

The Science Can No Longer Be Ignored: Legal Cannabis Access Reduces Opioid Abuse and Mortality

For many patients, cannabis offers a viable alternative to opioids.



Medical marijuana dispensary, Denver, Colorado - Photo Credit: Wikimedia/Creative Commons

Scientific data is growing exponentially in support of the notion that legalized cannabis access can significantly mitigate opioid use and abuse.

On Monday, the esteemed *Journal of the American Medical Association, Internal Medicine* published¹ a pair of persuasive new studies reinforcing this opinion.

In the first study², investigators from the *University of Kentucky* and *Emory University* assessed the relationship between medical and adult-use marijuana laws and opioid prescribing patterns among Medicaid enrollees nationwide. Enrollees included all Medicaid fee-for-service and managed care enrollees—a high-risk population for chronic pain, opioid use disorder, and opioid overdose.

Researchers reported that the enactment of both medicalization and adult-use laws were both associated with reductions in opioid prescribing rates, with broader legalization policies associated with the greatest rates of decline.

“State implementation of medical marijuana laws was associated with a 5.88 percent lower rate of opioid prescribing. Moreover, the implementation of adult-use marijuana laws, which all occurred in states with existing medical marijuana laws, was associated with a 6.38 percent lower rate of opioid prescribing,” they concluded.

“[T]he further reductions in opioid prescribing associated with the newly implemented adult-use marijuana laws suggest that there were individuals beyond the reach of medical marijuana laws who may also benefit from using marijuana in lieu of opioids. Our finding that the lower opioid prescribing rates associated with adult-use marijuana laws were pronounced in Schedule II opioids further suggest that reaching these individuals may have greater potential to reduce the adverse consequences, such as opioid use disorder and overdose.”

¹ <https://www.npr.org/sections/health-shots/2018/04/02/598787768/opioid-use-lower-in-states-that-eased-marijuana-laws>

² <https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2677000>

In the second study³, University of Georgia researchers evaluated the association between the enactment of medical cannabis access laws and opioid prescribing trends among those eligible for Medicare Part D prescription drug coverage. Researchers reported that medicalization, and specifically the establishment of brick-and-mortar cannabis dispensing facilities, correlated with significantly reduced opioid prescription drug use.

“This longitudinal analysis of Medicare Part D found that prescriptions filled for all opioids decreased by 2.11 million daily doses per year from an average of 23.08 million daily doses per year when a state instituted any medical cannabis law. Prescriptions for all opioids decreased by 3.742 million daily doses per year when medical cannabis dispensaries opened,” they concluded.

“Combined with previously published studies suggesting cannabis laws are associated with lower opioid mortality, these findings further strengthen arguments in favor of considering medical applications of cannabis as one tool in the policy arsenal that can be used to diminish the harm of prescription opioids.”

The new findings should come as little surprise to those paying attention. State-specific data from cannabis-access jurisdictions have consistently established that in regions where medical cannabis access is permitted, patients routinely decrease their opioid intake.

For instance, according to data⁴ published last month by the Minnesota Department of Health, among patients known to be taking opiate painkillers upon their enrollment into the program, 63 percent

“were able to reduce or eliminate opioid usage after six months.”

Minnesota’s findings are hardly unique. 2016 data⁵ gathered from patients enrolled in Michigan’s cannabis access program reported that marijuana treatment

“was associated with a 64 percent decrease in opioid use, decreased number and side effects of medications, and an improved quality of life.”

A review⁶ of state-registered patients from various northeastern states yielded similar results, finding 77 percent of respondents acknowledged having reduced their use of opioids following cannabis therapy. A significant percentage of respondents also reported decreasing their consumption of anti-anxiety medications (72 percent), migraine-related medications (67 percent), sleep aids (65 percent), and antidepressants (38 percent).

A 2017 assessment⁷ of medical cannabis patients in Illinois revealed that participants in the state-run program frequently reported using marijuana

³ <https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2676999>

⁴ <https://www.health.state.mn.us/topics/cannabis/about/ipreport.pdf>

⁵ <https://www.ncbi.nlm.nih.gov/pubmed/27001005>

⁶ <https://www.ncbi.nlm.nih.gov/pubmed/28372506>

⁷ <https://www.ncbi.nlm.nih.gov/pubmed/28945457>

"as an alternative to other medications—most commonly opioids, but also anticonvulsants, anti-inflammatories, and over-the-counter analgesics."

New Mexico patient data reports⁸: compared to non-users, medical cannabis enrollees

"were more likely either to reduce daily opioid prescription dosages between the beginning and end of the sample period (83.8 percent versus 44.8 percent) or to cease filling opioid prescriptions altogether (40.5 percent versus 3.4 percent)."

Two just-published clinical trials from Israel (where medical cannabis use is legally permitted) further affirm this phenomenon. In the first study⁹, which assessed cannabis use among the elderly, investigators reported that over 18 percent of the study's participants

"stopped using opioid analgesics or reduced their dose."

They concluded,

"Cannabis can decrease the use of other prescription medicines, including opioids."

In the second trial¹⁰, which assessed the safety and efficacy of cannabis in a cohort of over 1,200 cancer patients over a six-month period, scientists reported that nearly half¹¹ of respondents reported either decreasing or eliminating their use of opioids during treatment.

Another recently published clinical trial¹² provides insight into explaining the physiology behind this relationship. Investigators from Columbia University assessed the efficacy of low doses of inhaled cannabis and sub-therapeutic doses of oxycodone on experimentally-induced pain in a double-blind, placebo-controlled model.

Researchers assessed subjects' pain tolerance after receiving both substances separately or in concert with one another. While neither the administration of cannabis nor oxycodone alone significantly mitigated subjects' pain, the combined administration of both drugs did so effectively.

Authors determined,

"Both active cannabis and a low dose of oxycodone (2.5 mg) were sub-therapeutic, failing to elicit analgesia on their own; however, when administered together, pain responses ... were significantly reduced, pointing to the opioid-sparing effects of cannabis."

They concluded,

⁸ <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0187795>

⁹ <https://www.ncbi.nlm.nih.gov/pubmed/29398248>

¹⁰ [https://www.ejinme.com/article/S0953-6205\(18\)30023-2/fulltext](https://www.ejinme.com/article/S0953-6205(18)30023-2/fulltext)

¹¹ <https://www.prnewswire.com/news-releases/cannabis-to-be-a-safe-effective-medical-treatment-in-first-of-its-kind-peer-reviewed-study-of-thousands-of-cancer-patients-using-tikun-olam-strains-300604361.html>

¹² <https://www.nature.com/articles/s41386-018-0011-2>

“Smoked cannabis combined with an ineffective analgesic dose of oxycodone produced analgesia comparable to an effective opioid analgesic dose without significantly increasing cannabis’s abuse liability.”

Growing evidence also indicates that patients’ alternative use of cannabis is associated with declining percentages of opioid-induced mortality among adults residing in legal access states. Data published in 2017 in the *American Journal of Public Health*¹³ that adult use marijuana sales in Colorado were linked with a 6.5 percent decrease in monthly opioid deaths. A 2014 study¹⁴ published by a team of investigators from the University of Pennsylvania and the Johns Hopkins Bloomberg School of Public Health in Baltimore reported an even stronger correlation. They determined,

“States with medical cannabis laws had a 24.8 percent lower mean annual opioid overdose mortality rate compared with states without medical cannabis laws.”

A 2015 examination by investigators at the RAND Corporation similarly determined¹⁵,

“[S]tates permitting medical marijuana dispensaries experience a relative decrease in both opioid addictions and opioid overdose deaths compared to states that do not.”

A follow-up paper¹⁶ published by these same researchers in February further acknowledged,

“[M]edical marijuana laws reduce the misuse of prescription opioids, as reflected in treatment admissions and overdose deaths, primarily through the allowance and opening of dispensaries.”

Despite claims to the contrary¹⁷ from the Trump administration, the available data is¹⁸ consistent and clear. For many patients, cannabis offers a viable alternative to opioids. It is time for the administration to stop placing political ideology above the health and safety of the American public, and to acknowledge the well-established efficacy of medical marijuana in the treatment of chronic pain.

□ Paul Armentano is the deputy director of **NORML** (National Organization for the Reform of Marijuana Laws) and serves as a senior policy advisor for **Freedom Leaf, Inc.** He is the co-author of the book, **Marijuana Is Safer: So Why Are We Driving People to Drink?** (Chelsea Green, 2013).

¹³ <https://norml.org/news/2017/10/19/study-retail-cannabis-sales-associated-with-fewer-opioid-deaths>

¹⁴ <https://archinte.jamanetwork.com/article.aspx?articleid=1898878>

¹⁵ <https://www.nber.org/papers/w21345>

¹⁶ <https://www.sciencedirect.com/science/article/abs/pii/S0167629617311852>

¹⁷ <https://blog.norml.org/2017/11/01/trumps-commission-denies-evidence-that-cannabis-can-mitigate-opioid-abuse/>

¹⁸ <https://norml.org/marijuana/fact-sheets/item/marijuana-regulation-impact-on-health-safety-economy>