Cannabis and Opioids: What is the Role of Cannabis in the Evolving Opioid Epidemic?

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Opioid abuse is a national crisis in the United States

191 MILLION PRESCRIPTIONS for opioids (2017)

11.5 MILLION AMERICANS use prescription opioids nonmedically (2016)

> 948,000 AMERICANS use heroin or have a heroin-related dependence (2016)

2.1 MILLION AMERICANS suffer from opioid addiction (2016)

Dr. Pacula, RAND presented at North American Cannabis Summit
Fatal drug overdoses from opioids far exceed those from prior drug epidemics

Dr. Pacula, RAND presented at North American Cannabis Summit
Effective policies must address the dynamics of the opioid crisis

What is the role of cannabis in the current opioid crisis?

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Can Medical Marijuana Help End the Opioid Epidemic?

A body of research suggests yes, but scientists are having to fight red tape to study whether medical marijuana could substitute for opioid drugs

By Jeremy Hsu on September 1, 2016
What is the role of cannabis in reducing new use of opioids?

New users

At-risk users

Dependent users

Opioid Harms

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State of the science regarding the medicinal value of cannabinoids for pain

- Cannabis / cannabinoids may be effective for chronic pain management

- Pharmacological and physiological evidence supporting therapeutic mechanisms for pain clearly established

- Patients consistently self-report that medical cannabis is helpful and sought for severe or chronic pain
Can cannabis replace opioid prescriptions for pain?

- There is evidence that medical cannabis laws reduce opioid prescribing in Medicaid & Medicare

- However, there is contradictory evidence that suggest that there is no impact of these laws on opioids distributed
  - Powell et al (2018)

- A large share of new prescriptions for pain occur because of surgeries & emergency medicine, and these doctors are not likely to start prescribing cannabis
What is the scientific evidence related to utility of cannabis at preventing escalation of opioid misuse?

New users

At-risk users

Dependent users

Opioid Harms

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State of the science regarding the medicinal value of cannabis for reducing at-risk opioid use? Evidence from RCTs

- Can cannabis / cannabinoids substitute for opioids for pain?

- Can cannabis / cannabinoids be an adjunct to opioids for pain? Cannabis lowers doses of opioids needed for pain relief
  - Cooper et al (2018); Nielson (2017)

- Unclear how cannabis / cannabinoids impact abuse liability
There is **no clinical evidence** on whether co-administration of opioids and cannabinoids decreases the development of opioid tolerance
  – Cooper et al (2018); Wiese and Wilson-Poe (2018); Nielson (2017)

Some support that cannabis **reduces at-risk opioid use** in observational studies, but unclear if it stops transition to illicits
  – PWID (Kral et al., 2015)
  – Opioid related hospital discharges (Shi 2017)
Cannabis has not been scientifically evaluated for treatment of OUD.
State of the science regarding the medicinal value of cannabis for reducing opioid harms in dependent users?

- Cannabis use **improves retention** in studies of medications for opioid use disorders

- Mixed findings related to the effects of cannabis and cannabinoids during **opioid withdrawal**

- Unclear effects of cannabis / cannabinoids on opioid **abstinence** rates
  - Hurd (2015)
What is the scientific evidence related to utility of cannabis at reducing the harms from opioids?
Growing policy literature on the impacts of cannabis laws on opioid related harms

- Reductions in mortality from prescription opioids, but no evidence it impacts heroin or synthetic opioid mortality
  - Bachhuber et al (2014); Pardo (2017); Powell et al (2018)

- Reductions in opioid-involved fatal car accidents.

- Reductions in opioid treatment admissions
  - Powell et al (2018)

- Despite this evidence, researchers are cautious concluding the association is causal. Why?
There are a ton of private and public opioid policies being implemented concurrently.

**INITIATION**
- Prescription limits
- Unused Rx disposal
- Physician education
- Clinical guidelines

**MISUSE**
- Drug reformulation
- Pain clinic regulations
- Insurance utilization review
- Prescription monitoring (PDMPs)
- Expand non-opioid pain management

**TREATMENT & RECOVERY**
- Increased coverage of MAT
- Physician waivers patient limits raised, 2006 and 2017
- System-level interventions

**HARM REDUCTION**
- Naloxone laws
- Good Samaritan laws
- Safe consumption rooms
- Test strips

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In summary: Can cannabis policy reduce the rate at which people start using opioids?

- Prescriptions to patients are declining since 2010 peak (CDC, 2017)
- Initiation rate of non-medical opioid users has declined (Han et al., 2015)
- Rates of heroin initiation are still rising (NAS, 2018)

- It is unlikely that cannabis legalization will substantially influence rates of new opioid prescriptions; unclear if/how it will impact initiation of heroin

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In summary: Can cannabis policy reduce the transition to at-risk use?

• Rates of misuse of prescription opioids have stabilized (Han et al., 2015)
• Rates of transition into heroin use and IDU appear to still be increasing (NAS, 2017b)

• It is possible, but uncertain that cannabis legalization could reduce risky use of Rx opioids

• However, there is no evidence that cannabis legalization reduces the likelihood of transitioning from Rx opioids to heroin

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3 Waves of the Rise in Opioid Overdose Deaths

Other Synthetic Opioids
e.g., Tramadol and Fentanyl,
prescribed or illicitly manufactured

Commonly Prescribed Opioids
Natural & Semi-Synthetic Opioids
and Methadone

Heroin

Wave 1: Rise in Prescription Opioid Overdose Deaths
Wave 2: Rise in Heroin Overdose Deaths
Wave 3: Rise in Synthetic Opioid Overdose Deaths

In summary: Can cannabis policy reduce dependence and/or the harms from abuse?

- There is currently no clear data from rigorous studies to promote cannabis legalization as a way of reducing opioid dependence.

- While cannabis legalization may be an effective strategy for reducing some of the harms associated with prescription opioid abuse, it is unclear the extent to which it reduces harm from illicit opioids.

Dependent users

Dr. Rosalie Pacula, RAND. Presentation at North American Cannabis Summit.
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References Continued


