

Drug and Alcohol Review

"Substituting cannabis for one or more of alcohol, illicit drugs or prescription drugs was reported by 87% (n = 410) of respondents, with 80.3% reporting substitution for prescription drugs, 51.7% for alcohol, and 32.6% for illicit substances. Respondents who reported substituting cannabis for prescription drugs were more likely to report difficulty affording sufficient quantities of cannabis, and patients under 40 years of age were more likely to substitute cannabis for all three classes of substance than older patients."

P. Lucas, Z. Walsh, K. Crosby, et al. (2016). Substituting cannabis for prescription drugs, alcohol and other substances among medical cannabis patients: The impact of contextual factors *Drug Alcohol Rev*, 35 pp. 326-333 <https://www.ncbi.nlm.nih.gov/pubmed/26364922>

Journal of Health Economics

"The relationship between medical marijuana laws and reductions in opioid overdoses is complex. Medical marijuana laws vary in their effect on reducing opioid overdoses. States with medical marijuana dispensaries experienced reductions in opioid-related overdoses. As states have become more stringent in regulating dispensaries, the protective value of medical marijuana laws generally has fallen. These findings suggest that broader access to medical marijuana facilitates substitution of marijuana for powerful and addictive opioids."

Powell, D. Et.al., (2018, March). Do Medical Marijuana Laws Reduce Addictions and Deaths Related to Pain Killers? *Journal of Health Economics* Volume 58 Pages 29-42. https://www.rand.org/pubs/external_publications/EP67480.html

Journal of the American Medical Association (JAMA)

"From 2010 to 2015 there were 23.08 million daily doses of any opioid dispensed per year in the average state under Medicare Part D. Multiple regression analysis results found that patients filled fewer daily doses of any opioid in states with an MCL. The associations between MCLs and any opioid prescribing were statistically significant when we took the type of MCL into account: states with active dispensaries saw 3.742 million fewer daily doses filled (95% CI, -6.289 to -1.194); states with home cultivation only MCLs saw 1.792 million fewer filled daily doses (95% CI, -3.532 to -0.052)."

Bradford, A., Bradford, BA, et.al. (2018). Association Between US State Medical Cannabis Laws and Opioid Prescribing in the Medicare Part D Population *JAMA Intern Med*. <https://jamanetwork.com/journals/jamainternalmedicine/article-abstract/2676999?redirect=true>

Journal of the American Medical Association (JAMA)

"Three states (California, Oregon, and Washington) had medical cannabis laws effective prior to 1999. Ten states (Alaska, Colorado, Hawaii, Maine, Michigan, Montana, Nevada, New Mexico, Rhode Island, and Vermont) enacted medical cannabis laws between 1999 and 2010. States with medical cannabis laws had a 24.8% lower mean annual opioid overdose mortality rate (95% CI, -37.5% to -9.5%; P = .003) compared with states without medical cannabis laws."

Bachhuber MA, Saloner B, Cunningham CO, Barry CL. (2014). Medical Cannabis Laws and Opioid Analgesic Overdose Mortality in the United States, 1999-2010. *JAMA Intern Med*.174(10):1668-1673. <https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/1898878>