SAM Smart Approaches to Marijuana ™
preventing another big tobacco

New RAND Study on Marijuana and Opioids
V1 Feb 8, 2018

Top-Line Understanding:

- A recent study found that before 2009, the existence of legally protected pot dispensaries in a state *correlates* with a lower number of opiate deaths in that state.

- This correlation disappears after 2009. Authors interpret this as the "post-Ogden memo era" and surmise that pot dispensaries were more strictly controlled after 2009.

- The study does not control for naloxone distribution as a reason for a reduction in opiate mortality, and it is highly dubious to assume pot shops became less widespread and more controlled after 2009. Indeed, after 2009, pot shop regulations remained extremely lax, and the number of pot shops exploded in response to the industry protections in the Ogden memo.

- Multiple studies have shown no substitution between opiates and marijuana and no reduction in opiate use by those who also use marijuana. Studies also show a higher dosing of opiates/greater likelihood of opiate abuse in patients who also use cannabis.

More Background and Explanation

- A pot blogger recently published a misinterpretation of a new RAND study that claims medical marijuana reduces opioid deaths.

- SAM emailed one of the study's authors from RAND, who refuted this interpretation, and stated they will be putting out an official statement to clarify what their study means.

- Here was the RAND researcher's response, shared with permission:

  "Yeah, RAND will be releasing its own press release so that we can do a better job of explaining the study and its core finding...

  Medical MJ laws do not reduce opioid mortality, only legally protected and open dispensaries are correlated with opioid mortality, and the correlation is falling since the Ogden memo ...which could be interpreted as evidence that medical use is probably not the driver (as the more tightly regulated dispensaries post the Ogden memo don't have as strong a correlation) or that the shift in the opioid epidemic has changed the relationship. More to come soon."

- From the RAND study:
    - **"We then show that extending the study period through 2012/2013 – a period when states began opening more tightly regulated medical marijuana retail systems – weakens the overall medical marijuana law results and, to a lesser extent, even the dispensary law provisions." Powell (30)**

- Other notes on the study from Dr. Christine Miller, SAM Science Advisory Board:

1) In epidemiology, population-wide studies such as this are considered the weakest type of research; while a necessary component of epidemiology, the results are considered much less robust than in case control studies (Ayres et al., 2010). Thus, when the population-level studies generate results contrary to case-control results, a higher burden of proof is required.
    a) Ayres JG, Harrison RM, Nichols GL, Maynard. Environmental Medicine, 1st Edition, CRC Press, 2010.

2) Of note, [the RAND] publication failed to cite relevant case-control studies of marijuana substitution for opiate use, and the results are inconsistent with many. This is particularly worrisome because they state on page 30: "Missing from most of the prior literature, however, is a clear articulation of why patients substitute for marijuana". **Indeed, some publications show no reduction in opiate use by those who also use cannabis:**

    a) Reisfield GM, Wasan AD, Jamison RN. ***The prevalence and significance of cannabis use in patients prescribed chronic opioid therapy: a review of the extant literature***. Pain Med. 2009;10(8):1434-41. doi: 10.1111/j.1526-4637.2009.00726.x.

    b) Shah A, et al. ***Medical cannabis use among patients with chronic pain in an interdisciplinary pain rehabilitation program: Characterization and treatment outcomes***. J Subst Abuse Treat. 2017;77:95-100.

    c) Olfson M, Wall MM, Liu SM, Blanco C. ***Cannabis Use and Risk of Prescription Opioid Use Disorder in the United States***. Am J Psychiatry. 2018;175(1):47-53. doi: 10.1176/appi.ajp.2017.17040413

Or a higher dosing of opiates/greater likelihood of opiate abuse in patients who also use cannabis:

    a) Nugent SM, Yarborough BJ, Smith NX, Dobscha SK, Deyo RA, Green CA, Morasco BJ. ***Patterns and correlates of medical cannabis use for pain among***

patients prescribed long-term opioid therapy. Gen Hosp Psychiatry. 2018; 50:104-110. doi: 10.1016/j.genhosppsych.2017.11.001

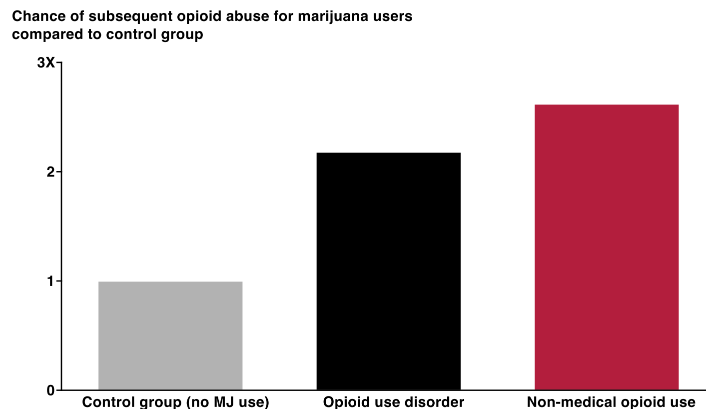
b) DiBenedetto DJ, Weed VF, Wawrzyniak KM, Finkelman M, Paolini J, Schatman ME, Herrera D, Kulich RJ. ***The Association Between Cannabis Use and Aberrant Behaviors During Chronic Opioid Therapy for Chronic Pain***. Pain Medicine, pnx222, https://doi.org/10.1093/pm/pnx222

c) Smaga S and Gharib AMR. **In adults with chronic low back pain, does the use of inhaled cannabis reduce overall opioid use?** Evidence Based Practice 2017; 20(1):e10

3) Although they do include a factor for the existence of a Prescription Drug Monitoring Program, **they do not include a factor for widespread availability of naloxone, nor do they discuss its absence.** They don't list the state-specific fixed factors they correct for, and **they don't show plots of the uncorrected data, which I suspect would show the medical marijuana states have higher opiate death rates.** All correction factors (state-specific effects) should be justified.

Conclusions:

- Beware of interpretations of the RAND study that claim it proves medical marijuana reduces opioid deaths; RAND will be debunking this presently.
- Population ecology studies like the RAND study need to be confirmed with studies of individual users; current individual user studies have the opposite conclusion.
- A study of over 34,000 individual marijuana users showed they were over 2 times more likely to abuse prescription opioids or initiate prescription opioid misuse.



Source: Olfson M., et al. Cannabis Use and Risk of Prescription Opioid Use Disorder in the United States. Am J Psychiatry 2017. https://doi.org/10.1176/appi.ajp.2017.17040413.