NORML'S STATEMENT TO THE INDIANA INTERIM STUDY COMMITTEE ON PUBLIC HEALTH, BEHAVIORAL HEALTH AND HUMAN SERVICES REGARDING CANNABIS

1. It is not only appropriate, but necessary, to allow patients diagnosed with certain chronic, incurable, terminal, or treatment-resistant disease conditions to undergo medically-supervised, evidence-based therapies involving marijuana.

   Medical use of marijuana is not new. Humans have cultivated and consumed the flowering tops of the female cannabis plant since virtually the beginning of recorded history. Cannabis-based textiles dating to 7,000 BCE have been recovered in northern China, and the plant's use as a medicinal and mood-altering agent date back nearly as far. In 2008, archeologists in Central Asia discovered over two pounds of cannabis in the 2,700-year-old grave of an ancient shaman. After scientists conducted extensive testing on the material's potency, they affirmed, "[T]he most probable conclusion … is that [ancient] culture[s] cultivated cannabis for pharmaceutical, psychoactive, and divinatory purposes."

   Modern cultures continue to indulge in the consumption of cannabis for these same purposes, despite a decades-long, virtual worldwide ban on the plant's cultivation and use. In the United States, federal prohibitions outlawing cannabis' recreational, industrial, and therapeutic use were first imposed by Congress under the Marihuana Tax Act of 1937 and then later reaffirmed by federal lawmakers' decision to classify the cannabis plant — as well as all of its organic chemical compounds (known as cannabinoids) — as a Schedule I substance under the Controlled Substances Act of 1970. This classification, which categorizes the plant alongside heroin, defines cannabis and its dozens of distinct cannabinoids as possessing "a high potential for abuse, … no currently accepted medical use, … [and] a lack of accepted safety for the use of the drug … under medical supervision."

By contrast, cocaine and methamphetamine — which remain illicit for recreational use but may be consumed under a doctor's supervision — are classified as Schedule II drugs. Both alcohol and tobacco are unscheduled. Over 140 gold-standard clinical trials have been conducted to examine the safety and efficiency of cannabis or individual cannabinoids in some 8,000 patients. The median number is two trials prior to FDA approval.

2. We need to allow doctors to treat their patients with medical marijuana in Indiana just like 37 states already have. There is no need to have marijuana reclassified as a Schedule II drug to research and study its substantial therapeutic potential since that has been already proven with conclusive and substantive evidence. In fact, the DEA recently reclassified plant-derived marijuana medicine to Schedule V.
   The ongoing classification of the cannabis plant as a Schedule I controlled substance is inconsistent with scientific opinion, public attitudes, and the overwhelming majority of state laws. Furthermore, there now exists ample scientific and empirical evidence to rebut the federal government's contention. Despite the nearly century-long prohibition of the plant, cannabis is nonetheless one of the most investigated therapeutically active substances in history. To date, there are over 36,000 peer-reviewed papers in the scientific literature referencing the cannabis plant and its cannabinoids, according to a keyword search on the search engine PubMed Central, the US government repository for peer-reviewed scientific research. In recent years, this volume of research has grown exponentially, with more than 20,000 papers published just in the past decade. Much of this more recent research has been dedicated to exploring and verifying cannabis' therapeutic activities in various patient populations – including in FDA-approved gold-standard clinical trials. A summary of this clinical trial data concluded: "Evidence is accumulating that cannabinoids may be useful medicine for certain indications. … The classification of marijuana as a Schedule I drug as well as the continuing controversy as to whether or not cannabis is of medical value are obstacles to medical progress in this area. 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."
   (Clinical Applications for Cannabis & Cannabinoids: A Review of the Recent Scientific Literature, 2000 — 2021, Paul Armentano, Deputy Director NORML).

3. It is well-documented that patients often receive effective and safe treatment for a variety of conditions by using marijuana and its compounds, including CBD oils, by rubbing it in the skin with oils, lotions, and creams, and by other delivery methods, such as eye drops for glaucoma patients, which don't involve inhalation or ingestion. The potential impact on improving the overall public health in Indiana by allowing medical marijuana is tremendous. Thousands of Hoosiers have already benefited from use of CBD products with very limited amounts of THC. They get relief from a variety of symptoms--not high. They report much satisfaction with the availability and use of CBD products. It certainly improved the quality of their lives.

4. Medical marijuana is needed now in Indiana to help our raging opioid crisis. 2,755 Hoosiers died in 2021 from opioid overdoses (O.Ds). Over 11,000 Hoosiers have died from opioids since 1994. According to the Center for Disease Control and Prevention (2019) "...prescription opioids [contribute] to more than 35% of the overall overdose mortality".

    A. "To fill the gap between efficacious OUD [opioid use disorder] treatments and the widespread prevalence of misuse, relapse, and overdose, the development of novel, alternative, or adjunct OUD treatment therapies is highly warranted. [There is] emerging evidence that suggests that cannabis may play a role in ameliorating the impact of OUD. … The evidence … demonstrates the potential cannabis has to ease opioid withdrawal symptoms, reduce opioid consumption, ameliorate opioid cravings, prevent opioid relapse, improve OUD treatment retention, and reduce overdose deaths. … The compelling nature of these data and the relative safety profile of cannabis warrant further exploration of cannabis as an adjunct or alternative treatment for OUD."
    Emerging evidence of cannabis' role in opioid use disorder, Cannabis and Cannabinoid Research, 2020

    Let's help our citizens have medical marijuana available to improve the quality of their lives and save thousands of Hoosiers from opioid addiction and death. By allowing medical marijuana we would have significantly less child welfare cases and juvenile justice matters because of the proven reduction in opioid addiction, hospitalization, and O.Ds.

5. We are fortunate to have the experiences of most of the country (37 states so far) and dozens of localities in allowing the use of medical marijuana.
    A. The research and reports indicate that medical marijuana use does not lead to addiction or cause mental health problems. A small percentage of users have conditions that would not benefit from medical marijuana. Maybe 10% of heavy, regular users become habituated if not mentally and physically dependent on its use. Judge Francis Young ruled in 1988 that cannabis was the safest therapeutic drug known to man. "Similar studies have found marijuana much safer than almost all other drugs and compounds including alcohol," most significantly according to Paul Armentano, "The consumption of marijuana-regardless of quantity or potency-cannot induce a fatal overdose." According to the World Health Organization, "there are no recorded cases of overdose fatalities attributed to cannabis."
    B. Medical marijuana regulatory schemes for the control of production, processing, and distribution of marijuana to patients vary greatly between the 37 states. Many of them continue to modify and adapt new regulations based on their respective experiences. Some modify existing agencies such as the Liquor and Cannabis Board (Washington) and others create new agencies.
6. The impact on youth perceptions and use is minimal. Following the enactment of both medical cannabis access laws and adult use marijuana laws, there has not been any significant rise in self-reported marijuana use by adolescents.
    A. In fact, the percentage of adolescents reporting substance use decreased significantly in 2021, according to the latest results from the Monitoring the Future survey of substance use behaviors and related attitudes among eighth, 10th, and 12th graders in the United States. In line with continued long-term declines in the use of many illicit substances among adolescents previously reported by the Monitoring the Future survey, these findings represent the largest one-year decrease in overall illicit drug use reported since the survey began in 1975."
    (US National Institute on Drug Abuse, December 15, 2021 news release)

B. The prevalence of cannabis dispensaries is not positively associated with increased teen use.

"This is the first study to simultaneously examine the density of both MCDs [medical cannabis dispensaries] and RCRs [recreational cannabis retailers] around young adults' homes and associations with future intentions to use cannabis, including the co-use of cannabis with tobacco/nicotine. Our results suggest that young adults who lived in an area with a greater density of any type of outlet were not significantly more likely to report stronger intentions to use cannabis, e-cigarettes, or cannabis mixed with tobacco/nicotine in the future."

(Journal of Cannabis Research, Density of medical and recreational cannabis outlets: racial/ethnic differences in the association with young adult intentions to use cannabis, e-cigarettes, and cannabis mixed with tobacco/nicotine, 2021).

7. Allowing medical marijuana in Indiana would not cause an increase in crime or lead to use of illicit drugs. In fact, a report in the Journal of Urban Economics (2017) found that the establishment of cannabis retailers is not associated with upticks in criminal activity. "An open dispensary provides over $30,000 per year in social benefit in terms of larcenies prevented."

   (Going to pot: the impact of dispensary closures on crime, https://www.sciencedirect.com/science/article/pii/s0094119017300281, Journal of Urban Economics).

   A. Retail cannabis access is associated with reduced opioid consumption by the general public.

   "We studied county level associations between cannabis storefront dispensaries and opioid related mortality rates in the US between 2014 and 2018. Our study found that increased medical and recreational storefront dispensary counts are associated with reduced opioid related mortality rates during the study period. These associations appear particularly strong for deaths related to synthetic opioids such as fentanyl. Given the alarming rise in the fentanyl based market in the

US, and the increase in deaths involving fentanyl and its analogs in recent years, the question of how legal cannabis availability relates to opioid related deaths is particularly pressing. Overall, our study contributes to understanding the supply side of related drug markets and how it shapes opioid use and misuse."
(Association between county level cannabis dispensary counts and opioid related mortality rates in the United States: panel data study, BMJ, 2021).

B. Marijuana use has been proposed to serve as a 'gateway' that increases the likelihood that users will engage in subsequent use of harder and more harmful substances, known as the marijuana gateway hypothesis (MGH). The current study refines and extends the literature on the MGH by testing … a nationally representative sample. … Results from this study indicate that marijuana use is not a reliable gateway cause of illicit drug use. As such, prohibition policies are unlikely to reduce illicit drug use.
(Is marijuana really a gateway drug? A nationally representative test of the marijuana gateway hypothesis using a propensity score matching design, Nature Communications, 2021).

8. There are no increased risks of traffic and workplace accidents, fatalities, and injuries with medical marijuana. In fact, neither medical use nor adult use legalization is associated with adverse effects on traffic safety. "we (the state of Colorado) have not experienced any significant issue as a result of legalization… we have actually seen an overall decrease in DUI's since legalization. So, the short answer is: there has been no increase since legalization of marijuana here."
(Comments from Larry Wolk, Chief Medical Officer of the Colorado Department of Public Health https://www.cbc.ca/listen/shows/island-morning/segment/14496573, October 23, 2017).

A. Recent research examining the impact of marijuana legalization found that MMLs are associated with fewer traffic fatalities in those aged 15

to 24 or 25 to 44 years. An earlier study found similar results and argued that the decline is driven by reductions in alcohol-related crashes. This suggests a substitutability between alcohol and marijuana.
(https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7002927/, Marijuana Decriminalization, Medical Marijuana Laws, and Fatal Traffic Crashes in US Cities, 2010–2017, March 2020).

There are several field sobriety tests for marijuana impairment currently in use. Most of them, like the ones used in Indiana, are ineffective to detect impairment. More scientific breath sample methods are being developed to work like an alcohol sensor and blood tests can determine more accurately the percentage of THC in the sample with a better indication of impairment.

9. Allowing medical marijuana in Indiana would have a positive effect on the economy and workforce such has been seen throughout the country since the majority of states changed their laws. A state by state analysis by content provider leafly.com identified 428,059 full-time equivalent jobs supported by legal cannabis as of January 2022. Last year, the legal cannabis industry created an average of 280 new jobs per day. Cannabis is now a $25 billion business in the United States.
(https://www.leafly.com/news/industry/cannabis-jobs-report, The US cannabis industry now supports 428,059 jobs, Feb 2022).

    A. In states with laws allowing medical marijuana, researchers tied the accessibility of cannabis to a nearly 7% decline in workers' comp claims. When there were claims, they were for shorter periods of time, on average, after medical marijuana was legalized. "…estimates show that, post MML, WC [Workers Compensation] claiming declines, both the propensity to claim and the level of income from WC. These findings suggest that medical marijuana can allow workers to better manage symptoms associated with workplace injuries and illnesses and, in turn, reduce need for WC."
    (Medical marijuana and workers' compensation claiming, Health Economics, 2020)

    B. "We [the National Bureau of Economic Research] find that MML implementation leads to increases in labor supply among older adults along with improvement in health for older men and mixed health

effects for women. These effects should be considered as policymakers determine how best to regulate access to medical marijuana." (http://www.nber.org/papers/w226880), The Impact of Medical Marijuana Laws on the Labor Supply and Health of Older Adults: Evidence from the Health and Retirement Study, 2016.

C. An increasing body of scientific data shows that the use of cannabis by older adults is associated with improvements in their overall quality of life. "We investigated older adults' perceptions and experiences of medical cannabis use to treat and/or manage chronic conditions, specifically as a substitute for prescription drugs. … [Study participants] reported satisfaction with being able to use medical cannabis to manage symptoms, get relief from pain, and have an improved quality of life all while lessening their dependence on pharmaceutical drugs."
(Medical cannabis use: Exploring the perceptions and experiences of older adults with chronic conditions. Clinical Gerontologist, 2021).

D. Among a cohort of seniors (ages 65 or older) residing in a legal state (California), 78 percent of those who reported consuming cannabis within the past three years defined their use as medical. "Most older adults in the sample initiated [their] cannabis use after the age of 60 years and used it primarily for medical purposes to treat pain, sleep disturbance, anxiety, and/or depression."
(Cannabis: An emerging treatment for common symptoms in older adults. Journal of the American Geriatric Society, 2020).

10. There are various ways the states and Federal government agencies implement data systems to collect, share and publish medical marijuana information. There is an effort in congress to pass a medical research act regarding the licensing of cannabis cultivation for research.
11. The impact of allowing medical marijuana on state and local government revenues is very positive. All of the recreational marijuana states also have medical marijuana for

sale so there is not sufficient data available for just medical marijuana revenues. However, all the legal marijuana states report revenues of well over $100 million dollars a year. In fact, a recent auditor's report in Pennsylvania estimated that taxing the state's existing retail cannabis market would yield $581 million in new annual revenue. Legal cannabis sales in Washington state continue to grow at a steady rate. The State has collected a total of $559.5 million in legal marijuana income and license fees in fiscal year 2021, including $4.1 million in cannabis license fees.

A. The data is available in the Liquor and Cannabis Control Board's FY 2021 Annual Report (p. 21). The report also shows that the marijuana revenues were $286.8 million more than that of liquor, and that the marijuana tax income to the state for fiscal 2020 of $559.5 million grew by slightly more than $85.6 million from the prior fiscal year. In neighboring Ohio, the state raised $374 million in tax revenue in 2021 from the sales of legal marijuana.

B. Governor J.B. Pritzker of Illinois announced in a press release that the state has seen a 50% increase in total tax reported from adult-use cannabis, from $297.7 million in fiscal year 2021 to $445.3 million in fiscal year 2022. "Legalizing cannabis for adults has been a wise investment for the Illinois economy and sales have continued to rise, leading to additional revenue for the state," said [Illinois] Senate Majority Leader Kimberly A. Lightford. "Consistent cash-flow from the cannabis industry assists the state with funding essential services such as violence prevention, mental health, and local government." (https://www.illinois.gov/news/press-release.25213.html, July 25, 2022).

In conclusion, Indiana needs to allow medical marijuana for all the reasons discussed. We don't need to be the last state to take action to help our citizens with the opioid crisis and provide safe effective treatment for many conditions. We don't need more studies. We need to act now!

Submitted By,
Stephen W. Dillon,
Member of the National
And the Indiana NORML
Board of Directors
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