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Marijuana Use in Indiana: A Look at Cannabis Laws in and around Indiana

Summary

- Though under federal law marijuana is still considered an illicit drug, many states have enacted policies decriminalizing and/or legalizing marijuana to some degree.
- In 14 states (including Indiana), possession, use, cultivation, sale or distribution of marijuana is illegal.
- Indiana is bordered by states with varying marijuana policies: Kentucky (illegal), Ohio (medical use), and Michigan and Illinois (medical and recreational use).
- Marijuana has both short-term and long-term effects, and regular use can negatively affect mental health.
- An emerging trend of concern is the use of marijuana products (THC) in e-cigarettes, especially among young people.

Introduction

Marijuana, also known as “weed”, “pot”, “hashish”, or “dope”, is the most commonly used illicit substance in Indiana and the nation [1]. It is derived from the *Cannabis sativa*, *Cannabis indica* or *Cannabis ruderalis* plants, which are also known as hemp when cultivated for non-drug use [2]. Chemicals found in marijuana are called cannabinoids. The most widely known cannabinoid is tetrahydrocannabinol (THC), which is the primary psychoactive, or mind-altering, compound in cannabis. Cannabidiol (CBD) on the other hand, does not have mind-altering effects and is primarily used therapeutically.

Marijuana can be smoked or inhaled using joints, bong, bowls/pipes, hookahs, or blunts (cigars filled with marijuana). Marijuana and its derivatives can also be ingested in food or beverages (edibles) [3]. Some products are being marketed as marijuana alternatives, but are considered “chemical grade synthetic cannabinoids”, which can be sprayed onto plant matter and smoked, or vaporized as a liquid [4]. Vaporization as a method of ingesting THC is rising in popularity. This can be done by modifying e-cigarette cartridges, or vaporizing concentrated butane hash oil, colloquially known as “dabbing” [3, 5-7]. The effects of marijuana depend on the interaction of multiple factors such as the user’s previous experience with drugs, biology, method of ingestion, and substance potency.

Short-term effects of marijuana use include altered senses or perceptions, for example, an altered sense of time. Furthermore, mood changes, impaired memory, and difficulty with body movement, thinking, and problem solving

can occur. High doses of marijuana may result in hallucinations, delusions, and psychosis [8, 9].

Long-term use is linked to increased risks of heart attacks, respiratory illness, and cancer [10-12]. Moreover, long-term use may lead to mental health problems, including depression, anxiety, suicidal ideation, and personality disturbances, as well as the potential for addiction [10, 13, 14]. Polysubstance use occurs frequently, notably with alcohol and cigarettes [15, 16]. Synthetic products have a higher likelihood of adverse events when compared to traditional products, and reports of these adverse outcomes are becoming increasingly common as use of synthetic marijuana products rises [4].

Some cannabinoids have been recognized to treat certain health conditions, leading several states to legalize marijuana products for medical use. Medical marijuana has been shown to reduce or alleviate the symptoms of conditions such as glaucoma, nausea, chronic pain, inflammation, disease-induced decreased appetite, multiple sclerosis, and epilepsy [10]. The U.S. Food and Drug Administration (FDA) has not recognized or approved marijuana for medical use, however, it has approved specific CBD-containing products for treating seizures in patients over the age of 2 [17]. The federal government classifies marijuana as a Schedule I drug under the Controlled Substances Act. A Schedule I drug is defined as “a substance with no currently accepted medical use, high potential for abuse, and the potential to create severe psychological and/or physical dependence” [18].

Public acceptance of marijuana has changed dramatically in recent years. The percentage

of Americans who support legalization has increased, possibly due to the growing number of states which have legalized or decriminalized marijuana [19]. In 2000, 63% of Americans thought marijuana should be illegal. In 2018, however, 62% of Americans believed marijuana should be legalized [20]. Americans cited reasons such as relief for medical issues and allowing law enforcement to focus on other types of crime as the most important reasons for favoring legalization. Those opposing legalization mentioned concerns about vehicular collisions, easier access to marijuana, the possibility that companies would promote marijuana in a similar manner to alcohol and tobacco, and the potential for individuals to start using stronger, more addictive drugs [21, 22]. Supporters of legalization claim that prohibition has not effectively reduced access or use of marijuana, exacerbated mass incarceration in the United States, and that legalization has numerous benefits [22].

Many states have enacted policies differing from federal legislation. These state policies exist on a spectrum, ranging from decriminalization only to allowing medical use to full legalization for recreational use. Decriminalization laws remove the threat of jail or prison time for possession of small amounts of marijuana (amounts are defined by the state). Decriminalization does not necessarily mean the complete removal of penalties; criminal charges may still exist for repeat offenders, possession of larger amounts of marijuana, or for trafficking offenses. Many decriminalization policies also require that offenders pay fines.

Marijuana Legalization

State Policies (as of April 2020)

- 11 states and the District of Columbia have fully legalized marijuana use for recreational purposes, with the majority allowing sale of marijuana for recreational purposes (Vermont and the District of Columbia allow for possession and growing of marijuana but ban sales).
- 12 states have laws which allow for the medical use of marijuana and have also decriminalized possession of small amounts of marijuana.
- 10 states have laws which allow for medical use of marijuana.
- 3 states have only decriminalized possession of small amounts of marijuana.
- 14 states have policies which declare that marijuana possession, use, cultivation, sale or distribution is illegal [23]. Individuals found guilty of these acts may be penalized with a misdemeanor (lower penalties which may or may not include jail time) or felony charge (a more serious charge, with prison time) [24].

In 2005, the United States Supreme Court decided *Gonzales v. Raich*, declaring that the Commerce Clause of the U.S. Constitution gives the federal government legal authority to criminalize the production and use of homegrown cannabis, despite the status of marijuana legalization at the state level [25]. Governments and administrations may choose to adopt low-enforcement policies though marijuana remains prohibited [24].

Policies in the Midwest

Indiana is surrounded by four states with varying levels of legalization: Michigan to the north; Ohio to the east; Kentucky to the south; and Illinois to the west.

Indiana

Possession of marijuana is illegal in Indiana, and is considered a misdemeanor crime, punishable by up to 180 days in jail and fines of \$1,000 [26]. Indiana allows limited access to cannabis products, such as CBD oil. In July of 2017, legislation was enacted that allowed the use of CBD oil (less than 0.3% THC) for uncontrollable seizures [27]. In 2018, the use and sale of CBD (less than 0.3% THC) for any purpose was legalized, with clarified testing and labeling requirements [28].

Ohio

Ohio was the 6th state to decriminalize possession of marijuana (in quantities of up to 100 grams), in 1975. Possession of marijuana (and similar activities) is classified as a minor misdemeanor, with a maximum fine of \$150, and no creation of a criminal record. Conviction or citation for possession of any controlled substance, including marijuana, retains the potential for an individual's driver's license to be suspended for 6 months to 5 years.

Marijuana for medical use was legalized in 2016, and legal sales began in 2019. Legalization for medical use required that a "state-run or licensed system of growing facilities, testing labs, physician certification, patient registration, processors, and retail dispensaries" be established and fully operational by September 2018. Provisions were made for individuals who suffered from 21 medical conditions to buy cannabis from Michigan or another state with

legalized medical cannabis laws. Cultivation or smoking of cannabis are both prohibited under Ohio law, which permits ingestion only via edible, oil, vapor, patch, tinctures, or plant matter [29].

Michigan

Michigan was the first Midwestern state to legalize marijuana for medicinal use (2008), and later became the first Midwestern state to fully legalize marijuana use (2018). The Michigan Regulation and Taxation of Marijuana Act (MRTMA) legalizes marijuana possession and use for individuals over the age of 21. It eliminated penalties for possession, use, purchase, transport or processing of 2.5 ounces or less of marijuana, or up to 15 g of marijuana concentrate. Individuals may possess up to 10 ounces of marijuana within a residence. Michigan residents may cultivate up to 12 plants in their residence. The act allows municipalities to limit or prohibit marijuana establishments within their boundaries. A new commercial license category, called a "microbusiness" was established, which allowed individuals to grow up to 150 plants, and sell directly to the consumer. The Michigan Department of Licensing and Regulatory Affairs (LARA) can approve or disapprove licenses, whereas the prior medical facility law established that a politically appointed licensing board would have that power [30].

Illinois

Illinois legalized cannabis for medical use starting on January 1, 2014, for patients who had "debilitating conditions", as defined by the Compassionate Use of Medical Cannabis Pilot Program Act [31]. In July of 2016, the state decriminalized cannabis; less than 10 grams of cannabis was previously a misdemeanor, and was reduced to a \$100 - \$200 fine. The

driving under the influence (DUI) requirement for THC was set to a 5 nanograms/mL in an individual’s blood, breath, or urine. In August 2018, legislation greatly expanded the medical cannabis program, as it became an established replacement for opioid painkillers [32]. In addition, major restrictions (including criminal background checks and fingerprinting) were lifted, alleviating barriers for acceptance into the program. The program was again expanded in August 2019, to include more conditions for which marijuana may be used. These medicinal products will remain taxed at a rate of 1%. In mid-2019, Illinois became the first state in which the state legislature (rather than ballot initiative) legalized recreational marijuana use and sale through the Illinois Cannabis Regulation and Tax Act, set to take effect on January 1, 2020 [33].

Kentucky

In Kentucky, it is illegal to use cannabis as a drug. In 2014, SB124 legalized the use of

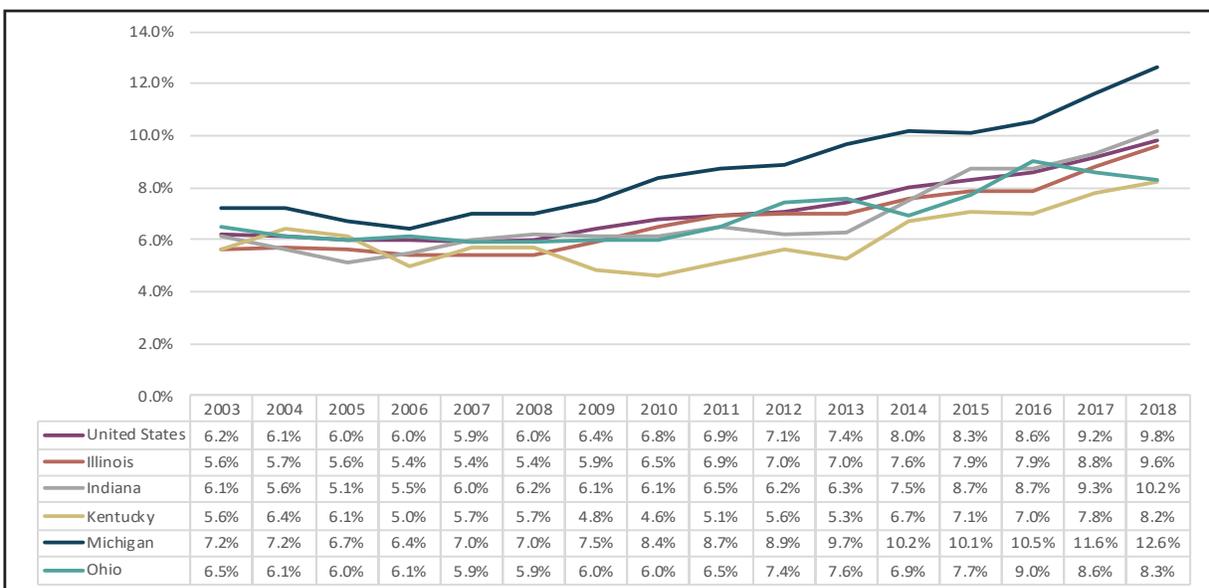
non-psychoactive CBD with a physician’s recommendation for clinical trials at the University of Kentucky for patients with epilepsy. However, this law did not include any language for the legal production or sale of CBD [34].

Prevalence of Marijuana Use

General Population

According to findings from 2018 National Survey on Drug Use and Health (NSDUH), 15.6% (95% Confidence Interval [CI]: 13.9-17.6) of individuals in Indiana over the age of 12 used marijuana in the past year, and 10.2% (95% CI: 8.8 - 11.9) used marijuana in the past month. Individuals aged 18-25 had the highest rates, with 35.8% reporting past-year use and 22.9% reporting past-month use [35]. **Figure 1** displays past-month marijuana use estimates in Indiana, the four surrounding states, and the U.S., from 2003 – 2018 [36, 37].

Figure 1: Past-month Marijuana use among Individuals aged 12 and older (NSDUH, 2003-2018)



School-Based Surveys

Based on findings from 2015 Youth Risk Behavioral Surveillance System (YRBSS), among Indiana high school students [38]:

- 35.1% reported that they had ever used marijuana
- 10.8% reported that they had ever used synthetic marijuana
- 6.2% reported trying marijuana before the age of 13
- 16.4% reported using marijuana in the past 30 days

- Past-month marijuana use in students grades 9 through 12 was 13.1%, which was significantly lower than the national rate of 19.6%.
- Past-month use of marijuana decreased significantly from previous years among most grade levels, except among 7th graders where use remained steady.
- Monthly use of ‘regular’ marijuana was higher than use of synthetic marijuana.
- Among all grades, the majority of students who reported using marijuana within the last year reported acquiring it from a friend [39]

The Indiana Youth Survey (INYS) is a school-based assessment administered to students in grades 6-12 in Indiana. It is designed to monitor patterns of alcohol, tobacco, and other drug use; gambling behaviors; and risk and protective factors among these adolescents. The 2018 results of this survey indicate that [4]:

Treatment Population

The Treatment Episode Data Set-Admissions (TEDS-A) is a national data system, maintained by the Substance Abuse and Mental Health Services Administration (SAMHSA). It contains information on annual admissions to substance use treatment facilities, including client

Table 1: Current marijuana use in high school students (YRBSS, 2013 - 2017)

	2013	2015	2017
United States	23.4 (21.3-25.7)	21.7 (19.3-24.2)	19.8 (18.1-21.6)
Illinois	24 (20.7-27.6)	18.7 (15.9-21.8)	20.8 (17.3-24.8)
Indiana	N/A*	16.4 (14.1-18.9)	N/A*
Kentucky	17.7 (14.9-21)	17.2 (14.7-20)	15.8 (13.1-18.9)
Michigan	18.2 (16.8-19.8)	19.3 (16.5-22.5)	23.7 (19.0-29.2)
Ohio	20.7 (16.3-25.8)	N/A*	N/A*

*Estimates are not available due to low response rates.

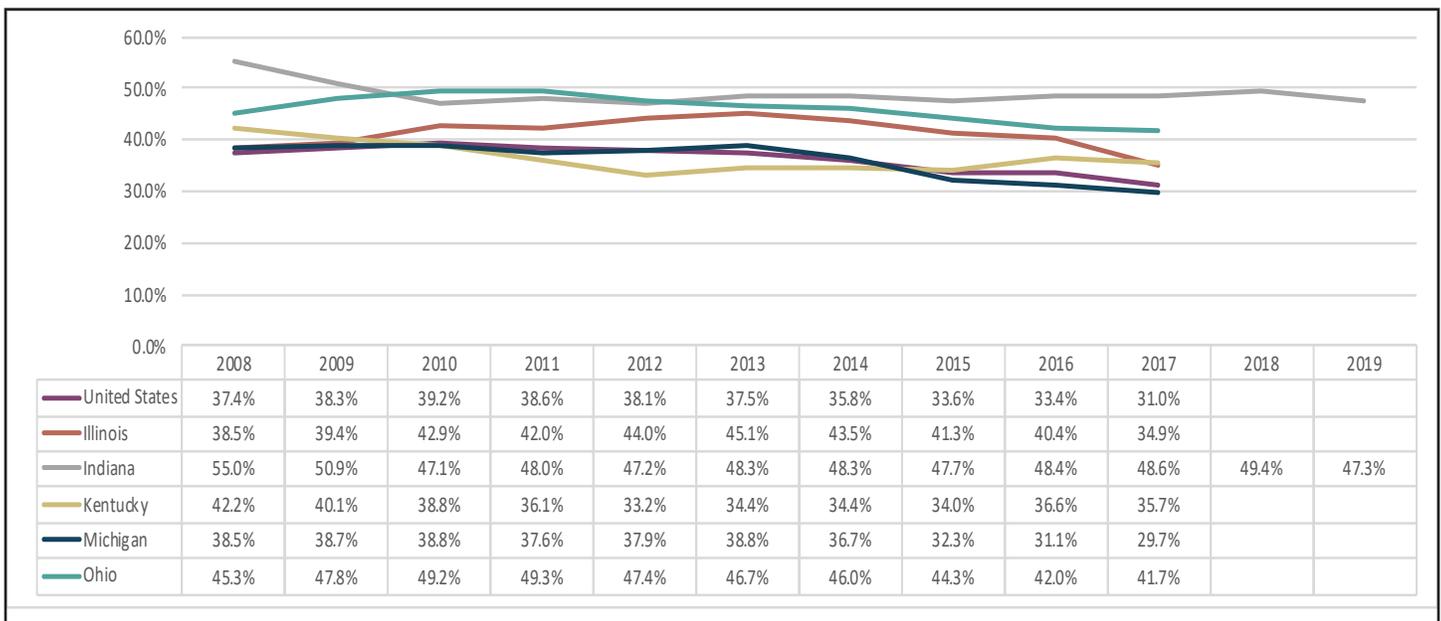
demographics and characteristics of substance use. These records represent admissions rather than individuals, as a person may be admitted to treatment more than once.

From 2008-2017, the percentage of admissions where marijuana use was reported trended downwards in Indiana, Illinois, Kentucky, Michigan, Ohio, and the nation as a whole (see **Figure 2**). For most years within this time period, Indiana had the highest percentage of admissions where marijuana was flagged as a problem substance, with the exception of

2010-2012, when Ohio reported higher rates of admissions with marijuana flagged as a problem substance. During this decade, approximately half of all Indiana admissions reported marijuana flagged as a problem (ranging from 47.1% to 55.0%).

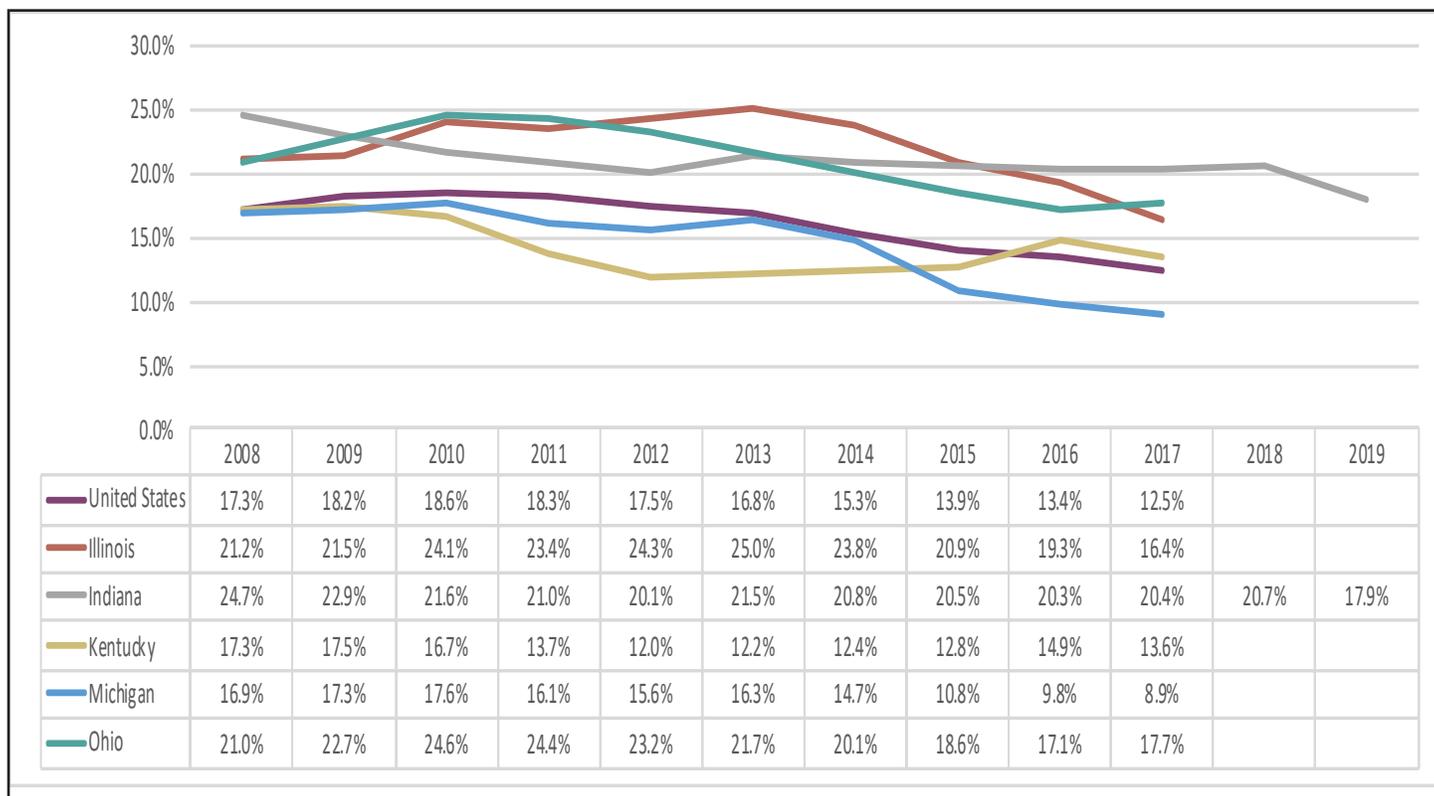
Similarly, the percentage of admissions in which marijuana was the primary substance of use at the time of admission trended downward during this decade in all the states of focus, as well as U.S. (see **Figure 3**).

Figure 2: Marijuana use reported at substance use treatment admission (TEDS, 2008-2019)



*Note: For the United States, Illinois, Kentucky, Michigan, and Ohio, the most recent data available were from 2017.

Figure 3: Marijuana reported as primary drug at substance use treatment admission (TEDS, 2008-2019)



*Note: For the United States, Illinois, Kentucky, Michigan, and Ohio, the most recent data available were from 2017.

Implications of Legalization

Public health

There are multiple public health concerns associated with marijuana, including an increase in marijuana consumption, especially among adolescent populations [40]. Current literature suggests that youth consumption of marijuana would minimally change, or remain stable, after marijuana legalization, but caution that these conclusions are limited by a lack of long-term data [41, 42].

Prolonged marijuana use can have negative mental health implications. Approximately 9% of individuals who are regular users develop an addiction. When used daily, the likelihood of addiction increases to 25% to 50%, with even higher risks for adolescents [10]. Though the rate of dependence for other substances may be higher, marijuana dependence is the most prevalent illicit substance-use diagnosis [43]. Marijuana is commonly used by individuals suffering from depression as a form of self-medication. Unfortunately, marijuana has been associated with poor recovery outcomes among

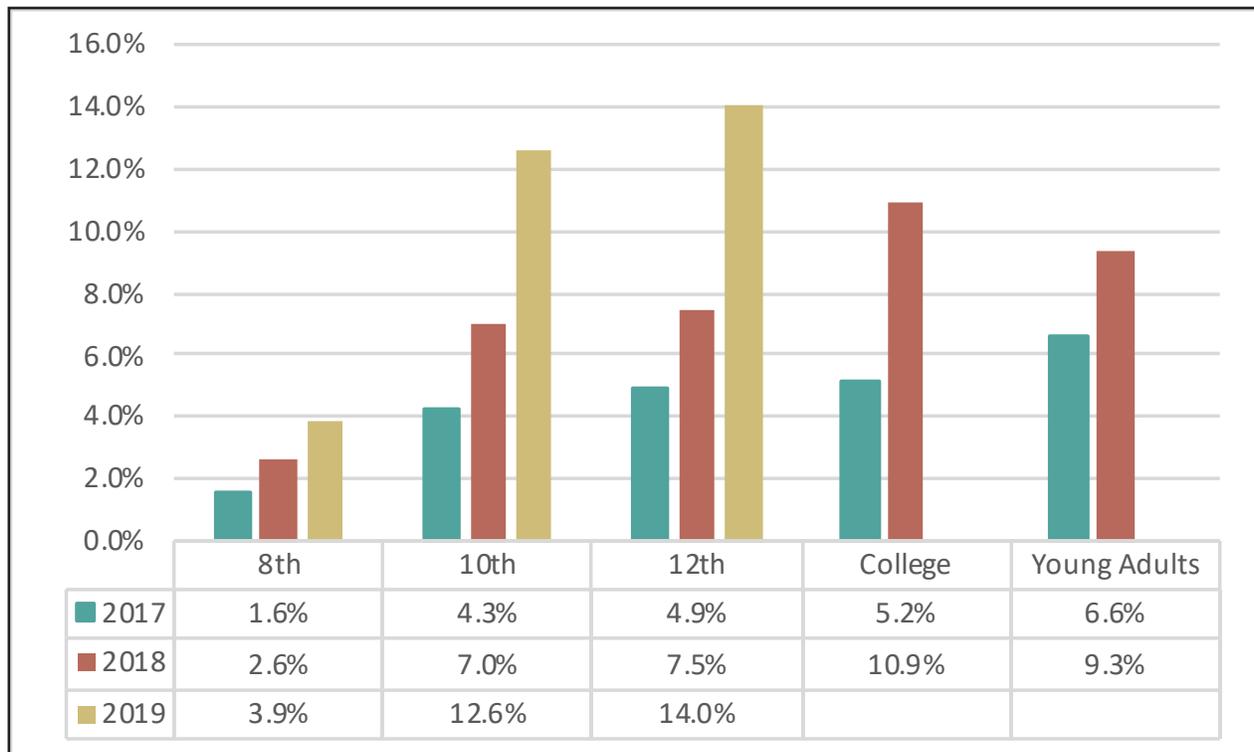
psychiatric patients [44]. Addiction studies have shown a strong correlation between antisocial behavior and marijuana use [45]. States with medical marijuana policies have shown significant decreases in hospitalizations and overdose related to opioid use disorder, which may be an outcome of interest when considering public health ramifications of marijuana legalization [46].

In addition to mental health concerns, there has been increasing evidence linking marijuana use to physical injuries and trauma. Both acute and chronic marijuana use impair driving ability, and marijuana is the most frequently reported illicit substance in conjunction with vehicular accidents. Risk of involvement in a vehicular accident increased by a factor of 2 when an individual operates a vehicle soon after marijuana ingestion, and a culpability analysis concluded that people with THC in their blood were 3 to 7 times more likely to be responsible in the event of a motor collision when compared to those who do not drive under the influence of any substances [10]. In Colorado, there was a decreasing trend of marijuana use associated with traumatic injuries prior to legalization, but after recreational legalization, this trend significantly reversed [47]. Colorado also experienced significant increases in the number of hospital discharges coded as marijuana-dependent and number of calls to poison centers related to marijuana [48].

A concerning trend has been the rise of vaping marijuana. In August 2019, the CDC released a warning regarding the multi-state outbreak of vaping-related pulmonary hospital admissions. In this warning, the CDC issued multiple recommendations, including halting the use of e-cigarette products, not modifying

e-cigarette cartridges, and not buying black-market cartridges containing THC or other cannabinoids. All the patients reported using e-cigarettes, though there was no single product common to all cases. Many patients reported recent inhalation of cannabinoid products, such as THC or CBD [6]. The e-cigarette, or vaping, product use-associated lung injury (EVALI) outbreak is suspected of beginning in June 2019, peaked in September, and has declined since. Though emergency department visits associated with suspected EVALI have decreased, levels remain higher than prior to June 2019 [49]. Forty-seven percent of the patients required intensive care for respiratory failure. Samples indicated the presence of Vitamin E acetate (a thickening agent with a similar viscosity as THC oil, used in illicit THC-containing products) in 94% of the patients with EVALI. Ninety-four percent of the patients had either detectable THC/THC metabolites, or reported vaping THC products within the past 90 days prior to the onset of their illness. Nicotine/nicotine metabolites were detected in 64% of patients. Research is ongoing to determine the roles of vitamin E acetate and other chemicals in conjunction with EVALI [50]. The Monitoring the Future (MTF) Survey reported that from 2017 to 2018, past 30-day prevalence of vaping marijuana increased significantly among all age groups. The doubling of vaping marijuana rates among college students was one of the largest one-year proportion increases observed since the inception of the MTF survey [51]. Additionally, the 2018 to 2019 increase in past-month marijuana vaping among high school seniors (from 7.5% in 2018 to 14.0% in 2019) is the second largest one-year jump for any substance in the 45 year history of the survey [52].

Figure 4: Past 30-day use of marijuana via e-cigarette (MTF)



*Note: 2019 data are not available for college students or young adults.

Economic

Economic benefits of marijuana legalization include revenue from potential taxation, revenue increases from cross-border commerce, and a decreased burden on the criminal justice system. Legalization may increase the number of consumers and average quantity consumed, but these changes are dependent on the following factors: (1) the decline in price caused by legalization, (2) the extent to which laws governing use among minors are enforced, and (3) changes in perceived harm [53].

Two years after legalization, Washington collected \$186 million in sales tax from legal sales of marijuana products [54]. In 2015 (3

years after legalization), Colorado incurred sales of almost \$1 billion, and collected over \$135 million in tax revenue in fees [55]. The early legalization of marijuana in Colorado may have been a significant driver of tourism- in some areas, up to 90% of marijuana sales can be attributed to visitors [56].

Marijuana legalization usually decreases the market price of marijuana. In Colorado, the average price of high potency cannabis declined by almost 58%. In the state of Washington, retail prices have been decreasing by an estimated 2% per month, though the potency of THC is on the rise. This reduction in profit may render small-scale producers and retailers unable to

compete in the industry. There are a number of legalization models which states could adopt to enable variability in economic estimates of marijuana legalization. States which choose to implement a state-controlled industry would be able to set minimum prices, lessening the volatility of the market [57]. Policies favoring a for-profit market create a misalignment of incentives between the companies and the public good- in order for companies to create a profit, they push users to consume as much marijuana as possible [56].

Marijuana legalization may yield significant savings by eliminating or reducing costs associated with the criminal justice system. It is estimated that states spent \$3.61 billion enforcing marijuana possession laws in 2010- New York and California combined spent more than \$1 billion [58]. The CATO Institute estimated that legalizing drugs would save the government \$41.3 billion per year on expenditures of drug enforcement, \$8.7 billion of which would be due to marijuana alone. Legalization and taxation of marijuana would result in another \$8.7 billion, assuming that marijuana was taxed similarly to alcohol or other drugs [59]. Enforcement of marijuana laws may not be the prime contributor to mass incarceration but weighs heavily on the criminal justice system. Each arrest consumes resources in the form of police time and effort, time spent in jail, legal costs associated with court appearances, probationary demands and parole revocations. In return, there is little benefit to public safety. Reduction of resource utilization would lead to reallocated funds, which could be directed towards efforts aimed at substantially improving public health and safety [60]

Criminal Justice

One argument in favor of marijuana legalization is that decriminalization or legalization would substantially reduce the burden on the criminal justice system. An analysis of the Uniform Crime Report (UCR) for all 50 states found that no degree of marijuana legalization/decriminalization (completely illegal, decriminalized or medically legal, or decriminalized and medically legal) would have led to significant differences in 2014 crime rates [61]. In 2014, marijuana-related offenses accounted for almost half of the 1.5 million drug arrests in the United States; however, only 40,000 individuals are incarcerated due to marijuana issues, indicating that the majority of marijuana arrests do not result in incarceration. Within the incarcerated sub-population, the majority are imprisoned for selling, rather than using marijuana. Decriminalizing high-level illicit marijuana distribution would reduce the prison population by less than 3%. However, marijuana arrests consume valuable resources such as police time and effort [60].

Racial minorities are vastly overrepresented in the imprisoned population. A 2013 report released by the American Civil Liberties Union (ACLU) found that black individuals use marijuana at 1.3 times the rate of white individuals, but are 3.73 times more likely to be arrested. Between 2001 and 2010, police made over 7 million marijuana-related arrests, which is nearly half of all drug arrests made during that time period. In some counties, black individuals were more than 30 times more likely than white individuals to be arrested for a marijuana offense. [58]. The 2020 update to this report indicated that in 2018, marijuana arrests (mainly for possession) accounted for over 43% of all drug arrests. In 2018, law enforcement made

more marijuana arrests than for all violent crimes combined. Marijuana arrests were significantly lower in states that had legalized marijuana, and modestly decreased in states that had decriminalized marijuana. Racial disparities persisted. Overall, black individuals were 3.6 times more likely to be arrested for marijuana possession than white individuals (1.7 times more likely in states that have legalized, 3.2 times more likely in states that have not legalized) [62].

These higher incarceration rates have been ineffective at reducing crime, while imposing high societal costs on vulnerable populations [60].

Impact on neighboring states

Marijuana legalization not only changes the landscape of the state in which it becomes legalized, but has effects on neighboring states. In 2014, Nebraska and Oklahoma filed a lawsuit against the state of Colorado, claiming that Colorado's legalization of recreational marijuana led to increases in law enforcement costs and other societal costs. The Supreme Court proceeded to deny this claim, but the impact of legalization on neighboring states' outcomes could have a multitude of ramifications [63]. States with legalized recreational marijuana laws have higher lifetime use of medical and recreational marijuana rates than neighboring states with no marijuana legalization [64]. Literature suggests that after legalization, there is a significant increase in adult drug possession arrests and jail occupancy rates in counties which are adjacent to states that have legalized marijuana [63, 65].

Conclusion

As marijuana legalization becomes more common, Indiana will have to decide how to proceed, carefully considering all options. Legalization could prove beneficial to Hoosiers, from a variety of standpoints. All states which tax marijuana dedicate part of that revenue for education, health, or safety programs [66]. If Indiana were to follow that model, these funds could be earmarked for similar purposes to improve Hoosier health. Legalization may also be beneficial in creating new industry, and more jobs in the state. As an agricultural state, Indiana stands to benefit greatly if growth of hemp plants and marijuana production were to begin. In 2016, there were 10,141 arrests in Indiana for marijuana related offenses (8,953 for possession, and 1,190 for sales) [67]. Should Indiana decide to reform its marijuana policy, the resources dedicated to these arrests could be reallocated, freeing law enforcement officials to focus on other issues in the state. However, even with increasing public acceptance of marijuana use, we must be cognizant of the potential harms of marijuana. Young adults and adolescents have decreased perception of the risks associated with marijuana use, though they may be most at risk for developing marijuana use disorders and other mental health concerns. Marijuana is already commonly used in Indiana, but the benefits and harms associated with marijuana use must be carefully considered before legislation is enacted.

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