



The National Organization for the Reform of Marijuana Laws (NORML) is a political advocacy organization representing the interests of responsible adult cannabis consumers. Founded in 1970, NORML is the oldest cannabis policy reform organization operating in the United States.

Over the past five decades, NORML has been party to numerous cannabis rescheduling petitions.^[1] NORML is providing these comments today in support of the reclassification of botanical cannabis (Docket No. DEA-1362).

NORML shares the view expressed by the Department of Health and Human Services (HHS) that cannabis "has a currently accepted medical use" and that its comparatively low abuse potential is inconsistent with the criteria required for substances in either Schedule I or Schedule II. The HHS appropriately determined that neither scientific evidence nor real-world clinical experience support cannabis' inclusion in either category. Specifically, on page 57 of its review, HHS affirms, "The risks to public health posed by marijuana are low compared to other drugs of abuse (e.g., heroin, cocaine, benzodiazepines), based on an evaluation of various epidemiological data," including hospitalizations, unintentional exposures, and overdose deaths.

Cannabis Possesses Accepted Medical Utility

HHS acknowledges that cannabis possesses "accepted medical use" because members of the health and medical community widely accept its legitimate use in the treatment of specific conditions, including pain, and because cannabis can be administered safely under medical supervision. Specifically, on page 24 of its review, HHS acknowledges:

"More than 30,000 health care practitioners are authorized to recommend the use of marijuana for more than six million registered patients, constituting widespread clinical experience associated with various medical conditions recognized by a substantial number of jurisdictions across the United States. For several jurisdictions, these programs have been in place for several years, and include features that actively monitor medical use and product quality characteristics of marijuana dispensed."

Thirty-eight states, the District of Columbia, Guam, Puerto Rico, the Commonwealth of the Northern Mariana Islands, and the US Virgin Islands have enacted laws providing for patients' access to plant-derived cannabis and medical cannabis products.^[2] Several additional states regulate patients' access to plant-derived low THC/high CBD products.^[3] Many states now require physicians to take Continuing Medical Education training prior to issuing medical cannabis recommendations^[4] and a growing number of colleges and graduate schools are offering degrees and certificates in the field of cannabis medicine.^[5]



No state legislature has ever repealed patients' access to plant-derived medical cannabis products. This is clear evidence that medical cannabis can be regulated safely and effectively, and that its public health benefits far outweigh any costs.

Surveys assessing physicians' attitudes and practices toward the use of cannabis confirm that widespread acceptance of its medical utility exists among health professionals. Specifically, a 2022 national survey of family practice doctors, internists, nurse practitioners, and oncologists – co-authored by representatives of the US Centers for Disease Control and Prevention – concluded, "Over two-thirds (68.9%) of clinicians surveyed believe that cannabis has medicinal uses and just over a quarter (26.6%) had ever recommended cannabis to a patient."^[6] A 2022 survey of members of the American Organization for Nursing Leadership similarly determined, "Nurse leaders overwhelmingly supported patients' use of medical cannabis."^[7] Numerous other surveys of health care professionals have yielded similar results.^[8]

Moreover, several notable medical societies and associations – such as the American Nurses Association and the American Public Health Association – are on record urging the federal government to "move expeditiously to make cannabis available as a legal medicine."^[9] A list of these organizations and their endorsements is available on NORML's website at: <https://norml.org/marijuana/library/health-organizations-endorsements/>

Clinical findings provide the basis for this widespread acceptance among practicing physicians and healthcare professionals. Specifically, a review summarizing the findings of several FDA-approved, randomized placebo-controlled trials assessing the safety and efficacy of botanical cannabis in various patient populations concludes, "Based on evidence currently available the Schedule I classification is not tenable; it is not accurate that cannabis has no medical value, or that information on safety is lacking."^[10]

This conclusion was affirmed by an exhaustive literature review by the National Academy of Sciences, Engineering, and Medicine's Committee on the Health Effects of Marijuana, which found "conclusive or substantial evidence" that cannabis and its active constituents benefit specific patients, including those suffering from chronic pain, nausea, and spasticity.^[11]

Moreover, a recent review of the literature compiled by NORML highlights over 400 peer-reviewed papers documenting the efficacy of either cannabis or its constituents in more than 20 distinct patient populations. Summaries of these studies and links to the studies' abstracts are available on NORML's website at: <https://norml.org/marijuana/library/recent-medical-marijuana-research/>



Cannabis Possesses an Acceptable Safety Profile Compared to Other Controlled Substances

The authors of the HHS review also conclude that cannabis possesses a superior safety profile as compared to many other controlled substances. Specifically, HHS finds that cannabis is associated with fewer adverse consequences than other Schedule I and Schedule II substances, such as heroin and cocaine (page 45). Notably, HHS further finds that cannabis poses fewer risks to public health than either benzodiazepines (page 57) – a Schedule IV substance – or alcohol (page 45), which is unscheduled.

Other experts have reached similar conclusions. Specifically, a study published in *The Lancet* assessed the harmful effects of various controlled substances on the public and the individual consumer. The study's authors concluded, "Overall, alcohol was the most harmful drug, with heroin and crack cocaine in second and third places."^[12]

Another review, published in the journal *Current Opinion in Pharmacology*, similarly determined that cannabis use, even long-term, possesses a superior safety profile compared to other psychoactive substances. It concluded, "Overall, by comparison with other drugs used mainly for 'recreational' purposes, cannabis could be rated to be a relatively safe drug."^[13]

Most recently, investigators writing in the journal *Frontiers in Psychiatry* assessed the safety risks associated with the use of cannabis. They concluded that its risk of dependence and abuse potential are "substantially lower than those posed by many illegal and legal substances, including tobacco and alcohol."^[14]

This conclusion is hardly surprising. Consumers' use of alcohol and tobacco are among the leading causes of preventable deaths in America. According to the American Lung Association, "Smoking [tobacco] is the number one preventable cause of death in the United States, killing over 480,000 people per year."^[15] Alcohol abuse is estimated to contribute to more than 178,000 US deaths annually, making it "one of the leading preventable causes of death in the United States."^[16] By contrast, several longitudinal studies have failed to link cannabis use to an increased risk of premature death^[17] – including deaths due to lung^[18] and other tobacco-related cancers^[19] after researchers adjusted for potential confounders.

It is well established that alcohol – when consumed to excess in a short period of time – can cause lethal overdose. Several thousand Americans die each year because of alcohol poisoning.^[20] Alcohol is also a contributing factor to more than 1 in 6 opioid overdose deaths, according to the National Institute on Alcohol Abuse and Alcoholism.^[21] By contrast, THC – the primary psychoactive ingredient in cannabis – cannot cause lethal overdose, regardless of the quantity ingested. Specifically, data published in *The American Scientist* reported that the "ratio



of fatal dose to effective dose" is 10 to 1 for alcohol, but that no ratio could be calculated for cannabis.^[22] Further, the US Drug Enforcement Administration's own literature acknowledges, "No deaths from overdose of marijuana have been reported."^[23]

The determination by HHS that cannabis use does not possess the same public health burden as does the use of alcohol (unscheduled), tobacco (unscheduled) or other controlled substances currently regulated in lower schedules of the CSA (e.g., benzodiazepines) is consistent with decades of worldwide scientific literature. While HHS ultimately recommends transferring cannabis from Schedule I to Schedule III, NORML wishes to emphasize that these findings similarly provide a factual basis for removing cannabis from the CSA entirely. Although the HHS is not recommending descheduling at this time, NORML asserts that this position is the most appropriate one and that descheduling cannabis should be adopted by future administrations.

Responding to Critics' Concerns: Cannabis and ER Visits

While some opponents of reclassification highlight that cannabis exposure may, in some rare instances, lead to ER visits, it must be emphasized that these situations are typically due to either inadvertent exposure or overconsumption. However, even in these 'worst-case' scenarios – such as the accidental ingestion of a THC-infused edible product by a young child – ER treatment typically consists of no more than the administration of "intravenous fluids and benzodiazepines" prior to the patient's discharge.^[24] No deaths due to cannabis ingestion have ever been reported.

Responding to Critics' Concerns: Cannabis and Driving Performance

While acute cannabis intoxication can influence certain psychomotor skills, it is a far less significant contributor to motor vehicle accidents than most other controlled substances, particularly alcohol. Specifically, a prospective case-control study by the National Highway Traffic Safety Administration determined that THC-positive drivers possess virtually no greater risk of being involved in a motor vehicle crash (Odds Ratio 1.05) than drug-free drivers after researchers controlled for confounders (age and gender). By contrast, drivers in the same study with a blood alcohol level of 0.08 possessed a nearly four-fold crash risk (Odds Ratio 3.93) compared to drug-free drivers, even after researchers controlled for the same confounders.^[25] This conclusion is consistent with those of other studies finding that drivers who test positive for the presence of THC alone possess low^[26] to no^[27] motor vehicle crash risk, whereas alcohol-positive drivers possess a nearly six-fold risk of accident.^[28]

This contrast is likely because subjects under the influence of THC typically engage in compensatory driving behaviors,^[29] – including reducing their mean speed^[30] and leaving greater headway between themselves and the cars in front of them.^[31] In contrast, drivers under the influence of alcohol often drive in a more reckless manner and engage in more risk-taking behaviors. Emergency department data finds^[32] that those who test positive for alcohol are far more likely to be in a motor vehicle accident requiring emergency care than are those who test positive for cannabis.^[33]

While some have expressed concern that liberalizing cannabis' legal status may inadvertently reduce social stigmas discouraging driving while under the influence of cannabis, several studies indicate that the opposite is true. For instance, a 2024 study published in the journal *Public Health* observed a "decrease in driving under the influence of marijuana in states with legalized medical marijuana relative to those states where it remained illegal."^[34] Similarly, a 2022 study reported, "The risk of self-reported DUIC [driving under the influence of cannabis] was lower in recreational and medical cannabis states compared to states without legal cannabis."^[35] A 2021 study reported that adults residing in states where cannabis is legal are less tolerant of drugged driving behavior than are their counterparts in jurisdictions where cannabis remains prohibited.^[36]

Responding to Critics' Concerns: Cannabis-Induced Psychosis

Though anecdotal claims of rising rates of cannabis-induced psychosis persist, thus far these claims have not been substantiated by available data. Specifically, authors of a recently published meta-analysis in the journal *Nature: Mental Health* assessed the relationship between cannabis use and the onset of cannabis-associated psychotic symptoms (CAPS) in 162 studies involving over 210,000 subjects. They reported that the percentage of cannabis consumers who ever experience acute psychosis is low (approximately one-half of one percent), but that those with pre-existing mental health and personality disorders, such as bipolar disorder, may be at greater risk. They also dismissed concerns that the use of higher-potency THC products increases one's risk of psychosis, finding, "[N]either young age of onset of cannabis use nor high-frequency use of cannabis or the preferred type of cannabis (strains high in THC, strains high in CBD) was associated with CAPS."^[37]

A 2022 study involving over 233,000 lifetime cannabis consumers yielded similar findings. Scientists reported that those with a prior diagnosis of psychosis were 14 times more likely to suffer from cannabis-induced psychotic symptoms as compared to those without a prior mental health diagnosis. Overall, the study's authors concluded, "Rates of CAPS as observed here are comparable to rates of other drug-induced psychosis, such as alcohol-associated psychosis (around 0.4 – 0.7 percent)."^[38]

Longitudinal data of adult twins provides compelling evidence that the cumulative use of cannabis is not associated with an increased risk of psychoticism in those who do not have a preexisting psychiatric disorder. Writing in 2024 in the *Journal of Psychopathology and Clinical Science*, scientists concluded: "Lifetime exposure to cannabis has few persistent effects on mental health and other psychosocial outcomes. ... Cannabis consumption did not predict within-pair differences in psychoticism."^[39]

Notably, jurisdictions that have legalized the adult use of cannabis have not experienced increases in cannabis-induced psychosis or other adverse psychiatric events at the population level. For example, a pair of Canadian studies found no rise in hospitalizations due to cannabis-induced psychosis^[40] or schizophrenia^[41] in the years following legalization.

Similarly, the adoption of state-level legalization laws in the United States is not correlated with an uptick in psychosis-related health outcomes. Specifically, a 2022 paper published in the *Journal of the American Medical Association (JAMA) Network Open* found no association between cannabis legalization and overall rates of psychosis-related diagnoses or prescribed antipsychotics. Its authors concluded:

"This study is the first and largest, to our knowledge, to quantify the association of medical and recreational cannabis policies with rates of psychosis-related health care claims across US states. ... [W]e did not observe a statistically significant association of state cannabis policy level with overall rates of psychosis-related diagnoses or prescribed antipsychotics. ... As US states continue to legalize the use, production, promotion, or sale of cannabis, continued examination of the implications of state cannabis policies for psychotic disorders may be informative, particularly with study designs that yield precise estimates in high-risk population subgroups."^[42]

Responding to Critics' Concerns: Do Higher-THC Products Pose Unique Risks to Health?

Higher-potency THC products, like hashish, are not a new phenomenon and opponents of cannabis reform policies have long tried to stigmatize these higher-potency products as uniquely dangerous.^[43] However, data fails to substantiate these claims.

Notably, patients enrolled in federally regulated medical cannabis access programs in Canada, Israel, and Europe typically consume cannabis products containing at least 20 percent THC. These patients seldom report adverse side-effects.^[44]



Since 1985, patients in the United States have been able to access the FDA-approved drug dronabinol, which consists solely of synthetic THC in sesame seed oil. In 1999, the Drug Enforcement Administration downgraded dronabinol from Schedule II to Schedule III^[45] because it lacks a high abuse potential. Data compiled in 2023 finds that fewer than three percent of patients prescribed dronabinol suffer adverse reactions from the drug. These side effects most typically include "abdominal pain, euphoria, and dizziness."^[46]

In state-legal markets, most consumers do not gravitate toward high-THC products. According to state sales data, consumers most frequently purchase lower-potency cannabis flower over higher-potency concentrates.^[47] When consumers do encounter high-THC products, they "simply use less of [it] to achieve the same levels of intoxication."^[48]

Responding to Critics' Concerns: Cannabis and IQ

Allegations that cannabis use decreases intelligence quotient are primarily based upon the findings of a single longitudinal study. The paper, published by Madeline Meier and a team of Duke University researchers in 2012, reported that the onset of cannabis use in early adolescence is associated with an average decline of eight IQ points by middle-age.^[49]

However, a critique of Meier's study published shortly thereafter in the same journal countered that the reported changes in IQ were consistent with socioeconomic differences among the study's participants and that the "true effect [of cannabis exposure] could be zero."^[50]

In the following years, better controlled longitudinal studies have consistently failed to replicate Meier's findings. For example, a British study of more than 2,000 teens determined that cannabis exposure prior to age 15 "did not predict either lower teenage IQ scores or poorer educational performance ... once adjustment is made for potential confounds."^[51]

Researchers at the University of Southern California and at the University of Minnesota similarly assessed the potential relationship between cannabis and IQ in two longitudinal investigations of adolescent twins. They concluded:

"We find little evidence to suggest that adolescent marijuana use has a direct effect on intellectual decline.... The lack of a dose-response relationship, and an absence of meaningful differences between discordant siblings lead us to conclude that the deficits observed in marijuana users are attributable to confounding factors that influence both substance initiation and IQ rather than a neurotoxic effect of marijuana."^[52]

Notably, even Meier acknowledged this lack of correlation in her later work. Writing in 2018 in the journal *Addiction*, she and her colleagues acknowledged: "Short-term cannabis use in adolescence does not appear to cause IQ decline or impair executive functions, even when cannabis use reaches the level of dependence. Family background factors explain why adolescent cannabis users perform worse on IQ and executive function tests."^[53]

Conclusion

The available data clearly shows that cannabis does not meet the necessary criteria of either a Schedule I or Schedule II controlled substance. While NORML strongly believes cannabis should be removed from the CSA altogether^[54] – thereby harmonizing federal cannabis policy with those of most US states – we do not dispute the factual basis underlying HHS' recommendation to move botanical cannabis to Schedule III or lower. It would be arbitrary and capricious for the DEA to reject HHS' findings of fact and maintain existing prohibitions of the cannabis plant.

^[1] NORML online factsheet. A brief history of cannabis rescheduling petitions in the United States.

<https://norml.org/marijuana/fact-sheets/a-brief-history-of-cannabis-rescheduling-petitions-in-the-united-states/>

^[2] NORML summary of states/territories with medical marijuana laws.<https://norml.org/laws/medical-laws/>

^[3] Ibid.

^[4] Federation of State Medical Boards. CME Requirements for Medical Marijuana: State-by-State Overview.

<https://www.fsmb.org/siteassets/advocacy/key-issues/medical-marijuana-cme-requirements.pdf>

^[5] American Journal of Endocannabinoid Medicine. *Cannabis education: US sees influx of college and grad level cannabis medicine programs*. October 3, 2023.

<https://www.endocannabinoidmedicine.com/news/cannabis-education-us-sees-influx-of-college-and-graduate-level-cannabis-medicine-programs/>

^[6] Schauer et al., 2022. *Clinician beliefs and practices related to cannabis*. Cannabis and Cannabinoid Research.

<https://www.liebertpub.com/doi/10.1089/can.2020.0165>

^[7] Kurtzman et al., 2022. 'We want what's best for patients.' Nurse leaders' attitudes about medical cannabis: A qualitative study. *International Journal of Nursing Study Advances*.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC11080284/>

^[8] For additional examples, see NORML's online factsheet: Health Clinicians' Attitudes Toward Cannabis.

<https://norml.org/health-clinicians-attitudes-toward-cannabis/>

^[9] APHA Resolution #9513: "Access to Therapeutic Marijuana/Cannabis."

^[10] Grant et al., 2012. *Medical marijuana: Clearing away the smoke*. *Open Journal of Neurology*.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3358713/>

^[11] National Academy of Sciences. 2017. [The Health Effects of Cannabis and Cannabinoids: The Current State of Evidence and Recommendations for Research](https://nap.nationalacademies.org/read/24625/chapter/6). Page 127. <https://nap.nationalacademies.org/read/24625/chapter/6>

^[12] Nutt et al. 2010. *Drug harms in the UK: A multicriteria decision analysis*. *The Lancet*.

<https://pubmed.ncbi.nlm.nih.gov/21036393/>

^[13] Iverson. 2005. *Long-term exposure to cannabis*. *Current Opinion in Pharmacology*.

<https://pubmed.ncbi.nlm.nih.gov/15661628/>

^[14] Heal et al., 2024. *A critical assessment of the abuse, dependence, and associated safety risks of naturally occurring and synthetic cannabinoids*. *Frontiers in Psychiatry*. <https://pubmed.ncbi.nlm.nih.gov/38915848/>

^[15] American Lung Association online factsheet: Tobacco Facts. <https://www.lung.org/research/sotc/facts>

^[16] National Institutes of Health. NIAAA factsheet: Alcohol-Related Emergencies and Deaths in the United States, 2024.

<https://www.niaaa.nih.gov/alcohols-effects-health/alcohol-topics/alcohol-facts-and-statistics/alcohol-related-emergencies-and-deaths-united-states>

^[17] See, for instance: Andreasson and Alleback. 1990. *Cannabis and mortality among young men*. *Scandinavian Journal of Social Medicine*. <https://pubmed.ncbi.nlm.nih.gov/2320981/> "After controlling for social background variables in a multivariate model, no excess mortality was found." | Sidney et al. 1997. *Marijuana use and mortality*. *American Journal of Public Health*. <https://pubmed.ncbi.nlm.nih.gov/9146436/> "Marijuana use in a prepaid health care-based study cohort had little effect on non-AIDS mortality in men and on total mortality in women." | Manrique-Garcia et al. 2016. *Cannabis, psychosis, and mortality: A cohort study of 50,373 Swedish men*. *American Journal of Psychiatry* <https://pubmed.ncbi.nlm.nih.gov/27102239/> "The authors found an excess mortality among subjects with psychotic disorders, but the level [of excess mortality] did not differ between those with a history of cannabis use and those without such a history."

^[18] Tashkin and Tan. 2022. *Inhaled marijuana and the lung*. *The Journal of Allergy and Clinical Immunology*. [https://www.jaci-inpractice.org/article/S2213-2198\(22\)00495-0/abstract](https://www.jaci-inpractice.org/article/S2213-2198(22)00495-0/abstract) "On balance, the available evidence at least thus far does not suggest that marijuana smoking poses an increased risk of lung cancer when adjustments are made for concomitant tobacco smoking."

^[19] Sidney et al. 1997. *Marijuana use and cancer incidence*. *Cancer Causes & Controls*. <https://pubmed.ncbi.nlm.nih.gov/9328194/> "Marijuana use also was not associated with tobacco-related cancers or with cancer of the following sites: colorectal, lung, melanoma, prostate, breast, cervix."

^[20] Centers for Disease Control. Deaths from Excessive Alcohol Use – United States, 2016-2021, February 29, 2024. <https://www.cdc.gov/mmwr/volumes/73/wr/mm7308a1.htm>

^[21] National Institutes of Health. NIAAA factsheet: Alcohol-Related Emergencies and Deaths in the United States, 2024.

<https://www.niaaa.nih.gov/alcohols-effects-health/alcohol-topics/alcohol-facts-and-statistics/alcohol-related-emergencies-and-deaths-united-states>

^[22] The American Scientist. *The Toxicity of Recreational Drugs*. May/June 2006.

<https://www.americanscientist.org/article/the-toxicity-of-recreational-drugs>

^[23] US Drug Enforcement Administration. Marijuana/Cannabis factsheet. <https://www.dea.gov/factsheets/marijuana>

^[24] Cao et al., 2016. *Characterization of edible marijuana product exposures reported to United States poison centers*. *Clinical Toxicology* <https://pubmed.ncbi.nlm.nih.gov/27418198/>

^[25] Compton and Berning. *Drug and Alcohol Crash Risk*. US Department of Transportation Traffic Safety Facts: Research Note, 2015. <https://rosap.ntl.bts.gov/view/dot/1993>

^[26] Rogeberg. 2019. *A meta-analysis of the crash risk of cannabis-positive drivers in culpability studies: Avoiding interpretational bias*. *Accident Analysis and Prevention*. <https://pubmed.ncbi.nlm.nih.gov/30468948/> "Culpability ORs exaggerate risk increases and parameter uncertainty when misinterpreted as total crash ORs. The increased crash risk associated with THC-positive drivers in culpability studies is low."

^[27] Brubacher et al. 2019. *Cannabis use as a risk factor for causing motor vehicle crashes: A prospective study*. *Addiction*. <https://pubmed.ncbi.nlm.nih.gov/31106494/> "In this multi-site observational study of non-fatally injured drivers we found no increase in crash risk, after adjustment for age, sex and use of other impairing substances, in drivers with THC < 5 ng/ml. For drivers with THC ≥ 5 ng/ml there may be an increased risk of crash responsibility (OR = 1.74), but this result was statistically non-significant and further study is required."

- ^[28] Ibid. See also: Li et al. 2017. *Role of alcohol and marijuana use in the initiation of fatal two vehicle crashes*. *Annals of Epidemiology*. <https://www.sciencedirect.com/science/article/abs/pii/S1047279716304380> "The adjusted odds ratios of fatal crash initiation were 5.37 for those testing positive for alcohol and negative for marijuana, 1.62 for those testing positive for marijuana and negative for alcohol."
- ^[29] Ronen et al. 2007. *Effects of THC on driving performance, physiological state and subjective feelings relative to alcohol*. *Accident Analysis and Prevention*. <https://pubmed.ncbi.nlm.nih.gov/18460360/>
- ^[30] Zhao et al. 2024. *The effect of cannabis edibles on driving and blood THC*. *Journal of Cannabis Research*. <https://pubmed.ncbi.nlm.nih.gov/38822413/>
- ^[31] Sewell et al. 2009. *The effect of cannabis compared with alcohol on driving*. *American Journal on Addictions* <https://pubmed.ncbi.nlm.nih.gov/19340636/>
- ^[32] Brubacher et al. 2023. *A comparison of cannabis and alcohol use in drivers presenting to hospital after a vehicular collision*. *Addiction*. <https://pubmed.ncbi.nlm.nih.gov/36898848/>
- ^[33] Choo et al. 2024. *Risk of motor vehicle collision associated with cannabis and alcohol use among patients presenting for emergency care*. *Accident, Analysis and Prevention*. <https://pubmed.ncbi.nlm.nih.gov/38277855/> "Cannabis alone was not associated with higher odds of MVC [motor vehicle accident], while acute alcohol use alone ... [was] independently associated with higher odds of MVC."
- ^[34] Morgan and Dyar. 2024. *Rural and urban differences in marijuana use following passages of medical marijuana laws*. *Public Health*. <https://www.sciencedirect.com/science/article/pii/S0033350624002324?via%3Dihub>
- ^[35] Dutra et al., 2022. *Cannabis legalization and driving under the influence of cannabis in a national US sample*. *Preventive Medicine Reports*. <https://www.sciencedirect.com/science/article/pii/S2211335522001061>
- ^[36] Benedetti et al., 2021. *Demographic and policy-based differences in behaviors and attitudes toward driving after marijuana use: An analysis of the 2013-2017 Traffic Safety Culture Index*. *BMC Research Notes*. <https://bmcresearchnotes.biomedcentral.com/articles/10.1186/s13104-021-05643-3>
- ^[37] Schoeler et al., 2024. *Assessing rates and predictors of cannabis-associated psychotic symptoms across observational, experimental, and medical research*. *Nature: Mental Health*. <https://www.nature.com/articles/s44220-024-00261-x>
- ^[38] Schoeler et al., 2022. *Rates and correlates of cannabis-associated psychotic symptoms in over 230,000 people who use cannabis*. *Translational Psychiatry*. <https://www.nature.com/articles/s41398-022-02112-8>
- ^[39] Zellers et al., 2024. *Limited psychological and social effects of lifetime cannabis use frequency: Evidence from a 30-year community study of 4,078 twins*. *Journal of Psychopathology and Clinical Science*. <https://psycnet.apa.org/record/2024-40025-005>
- ^[40] L'Heureux et al., 2024. *Effect of cannabis legalization in Canada on the incidence of psychosis consultations in Quebec City's psychiatric emergency services*. *The Canadian Journal of Psychiatry*. <https://journals.sagepub.com/doi/10.1177/07067437241232901> "[There was] "no increase in the proportion of ED consultations for a psychotic episode in which evidence for cannabis consumption was obtained before and after legalization."
- ^[41] Anderson et al., 2022. *Impact of non-medical cannabis legalization with market restrictions on health service use and incident cases of psychotic disorder in Ontario, Canada*. *International Journal of Drug Policy*. <https://www.sciencedirect.com/science/article/abs/pii/S0955395923003328?via%3Dihub> "[The] implementation of Canada's cannabis legalization framework was not associated with evidence of significant changes in cannabis-induced psychosis or schizophrenia ED [emergency department] presentations."
- ^[42] Elser et al., 2023. *State cannabis legalization and psychosis-related health care utilization*. *JAMA Open Network*. <https://pubmed.ncbi.nlm.nih.gov/36696111/>
- ^[43] New York Times. *A more potent marijuana is stirring fresh debates*. December 28, 1978. <https://www.nytimes.com/1978/12/28/archives/a-more-potent-marijuana-is-stirring-fresh-debates-mexican-supply.html>
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- ^[44] Szejko et al., 2024. *Medicinal uses of different cannabis strains: Results from a large prospective study in Germany*. Pharmacopsychiatry. <https://www.thieme-connect.de/products/ejournals/abstract/10.1055/a-2261-2269>
- ^[45] <https://www.govinfo.gov/content/pkg/FR-1999-07-02/html/99-16833.htm>
- ^[46] O'Donnell et al., 2023. Dronabinol. <https://www.ncbi.nlm.nih.gov/books/NBK557531/>
- ^[47] MJBizDaily. *Flower still No. 1 with consumers, even as innovative product types crowd store shelves*. November 1, 2022. <https://mjbizdaily.com/flower-no-1-with-consumers-amid-innovative-product-types/>
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- ^[49] Meier et al., 2012. *Persistent cannabis users show neuropsychological decline from childhood to midlife*. Proceedings of the National Academy of Sciences. <https://pubmed.ncbi.nlm.nih.gov/22927402/>
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- ^[52] Jackson et al., 2015. *Impact of adolescent marijuana use on intelligence: results from two longitudinal twin studies*. Proceedings of the National Academy of Sciences. <https://www.pnas.org/doi/10.1073/pnas.1516648113>
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- ^[54] NORML. *Cannabis must be removed from the Controlled Substances Act to resolve state/federal conflicts*. June 23, 2023. <https://norml.org/blog/2023/06/23/norml-op-ed-cannabis-must-be-removed-from-the-controlled-substances-act-to-re-solve-state-federal-conflicts/>