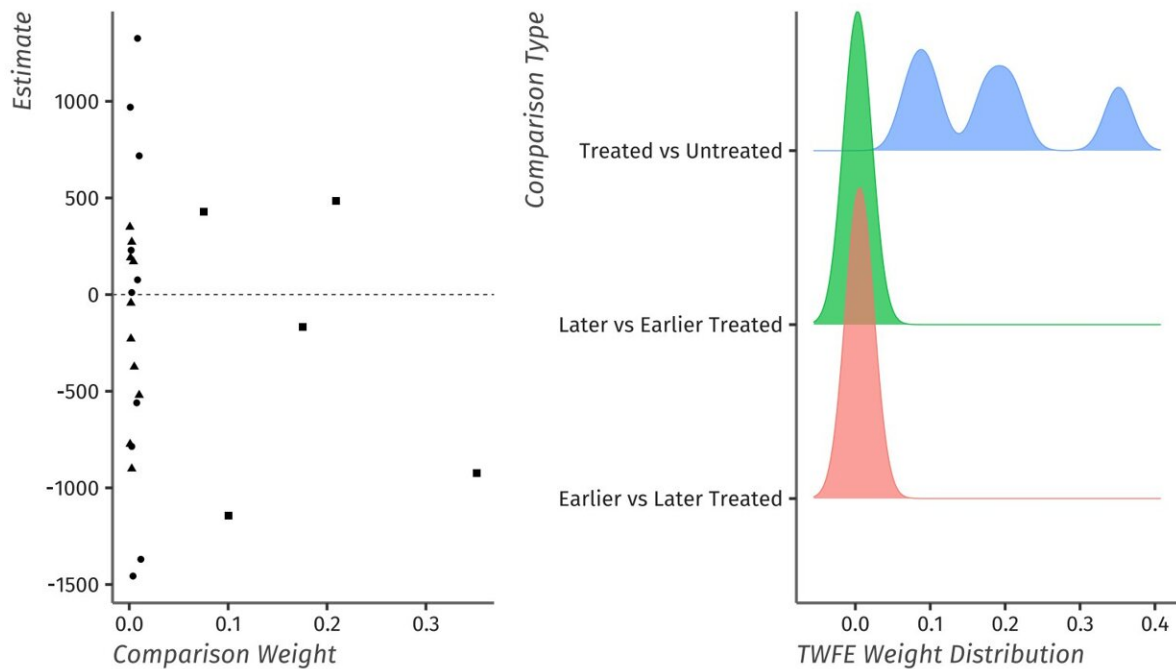


Availability of recreational cannabis reduced demand for prescription codeine

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Goodman-Bacon Decomposition for TWFE Setting in Analysis Note: Goodman-Bacon decomposition and show that 91.2% of the unadjusted difference-in-difference estimate is composed of valid comparisons between treated and untreated units. Performed using bacon package in R. Weights assigned to comparisons not between treated and untreated units make up less than 10% of total weight for DiD estimate. Credit: *Health Economics* (2023). DOI: 10.1002/hec.4652

States that permit recreational use of cannabis see a reduction in demand for prescription codeine, an opioid with a high potential for misuse, according to a new multi-institutional study led by University of Pittsburgh and Cornell University scientists.

Published this week in *Health Economics*, the study finds a significant reduction in pharmacy-based codeine distribution in states that have legalized recreational cannabis use. The finding is promising from a public [health](#) policy perspective because misuse of prescription opioids annually contributes to more than 10,000 overdose deaths.

Twenty-one U.S. states have passed recreational cannabis laws and legislatures in other states are considering similar measures.

"A reduction in the misuse of opioids can save lives," said lead author Shyam Raman, a doctoral candidate in Cornell's Jeb E. Brooks School of Public Policy. "Our research indicates that recreational cannabis laws substantially reduce distribution of codeine to pharmacies, an overlooked potential benefit to legalizing recreational cannabis use."

The study is among the first to separately examine the impact of recreational cannabis laws on shipments of opioids to hospitals, pharmacies and other endpoint distributors. Previous studies have focused on medical cannabis laws or use of opioids by subsets of consumers, such as Medicaid beneficiaries.

The researchers analyzed data from the Drug Enforcement Administration's Automation of Reports and Consolidation Orders System (ARCOS) which tracks the flow of controlled substances in the U.S. These are their key findings from states that passed recreational cannabis laws:

- A reduction of 26% in pharmacy-based distribution of codeine

and as much as a 37% reduction after recreational cannabis laws have been in effect for four years.

- Minimal impact on distribution of other opioids such as oxycodone, hydrocodone and morphine in any setting.
- Minimal impact on codeine distribution by hospitals which are often have less permissive policies than pharmacies.

"This finding is particularly meaningful," said senior author Coleman Drake, Ph.D., assistant professor of health policy and management at Pitt's School of Public Health. "Among prescription opioids, codeine misuse is especially high. Our findings suggest recreational cannabis use may be a substitute for [codeine](#) misuse."

While cannabis and opioids can be used to minimize chronic pain symptoms, they aren't equivalent in their impact on health.

"Increasing legal access to cannabis may shift some consumers away from opioids and towards cannabis," said Johanna Catherine Maclean, Ph.D., of George Mason University. "While all substances have some risks, cannabis use is arguably less harmful to health than the non-medical use of prescription opioids."

More information: Shyam Raman et al, Recreational cannabis and opioid distribution, *Health Economics* (2023). [DOI: 10.1002/hec.4652](https://doi.org/10.1002/hec.4652)

Provided by University of Pittsburgh

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