



Drug Free Australia series –
Media suppression of alarming cannabis harms

Episode 6 – Cannabis and driving

Cannabis boom

- Medicinal cannabis – 1 million prescriptions in Oz



The screenshot shows the ABC News website interface. At the top, the 'NEWS' logo is on the left, and a navigation menu includes 'Just In', 'Watch Live', 'Voice Referendum', 'Politics', 'World', 'Business', 'Analysis', 'Sport', 'Science', 'Health', 'Arts', 'Fact Check', 'Coronavirus', and 'Other'. The main content area features a 'LANDLINE' program header, followed by the article title 'VIDEO: Cannabis Boom: Australians embrace pharmaceutical cannabis' in bold. Below the title, the author 'Sean Murphy' and the posting date 'Posted Sun 27 Aug 2023 at 12:55pm, updated Sun 27 Aug 2023 at 4:10pm' are displayed. A large video thumbnail shows rows of green cannabis plants in a greenhouse, with a 'WATCH 12m' button overlaid on the left. At the bottom of the article, a short paragraph reads: 'There's a boom in the use of pharmaceutical cannabis in Australia. More than a million prescriptions have been filled since medical cannabis was legalised in 2016 (Sean Murphy)'.

<https://www.abc.net.au/news/rural/programs/landline/2023-08-27/cannabis-boom:-australians-embrace-pharmaceutical/102782024>



The science

- Placebo response very high in cannabis studies

“The unusually high attention and engagement linked to cannabinoid pain trials was independent of the clinical results and may uphold high expectations and placebo responses in future trials. In particular, we found that news articles and blogs had a strong positive bias toward the efficacy of cannabinoids in pain therapy. The positive media attention on cannabinoids for pain relief could partly explain the placebo responses seen in this systematic review.”



JAMA Network Open

Original Investigation | Pharmacy and Clinical Pharmacology

Placebo Response and Media Attention in Randomized Clinical Trials Assessing Cannabis-Based Therapies for Pain: A Systematic Review and Meta-analysis

Filip Goebel, PhD, Sebastian Ikem, MSc, Mia Prentis, PhD, Maria Lukars, PhD, Jess Frost, PhD, Andrei Raparetti, DC, Viktor Vadnereauk Lundqvist, MSc, William T. Thompson, PhD, Karin Jensen, PhD

Abstract

IMPORTANCE Persistent pain is a common and disabling health problem that is often difficult to treat. There is an increasing interest in medicinal cannabis for treatment of persistent pain, however, the limited superiority of cannabinoids over placebo in clinical trials suggests that positive expectations may contribute to the improvements.

OBJECTIVE To evaluate the size of placebo responses in randomized clinical trials in which cannabinoids were compared with placebo in the treatment of pain and to correlate these responses to objective estimates of media attention.

DATA SOURCES A systematic literature search was conducted within the MEDLINE and Embase databases. Studies published until September 2021 were considered.

STUDY SELECTION Cannabis-based studies with a double-blind, placebo-controlled design with participants 18 years or older with clinical pain of any duration were included. Studies were excluded if they treated individuals with HIV/AIDS or severe skin disorders.

DATA EXTRACTION AND SYNTHESIS The study followed the Preferred Reporting Items for Systematic Review and Meta-analysis reporting guideline. Data were extracted by independent reviewers. Quality assessment was performed using the Risk of Bias 2 tool. Attention and dissemination metrics for each trial were extracted from Altmetric and Crossref. Data were pooled and analyzed using a random-effects statistical model.

MAIN OUTCOMES AND MEASURES Change in pain intensity from before to after treatment, measured as bias-corrected standardized mean difference (0 indicates no effect).

RESULTS Twenty studies, including 1459 individuals (mean [SD] age, 51 [17] years; age range, 23–62 years; 855 female [58%]), were included. Pain intensity was associated with a significant reduction in response to placebo, with a moderate to large effect size (mean [SE] Hedges g , 0.64 [0.13], $P < .001$). Trials with low risk of bias had greater placebo responses ($g = 5.47$, $F = 87.08$, $P = .02$). The amount of media attention and dissemination linked to each trial was proportionally high, with a strong positive bias, but was not associated with the clinical outcomes.

CONCLUSIONS AND RELEVANCE Placebo contributes significantly to pain reduction seen in cannabinoid clinical trials. The positive media attention and wide dissemination may uphold high expectations and shape placebo responses in future trials, which has the potential to affect the

Key Points

Question What is the size of the placebo response in cannabinoid trials for clinical pain, and is the magnitude of placebo response associated with media attention on the trials?

Findings This meta-analysis of 20 studies of 1459 individuals found a significant pain reduction in response to placebo in cannabinoid randomized clinical trials. Media attention was proportionally high, with a strong positive bias, yet not associated with the clinical outcomes.

Meaning These findings suggest that placebo has a significant association with pain reduction as seen in cannabinoid clinical trials, and the positive media attention may shape placebo responses in future trials.

Supplemental content
Author affiliations and article information are listed at the end of this article.

Downloaded From: <https://jamanetwork.com/> on 11/04/2023

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JAMA Network Open. 2022;5(10):e2248648. doi:10.1001/jamanetworkopen.2022.43648

November 28, 2022 1/12

<https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2799017>

Affects work

- Employers concerned about cannabis intoxication



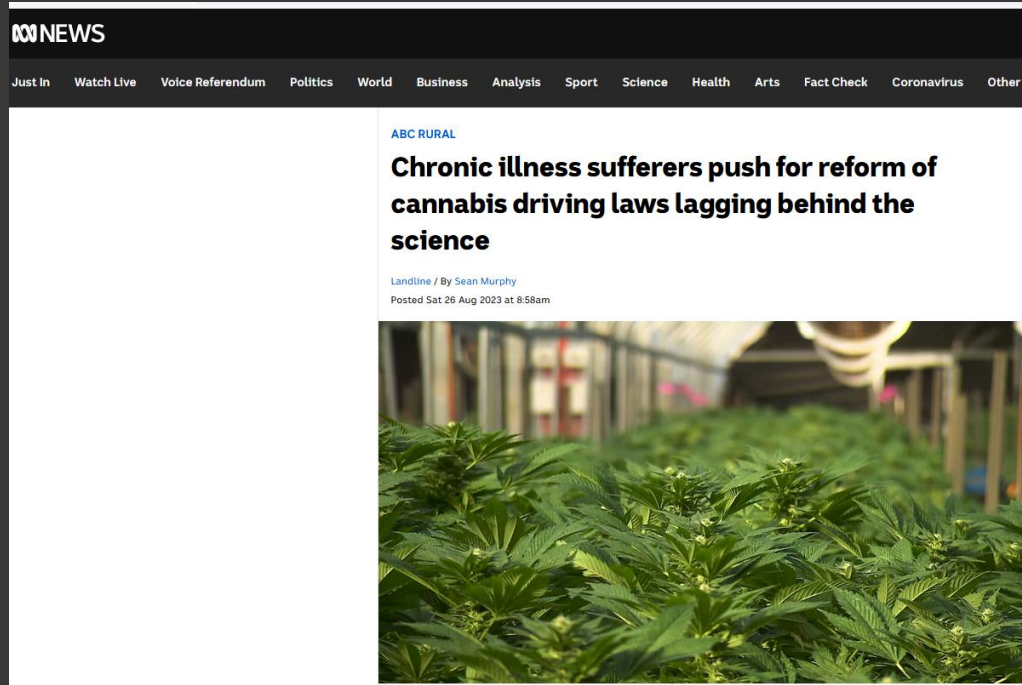
The screenshot shows the top of a Guardian news article. At the top left, there is a 'Support the Guardian' banner with the text 'Fund independent journalism with \$5 per month' and a 'Support us' button. The Guardian logo is on the top right. Below the banner is a navigation bar with categories: News, Opinion, Sport, Culture, Lifestyle, and More. A secondary navigation bar lists various topics: UK, World, Climate crisis, Ukraine, Football, Newsletters, Business, Environment, UK politics, Education, Society, Science, Tech, Global development, and Obituaries. The article title is 'Cannabis' in a red box, followed by the main headline: '“This is a medicine”: the Australians prescribed cannabis but left fighting to keep their jobs'. Below the headline is a sub-headline: 'Some workers have been stood down while others face stigma or are hiding their use. But reform could be on the way'. There is a call to action: 'Get our morning and afternoon news emails, free app or daily news podcast'. The author's name is 'Adeshola Ore' with a circular profile picture. The date is 'Sat 26 Aug 2023 10:00 AEST'. There are social media icons for Facebook, Twitter, and Email, and a red notification icon with the number '107'. A photograph of a woman standing outdoors is partially visible at the bottom of the article preview.

<https://www.theguardian.com/society/2023/aug/26/this-is-a-medicine-the-australians-prescribed-cannabis-but-left-fighting-to-keep-their-jobs>



Affects driving

- Cannabis lobby seeking legislative change to allow driving for medicinal cannabis patients



<https://www.abc.net.au/news/rural/2023-08-26/chronic-illness-sufferers-push-for-cannabis-driving-reform/102756426>



Claim

- Lobbyists claim that studies showing intoxicated cannabis users causing more road deaths are wrong

- This Parliamentary submission states:

“Crash Risk. Epidemiological studies show that the presence of THC in blood is associated with a modest increase in the risk of being involved in any crash (crash risk), and in being responsible for that crash (culpability risk). The elevation in risk is modest (odds ratio [OR]: 1.1–1.4) when a range of potentially confounding factors are controlled for (e.g., the presence of other drugs, the fact that recreational cannabis users are likely to be younger and more prone to risky behaviour). The overall increase in risk in is considerably less than that seen with other prescription drugs for which driving is legal in patients (e.g. opioids (ORs: 1.7–2.3), benzodiazepines (ORs: 1.2–2.3)) and a 0.05% blood alcohol concentration (BAC) (ORs: 1.4–1.8).”

Submission
No 70

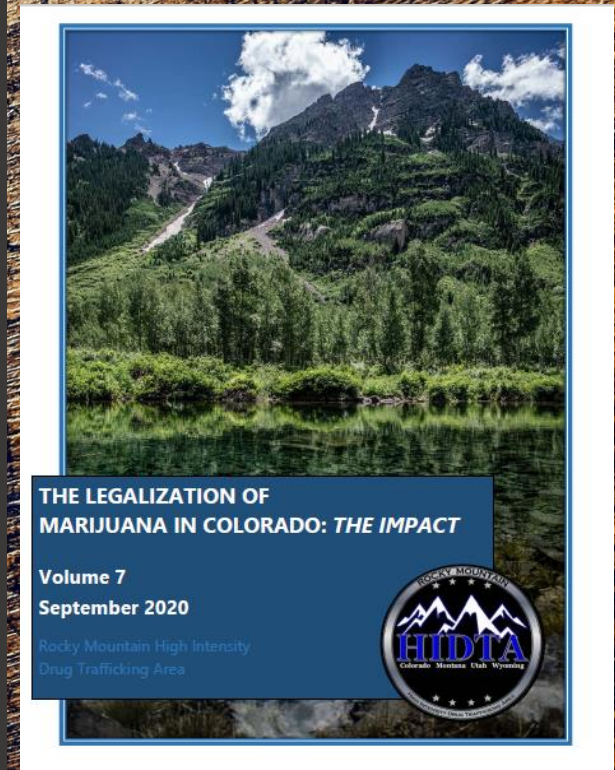
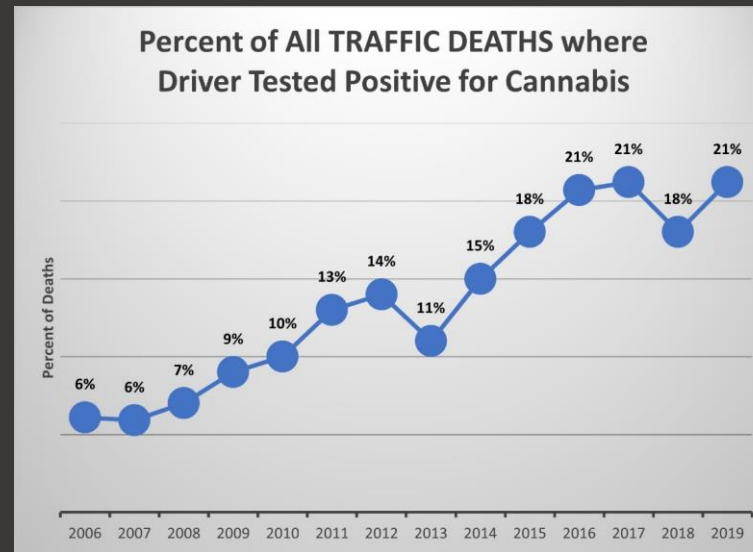
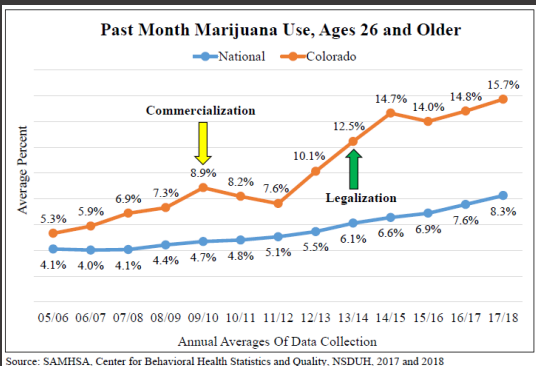
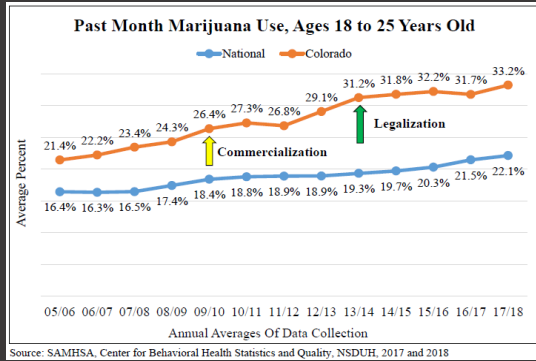
INQUIRY INTO ROAD TRANSPORT AMENDMENT
(MEDICINAL CANNABIS-EXEMPTIONS FROM
OFFENCES) BILL 2021

Organisation: Lambert Initiative for Cannabinoid Therapeutics
Date Received: 1 May 2022



Hotheads?

Three graphs from Colorado's cannabis legalisation



<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8672945/>



Fact

- 62% of Australians in 2020 using cannabis for 'chronic pain' (CBD does not need prescription)
 - another 12% for other pain conditions – migraines etc
 - so 3 in every 4 patients using cannabis for pain

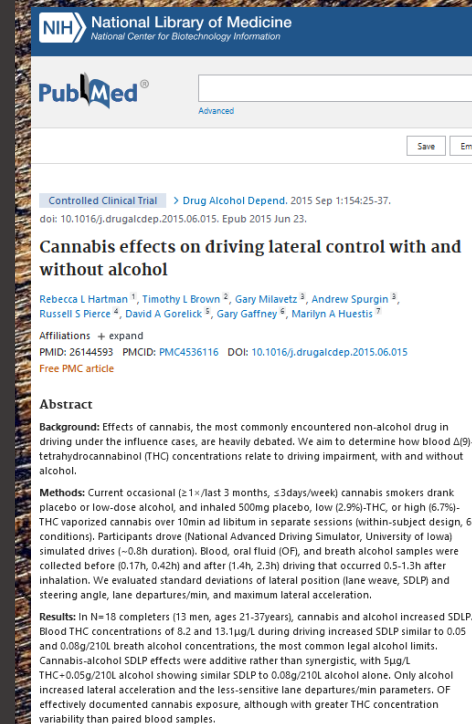
Application Date	Status	Decision Date	Indication	Consulting Locations, State or Territory	SUSMP Schedule	Patient Gender	Previous SAS Number
24/8/2020	Approved	25/8/2020	Achalasia	NSW	Schedule 4	Male	No
10/5/2020	Approved	11/5/2020	Achalasia	VIC	Schedule 4	Male	No
17/4/2020	Approved	17/4/2020	Achalasia	QLD	Schedule 4	Male	No
16/1/2020	Approved	16/1/2020	Achalasia	QLD	Schedule 4	Female	No
6/1/2020	Approved	6/1/2020	Achalasia	SA	Schedule 4	Female	No
20/12/2019	Approved	23/12/2019	Achalasia	VIC	Schedule 4	Male	Yes
5/12/2019	Approved	5/12/2019	Achalasia	VIC	Schedule 4	Male	No
20/9/2019	Approved	20/9/2019	Achalasia	NSW	Schedule 4	Male	No
22/3/2020	Approved	23/3/2020	AD - Alzheimer's disease	VIC	Schedule 4	Male	No
7/3/2020	Approved	10/3/2020	AD - Alzheimer's disease	VIC	Schedule 4	Female	No
2/12/2019	Approved	3/12/2019	AD - Alzheimer's disease	VIC	Schedule 4	Female	Yes
10/11/2019	Approved	12/11/2019	AD - Alzheimer's disease	VIC	Schedule 4	Female	Yes
8/11/2019	Approved	8/11/2019	AD - Alzheimer's disease	VIC	Schedule 4	Female	No
25/10/2019	Approved	25/10/2019	AD - Alzheimer's disease	VIC	Schedule 4	Female	No
11/10/2019	Approved	11/10/2019	AD - Alzheimer's disease	VIC	Schedule 4	Female	Yes
29/9/2020	Approved	30/9/2020	ADHD - Attention deficit disorder with hyperactivity	QLD	Schedule 8	Male	No
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28/9/2020	Approved	29/9/2020	ADHD - Attention deficit disorder with hyperactivity	QLD	Schedule 8	Male	No
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22/9/2020	Approved	24/9/2020	ADHD - Attention deficit disorder with hyperactivity	QLD	Schedule 8	Male	No
22/9/2020	Approved	24/9/2020	ADHD - Attention deficit disorder with hyperactivity	QLD	Schedule 8	Male	No
22/9/2020	Approved	24/9/2020	ADHD - Attention deficit disorder with hyperactivity	QLD	Schedule 8	Male	Yes
22/9/2020	Approved	24/9/2020	ADHD - Attention deficit disorder with hyperactivity	VIC	Schedule 8	Male	No
21/9/2020	Approved	22/9/2020	ADHD - Attention deficit disorder with hyperactivity	NSW	Schedule 8	Male	No
18/9/2020	Approved	22/9/2020	ADHD - Attention deficit disorder with hyperactivity	QLD	Schedule 8	Male	No
15/9/2020	Approved	16/9/2020	ADHD - Attention deficit disorder with hyperactivity	QLD	Schedule 8	Male	No
14/9/2020	Approved	15/9/2020	ADHD - Attention deficit disorder with hyperactivity	QLD	Schedule 4	Male	No
14/9/2020	Approved	15/9/2020	ADHD - Attention deficit disorder with hyperactivity	QLD	Schedule 4	Male	No
14/9/2020	Approved	16/9/2020	ADHD - Attention deficit disorder with hyperactivity	QLD	Schedule 8	Male	No
10/9/2020	Approved	11/9/2020	ADHD - Attention deficit disorder with hyperactivity	QLD	Schedule 4	Male	No
9/9/2020	Approved	10/9/2020	ADHD - Attention deficit disorder with hyperactivity	VIC	Schedule 8	Female	No



The science

- Cannabis and alcohol have an additive effect

“Cannabis-alcohol SDLP (lane weaving) effects were **additive rather than synergistic**, with 5µg/L THC+0.05g/210L alcohol showing similar SDLP to 0.08g/210L alcohol alone. Only alcohol increased lateral acceleration and the less-sensitive lane departures/min parameters. OF effectively documented cannabis exposure, although with greater THC concentration variability than paired blood samples.”



The screenshot shows a PubMed search result for a clinical trial. The title is "Cannabis effects on driving lateral control with and without alcohol". The authors listed are Rebecca L. Hartman, Timothy L. Brown, Gary Milavetz, Andrew Spurgin, Russell S. Pierce, David A. Gorelick, Gary Gaffney, and Marilyn A. Huestis. The article is from the journal "Drug Alcohol Depend." in 2015. The abstract states that the effects of cannabis and alcohol on driving performance were additive rather than synergistic. The study involved 18 participants who drove on a simulator under various conditions of cannabis and alcohol exposure. Key findings include that alcohol alone increased lateral acceleration and lane departures, while cannabis-alcohol combinations showed similar overall SDLP to alcohol alone.

<https://pubmed.ncbi.nlm.nih.gov/26144593/>



The science

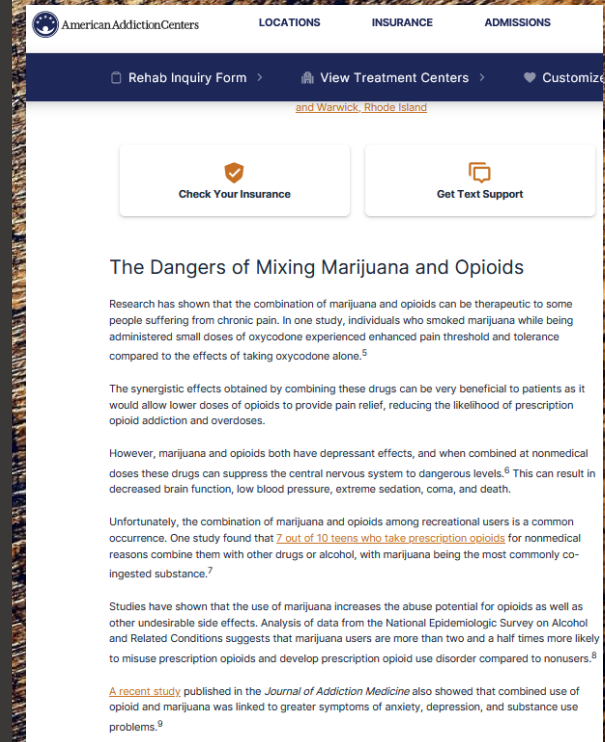
- Cannabis and other drugs – synergistic effect

The Dangers of Mixing Marijuana and Opioids

Research has shown that the combination of marijuana and opioids can be therapeutic to some people suffering from chronic pain. In one study, individuals who smoked marijuana while being administered small doses of oxycodone experienced enhanced pain threshold and tolerance compared to the effects of taking oxycodone alone.⁵

The synergistic effects obtained by combining these drugs can be very beneficial to patients as it would allow lower doses of opioids to provide pain relief, reducing the likelihood of prescription opioid addiction and overdoses.

However, marijuana and opioids both have depressant effects, and when combined at nonmedical doses these drugs can suppress the central nervous system to dangerous levels.⁶ This can result in decreased brain function, low blood pressure, extreme sedation, coma, and death.



The screenshot shows the American Addiction Centers website. The navigation bar includes 'AmericanAddictionCenters', 'LOCATIONS', 'INSURANCE', and 'ADMISSIONS'. Below the navigation bar, there are links for 'Rehab Inquiry Form', 'View Treatment Centers', and 'Customize'. The main content area features two buttons: 'Check Your Insurance' and 'Get Text Support'. The article title 'The Dangers of Mixing Marijuana and Opioids' is prominently displayed. The article text discusses the therapeutic benefits of combining marijuana and opioids for chronic pain, the synergistic effects that can be beneficial, and the risks of depression and overdose when combined at nonmedical doses. A red underline is present under the sentence: 'However, marijuana and opioids both have depressant effects, and when combined at nonmedical doses these drugs can suppress the central nervous system to dangerous levels.⁶ This can result in decreased brain function, low blood pressure, extreme sedation, coma, and death.'

<https://americanaddictioncenters.org/marijuana-rehab/mixing-weed-opioids>



Conclusion

- Lobbyists want medical cannabis users to legally drive
 - 3 in every 4 medical cannabis users treat pain
 - 62% use it for chronic pain
 - because cannabis does little for chronic pain, they will need to be using cannabis with other drugs like opiates
 - the synergistic effects of cannabis and opiates is incompatible with driving safety
 - and this is true for the majority of Australians using medical cannabis



Next episode

- **More detail in future episodes:**

- Cannabis and cancer
- Cannabis and birth defects
- Cannabidiol (CBD), cancer and birth defects
- Cannabis and pain
- Cannabis and driving
- **Hemp and psychoactive metabolites**
- Cannabis and psychosis
- Cannabis and violence/homicide
- Cannabis and suicide
- Cannabis – its other harms

