennsylvania from 42 practices, which served as the control group. The prescriptions included the six most common opioids: oxycodone, morphine, hydrocodone, hydromorphone, codeine, or tramadol.

Prior to the intervention, the average total prescription dosage was 225 morphine milligram equivalents (MME) in New Jersey, and 150 MME in Pennsylvania, and the median quantity was 30 tablets in both. MME measures the total opioid dose per prescription in terms of strength and number of pills and standardizes across opioid types. Total MME serves as a measure of the total opioid exposure in a new prescription that is more precise than measuring days supplied.

Ten months after the law was passed, researchers found significantly greater declines in New Jersey compared to Pennsylvania, which had no EMR intervention. In New Jersey, the median dosage decreased from 225 to 150 MME and the median quantity of tablets decreased from 30 to 20. Overall, after adjusting for differences in patients across states, the amount of opioids per prescription decreased 30 percent in New Jersey compared to just eight percent in Pennsylvania, meaning there was an approximately 22 percent greater decline in opioid dose per new prescription in New Jersey relative to Pennsylvania.

The authors also found no significant differences in rates of refills or encounters based on exposure to the interventions during the study period.

Although the sample size and duration of the study preclude a separate evaluation of the impact of law versus the EMR alert, the data does not show a significant impact of the law alone, suggesting that the effects may be driven more by the EMR intervention, the authors said.

"As we grapple with how to balance judicious opioid prescribing with some of the unintended consequences, electronic alerts and other types of targeted interventions that nudge providers in a direction that adhere to the evidence while allowing flexibility represent really promising tools to make [opioid](#) prescribing safer," said senior author M. Kit Delgado, MD, MS, an assistant professor of Emergency Medicine and Epidemiology at Penn who leads the Acute Pain Workgroup of the UPHS Opioid Task Force.

Preliminary results were presented at the Society of General Internal Medicine Annual Meeting in May 2019 in Washington, DC.

Provided by Perelman School of Medicine at the University of

## Pennsylvania

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