

Marijuana Legalization in Midwest HIDTA: The Impacts Updated
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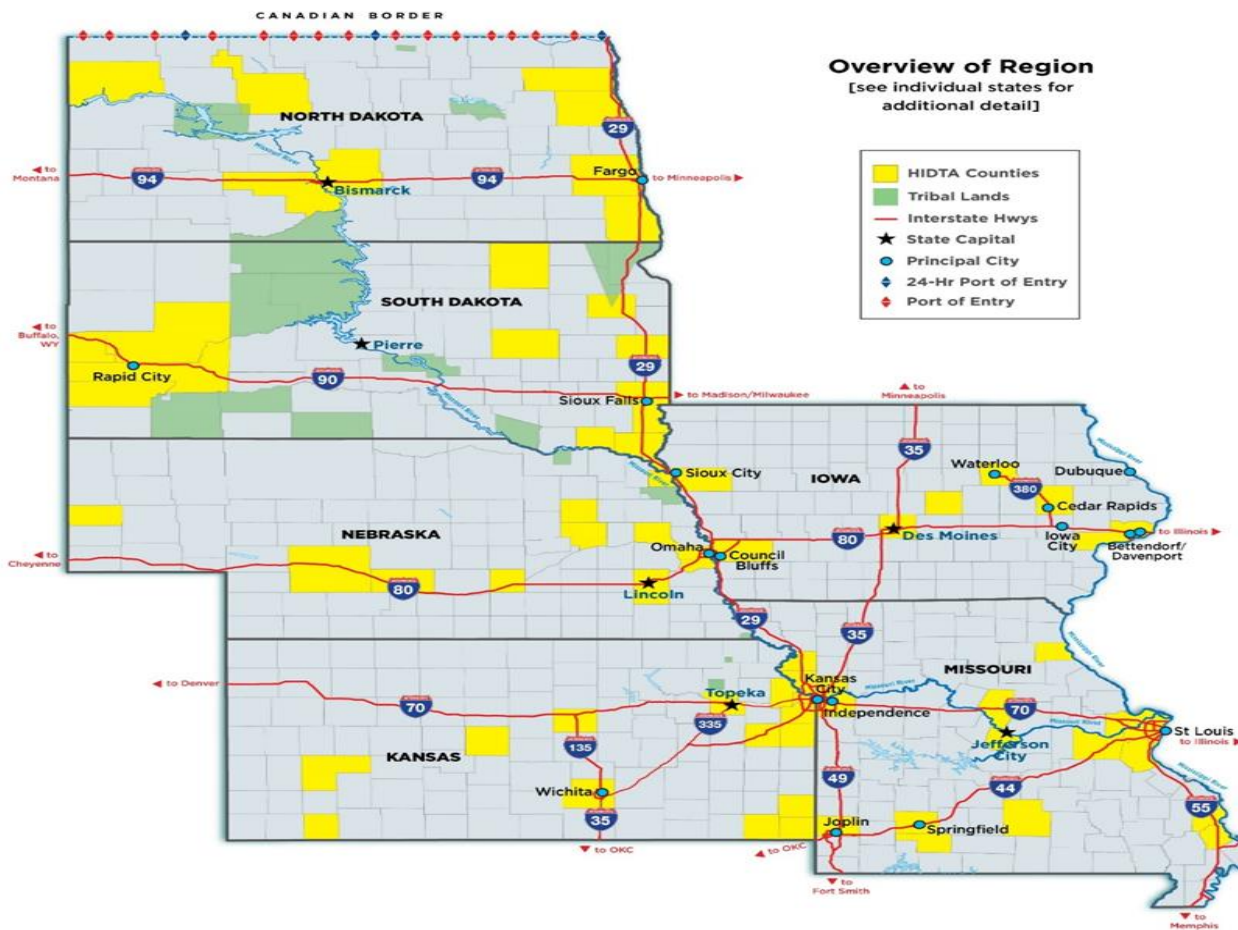
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Introduction

The Midwest HIDTA Region

The Midwest HIDTA's seven-state area consists of Iowa, Kansas, Missouri, Nebraska, North Dakota, South Dakota, and the three Illinois counties of Madison, Rock Island, and St. Clair. The region spans over 428,000 square miles, encompasses 73 HIDTA-designated counties, and is considered the largest of the Office of National Drug Control Policy's 33 HIDTA regions. It is as varied as it is vast, and incorporates major urban cities, separated by suburban sprawl and rural countryside. Within the Midwest HIDTA are more than 4,300 miles of interstate highways and an international border stretching over 300 miles. Its central location and intertwining roadways, make the region ideal for drug trafficking organizations and criminals' intent on transporting drugs into or through to other destinations.



Purpose

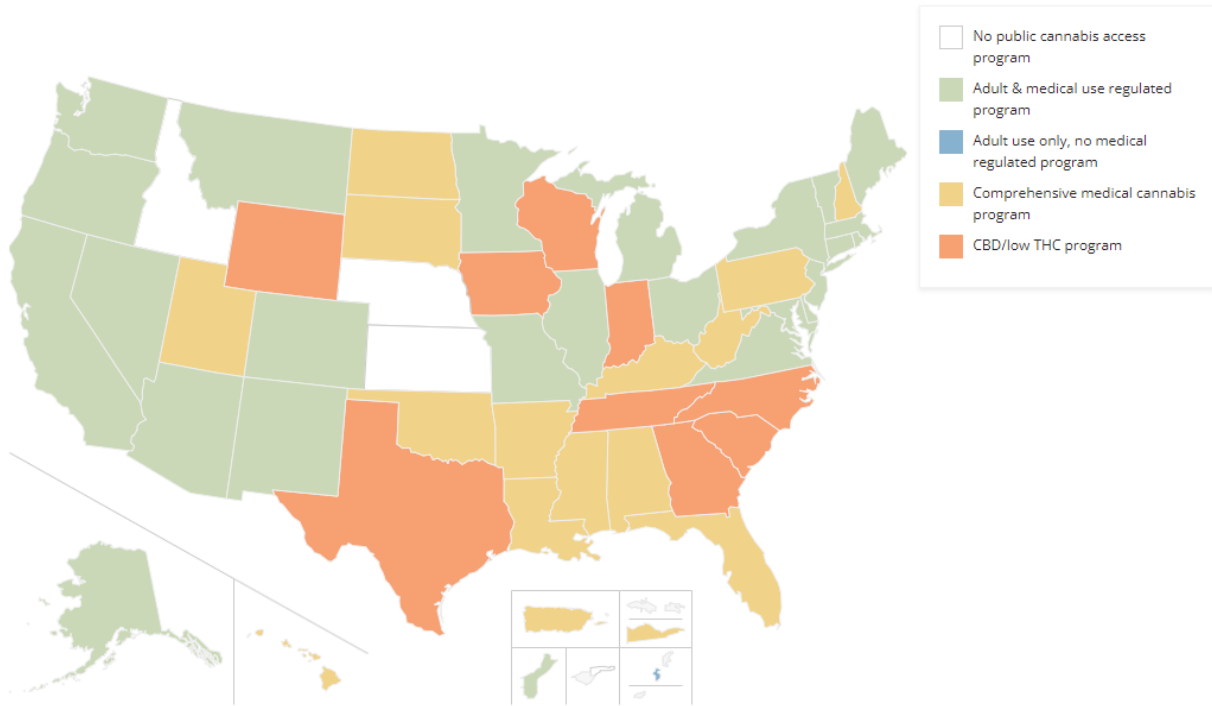
This is the fourth report on the impact of marijuana legalization in the Midwest. The purpose of this report is to provide an update to the information presented in the previous reports, and to focus on specific areas of potential concern pertaining to the legalization of marijuana and its use, which includes national security and health impacts. This report will utilize data and trends from states with operational medical and/or adult use marijuana programs in an attempt to mitigate the future consequences of the marijuana programs already implemented by Midwestern states, and those contemplating a program. California, Colorado, Oregon, and Washington will be cited and used for comparison, as their marijuana programs have existed long enough for an adequate amount of data to be collected; whereas Missouri's 2022 adult use marijuana legalization has a more limited data set.

Background

As of March 2024, three Midwest HIDTA states have adopted medical and/or adult use marijuana programs within their jurisdiction: Missouri, North Dakota, and South Dakota. The following is a brief synopsis of the current legal standing of marijuana and cannabinoids in each of the six Midwest HIDTA states:

- Iowa - Authorized the medical use of only cannabidiol (CBD) in 2017 for those with a qualifying medical condition.
- Kansas – No public marijuana/cannabis access program
- Missouri – Medical marijuana approved in 2018, and adult use in November of 2022.
- Nebraska – No public marijuana/cannabis access program.
- North Dakota – Medical marijuana approved in 2016.
- South Dakota – Medical and adult use approved in 2020; however, on November 24, 2021, South Dakota Supreme Court ruled the adult use measure was unconstitutional, therefore adult use remains illegal in South Dakota.

Map of State Cannabis Programs as of April 2024



Source: National Conference of State Legislatures

The National Conference of State Legislatures (NCSL) website utilizes the following criteria to determine if a program is “comprehensive”:

1. “Protection from criminal penalties for using cannabis for medical purpose.
2. Access to cannabis through home cultivation, dispensaries or some other system that is likely to be implemented.
3. It allows a variety of strains or products, including those with more than “low THC.”
4. It allows either smoking or vaporization of some kind of cannabis products, plant material or extract.
5. It not a limited trial program.”

Executive Summary

According to the 2024 Midwest HIDTA Threat Assessment, marijuana is both the most widely available and commonly abused illicit drug within Midwest HIDTA. The 2024 Midwest HIDTA Threat Assessment reported marijuana to be ranked as the sixth greatest drug threat of the nine drugs ranked by Midwest HIDTA's initiatives; fentanyl was ranked as the greatest drug threat, followed by methamphetamine. These rankings were based on the drug's effect on violent and property crime, followed by overdose and poisoning deaths, then the availability and prevalence of the drug.

The 2024 Midwest HIDTA Threat Assessment also surmised that marijuana decriminalization has created a readily available supply of potent domestically cultivated marijuana for transport into the region. This now includes states within, and bordering, Midwest HIDTA that have legalized various forms of marijuana products. Additionally, reports from regional law enforcement agencies suggest that criminal organizations may clash with one another for the right to distribute marijuana from "legal" states in Midwestern territory.

Throughout the course of this report, the words "cannabis" and "marijuana" are used interchangeably, dependent upon the source documentation. Regardless of which word is utilized, the reference is being made to products derived from the plant *Cannabis sativa* that contains tetrahydrocannabinol (THC), or synthetic cannabinoids, whether the end state referred to is the dried leaves, flowering top, tincture, an edible, or a beverage.

This report will examine a multitude of potential effects associated with the legalization of marijuana in the following sections:

Chapter 1: Legal Overview

- Missouri, South Dakota, and North Dakota are the three states in the Midwest HIDTA region with operational marijuana programs, according to the 2024 Midwest HIDTA Threat Assessment.
- South Dakota and North Dakota both operate medical marijuana programs, and Missouri as of 2022 has authorized medical and adult use marijuana programs, according to the 2024 Midwest HIDTA Threat Assessment.

Chapter 2: National Overview - Security Concerns & Illegal Marijuana Grow Operations

- The collaboration between Mexican drug cartels and Chinese criminal organizations has allowed the Mexican cartels to tap into the Chinese organization's knowledge, financial resources, technological expertise, and strategic partnerships.
- The alliance between Chinese and Mexican criminal organizations has created a new, sophisticated financial system that has proven to be lucrative for the cartels. ^[11]
- Illicit marijuana markets are primarily supplied by illegal growing operations and the diversion of marijuana from legal markets. ^{[18][21]}
- In 2023, Midwest HIDTA initiatives (task forces) reported seizures of a total of 35,590 pounds of various drugs. Of that amount, marijuana accounted for 67.4 percent (24,012 pounds) of all seizures. ^[16]
- Of the 1,754 United States seizure incidents reported to the NSS in 2023, that involved marijuana and an origin was able to be determined, 39 percent (676 events) originated from states with adult use marijuana programs and 74 percent (1,297 events) originated from states with either just a medical marijuana program, or medical / adult use marijuana programs. ^[18]

Chapter 3: Potential Health Impacts of Usage & Possible Effects of Increased Potency

- Approximately 1 in 10 individuals who use marijuana becomes addicted; this ratio increases to approximately 1 in 6 if the marijuana usage initiated before the age of 18. ^[37]
- A recent study identified a strong link between CUD and schizophrenia, especially in males aged 16–25, finding CUD may account for 25–30 percent of cases in young males 21–30 years of age. ^[38]
- Advancements in cultivation practices have allowed for the development of strains with much higher THC concentrations, reaching levels of 25% or even higher. ^[41]
- High levels of THC can also lead to a range of unpleasant or dangerous side effects, including nausea, vomiting, paranoia, abnormal heart rhythms, and a higher risk of addiction. ^{[41][43]}

Chapter 4: Missouri

- From 2015-2016 to 2021-2022 numbers for past month marijuana usage, among those over 12 years of age, found there was a 98.8 percent increase in Missouri (8.1 – 16.1), compared to 64 percent increase nationally (8.6 – 14.1).^[49]
- From 2018 to 2023, there was a 259 percent increase (194 to 696) in the total number of cannabis product related calls to the Missouri Poison Control Center^[52]

Chapter 5: North Dakota

- From 2015-2016 to 2021-2022 numbers for past month marijuana usage, among those 26+ years of age, found there was a 173.7 percent increase in North Dakota (3.8 – 10.4), compared to 92.8 percent increase nationally (6.9 – 13.3)^[49]
- Marijuana-related emergency department visits increased 336 percent in North Dakota following the legalization of medical marijuana^[64]

Chapter 6: South Dakota

- From 2011 to 2021, the percentage of students who think people are at moderate/great risk of harm when they smoke marijuana once or twice a week decreased by 39 percent (62.0 to 37.7)^[73]
- From 2018 to 2022, South Dakota unintentional overdose deaths increased 95 percent (43 to 84)^[75]

Chapter 1: Legal Overview

Introduction

According to the NCSL, as of April 2024, twenty-four (24) states have legalized adult use marijuana and thirty-eight (38) states have legalized some form of medical marijuana. Nearly every state surrounding those of the Midwest HIDTA region have enacted some form of marijuana legalization. This includes Montana, Colorado, Oklahoma, Arkansas, Kentucky, Illinois, Wisconsin (cannabidiol (CBD)/low THC program), and Minnesota. Kansas and Nebraska are the only two states within the Midwest HIDTA region without state-sanctioned marijuana/medical cannabidiol (mCBD) programs.

State Marijuana Programs Status in the Midwest HIDTA Region

North Dakota became the first state in the Midwest HIDTA to approve a medical marijuana program in 2016. The following year, Iowa authorized the use of medical cannabidiol (mCBD); while mCBD is permitted, a tetrahydrocannabinol (THC) content greater than .3% is still prohibited, as this would raise it to the potency level of marijuana. Missouri voters approved a medical marijuana program in 2018, and adult use in 2022.

In 2019, Kansas Senate Bill 28 was signed, which prohibited the initiation of child removal proceedings or child protection actions based solely on the possession or use of a “cannabidiol treatment preparation,” which is an oil containing cannabidiol and THC, whose THC concentration is no more than 5 percent relative to the cannabidiol concentration.

Most recently, South Dakota approved both a medical and adult use marijuana program in 2020, although a circuit court ruling overturned adult use marijuana in early 2021. The judge ruled the amendment was unconstitutional, due to it violating South Dakota’s “single-subject rule,” and was a revision of the constitution rather than an amendment. In November 2022, adult use marijuana was again on the ballot in South Dakota, but this time was rejected by the voters. Currently there are two marijuana legislative bills being deliberated in the Nebraska legislature, which seek to legalize medical marijuana (Legislative Bill 588) and adult-use legalization (Legislative Bill 634).

A regional timeline of when the marijuana legislation was enacted is included below:

- 2016: North Dakota Medical Marijuana Legalization (Statutory Measure 5)
- 2017: Iowa Medical Cannabidiol Act (Code Chapter 124E)

- 2018: Missouri Medical Marijuana and Veteran Healthcare Services Initiative (Amendment 2)
- 2019: Kansas Senate Bill 28 (“Claire and Lola’s Law) was signed
- 2020: South Dakota Marijuana Legalization Initiative (Amendment A)
- 2022 South Dakota Adult Use Initiative (Measure 27) did not pass
- 2022: Missouri Adult Use Constitutional Amendment (Amendment 3)

As of March 2024, the medical marijuana programs of North Dakota and South Dakota are currently active; both medical and adult use programs are operational in Missouri.

Since the passing of the *Agriculture Improvement Act of 2018*, (also known as the 2018 Farm Bill), every state within the Midwest HIDTA now participates in the production, cultivation, and retail sale of industrial hemp.^[1] While industrial hemp is classified as non-psychoactive due to THC content below 0.3%, it is virtually indistinguishable in appearance from marijuana grown for psychoactive properties. In addition to the state-sanctioned hemp programs throughout the region, at least twelve Indian Nations have received approval to cultivate industrial hemp from the U.S. Department of Agriculture.^[1]

Potential for Rescheduling of Marijuana

In 2023, a significant debate surrounded the Drug Enforcement Administration’s proposed rescheduling of marijuana from Schedule I to Schedule III. A move that met with opposition by a coalition of former U.S. Attorneys from both Republican and Democratic administrations. They have expressed their concerns through a letter addressed to Attorney General Merrick Garland and DEA Administrator Anne Milgram, signaling a united front against the potential changes in marijuana’s classification under federal law. This disagreement underscores the complexity of marijuana policy and enforcement in the United States.

The rescheduling of marijuana by the DEA could fundamentally alter its legal status, implications for enforcement, and broader societal impacts. As the debate unfolds, the input from experienced legal professionals highlights the challenges and considerations that must be navigated in reevaluating marijuana’s schedule classification, illustrates the necessity of a careful, and evidence-based approach to such a policy shift.

Bipartisan Opposition to Rescheduling

The bipartisan opposition to the DEA’s marijuana rescheduling in 2023 showcases a complex landscape of political, legal, and scientific considerations. Over two dozen former U.S. Attorneys across both major political parties have expressed their opposition to rescheduling marijuana.^[2] High-profile political figures, including U.S. Senators and

Representatives, have taken varied stances, with some advocating for complete de-scheduling ^[3], while others have raised concerns over potential violations of international treaties. ^[4]

The concerns raised by the former U.S. Attorneys regarding the DEA rescheduling 2023 of marijuana are significant and multifaceted. They emphasized critical points pertaining to addiction, potency, lack of medical acceptance, cartel profits, public health and safety risks. Concerns such as:

- The addiction rate for marijuana is alarmingly high at 30%, with studies indicating a 21% addiction rate in states like Washington post-legalization. ^{[2][5]}
- There has been a dramatic rise in THC potency, with DEA seizures showing an increase from “3.96% in 1995 to 15.34% in 2021,” reaching up to 99% in some cases. ^[5]
- Currently marijuana lacks accepted medical use, with a systematic review indicating that cannabis-based medicines increase adverse events related to the central nervous system. ^[5]
- Despite legalization in some states, drug cartels continue to profit significantly from illicit marijuana sales. ^[2]
- Officials highlight the risks associated with high-potency THC drugs, including “lower IQ, psychosis, depression, suicidality, motor impairment, and schizophrenia.” ^[2]
- Rescheduling could enable marijuana corporations to deduct business expenses, raising concerns about the emergence of a new Big Tobacco targeting children. ^[5]

Those in favor of de-scheduling point to the Department of Health and Human Services (HHS) recommendation to reschedule marijuana to Schedule III, citing its potential medical benefits and lower risk profile compared to Schedule I substances. ^[6] These advocates also suggest rescheduling to Schedule III could significantly alter the regulatory landscape, potentially easing legal consequences for medical users and facilitating access to banking for cannabis businesses. ^[3]

These points collectively underscore the apprehensions surrounding the potential public health, safety, and legal implications of rescheduling marijuana, urging a cautious approach to any changes in its legal status.

Chapter 2: National Overview – Security Concerns and Illegal Marijuana Grow Operations

National Security Concerns - Introduction

The intersection of Mexican drug cartels and Chinese criminal organizations has become an alarming issue with significant implications for national security. The collaboration between these two entities is not only fueling the illicit drug trade, but also posing threats to the well-being of individuals involved and the overall stability of the affected regions. ^{[7] [8] [9]} This section delves into the deep-rooted problem of Mexican drug cartels merging with Chinese nationals, explores the consequences of their collaboration, and the ramifications for national security.

Key Findings

- The collaboration between Mexican drug cartels and Chinese criminal organizations has allowed the cartels to tap into the Chinese criminal organizations' knowledge, financial resources, technological expertise, and strategic partnerships.
- The alliance between Chinese and Mexican criminal organizations has created a new, sophisticated financial system that has proven to be lucrative for the cartels and difficult for law enforcement to investigate. ^[11]

Historical Context of Mexican Drug Cartels

Mexican drug cartels have a long and complex history, dating back several decades. These criminal organizations, known for their ruthless tactics and sophisticated operations, have been involved in drug trafficking, extortion, money laundering, and other illicit activities. They have gained immense power and influence, posing significant challenges to law enforcement agencies and governments alike. ^[7]

The Emergence of Chinese Involvement

Chinese criminal syndicates have a long-standing history of involvement in various criminal activities, including drug trafficking. Due to this, they have developed sophisticated networks and supply chains that span across continents. Their expertise in cultivation methods and access to advanced equipment have made them valuable partners for the Mexican drug cartels.^[9]

The collaboration between these two groups has allowed the cartels to tap into the Chinese criminal organization's knowledge, financial resources, technological expertise, and strategic partnerships. This collaboration has allowed Chinese organizations to establish a foothold in the illicit drug market, capitalizing on the vast profits generated by drug trafficking.^[9]

Chinese involvement in the Mexican drug trade has been facilitated by exploiting legal loopholes and regulatory gaps. Chinese investors have financed illegal marijuana operations, purchasing large swaths of land for cultivation. These investments provide the necessary resources for the cartels to expand their operations and evade law enforcement scrutiny.^{[10][11]}

Consequences of Mexican Drug Cartel - Chinese Collaboration

Human Trafficking and Forced Labor

The collaboration between Mexican drug cartels and Chinese nationals has also facilitated human trafficking and forced labor practices.

- Workers, often lured under false pretenses, find themselves trapped in exploitative conditions on illicit drug farms.
- It is commonplace for their passports and personal belongings to be confiscated, leaving them vulnerable to abuse and feeling as if they lack the ability to escape.^[10]

New Method of Money Laundering

The alliance between Chinese and Mexican criminal organizations has created a new, sophisticated financial system that has proven to be lucrative for the cartels. This system involves the use of Chinese nationals living in the United States who act as intermediaries

between the cartels and Chinese banks. These intermediaries transfer drug money to Chinese bank accounts, which is then converted into Chinese currency and transferred back to the cartels in Mexico. ^[11]

- This partnership has allowed the cartels to bypass traditional money laundering methods, making their operations faster, cheaper, and more efficient.
- This has enabled them to expand their operations, increasing the availability of drugs in the United States and contributing to the ongoing opioid crisis.
- According to the DEA, the Chinese syndicates have been the dominant suppliers of precursor chemicals used to produce fentanyl and other synthetic opioids. ^[7]

Exploitation of Modern Technology

Utilization of Drones and Weaponization of Social Media

The cartels have harnessed the power of modern technology to bolster their operations. Near the California border, they employ advanced Chinese-made aerial drones for reconnaissance, surveillance, and payload transportation. ^[12] This has enhanced their smuggling operations and improved their ability to evade United States law enforcement.

- In March of 2024, the United States Air Force general in charge of NORAD (North American Aerospace Defense Command), General Guillot, testified at the Senate Armed Service Committee.
- During his testimony, General Guillot was asked about the number of unmanned aircraft (drones) incursions in to the United States, which he stated was “in the thousands,” with probably “over 1,000 a month.” ^[13]
- Social media platforms have also been exploited by the cartels for recruiting purposes. Platforms such as TikTok, Snapchat, and WhatsApp have been used to lure American citizens into their operations. ^[14]
- Large sums of money have been offered for drug and human smuggling across the border. ^[14]

Conclusion

Addressing the issue of Mexican drug cartels merging with Chinese nationals requires enhanced international cooperation. Governments, law enforcement agencies, and intelligence services must collaborate to disrupt the criminal networks, share intelligence, and coordinate efforts to dismantle their operations. Multilateral initiatives, such as joint task forces, including those who receive funding by Midwest HIDTA, and intelligence sharing agreements, can play a crucial role in combating this complex and transnational threat.^[11]

Illegal Marijuana Grow Operations - Introduction

While proponents of marijuana legalization claim that marijuana commercialization will eradicate the underground market, reality has proven otherwise. Not only has legalization failed to abolish the illegal market, but illicit marketplaces have also become stronger and more profitable for drug trafficking organizations (DTOs) in many states.^[23] Furthermore, the illegal cultivation of marijuana by criminal enterprises has skyrocketed across the United States.

This includes Asian drug trafficking organizations, which have long been involved in illegal marijuana cultivation, especially in the western United States. Asian investors are funding illegal marijuana production in the U.S., with site owners found at illegal grows in Oklahoma, California, Oregon, and Maine.^[23] These operations often pretend to be legal businesses, making it hard for law enforcement to detect violations without clear evidence like interstate trafficking or other crimes.^[23]

In states with legal marijuana frameworks, Asian drug trafficking groups have ignored restrictions on plant quantities and sales, exploiting variations in state laws. In January 2024, two Chinese nationals were convicted of trafficking nearly 28 tons of black-market marijuana from an Oklahoma facility.^[23]

These illegal marijuana grow operations (IMGO) have led to a multitude of diverse issues, to include their impact on the environment, association to human trafficking, and an impact on law enforcement resources.

Key Findings

- Illicit marijuana markets are primarily supplied by illegal growing operations and the diversion of marijuana from legal markets.^{[18][21]}

- In 2023, Midwest HIDTA initiatives (task forces) reported seizures of a total of 35,590 pounds of various drugs. Of that amount, marijuana accounted for 67.4 percent (24,012 pounds) of all seizures. ^[16]
- Of the 1,754 United States seizure incidents reported to the NSS in 2023, that involved marijuana and an origin was able to be determined, 39 percent (676 events) originated from states with adult use marijuana programs and 74 percent (1,297 events) originated from states with either just a medical marijuana program, or medical / adult use marijuana programs. ^[18]

Primary Cause of Diversion

Overproduction

Marijuana diversion represents a major challenge to both law enforcement and public health agencies. Marijuana products are frequently produced in legal states, trafficked across state lines, and distributed via illicit markets. ^[18] States with legalized marijuana markets are often major suppliers to other areas of the United States.^A

One of the limited legal options for growers or dispensaries with a surplus of marijuana is to auction it to licensed processors / retailers at a heavily discounted price or suffer total loss. Overproduction leads some businesses or individuals to sell marijuana on the illicit market, untaxed, where it is often trafficked out of state. Upon arrival, the marijuana can be sold at a lower price, due to the lack of state taxes being levied on its sale, making it cheaper to purchase than from the licensed dispensaries. ^[15]

Diversion Statistics

Midwest HIDTA Initiatives

- Midwest HIDTA initiatives confiscated more than 20,723 pounds of marijuana, 1,018 pounds of marijuana concentrates, and 2,271 pounds of marijuana consumables in 2023. ^[16]

^A This statement is supported by data collected from the MW HIDTA DHE program, the Rocky Mountain HIDTA, Oregon-Idaho HIDTA, national seizure reporting systems, postal seizures, and other law enforcement resources.

- Marijuana represented 67.5 percent of the total drug weight (35,590 pounds) seized by Midwest HIDTA enforcement initiatives in 2023. ^[16]
- The most popular methods used to divert marijuana are by privately-owned vehicles and mailing services. ^[17]
- Marijuana is routinely seized during traffic stops, at bus and train terminals, and in mail centers within the Midwest HIDTA. ^[17]
- Seizures involving marijuana transported from legalized states such as California, Colorado, Oklahoma, Oregon, Utah, and other states continue to be commonplace.^B

Midwest HIDTA Initiative Marijuana Seizures 2019-2023					
	2019	2020	2021	2022	2023
Marijuana (lbs.)	18	21,670	27,469	26,809	20,723
Marijuana Concentrates (Hash/Wax)	0.03	1,091	4,615	1,694	1,018
Marijuana Consumables (Edibles)	7	1,738	3,442	1,937	2,271
Total Pounds of Marijuana Seized by Year	25	24,499	31,372	30,440	24,012

Source: Midwest HIDTA PMP Seizure Data, Accessed March 2024

National Seizure System (NSS) – United States Seizures

Data obtained from the NSS-United States Seizures Dashboard, pertains to law enforcement drug seizures taking place in the United States and its territories. However, not all seizures are reported to the NSS; therefore, the following data should be viewed as a baseline. The 2023 data revealed the seizure of 18,669 pounds of marijuana in Midwest HIDTA’s area of operation, during 1,431 separate incidents (average seizure per incident = 13 pounds). Another 3,538 pounds of marijuana were seized, where the destination was reported to be one of the states comprising Midwest HIDTA. ^[18]

Additional marijuana seizures in 2023 included:

- 1,619 pounds of edible THC infused food and beverage products

^B This statement is supported by data collected from the MW HIDTA DHE program, the Rocky Mountain HIDTA, Oregon-Idaho HIDTA, national seizure reporting systems, postal seizures, and other law enforcement resources.

- 462 pounds of concentrated marijuana (honey oil/wax)
- 305 pounds of marijuana oil
- 356 pounds of THC “shatter” (hash oil with high levels of THC)

The above items were, either destined to, or transiting through, Midwest HIDTA states in 2023. ^[18]

Of the 1,754 United States seizure incidents reported to the NSS in 2023, that involved marijuana and an origin was able to be determined, 39 percent (676 events) originated from states with adult use marijuana programs and 74 percent (1,297 events) originated from states with either just a medical marijuana program, or medical / adult use marijuana programs. ^[18]

NSS - Domestic Highway Enforcement (DHE) Program

The Domestic Highway Enforcement (DHE) Strategy promotes collaborative, intelligence-led, unbiased policing across multiple jurisdictions on the Nation’s highways. It enhances the investigative efforts of the High Intensity Drug Trafficking Areas (HIDTA) and impacts traffic safety, homeland security, and other crimes.

DHE’s goals include the following:

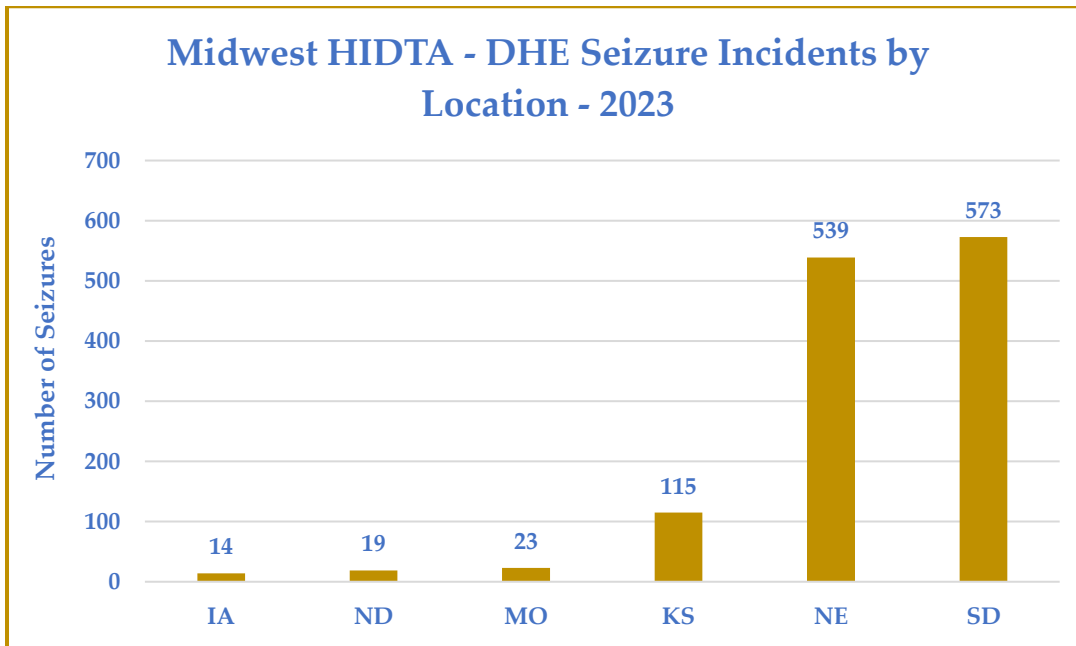
- Disrupt and dismantle drug trafficking and money laundering organizations using highways for illegal activities.
- Share intelligence on individuals and organizations transporting illegal drugs, currency, and other contraband.
- Promote shared planning, intelligence, and coordination among Federal, state, and local law enforcement to address crimes and threats on highways.

The HIDTA program's wide reach and coordinated nationwide highway enforcement strategy reduce criminal activity and enhance public safety on major transportation corridors. This approach leverages the strengths of HIDTA and local law enforcement agencies to keep highways safe. The DHE strategy is implemented in nine designated regions, coordinated by HIDTA directors in consultation with ONDCP.

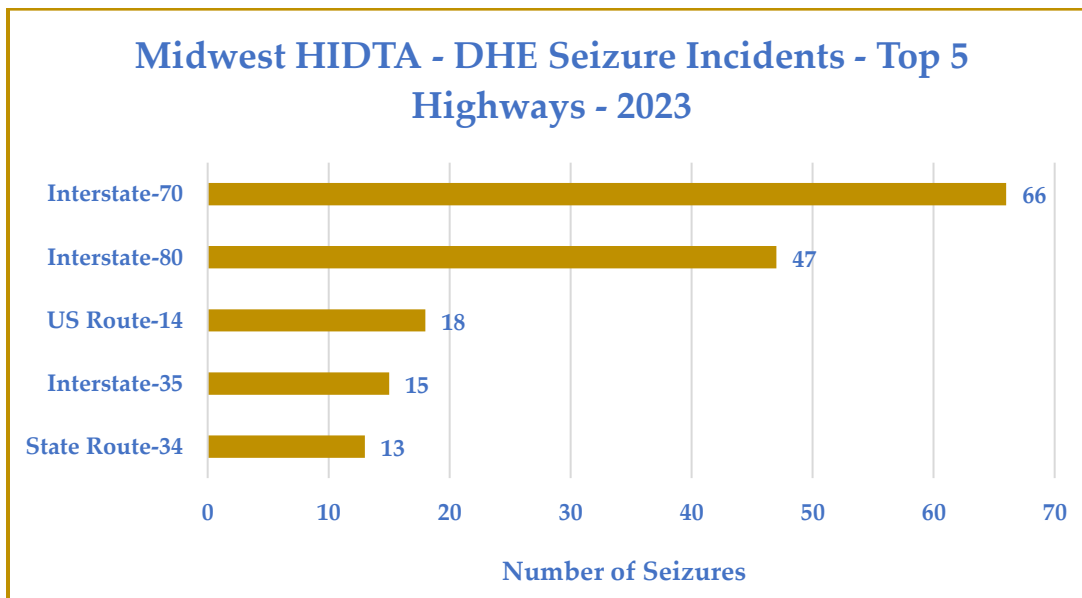
DHE reports seizures to the El Paso Intelligence Center (EPIC), who created a shortcut platform within their database for DHE related data. This platform can be utilized to access seizures occurring on United States highways and interstates, through the use of “traffic stops” and “checkpoints.” In 2023 there were nearly 4,000 incidents involving marijuana

(cannabis) reported to DHE, with 1,283 of these seizures occurring in a Midwest HIDTA state.
 [19]

An additional 207 seizures involving marijuana were reportedly destined for Midwest HIDTA states, and 88 incidents where the marijuana seized was stated to have originated in a Midwest HIDTA state. [19] The number of seizures by state, and the top five highways where the most seizures took place are illustrated in the below graphs. [19]



Source: EPIC DHE Data Platform



Source: EPIC DHE Data Platform

Illicit Market / IMGGO's

Although medical and adult use marijuana sales contribute significant amounts of marijuana to illicit markets, IMGGO's make up most of the illicit market's supply. ^[18] While Mexico remains the primary foreign supplier of marijuana to United States markets, marijuana seizures along the southwest border have been decreasing annually.

The United States Customs and Border Protection (CBP) reported the seizure of 61,200 pounds of marijuana at the Southwest border during the fiscal year 2023. This is a 29 percent decrease from the seizure total in fiscal year 2022 (85,700 pounds), and a 71 percent decrease since fiscal year 2021 (213,000 pounds). The CBP reports an even larger decrease in the pounds of marijuana seized at the Northern border, with the 79,600 pounds seized in fiscal year 2021, being reduced to 17,300 pounds in fiscal year 2023, a 78 percent decrease.

Modern marijuana can withstand a wide variety of climates and can be cultivated in every state, either indoors or outdoors. Climates—such as those found in California, Oregon, and some parts of Washington—offer the longest outdoor growing seasons. This, coupled with expansive public lands (i.e. National Forest lands) and an already established “legal” market are primarily why the majority of IMGGO's have resided in western states. However, the DEA is investigating IMGGO's in approximately 20 states associated to international criminal organizations. One such state is Maine, where law enforcement officials estimate there to currently be an estimated one hundred separate IMGGO's in this state alone with ties to Chinese nationals operating these sites. ^[20]

IMGGO's, especially those with ties to foreign governments have become a serious issue in the United States. These clandestine operations pose a significant threat to society and further a thriving illicit market marijuana industry. ^[20] This section delves into the multifaceted issues related to these illicit operations, their scale, and other criminal activities.

The Scale of Illegal Marijuana Grow Operations in the United States

One of the most significant challenges in tackling illegal marijuana grow operations is comprehending the vast and often concealed scale of these operations. According to the United Nations Office on Drugs and Crime (UNODC), marijuana is the world's most commonly consumed drug, with an estimated 200 million people using it annually. Despite the growing number of countries legalizing its use, the illegal market continues to meet a large portion of this demand. ^[21]

In the United States, for instance, while 24 states have legalized cannabis for adult use and 40 for medicinal use, as of November 13, 2023. The vast number of IMGOS is indicative of the profitability of the illicit market marijuana trade and the challenges law enforcement agencies face in combating this issue. In fact, the revenue generated by U.S. illegal cultivation in 2020 was estimated at a staggering \$65 billion.^[21] This alarming figure hints at the extensive network of IMGOS discreetly operating across the country.

According to a report by the DEA, there were over 24,000 illegal grow sites discovered in the United States in 2020 alone. These operations are not limited to rural areas or hidden corners; they can be found in residential neighborhoods, industrial buildings, and even suburban homes. Additionally, in 2022, the DEA's Domestic Cannabis Suppression program eradicated over 4.4 million illegally cultivated outdoor cannabis plants and more than 1.2 million indoor plants.^[22] These operations often involve the use of banned pesticides, and consume excessive amounts of water and electricity.^[23]

Diversion of Marijuana from Legal to Illegal Markets

One of the key issues surrounding IMGOS is the diversion of marijuana from legal to illegal markets. In states where marijuana has been legalized for medical or recreational use, regulations are in place to ensure that the cannabis is grown, processed, and sold within the legal framework. However, illegal growers exploit loopholes in the system, producing marijuana beyond legal limits and selling it on the black market.^[23] This not only undermines the legal market but also contributes to the unregulated sale and consumption of marijuana, posing potential health risks to consumers.

In stark contrast to IMGOS, legal marijuana cultivation operations are subject to regulations regarding pesticide use and environmental impact. For instance, in Missouri, North Dakota, and South Dakota there are 54, 2, and 43 farms legally authorized to cultivate marijuana, respectively.^{[24][25][26]} This is done under the supervision of each state's designated governing body.

Marijuana Seizures and the Impact on Law Enforcement

Marijuana seizures play a crucial role in dismantling illegal grow operations and disrupting the illegal marijuana trade. However, the sheer volume of these operations, and the resources required to investigate and apprehend those involved create significant challenges for law enforcement agencies. Marijuana seizures not only strain limited law enforcement resources but also divert their attention from other pressing issues, i.e. the opioid epidemic. Furthermore, the profits generated from illegal marijuana grow operations often fuel other illicit operations.

Environmental Impacts

Illegal Marijuana Grow Operations (IMGOs) are more than just an issue of law enforcement. They are a significant environmental concern, contributing to the degradation of our natural resources and posing a threat to both human and wildlife populations. This section delves into the multifaceted environmental implications of these covert operations, from the water usage, pesticides, to volatile organic compounds (VOCs).

Impact on Water Supplies

The cultivation of marijuana requires a significant amount of water. This can have an impact on the available water supply where the IMGO is located. During the peak of this growing season, a marijuana plant is estimated to consume on average 6 gallons of water per day.^[27] When compared to other crops, such as corn or soybeans, the water consumption of marijuana is much higher. During its growing season, which for an outdoor grow typically ranges from June to October (150 days), marijuana needs twice as much as the water required by corn, soybeans, and wheat. This is primarily due to the plant's unique characteristics and growth requirements. Marijuana plants need to be regularly irrigated to ensure optimal growth and yield.

The amount of water used in marijuana cultivation can exacerbate the already existing water crisis in many regions. As global populations continue to grow, water scarcity becomes a critical issue that affects both agricultural and domestic water supplies. With the increasing legalization and commercialization of marijuana, the demand for this crop is also rising. This surge in demand translates into a higher consumption of water resources for marijuana cultivation. This heightened usage can strain already stressed water systems, leading to further depletion of water sources and exacerbating the overall water crisis.

Pesticides: A Silent Killer

Beyond water consumption, IMGO's often employ banned pesticides that wreak havoc on local ecosystems. These chemicals have severe direct effects on wildlife, including acute poisoning, immunotoxicity, endocrine disruption, reproductive failure, altered growth rates, and behavioral changes. The implications extend to the entire food chain, impacting insects, birds, aquatic life, small mammals, and ultimately, large predators such as bears and mountain lions.^[28]

A pesticide found at 90 percent of California's illegal marijuana farms, Carbofuran, is a highly toxic pesticide that was once widely used in American agriculture. Exposure to this

pesticide can lead to blurred vision, respiratory distress, nausea, vomiting, and even coma. In severe cases, it can also lead to death. Due to its severe health hazards, it was banned in the United States in 2008. Despite the ban, the pesticide is being extensively used in illegal marijuana farms, contaminating the environment and posing a serious threat to wildlife and human health, as the chemical remains on the marijuana ultimately sold to the consumer. ^[29]

Ozone Generation and Air Quality

The production of VOCs by marijuana plants can have significant implications for both air quality and human health. VOCs are carbon-based chemicals that easily evaporate into the air, and they are known to contribute to the formation of ozone. When marijuana plants release VOCs into the air, these compounds can react with sunlight and other pollutants to form ground-level ozone. High levels of ozone can lead to respiratory problems, such as coughing, wheezing, and shortness of breath. Prolonged exposure to ozone can also exacerbate existing respiratory conditions, such as asthma and respiratory infections. ^[27]

The production of ozone from VOCs emitted by marijuana plants can also have negative consequences for the environment. Ozone is a major component of smog and can contribute to the formation of acid rain; it can also damage agricultural crops, forests, and other vegetation. With the rise of IMGOs, the impact on air quality has become a significant concern. ^[27]

Animal Abuse in Illegal Marijuana Grow Operations

Beyond the environmental impacts, illegal marijuana grow operations are also associated with animal abuse. Growers often set up traps and use dangerous chemicals to protect their crops, inadvertently causing harm to wildlife. Animals such as bears, deer, and birds can fall victim to these traps or ingest toxic substances, leading to injury or death. ^[29]

Furthermore, the presence of guard dogs in these operations can result in the mistreatment and neglect of animals. These animals are subject to harsh living conditions, malnutrition, and even violence; further highlighting the cruelty associated with the black-market marijuana trade. The presence of guard dogs also poses a threat to law enforcement personnel and innocent individuals who may unknowingly stumble upon these grow sites.

^[30]

Human Trafficking and Illegal Marijuana Grow Operations

The world of IMGOs is not just an environmental concern; it's a human rights issue as well. Evidence suggests a strong link between these operations and human trafficking. The profitability of the illicit market marijuana trade creates opportunities for criminal

organizations to exploit vulnerable individuals, often luring them into forced labor on these illegal grow sites.^[31]

These victims, often minors, who may be subjected to harsh working conditions and physical abuse, are trapped in a cycle of exploitation and fear. In addition to being utilized as labor for the IMGO, some of these individuals have been victims of sexual exploitation and sexual assault.^[31] The connection between human trafficking and illegal marijuana grow operations highlights the need for comprehensive solutions to tackle both issues effectively.

Conclusion: The Need for Comprehensive Solutions

IMGOs continue to be a significant challenge in the United States, posing threats to society, the environment, and public safety. The scale of these operations, the diversion of marijuana from legal to illegal markets, the environmental impacts, animal abuse, human trafficking, and violence associated with them require comprehensive solutions if their impact is to be reduced. These issues will have to be addressed through effective law enforcement, legislation, community engagement, and public awareness, if these illegal grow operations are to be dismantled in the growing number of states where they exist.

Chapter 3: Potential Health Impacts of Usage and Possible Effects of Increased Potency Levels

Potential Health Impacts - Introduction

Marijuana has long been the subject of myths and misconceptions. One common myth is that marijuana is harmless and has no negative effects on health. It is important to separate fact from fiction when it comes to marijuana use and its impact on health, as its long-term usage can lead to several health-related issues. This section aims to shed light on the potential negative health impacts of long-term marijuana usage, with a particular emphasis on conditions like bi-polar disorders and schizophrenia.

Key Findings

- Approximately 1 in 10 individuals who use marijuana becomes addicted; this ratio increases to approximately 1 in 6 if the marijuana usage initiated before the age of 18 ^[37]
- A recent study identified a strong link between cannabis use disorder (CUD) and schizophrenia, especially in males aged 16–25, finding CUD may account for 25–30 percent of cases in young males 21–30 years of age ^[38]

Understanding Marijuana and Its Usage

Marijuana comprises over 480 compounds, known as cannabinoids, with the most recognized being tetrahydrocannabinol (THC) and cannabidiol (CBD). THC is known for its mind-altering properties that result in the “high” associated with marijuana usage. Marijuana can be consumed in many ways, including smoking, vaping, edibles, or as a tea. ^[32] The method of intake can influence the onset and duration of the effects. For instance, smoking or vaping marijuana leads to immediate effects, while ingestion via edibles results in a delayed but longer-lasting impact. ^[33]

The high from marijuana is primarily due to THC stimulating the brain's pleasure centers. This leads to the release of dopamine, a neurotransmitter associated with pleasure and reward, resulting in feelings of euphoria and relaxation. ^[34] However, the intensity and duration of this high can vary based on the THC content, frequency of usage, and individual tolerance levels. ^[33] One of the significant health impacts of long-term marijuana usage is cognitive impairment. Marijuana usage can cause distortions in time perception, hinder learning, and impair memory. ^[35]

Mental and Physical Health Concerns

Anxiety, Depression, and Psychosis

Long-term marijuana usage can also have deleterious effects on mental health. While some users experience relaxation and pleasure, others may encounter anxiety, panic, paranoia, and fear. These adverse effects are particularly prevalent in individuals with a high frequency of usage or those consuming marijuana with a high THC concentration. In some

cases, heavy use can result in psychotic symptoms such as hallucinations and delusions. The risk of psychosis is further amplified in individuals with a genetic predisposition to mental health disorders.^{[35] [36]}

Addiction: The Risk of Dependency

About 1 in 10 individuals who use marijuana becomes addicted, developing a condition known as cannabis use disorder (CUD). This disorder is characterized by an inability to quit using marijuana despite it causing significant harm to various aspects of life, including relationships, academics, employment, and health. The risk of CUD increases if the usage starts in adolescence and is heavy or frequent.^{[35] [37]} Individuals with CUD may also experience withdrawal symptoms, including irritability, mood changes, sleep difficulties, decreased appetite, and restlessness, further complicating the process of quitting.^[35]

Early Onset Usage and Schizophrenia

There is increasing evidence to suggest a link between early onset marijuana usage and an increased risk of schizophrenia, especially in young men. A study conducted in Denmark shows a strong link between CUD and schizophrenia, especially in males aged 16–25. Notably, 15 percent of schizophrenia cases in males could be prevented by avoiding CUD. While CUD is not the main cause of schizophrenia in Denmark, its role has grown over the past 50 years. In young males, ages of 21–30, and possibly up to 40, CUD may account for 25–30 percent of cases. With global increases in cannabis legalization, THC content, and use, the findings highlight the need for strategies to regulate cannabis use and address CUD and schizophrenia effectively.^[38]

Lung and Heart Health

Smoking marijuana can lead to lung irritation and potential respiratory issues, similar to those seen in tobacco smokers.

- Long-term users may experience chronic cough, bronchitis, and an increased risk of respiratory infections, primarily due to the irritants and carcinogens present in marijuana smoke.^[35]
- Smoking marijuana is linked to negative heart outcomes, even without tobacco use and after considering various demographic factors.^[39]

Policymakers should be aware of these risks, especially since the perceived danger of cannabis use is decreasing.

Marijuana Use and its Implications on Insurance Costs

Many insurance companies consider marijuana use as a risk factor and may charge higher premiums or deny coverage altogether. This is because marijuana use has been associated with various health conditions, including respiratory problems, heart issues, and mental health disorders; some insurance providers may even have specific policies regarding marijuana use.^[40]

Conclusion

Marijuana's value as a therapeutic agent has yet to be accepted by the medical community. Its long-term usage can lead to numerous health concerns, ranging from cognitive impairment and mental health disorders to physical health issues. Further research is necessary to fully understand the long-term health implications of marijuana usage, particularly in relation to mental health disorders like depression, bipolar disorder, and schizophrenia. Early detection and intervention can significantly improve treatment outcomes and prevent the progression of conditions like bi-polar disorders and schizophrenia associated with long-term marijuana usage.

Potency Levels and Possible Effects - Introduction

Marijuana has been used for various purposes for centuries. In recent years, there has been a notable increase in the potency levels of marijuana, with strains being developed that contain significantly higher levels of cannabinoids, particularly tetrahydrocannabinol (THC). This surge in potency has raised concerns among researchers, policymakers, and healthcare professionals regarding its effects on individuals and society. This section aims to delve into the topic of marijuana potency, its history, factors contributing to increased potency, and the potential dangers, and negative effects on users.^{[41] [42] [43]}

Key Findings

- Advancements in cultivation practices have allowed for the development of strains with much higher THC concentrations, some of which reach levels of 20% THC content or even higher.^[41]
- High levels of THC can also lead to a range of unpleasant or dangerous side effects, including nausea, vomiting, paranoia, abnormal heart rhythms, and a higher risk of addiction.^[43]

The History of Marijuana Potency

From the 1960s until the 1990s marijuana had a THC content of less than 2% potency. After 1990, the potency increased to 4%. Potency has continued to increase to being more than 20% and higher in some products. This increase was a result of better cultivation techniques and the continued efforts to develop more potent strains of marijuana. ^[41]

In addition to potent strains of marijuana, the market now also offers concentrated THC products such as oil, shatter, and edibles, some of which have THC concentrations as high as 95%. These products are designed to deliver a potent high, and their increased potency makes them potentially more hazardous and more likely to result in addiction. These increases in potency have been driven by various factors, including consumer demand, commercial interests, and the pursuit of more potent effects. ^{[41] [42]}

Understanding the Concept of Increased Potency

Increased potency refers to the higher levels of THC found in modern marijuana strains. THC is the primary psychoactive compound in cannabis and is responsible for the euphoric and mind-altering effects commonly associated with marijuana use. Higher potency strains can lead to a more intense and prolonged intoxication experience. However, with increases in potency come increased risks in adverse health outcomes for users. This increased potency is achieved through selective cultivation techniques that focus on enhancing THC content while minimizing other cannabinoids, such as cannabidiol (CBD). While CBD is believed to have potential therapeutic benefits and can counteract some of the adverse effects of THC, it is often reduced in higher potency strains. ^[43]

Factors contributing to increased marijuana potency

Several factors have contributed to the rise in marijuana potency levels. One key factor is the increasing demand for stronger effects among recreational users. As marijuana has become more socially accepted and accessible, consumers have sought out more potent strains to achieve a more intense high. Which in turn increases the risk of developing an addiction over time with continued use. ^[43] Additionally, the commercialization of the marijuana industry has played a role, with growers aiming to develop strains that stand out in a competitive market. Advances in cultivation techniques, such as indoor growing, cloning, and hydroponics, have also allowed for more precise control over growing conditions, resulting in higher potency plants.

The Effects and Risks Associated with Higher Potency Marijuana

The effects of higher potency marijuana can vary depending on various factors, including the individual's tolerance, the method of consumption, and the strain's specific composition.^[33] Generally, individuals consuming higher potency marijuana may experience more pronounced psychoactive effects, including increased euphoria, altered perception of time, and heightened sensory perception.^[32] These effects can be particularly intense for individuals who are less experienced or have a lower tolerance.

Several risks and concerns are associated with the use of higher potency marijuana. One significant concern is the potential for accidental overconsumption and subsequent adverse effects. With higher THC concentrations, it becomes easier for individuals to consume more THC than intended, leading to heightened intoxication and possible adverse health outcomes.^[33] High levels of THC can also lead to a range of unpleasant or dangerous side effects, including nausea, vomiting, paranoia, and abnormal heart rhythms.

Another concern is the potential for increased tolerance and dependence. Regular use of high potency marijuana can lead to a rapid development of tolerance, requiring individuals to consume higher doses to achieve the desired effects. This pattern of escalating use can increase the risk of dependence and addiction^[34], with daily users being five times more likely to develop a dependence.^[41]^[43] Additionally, regular use of high potency marijuana has also been associated with an increased likelihood of experiencing anxiety, depression, and cognitive impairments.^[41]

Legal and Regulatory Implications of Increased Potency

The surge in marijuana potency has raised important legal and regulatory considerations. Two jurisdictions, Connecticut and Vermont, have established limits on the allowable THC content in marijuana products, both for medical and recreational use. These limits aim to protect public health and safety by ensuring that products are not excessively potent. However, the enforcement and standardization of these limits can be challenging, particularly with the rapidly evolving landscape of marijuana cultivation and consumption. As the industry continues to grow, policymakers and regulators must adapt and develop effective strategies to address the legal and regulatory implications of increased potency.

Chapter 4: Missouri

Background / Regulatory Overview

Access to medical marijuana in Missouri was legalized following the passing of Amendment 2, and is outlined in Missouri Statute XIV Section 1. Right to Access Medical Marijuana. Out of the 2,413,858 people that voted on this amendment, 1,583,227 voted in favor, a 65 percent passage rate.^[44]

Link to XIV Section 1:

<https://revisor.mo.gov/main/OneSection.aspx?section=XIV%20%20%201&constit=y>

Following the passage of Amendment 2, a ballot initiative (Amendment 3) to legalize recreational use of marijuana passed on November 8, 2022; out of the 2,057,452 people that voted on the amendment, 1,092,432 voted in favor, a 53 percent passage rate.^[45] Possession for adults 21 and over became legal on December 8, 2022, and is outlined in Missouri Statute XIV Section 2 Marijuana legalization, regulation, and taxation. The licensed sale of recreational marijuana commenced on February 3, 2023.

Link to XIV Section 2:

<https://revisor.mo.gov/main/OneSection.aspx?section=XIV%20%20%202&constit=y>

Impaired Driving & Traffic Fatalities

Key Finding

- From 2018 to 2022, the total number of statewide traffic deaths increased by 15 percent, from 921 to 1,057 ^[48]

Driving While Intoxicated Offenses:

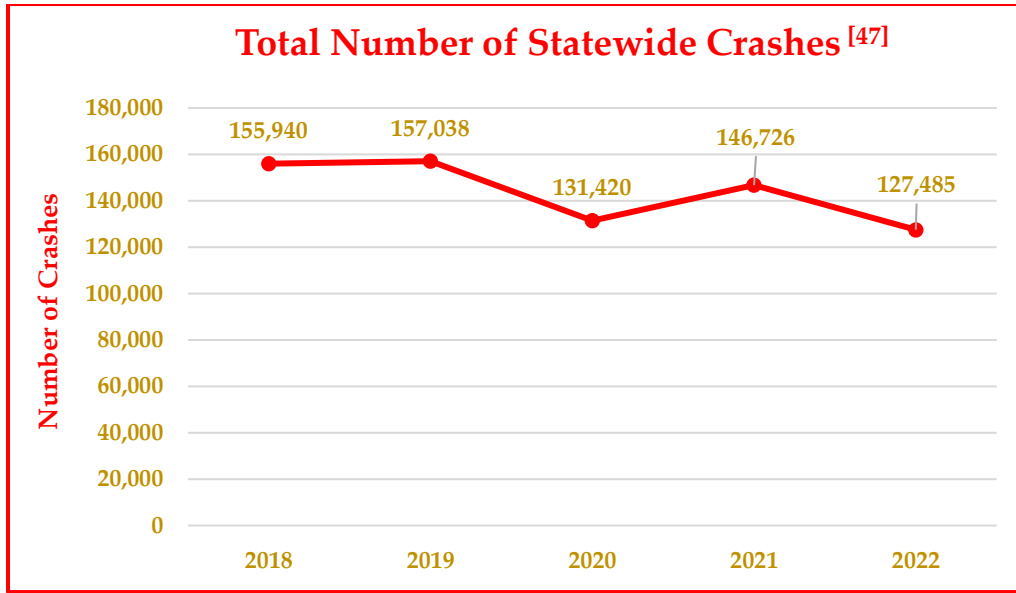
In Missouri, driving under the influence is referred to by statute as DWI (Driving While Intoxicated) or BAC (Driving with Excessive Blood Alcohol Content). Laws concerning intoxicated driving can be found under the revised statutes of Missouri, herein abbreviated as "RSMo."

DWI (Driving While Intoxicated) - A person commits the crime of "driving while intoxicated" if such person operates a motor vehicle while in an intoxicated or drugged condition. §577.010, RSMo. §577.001, RSMo defines intoxicated condition as being under the influence of alcohol, a controlled substance, or drug, or any combination thereof. In Missouri, driving under the influence is referred to by statute as DWI (Driving While Intoxicated) or BAC (Driving with Excessive Blood Alcohol Content).

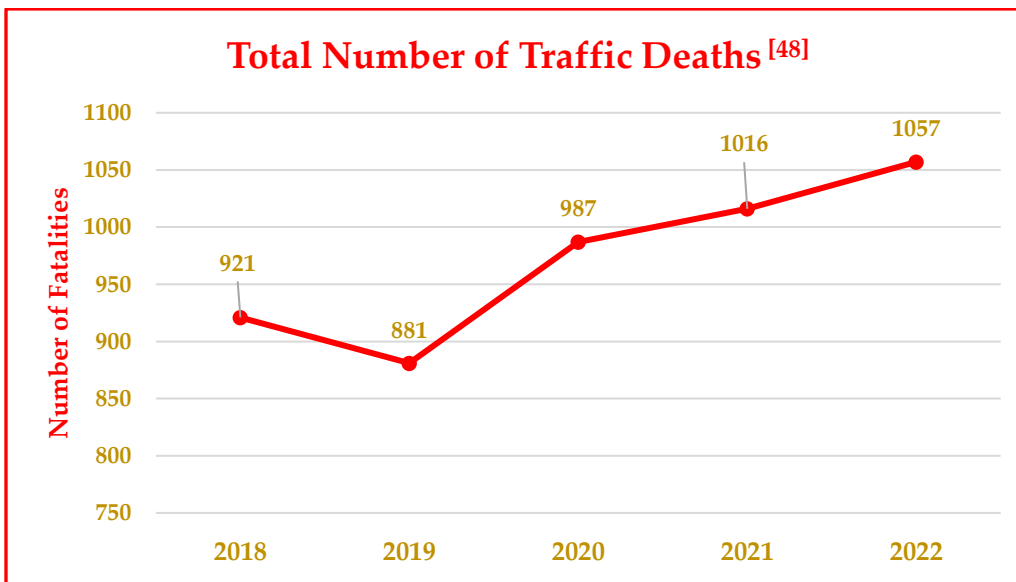
BAC (Excessive Blood Alcohol Content) (The "per se" law) – A person commits the crime of "driving with excessive blood alcohol content" if such person operates a motor vehicle with eight-hundredths of one percent (.08) or more by weight of alcohol in such person's blood. §577.012, RSMo. Percent by weight of alcohol in the blood is based upon grams of alcohol per 100 milliliters of blood or grams of alcohol per 210 liters of breath. §§ 577.012, 577.037, RSMo

"There is no separate DWI/DUI statute for drug impairment in Missouri, and instead, driving under the influence of drugs is included in the DWI statute, §577.010, RSMo." ^[46]

Traffic Fatalities



- From 2018 to 2022, the total number of statewide crashes decreased by 18 percent, from 155,940 to 127,485 ^[47]



- From 2018 to 2022, the total number of statewide traffic deaths increased by 15 percent, from 921 to 1,057 ^[48]

Missouri Traffic Fatalities - Driver Tested Positive for Drugs 2018-2022					
		Fatalities in Crashes Involving Drugs		Fatalities with Drivers Testing Positive for Cannabinoids*	
Crash Year	Total Statewide Fatalities	Number of Fatalities	Percent of Total Fatalities	Number of Fatalities	Percent of Total Fatalities
2018	921	344	37.4%	157	17.0%
2019	881	296	33.6%	146	16.6%
2020	987	346	35.1%	182	18.4%
2021	1,016	410	40.4%	202	19.9%
2022	1,057	385	36.4%	173	16.4%

*Cannabinoids: Delta 9, Hashish Oil, Hashish, Marijuana, Marinol, and THC.

Source: National Center for Statistics and Analysis

- From 2018 to 2022, the number of fatalities for drivers testing positive for cannabinoids increased by 10 percent. ^[48]
- The average percent of total fatalities per year involving drivers testing positive for cannabinoids was 17.6 percent. ^[48]

Marijuana Availability & Use

Missouri voters approved a medical marijuana program in 2018, with medical marijuana sales starting in October 2020. In 2022, voters approved commercial adult use of marijuana followed by sales effective February 2023.

Key Findings

- From 2015-2016 to 2021-2022 numbers for past month marijuana usage, among those over 12 years of age, found there was a 98.8 percent increase in Missouri (8.1 – 16.1), compared to 64 percent increase nationally (8.6 – 14.1). ^[49]

- SAMHSA interactive National Survey on Drug Use and Health (NSDUH) state estimates, found the percentages of first time use of marijuana for all reported age ranges, were higher in Missouri when compared to the national percentages. ^[49]

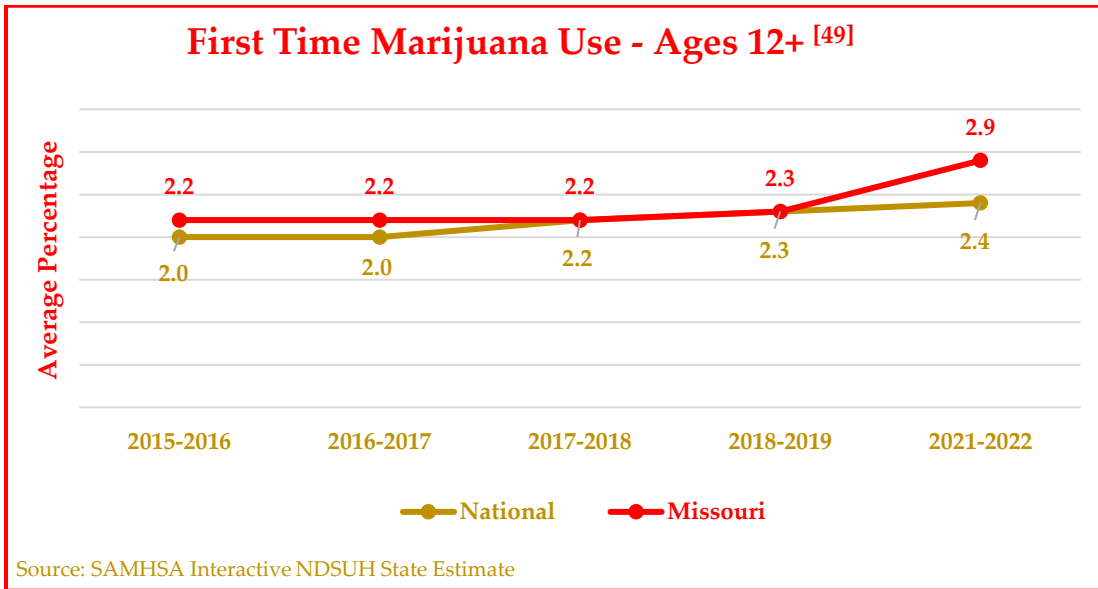
National Survey on Drug Use and Health (NSDUH) Data^c

Missouri Averages Compared to National Averages 2022		
Ages 12 and Older	Missouri	United States
Alcohol Use Past Month	48.1%	48.1%
Cigarette Past Month Use	21.5%	15.3%
Illicit Drug Use (Other than Marijuana) Past Month	3.5%	3.3%
Marijuana Use Past Month	16.1%	14.1%
Perception of Risk for Smoking Marijuana	18.8%	21.0%
SOURCE: SAMHSA, Center for Behavioral Health Statistics and Quality, NSDUH, 2022		

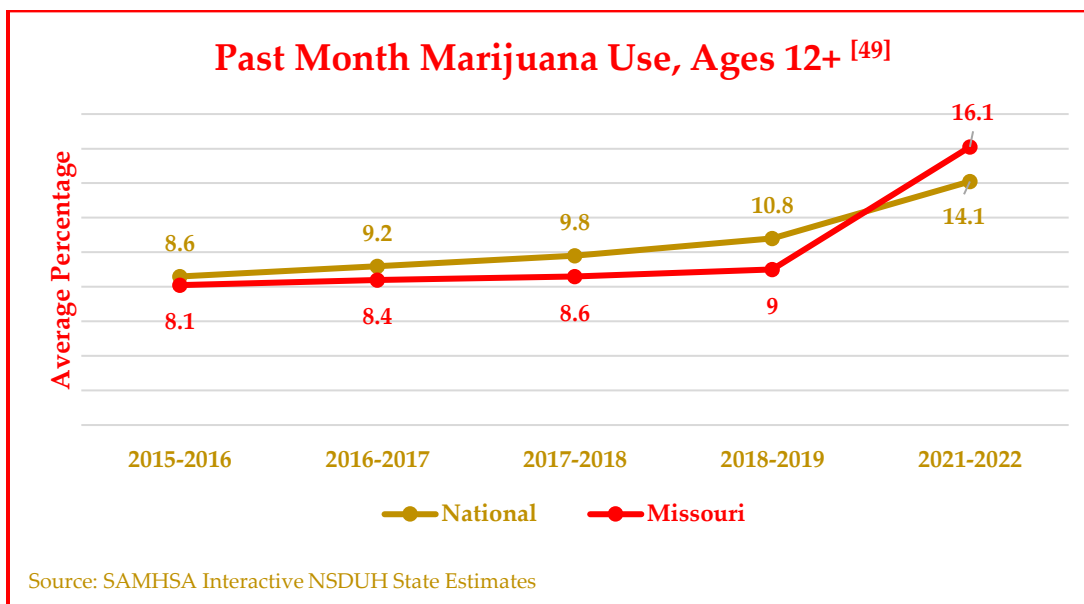
Marijuana First Time Use in Last Year 2022 ^[49]			
Age	Missouri %	Missouri U.S. Ranking	National %
12 Years +	2.9%	15	2.4%
12-17 YOA	4.6%	21	4.4%
18 Years +	2.6%	16	2.0%
18-25 YOA	10.2%	16	8.5%
26 Years +	1.2%	15	1.0%

Source: SAMHSA Interactive NSDUH State Estimates

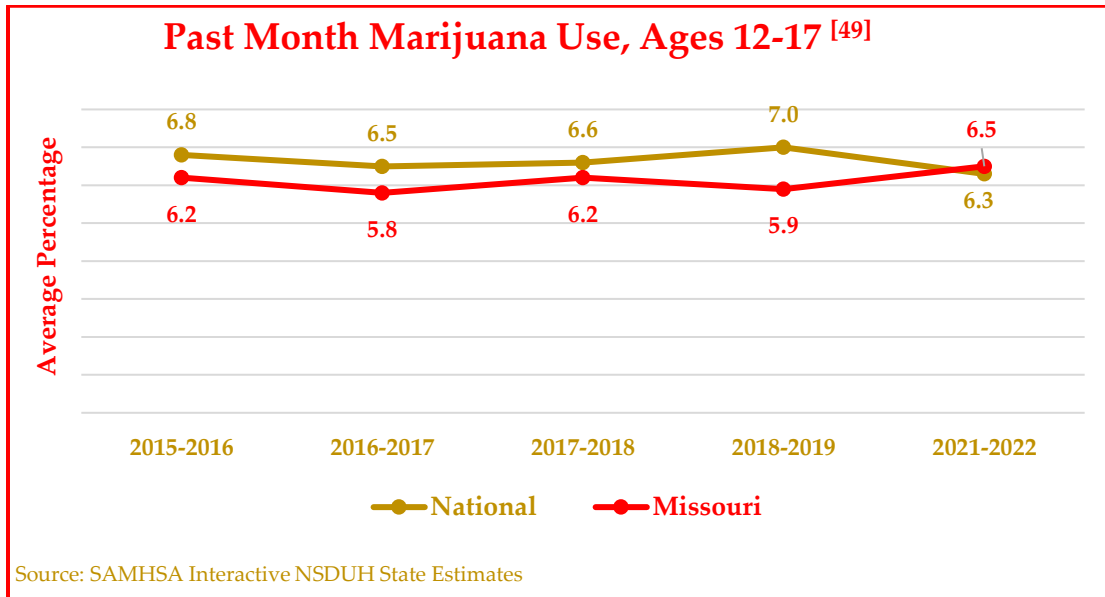
^c 2020 Data not utilized due to Covid data being unreliable; estimates from prior to 2021 are not comparable to estimates from previous years due to changes in NSDUH summary methodology, included as reference points.



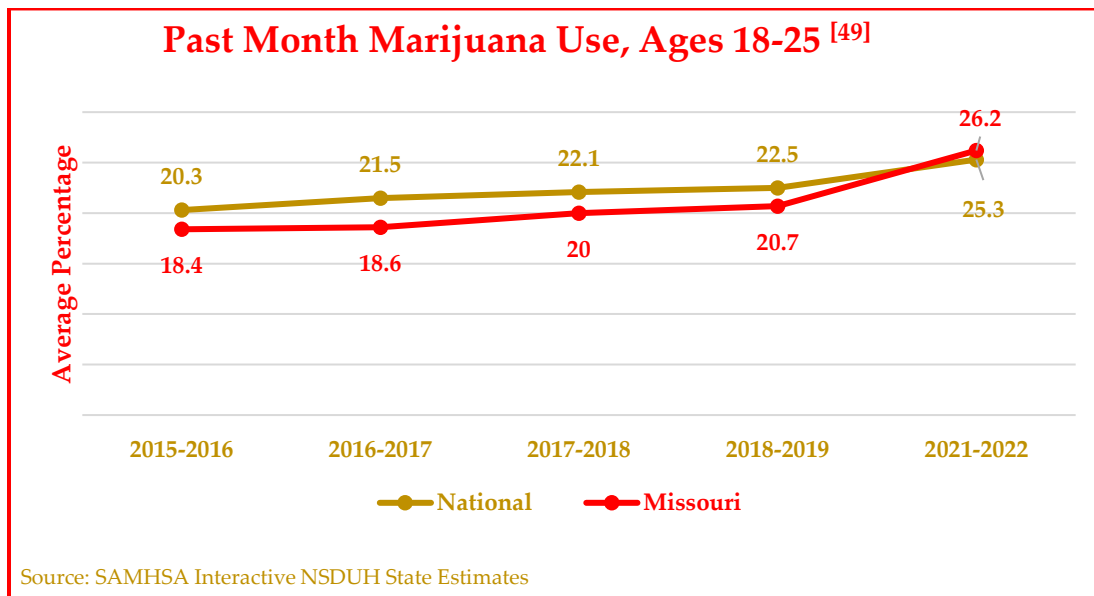
- From 2015-2016 to 2021-2022 numbers for first time marijuana usage, among those over 12 years of age, found there was a 31.8 percent increase in Missouri (2.2 – 2.9), compared to 20 percent increase nationally (2.0 – 2.4). ^[49]



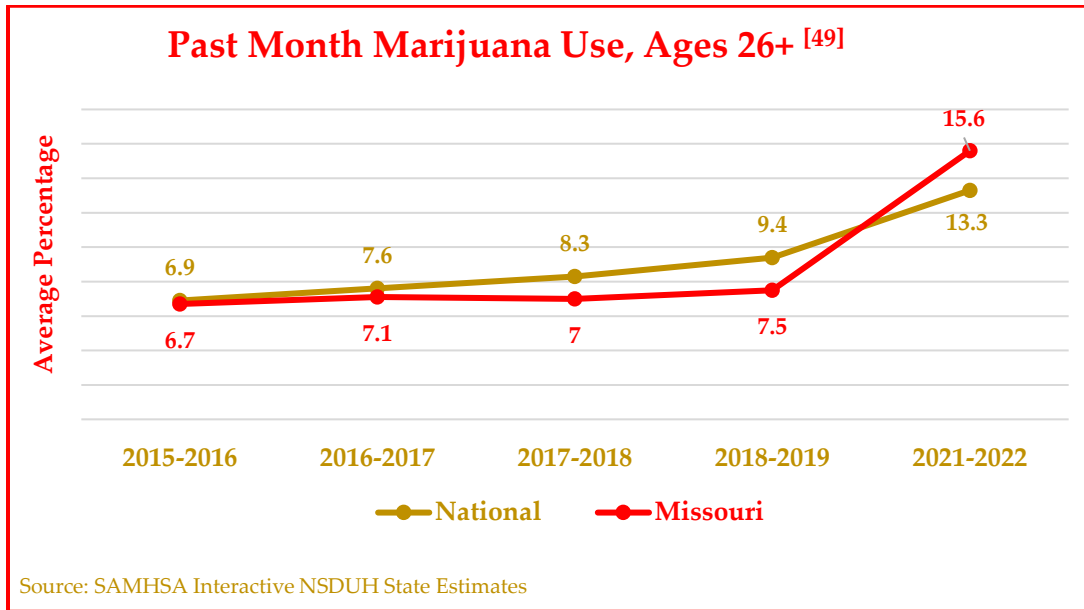
- From 2015-2016 to 2021-2022 numbers for past month marijuana usage, among those over 12 years of age, found there was a 98.8 percent increase in Missouri (8.1 – 16.1), compared to 64 percent increase nationally (8.6 – 14.1). ^[49]



- From 2015-2016 to 2021-2022 numbers for past month marijuana usage, among those 12-17 years of age, found there was a 4.8 percent increase in Missouri (6.2 – 6.5), compared to 7.4 percent decrease nationally (6.8 – 6.3). ^[49]



- From 2015-2016 to 2021-2022 for past month marijuana usage, among those 18-25 years of age, found there was a 42.4 percent increase in Missouri (18.4 – 26.2), compared to 18.7 percent increase nationally (20.3 – 24.6) ^[49]



- From 2015-2016 to 2021-2022 numbers for past month marijuana usage, among those 26+ years of age, found there was a 132.8 percent increase in Missouri (6.7 – 15.6), compared to 92.8 percent increase nationally (6.9 – 13.3)^[49]

Missouri 2022 Student Survey and National Survey on Drug Use and Health Data:

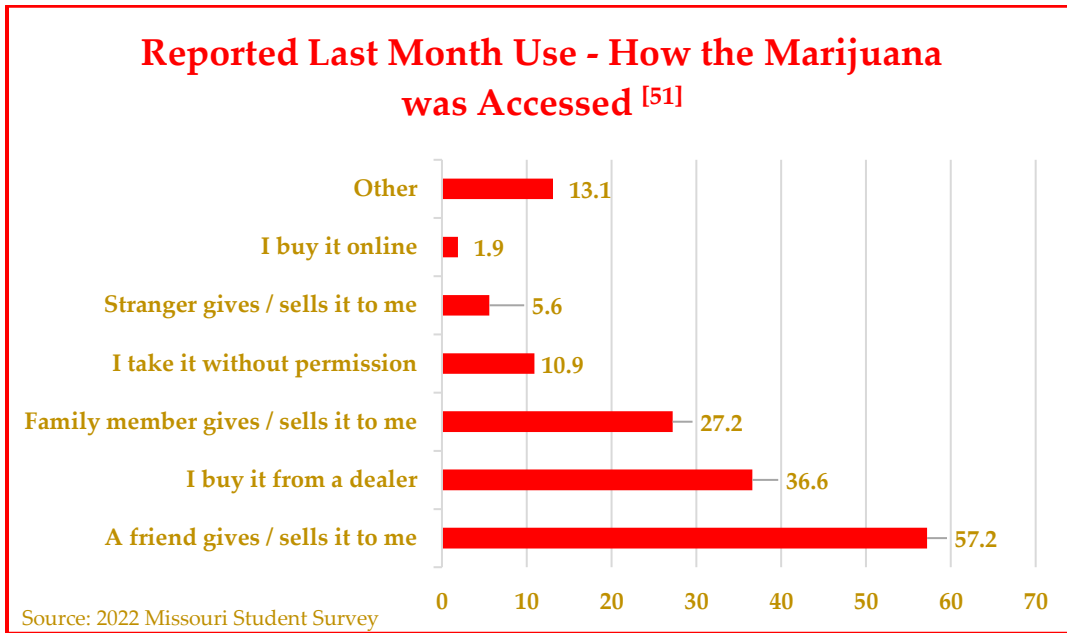
The Missouri Student Survey is a comprehensive survey conducted in even-numbered years to gather information about the behaviors and attitudes of students in Missouri public schools. This survey plays a role in informing policymakers and educators about the needs and challenges faced by students. The survey is conducted by the Missouri Department of Mental Health in collaboration with the Missouri Department of Elementary and Secondary Education.

The survey collects data on various topics including substance use, bullying, mental health, and school climate. It is administered to students in grades 6-12 across the state. The survey is typically conducted online or through paper-pencil forms, and strict confidentiality measures are implemented to ensure the privacy of students' responses. The data collected from the survey is then analyzed and used to develop strategies and interventions aimed at improving students' well-being and academic success.

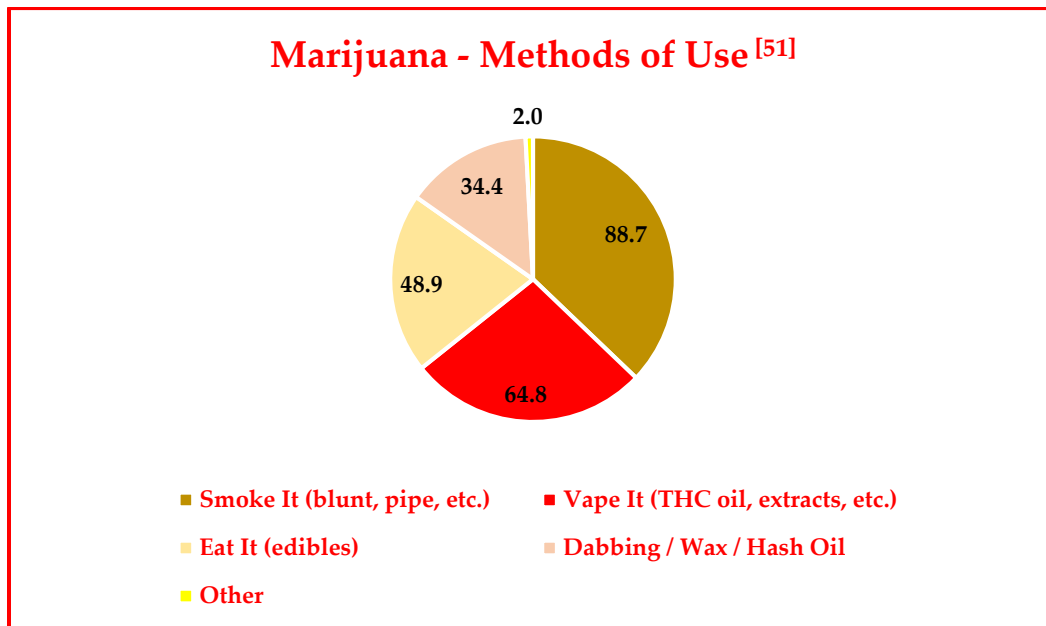
According to their website, the National Survey on Drug Use and Health (NSDUH) provides key statistics on the use of “tobacco, alcohol, prescription psychotherapeutic drugs (pain relievers, tranquilizers, stimulants, and sedatives), and other substances (e.g., marijuana, cocaine)” among the U.S. civilian, noninstitutionalized population aged 12 and older. It also includes questions on mental health issues.

NSDUH gathers data “through face-to-face interviews with a representative sample” at the respondent's residence, “including households and non-institutional group quarters (e.g., shelters, rooming houses, dormitories).” The survey excludes homeless individuals not using shelters, active-duty military personnel, and “residents of institutional group quarters, such as jails and hospitals.”^[50]

Percentage of Substance Use in Missouri Users (Grades 6-12) Compared to United States Users (12-17 Years)^[51]				
	Missouri Student Survey		United States (NSDUH)	
	Lifetime	Last 30-Days	Lifetime	Last 30-Days
Alcohol	37.2	14.9	22.8	8.2
Cigarettes	10.7	2.5	7.2	1.4
Chewing Tobacco	4.4	1.4	2.4	0.6
Cocaine	0.3	Not Collected	0.4	0
Hallucinogens	1.1	Not Collected	2.3	0.3
Marijuana	15.3	7.5	12.4	5.9
Methamphetamine	0.2	Not Collected	0.2	0
*2022 Missouri Student Survey / NSDUH 2020 Data				



- The highest frequency reported method of acquiring marijuana was obtaining it from a “friend” who either gives/sells it (57.2 percent), followed by purchasing it from a “dealer” (36.6 percent) ^[51]
- The least frequent reported method of acquiring marijuana was through purchasing it online (1.9 percent) ^[51]



Source: 2022 Missouri Student Survey

- The most frequently reported means of marijuana ingestion was to “smoke it” (88.7 percent), followed by “vape it” (64.8 percent) ^[51]

Factors and Perceptions of Adolescent Marijuana Usage ^[51]						
Marijuana's Perceived Availability						
		Very Easy	Sort of Easy	Sort of Hard	Very Hard	
Marijuana - Ease of Acquisition		17.6%	16.3%	14.5%	51.6%	
Marijuana - Peer Usage and Perception of						
	0 Friends	1 Friend	2 Friends	3 Friends	4+ Friends	
Youth Who Have Friends Who Use Marijuana		69.8%	9.1%	6.6%	3.2%	11.3%
		Not Wrong at All	A Little Bit Wrong	Wrong	Very Wrong	
How Wrong Friends View Marijuana Use		17.3	10.9	18.8	52.9	
		Very Cool	Pretty Cool	A Little Cool	Not Cool at All	
Level of "Coolness" Linked to Marijuana Use		6.8	10.6	18.6	64.0	
Marijuana - Perceived Risk of Harm From Usage						
		No Risk at All	Slight Risk	Moderate Risk	Great Risk	
Using Once or Twice a Week		19.0	20.1	19.2	41.7	
Marijuana - Perceived Wrongfulness of Usage						
		Not Wrong at All	A Little Bit Wrong	Wrong	Very Wrong	
Any Use of Marijuana		8.7	12.3	14.3	64.7	
Using Marijuana Once or Twice a Week		8.3	9.8	14.1	67.7	

Public Health

Key Findings

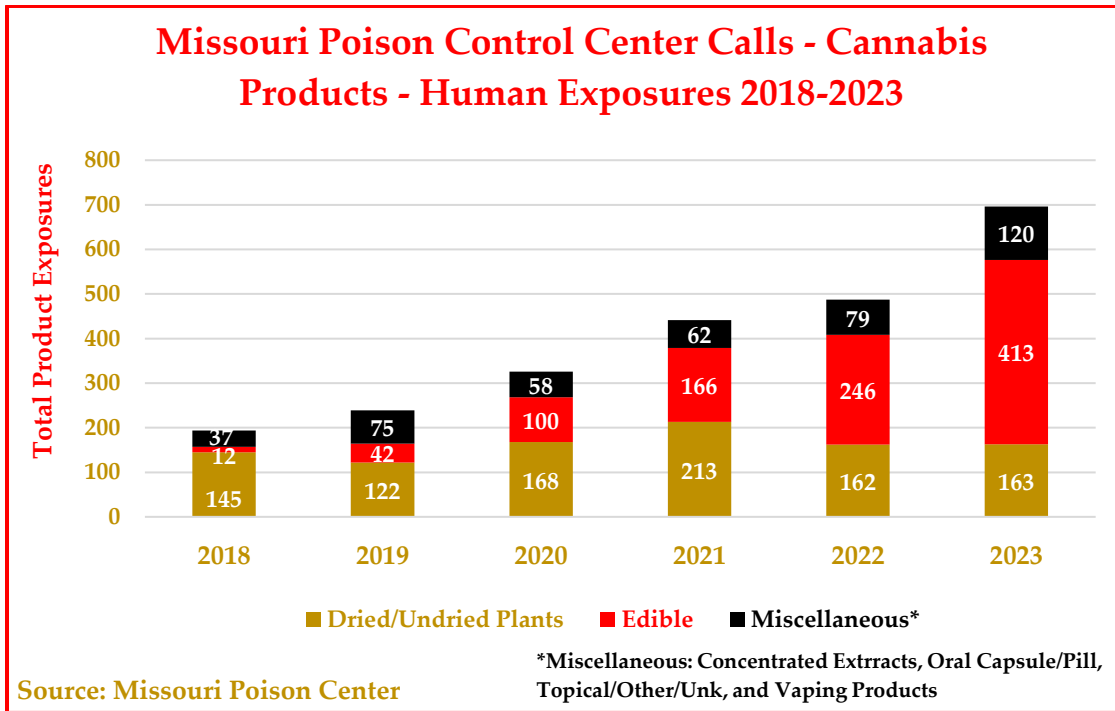
- From 2018 to 2023, there was a 259 percent increase (194 to 696) in the total number of cannabis product related calls to the Missouri Poison Control Center ^[52]
- From 2018 to 2022, Missouri overdose deaths increased 36 percent (1,608 to 2,180) ^[54]

Emergency Department Visits & Hospitalizations

Following the medical marijuana legalization in 2018, Missouri's hospitals observed an increase in both emergency room visits and hospitalizations due to marijuana-related events. The number of emergency room visits increased by 78 percent between 2018 and 2023 (246 to 439); the hospitalizations from these visits, increased 45 percent from 2018 to 2023 (174 to 252).

Missouri Department of Health & Senior Services							
Cannabis-Related Emergency Department Visits and Hospitalizations 2018-2023							
Type	2018	2019	2020	2021	2022	2023*	% Change
ED Visits	246	301	300	308	305	439	+78.5%
Hospitalizations	174	257	252	225	164	252	+45.8%
Source: Missouri Patient Abstract System, Bureau of Health Care Analysis & Data Dissemination							
*2023 Numbers are Provisional							

Poison Center Calls

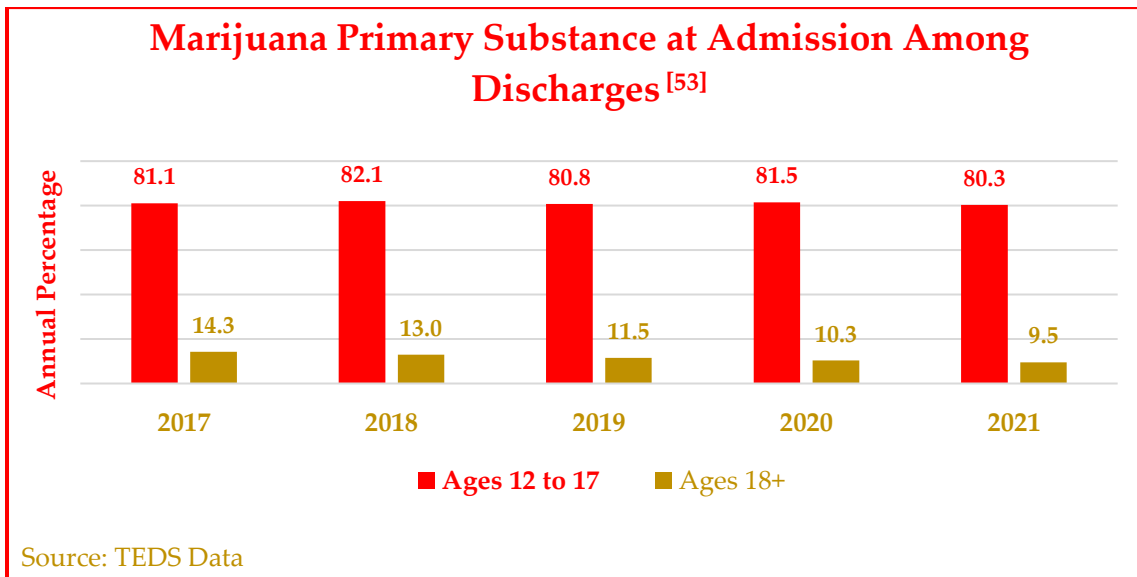


- In Missouri, since 2018, when marijuana was first legalized for medical use, cannabis exposure calls have increased by 259 percent (194 to 696).^[52]
- In 2023, the first year after marijuana was legalized for commercial adult use, cannabis exposure calls were higher than the previous 5 years.^[52]
- The largest increase was in the calls related to edible products, which showed an increase of 3,341 percent (12 to 413).^[52] The increase in “edible exposures” witnessed in Missouri, mirrors the same trend nationally.

Treatment Admissions Drug Type / Age Group

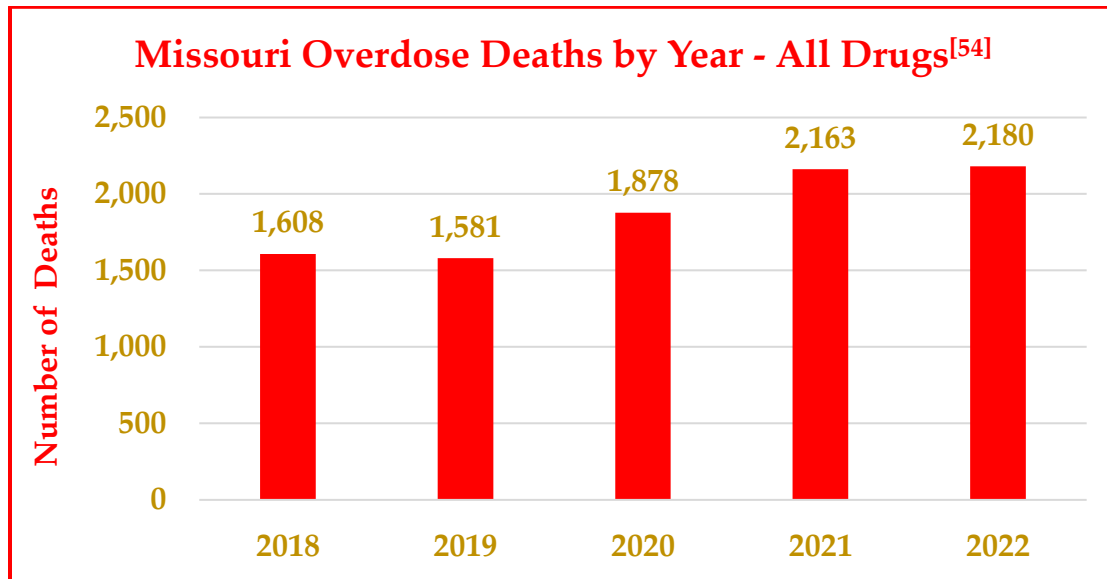
Treatment Admissions Drug Type (TEDS) data refers to a comprehensive collection of information on individuals seeking treatment for substance abuse. TEDS data provides valuable insights into the demographics, drug types, and treatment outcomes of individuals accessing addiction treatment services. This data is collected through a national reporting system that includes information from various treatment facilities across the country.

The data collection process involves the submission of standardized forms by treatment providers, which capture detailed information about the individual's drug use history, socio-demographic characteristics, and the specific type of treatment received. This data is then compiled and analyzed by state and federal agencies to monitor trends in substance abuse, evaluate the effectiveness of treatment programs, and inform policy and funding decisions.



- From 2017 to 2021, marijuana being identified as the primary substance at admission to treatment, decreased 1 percent for ages 12 to 17 (81.1 to 80.3) and 33.6 percent for ages 18+ (14.3 to 9.5)^[53]

Overdose Data Post Legalization



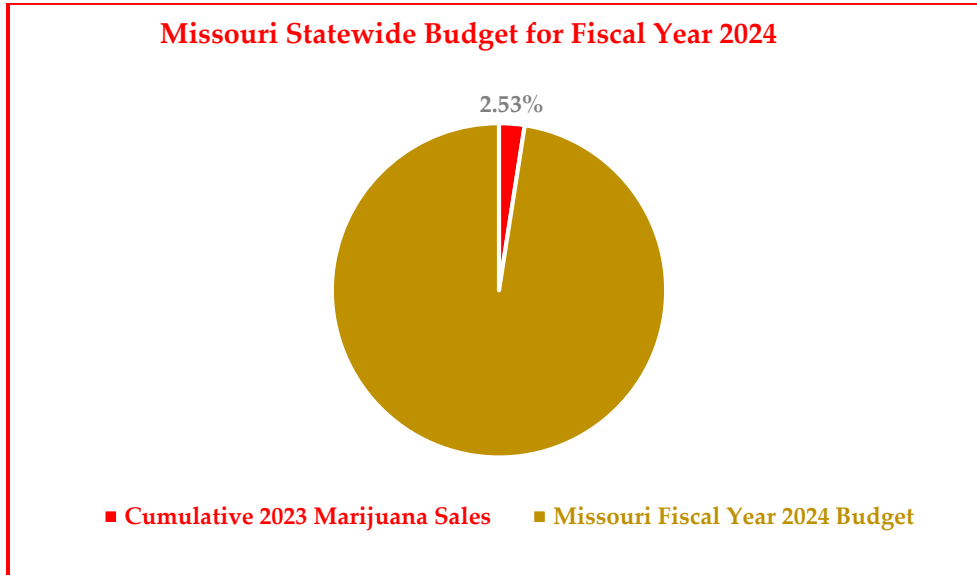
- From 2018 to 2022, Missouri overdose deaths increased 36 percent (1,608 to 2,180)^[54]; this data is included in response to assertions that opioid overdose deaths would decline post-marijuana legalization

Social Impacts

Key Findings

- Missouri's 2024 Fiscal year budget was \$52.9 billion, while the cumulative marijuana sales in Missouri for 2023 totaled \$1,301,300,000 (2.53 percent of the budget)^{[55] [56]}
- Peak patient applications took place in March 2022 (20,493); patient applications have dropped 93% by February 2024, following adult use authorization^[59]

Budgetary and Taxation Impacts



- Missouri's 2024 Fiscal year budget was \$52.9 billion, while the cumulative marijuana sales in Missouri for 2023 totaled \$1,301,300,000 (2.53 percent of the budget) ^[55] ^[56]
- Medical marijuana sales decreased 54.6% from January to December of 2023. ^[56] Adult use sales increased 48.4% from February to December of 2023; adult use sales initiated in February 2023 ^[56]

Disbursement of Marijuana Tax Revenue

The passing of the constitutional amendment legalizing the sale of recreational marijuana, included a 6 percent tax on the its sale. This was a new source of revenue for the state; however, the dollars produced by the tax are not part of the state's general revenue fund. Instead, the amendment created the Veterans, Health, and Community Reinvestment Fund, where the revenue generated would be housed and disbursed through. ^[57]

The funds are first used to fund the state departments who regulate the provisions established by the amendment. The funds are then utilized to implement the expungement of criminal records, and finally the remaining funds are evenly divided amongst drug treatment service programs, the Missouri Veteran's Commission, and the public defender system. ^[57]

The legalization of recreational marijuana, did not alter the taxation on medical marijuana, which remains at 4 percent. A portion of the revenue generated by the sale of medical marijuana is routed to the Department of Health and Human Services, to be used to

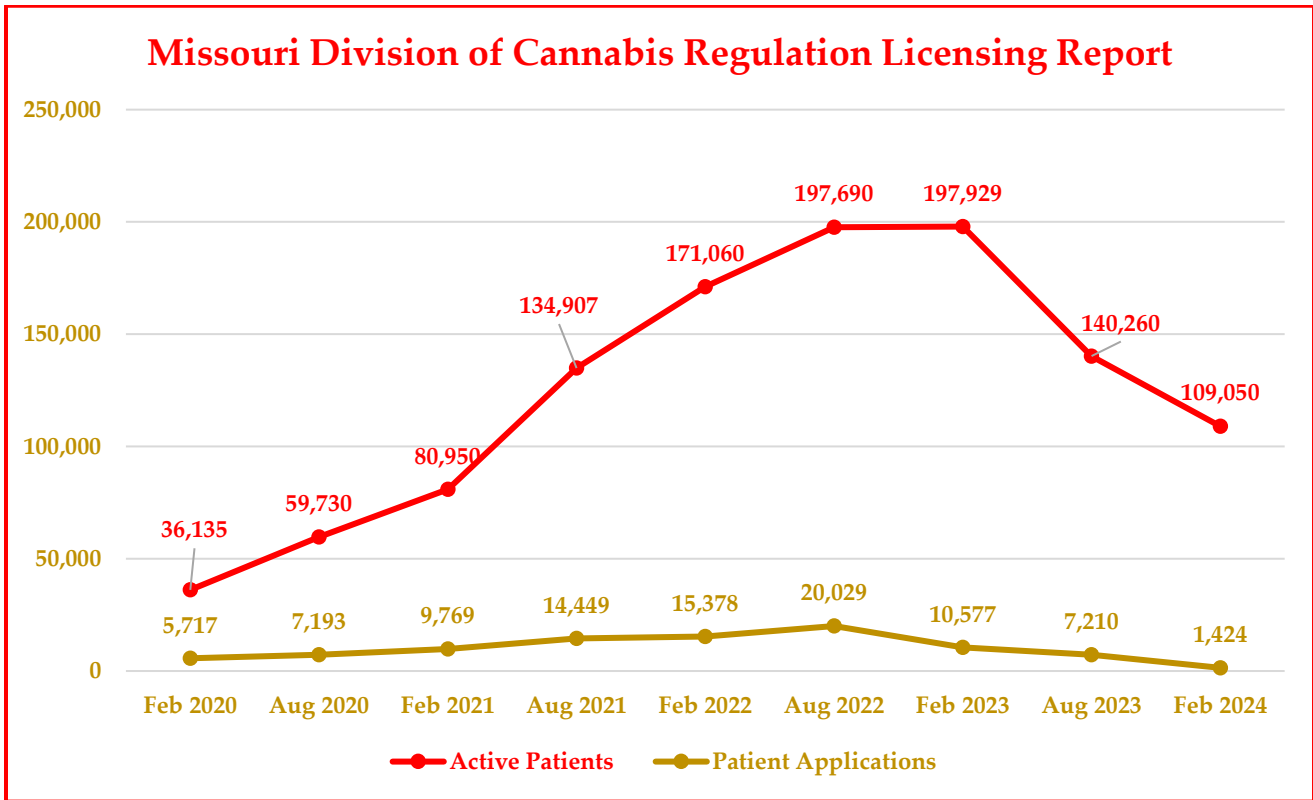
cover the costs of implementation, and the Department of Revenue. The remainder of the funds are designated for the Missouri Veterans Commission to provide services to veterans, to include veterans physical and mental health programs, housing assistance, training and education, and the operating and maintenance of veterans' homes.^[57]

Dispensary/Cultivator/Medical License Statistics

Missouri Department of Health & Senior Services Licensed Approved to Operate Facilities as of 04-19-2024^[58]			
Marijuana Cultivation Facilities			
Comprehensive	55	Medical	0
Marijuana Dispensary Facilities			
Comprehensive	206	Medical	0
Marijuana Infused Product Manufacturing Facilities			
Comprehensive	78	Medical	0

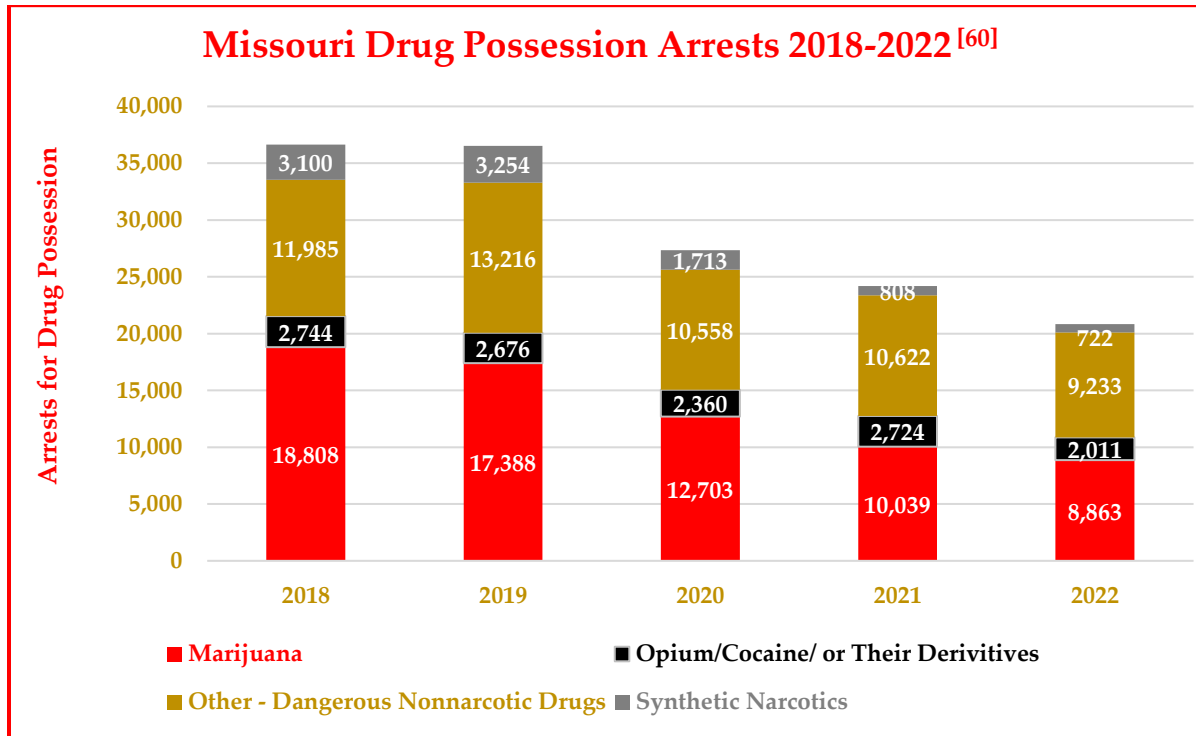
Definitions^[58]:

- Comprehensive Marijuana Cultivation Facility – a facility licensed by the department where marijuana cultivation for medical or adult use occur.
- Medical Marijuana Cultivation Facility – a facility licensed by the department where marijuana cultivation operations occur that is limited to medical use.
- Comprehensive Marijuana Dispensary Facility - a facility licensed by the department where marijuana product is dispensed for medical or adult use.
- Medical Marijuana Dispensary Facility - a facility licensed by the department where marijuana is dispensed only for medical use.



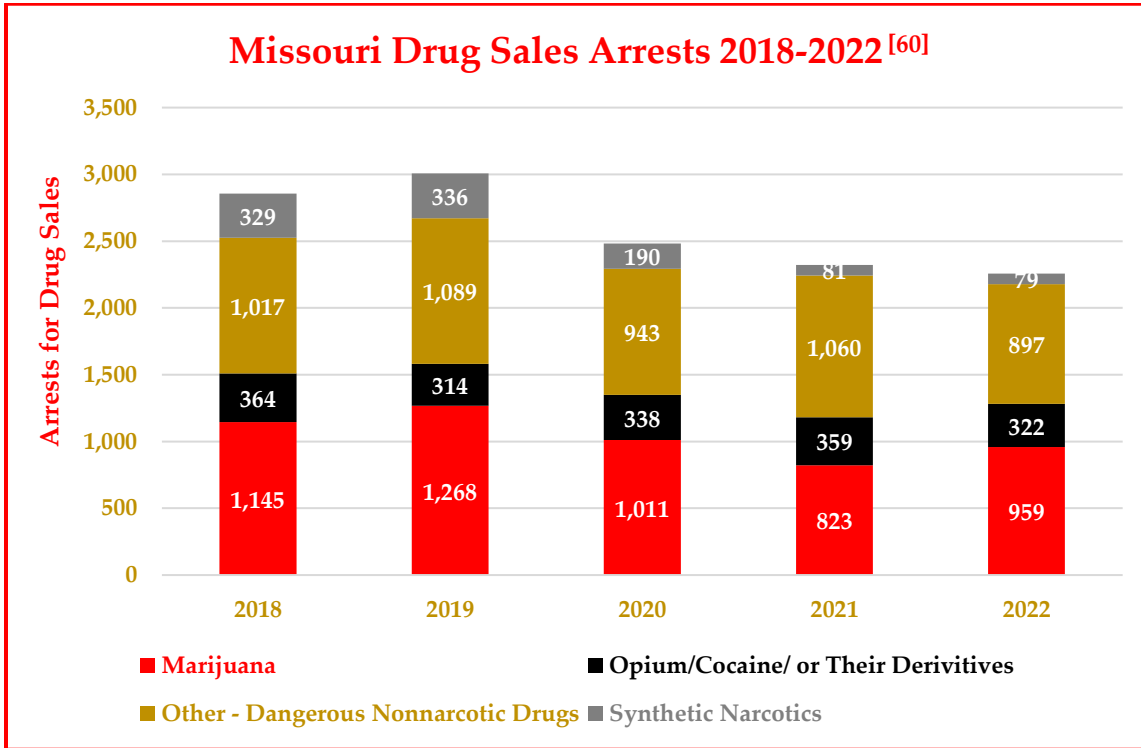
- Peak active patient number was in November 2022 (205,897), prior to the authorization of adult use; since then, registered active patients dropped 47% by February 2024 ^[59]
- Peak patient applications took place in March 2022 (20,493); patient applications have dropped 93% by February 2024, following adult use authorization ^[59]

Marijuana-Related Crime



	2018	2019	2020	2021	2022	% +/-
Marijuana	18,808	17,388	12,703	10,039	8,863	-52.9%
Opium/Cocaine/ or Their Derivatives	2,744	2,676	2,360	2,724	2,011	-26.7%
Other – Dangerous Nonnarcotic Drugs	11,985	13,216	10,558	10,622	9,233	-23%
Synthetic Narcotics	3,100	3,254	1,713	808	722	-76.7%
TOTALS	36,637	36,534	27,334	24,193	20,829	-43.1

- From 2018 to 2022, there was a 43 percent decrease (36,637 to 20,829) in the number of arrests for drug possession ^[60]
- The greatest percent decrease was in the arrests for synthetic narcotics, 77 percent (3,100 to 722), followed by marijuana, which decreased 53 percent (18,808 to 8,863) ^[60]



Source: FBI Crime Data Explorer

	2018	2019	2020	2021	2022	% +/-
Marijuana	1,145	1,268	1,011	823	959	-16.2%
Opium/Cocaine/ or Their Derivatives	364	314	338	359	322	-11.5%
Other - Dangerous Nonnarcotic Drugs	1,017	1,089	943	1,060	897	-11.8%
Synthetic Narcotics	329	336	190	81	79	-76%
TOTALS	2,855	3,007	2,482	2,323	2,257	-21%

- From 2018 to 2022, there was a 21 percent decrease (2,855 to 2,257) in the number of arrests for drug sales offenses [60]
- The greatest percent decrease was in the arrests for the sale of synthetic narcotics, 76 percent (329 to 79), followed by marijuana, which decreased 16 percent (1,145 to 959) [60]

Chapter 5: North Dakota

Background / Regulatory Overview

North Dakota became the first state in the Midwest HIDTA to approve a medical marijuana program in 2016, by the passing of North Dakota Initiated Measure 5, also known as the North Dakota Compassionate Care Act. Out of the 338,657 people that voted on this amendment, 216,042 voted in favor, a 64 percent passage rate. The regulations governing the medical marijuana program are outline in North Dakota Century Code Chapter 19-24.1 Medical Marijuana.

Link Chapter 19-24.1 Medical Marijuana:

<https://ndlegis.gov/cencode/t19c24-1.pdf>

In November, 2022, an adult-use marijuana program (Measure 2) was rejected by North Dakota voters. Out of the 238,800 people that voted on this amendment, 131,192 voted against its passing, a 55 percent rejection rate.

Impaired Driving & Traffic Fatalities

The Midwest HIDTA recognizes that there are numerous data limitations based on current testing methods and processes that make interpreting traffic fatality data difficult. However, this is the most comprehensive data available that allows for multi-year comparisons of drug-related fatalities. Data for this section was gathered from the North Dakota Department of Transportation.

Key Findings

- Since medical marijuana was legalized in 2016, motor vehicle crashes decreased 29 percent (15,017 to 10,734), while North Dakota traffic deaths decreased 13 percent (113 to 98) ^[62]
- From 2018 to 2022, the percentage of total fatalities where a driver tested positive for a cannabinoid increased 100 percent (2018 = 6, 2022 = 12) ^[48]

Definitions:

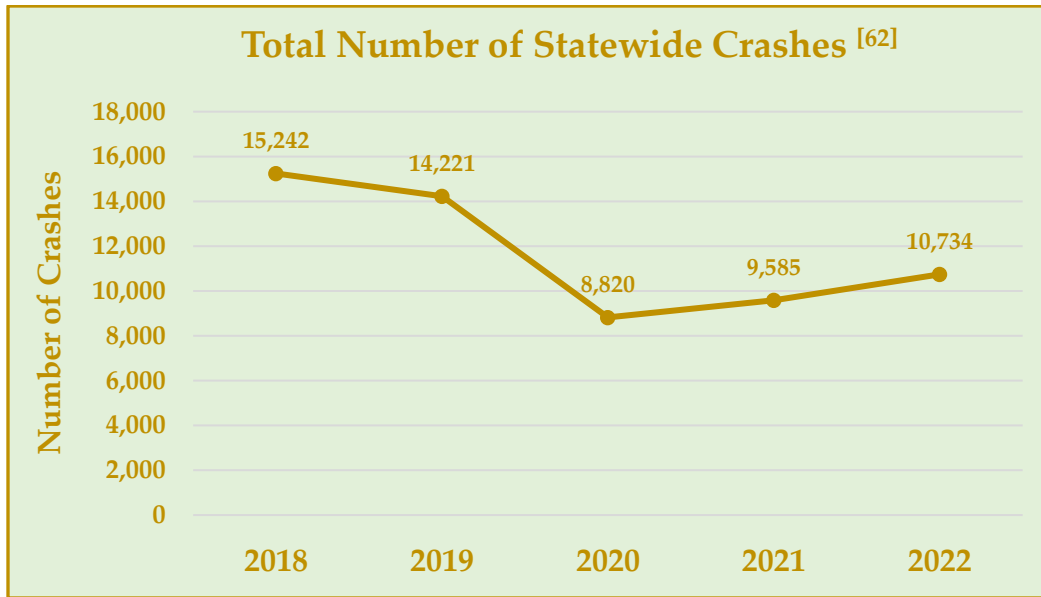
Under North Dakota Century Code 39-08-01, a DUI is defined as operating a vehicle under the influence of alcohol, drugs, or a combination thereof. The legal blood alcohol concentration (BAC) limits for drivers in North Dakota are as follows: drivers over the age of 21 – BAC .08 percent; drivers under the age of 21 – BAC .02 percent; and commercial drivers – BAC .04 percent.

“North Dakota Chapter 39-08-01, Persons under the influence of intoxicating liquor or any other drugs or substances are not to operate a vehicle - Penalty.

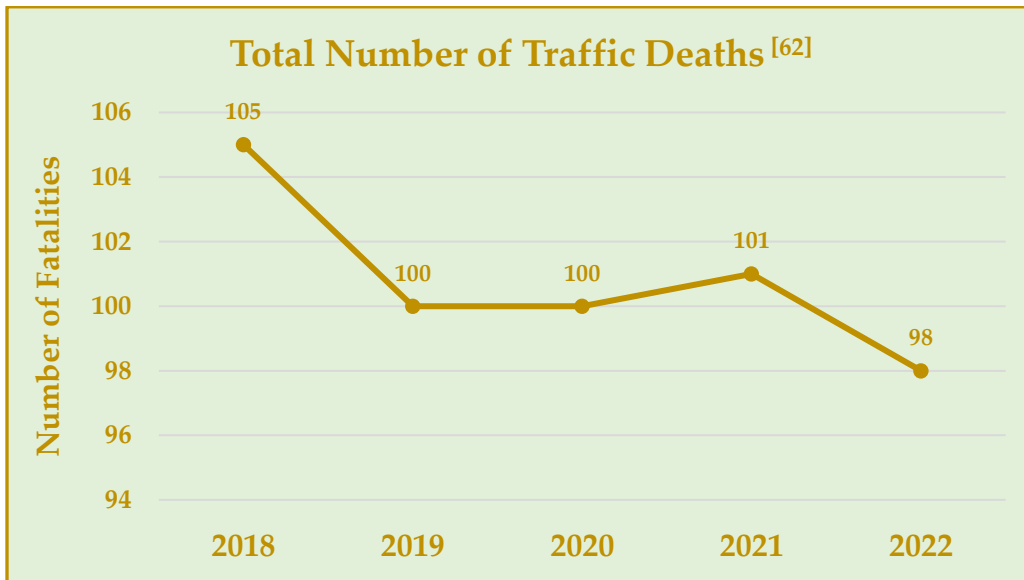
1. a. A person may not drive or be in actual physical control of any vehicle upon a highway or upon public or private areas to which the public has a right of access for vehicular use in this state if any of the following apply:

- (1) That person has an alcohol concentration of at least eight one-hundredths of one percent by weight at the time of the performance of a chemical test within two hours after the driving or being in actual physical control of a vehicle.
- (2) That person is under the influence of intoxicating liquor.
- (3) That person is under the influence of any drug or substance or combination of drugs or substances to a degree which renders that person incapable of safely driving.
- (4) That person is under the combined influence of alcohol and any other drugs or substances to a degree which renders that person incapable of safely driving.” ^[61]

Traffic Fatalities



- From 2018 to 2022, the total number of statewide crashes decreased by 30 percent, from 15,242 to 10,734 [62]



- From 2018 to 2022, the total number of statewide traffic deaths decreased by 7 percent, from 105 to 98 [62]

North Dakota Traffic Fatalities - Driver Tested Positive for Drugs 2018-2022 ^[48]					
		Fatalities in Crashes Involving Drugs		Fatalities with Drivers Testing Positive for Cannabinoids*	
Crash Year	Total Statewide Fatalities	Number of Fatalities	Percent of Total Fatalities	Number of Fatalities	Percent of Total Fatalities
2018	105	41	39.0%	6	5.7%
2019	100	29	29.0%	7	7.0%
2020	100	39	39.0%	11	11.0%
2021	101	41	40.6%	12	11.9%
2022	98	44	44.9%	12	12.2%

*Cannabinoids: Delta 9, Hashish Oil, Hashish, Marijuana, Marinol, and THC.

- From 2018 to 2022, the percentage of total fatalities where a driver tested positive for a cannabinoid increased 100 percent (6 to 12), with an average annual percentage of 9.6 percent ^[48]

Marijuana Availability & Use

North Dakota became the first state in the Midwest HIDTA to approve a medical marijuana program in 2016. Medical marijuana sales, to those with patient cards approved by the North Dakota Division of Medical Marijuana, initiated in March of 2019.

Key Findings

- From 2015-2016 to 2021-2022 numbers for past month marijuana usage, among those over 12 years of age, found there was a 101.8 percent increase in North Dakota (5.6 – 11.3), compared to 64 percent increase nationally (8.6 – 14.1) ^[49]
- From 2015-2016 to 2021-2022 numbers for past month marijuana usage, among those 26+ years of age, found there was a 173.7 percent increase in North Dakota (3.8 – 10.4), compared to 92.8 percent increase nationally (6.9 – 13.3) ^[49]

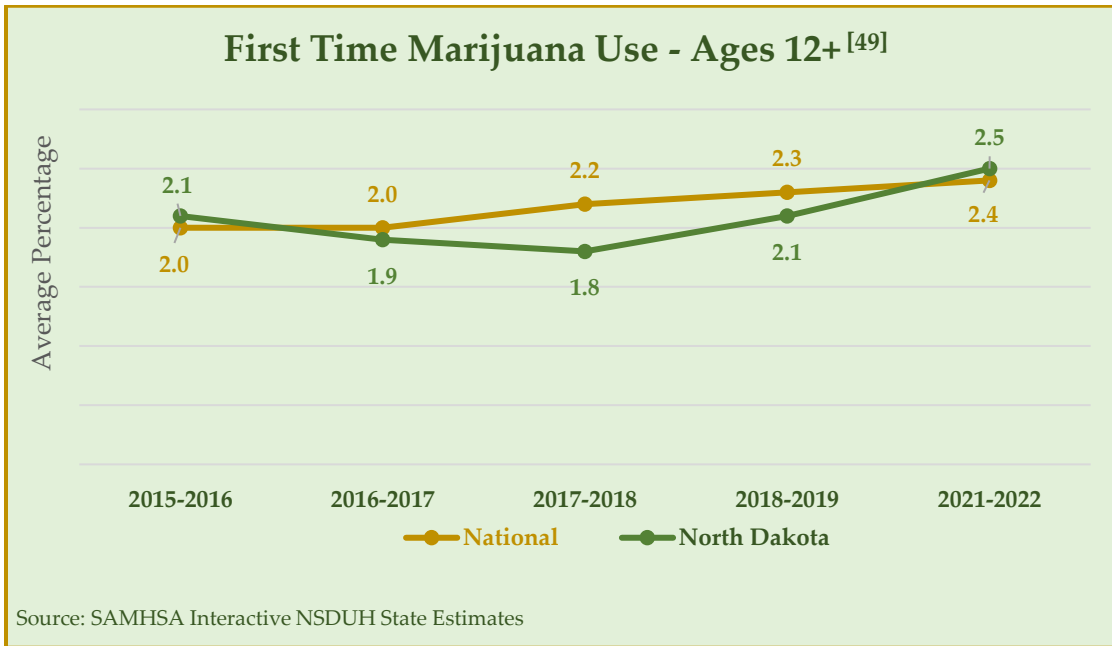
National Survey on Drug Use and Health Data

North Dakota Averages Compared to National Averages 2022		
Ages 12 and Older	North Dakota	United States
Alcohol Past Month Use	55.6%	48.1%
Cigarette Past Month Use	18.1%	15.3%
Illicit Drug Use (Other than Marijuana) Past Month	3.3%	3.3%
Marijuana Use Past Month	11.3%	14.1%
Perception of Risk for Smoking Marijuana	17.8%	21.0%

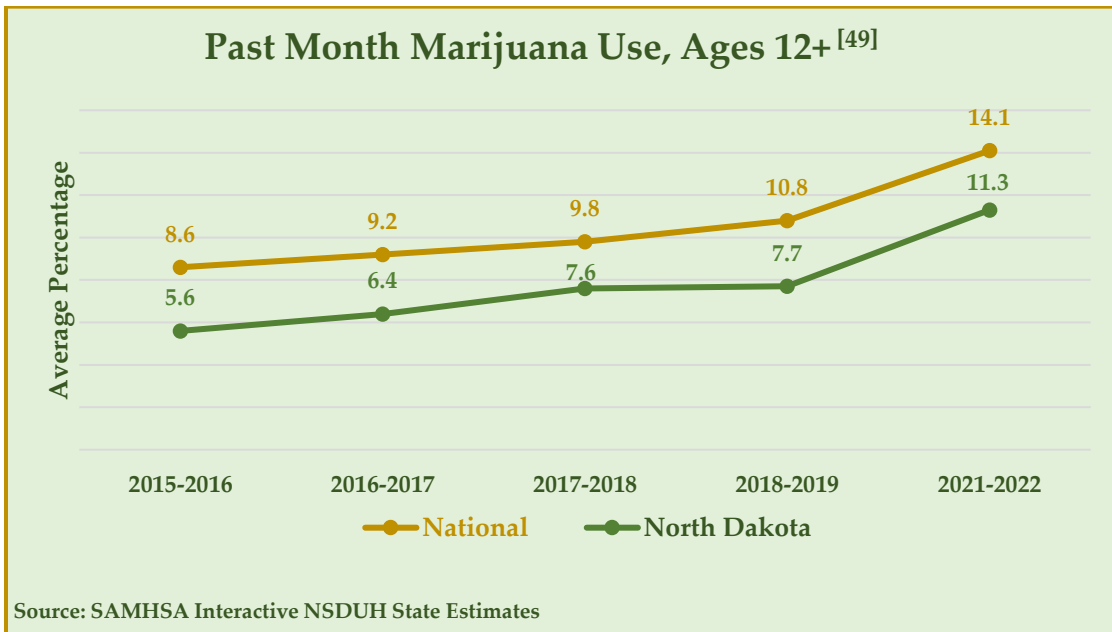
SOURCE: SAMHSA, Center for Behavioral Health Statistics and Quality, NSDUH, 2022 State Tables

Marijuana First Time Use in Last Year - 2022 ^[49]			
Age	North Dakota %	North Dakota U.S. Ranking	National %
12 Years +	2.5%	24	2.4%
12-17 YOA	3.5%	49	4.4%
18 Years +	2.3%	18	2.0%
18-25 YOA	10.3%	15	8.5%
26 Years +	0.9%	33	1.0%

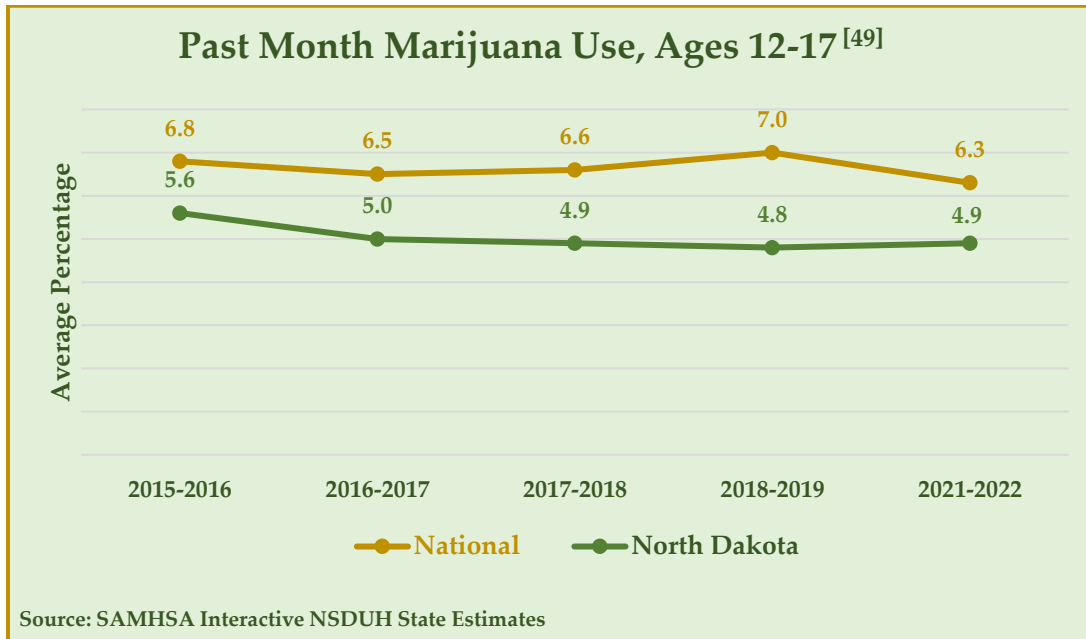
Source: SAMHSA Interactive NSDUH State Estimates



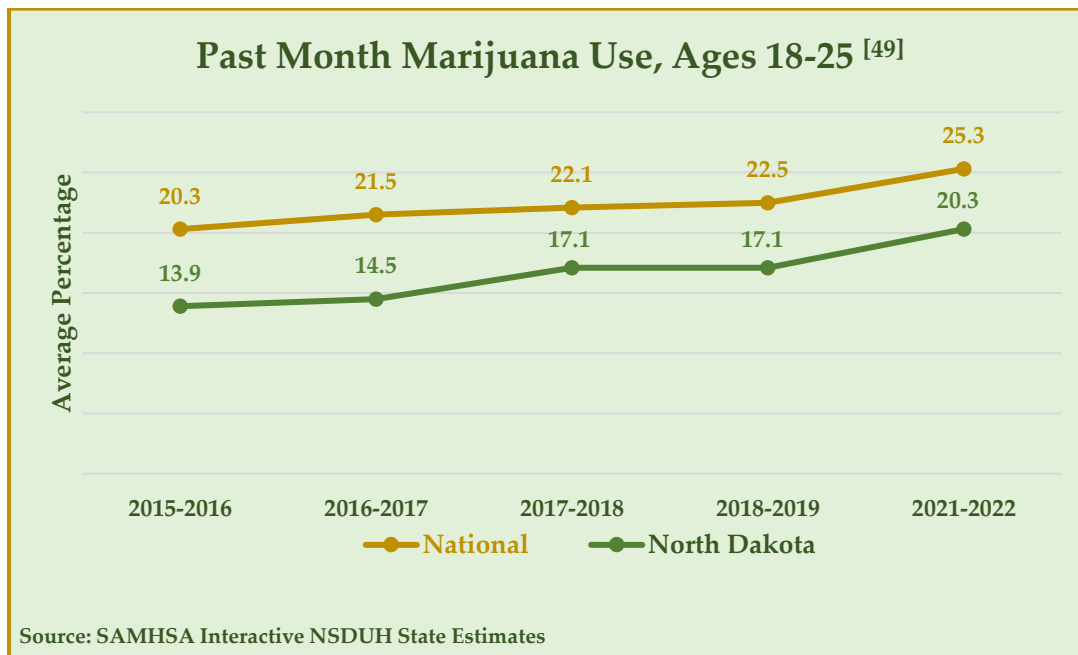
- From 2015-2016 to 2021-2022 numbers for first time marijuana usage, among those over 12 years of age, found there was a 19.1 percent increase in North Dakota (2.1 – 2.5), compared to 20 percent increase nationally (2.0 – 2.4). ^[49]



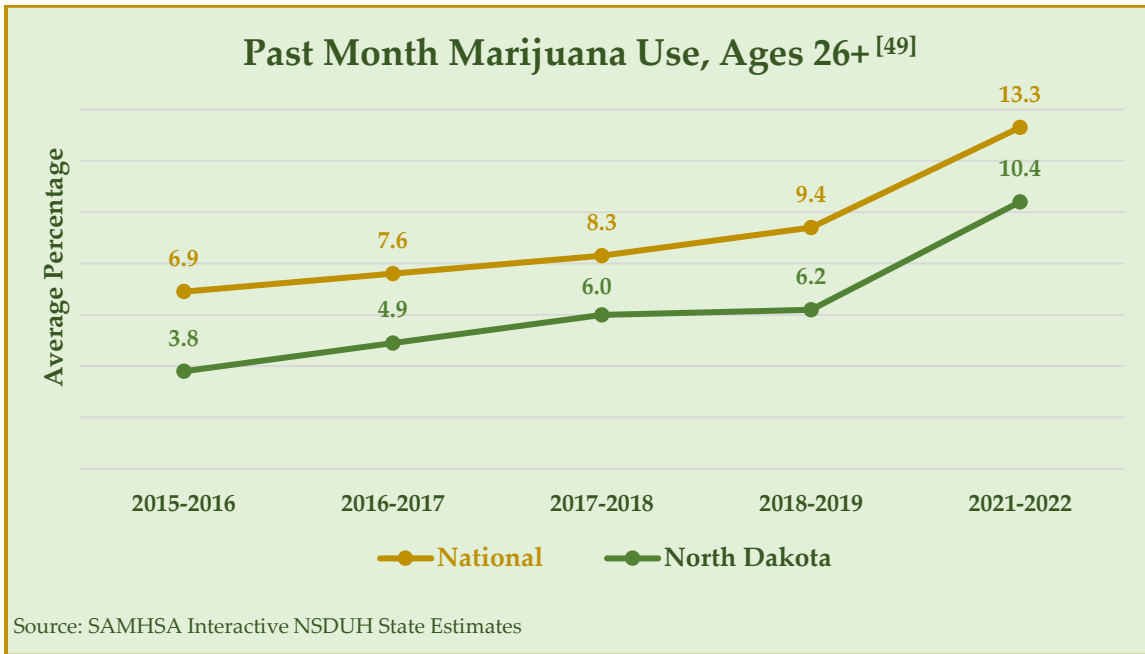
- From 2015-2016 to 2021-2022 numbers for past month marijuana usage, among those over 12 years of age, found there was a 101.8 percent increase in North Dakota (5.6 – 11.3), compared to 64 percent increase nationally (8.6 – 14.1) ^[49]



- From 2015-2016 to 2021-2022 numbers for past month marijuana usage, among those 12-17 years of age, found there was a 12.5 percent decrease in North Dakota (5.6 – 4.9), compared to 7.4 percent decrease nationally (6.8 – 6.3)^[49]



- From 2015-2016 to 2021-2022 numbers for past month marijuana usage, among those 18-25 years of age, found there was a 46 percent increase in North Dakota (13.9 – 20.3), compared to 24.6 percent increase nationally (20.3 – 25.3)^[49]



- From 2015-2016 to 2021-2022 numbers for past month marijuana usage, among those 26+ years of age, found there was a 173.7 percent increase in North Dakota (3.8 – 10.4), compared to 92.8 percent increase nationally (6.9 – 13.3) [49]

Percentage of Substance Use in North Dakota - Users (Grades 9-12) Compared to United States Users* (12-17 Years) [63]				
	North Dakota Student Survey		United States (NSDUH)	
	Lifetime	Last 30-Days	Lifetime	Last 30-Days
Alcohol	50.4	23.7	22.3	6.8
Cigarettes	22.3	5.9	6.6	1.2
Chewing Tobacco	Not Collected	4.3	1.5	0.2
Inhalants	7.0	Not Collected	7.5	0.7
Marijuana	23.3	10.7	13.5	6.4
Methamphetamine	1.7	Not Collected	0.1	0.0

These are general comparisons between these two surveys, as the data is collected differently, and involved different time frames; *2021 North Dakota Youth Risk Behavior Survey / NSDUH 2022 Data

Public Health

Key Findings

- Marijuana-related emergency department visits increased 336 percent in North Dakota following the legalization of medical marijuana. ^[64]
- From 2016 to 2023 the number of cannabis related calls to the North Dakota Poison Control Center increased 330 percent (10 to 43) ^[65]
- Overdose deaths in North Dakota have increased by 90 percent (70 to 133) from 2018 to 2022. ^[66]

Emergency Department Visits & Hospitalizations

The information below was provided by the North Dakota Department of Health, utilizing the Center for Disease Control’s marijuana v3 query, and provided the following caveats to their data: the numbers represent a syndrome definition that utilizes both ICD-10-CM (International Classification of Diseases, 10th Revision, Clinical Modification) codes and chief complaint, which looks for key words, and should not be considered a true number of cases; not every hospital submits both ICD and chief complaint information, so some visits may be missing; some hospitals only submit data on North Dakota residents, so transient populations may not be included, thereby potentially underestimating the impacts; and the increase in numbers may be due to either an increase in cases, or an increase in the number of medical facilities sharing data.

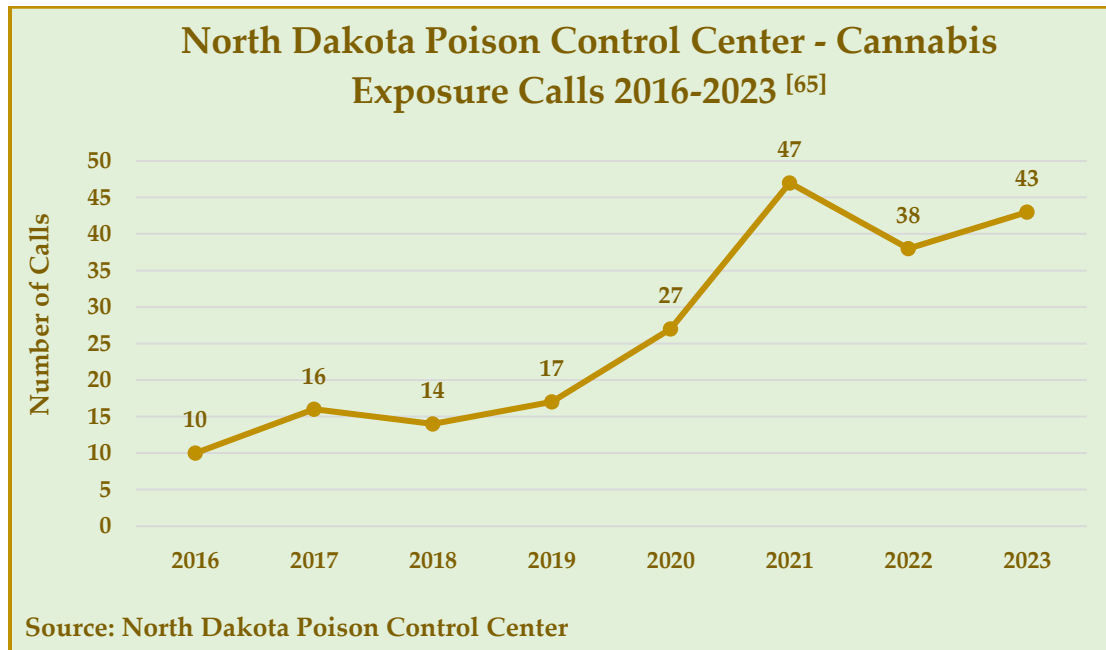
North Dakota Department of Health ^[64]								
Cannabis-Related Emergency Department Visits and Hospitalizations 2016-2023								
Type	2016	2017	2018	2019	2020*	2021	2022	2023
ED Visits	556	886	1,107	1,210	1,550	1,917	2,197	2,424
Hospitalizations	139	135	142	148	120	161	143	164

*The numbers from 2020 forward were obtained from Essence, a syndromic surveillance system, with a more refined marijuana query.

Following the medical marijuana legalization in 2016, North Dakota’s hospitals observed an increase in both emergency room visits and hospitalizations due to marijuana-related events. The number of emergency room visits increased by 336 percent between 2016

and 2023 (556 to 2,424); the hospitalizations as a result of these visits increased 37 percent from 2020 to 2023 (120 to 164).^[64]

Poison Center Calls

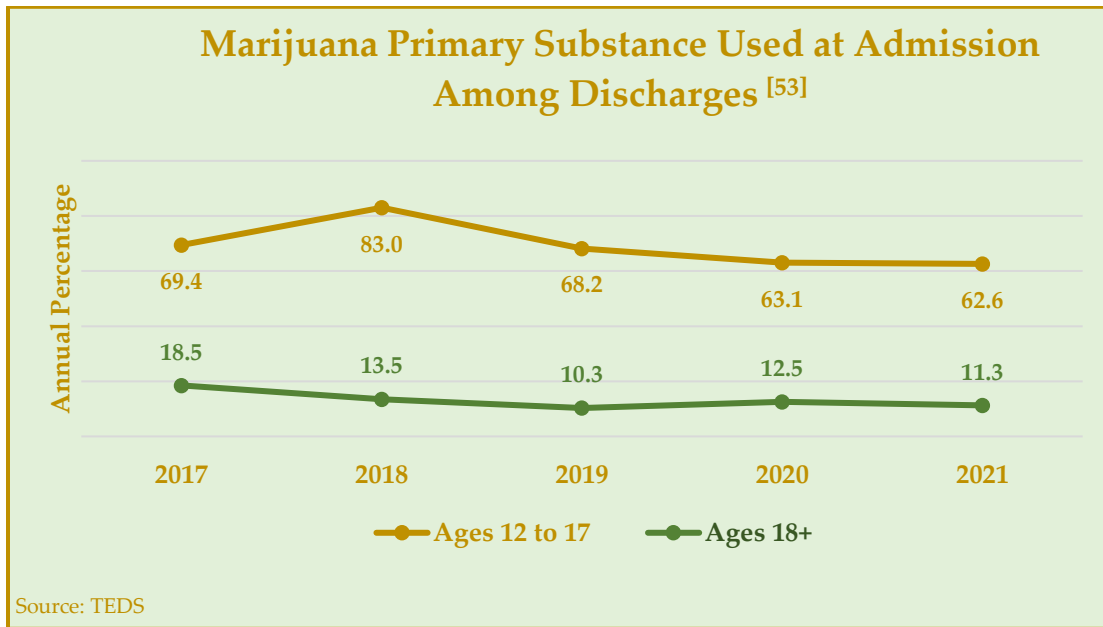


Cannabis Exposures include extracts, oral pills/capsules, vape, topical and other/unknown products.

Disclaimer: Reporting to the Poison Control System is voluntary and the data likely results in underrepresentation of the true occurrence of exposure. Exposure is defined as an actual or suspected contact with any substance, regardless of toxicity or clinical manifestation. Exposures do not necessarily represent a poisoning or overdose.

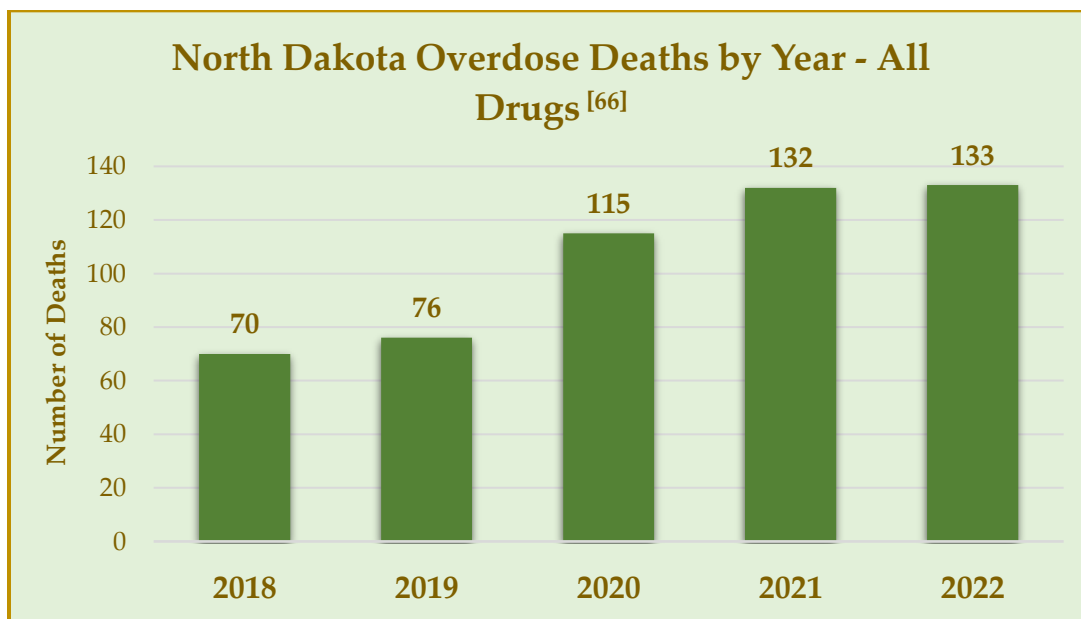
- From 2016 to 2023 the number of cannabis related calls to the North Dakota Poison Control Center increased 330 percent (10 to 43)^[65]

Treatment Admissions Drug Type / Age Group



- From 2017 to 2021, marijuana being identified as the primary substance at admission to treatment, decreased 9.8 percent for ages 12 to 17 (69.4 to 62.6) and 38.9 percent for ages 18+ (18.5 to 11.3) [53]

Overdose Data Post Legalization



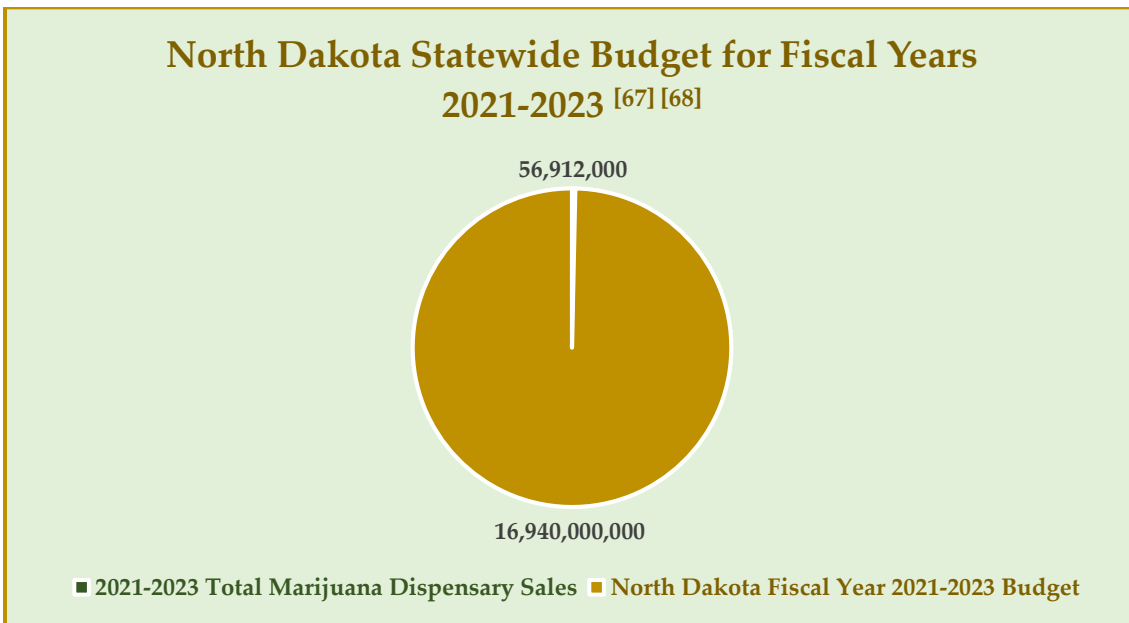
- From 2018 to 2022, North Dakota unintentional overdose deaths increased 90 percent (70 to 133) [66]; this data is included in response to assertions that opioid overdose deaths would decline post-marijuana legalization

Social Impacts

Key Findings

- From June 2019 to March 2024, there was a 1,300 percent increase in the number of qualifying patient cards (707 to 9,901) ^[67]^[70]
- From 2018 to 2022, there was a 43 percent decrease (628 to 358) in the number of arrests for drug sales ^[60]

Budgetary and Taxation Impacts



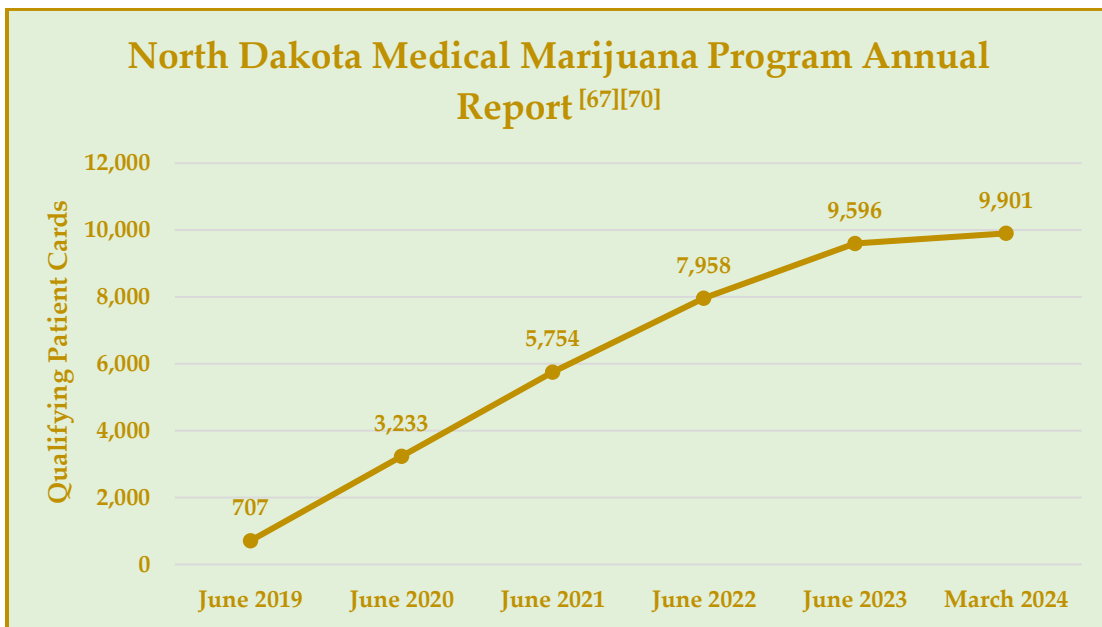
- The 2021-2023 total marijuana dispensary sales (\$56,912,000), comprised 0.34% of North Dakota’s fiscal year budget for 2021-2023 (\$16,936,345,565) ^[67]^[68]
- Total dispensary marijuana sales increased 40.9% from 2021 to 2023 ^[67]

Sales Tax Status of Medical Marijuana

“Medicine purchased without a prescription is subject to North Dakota sales tax. Medical Marijuana does not qualify for this exemption and is subject to sales tax.” ^[69] The collected tax is utilized to fund various state programs and services.

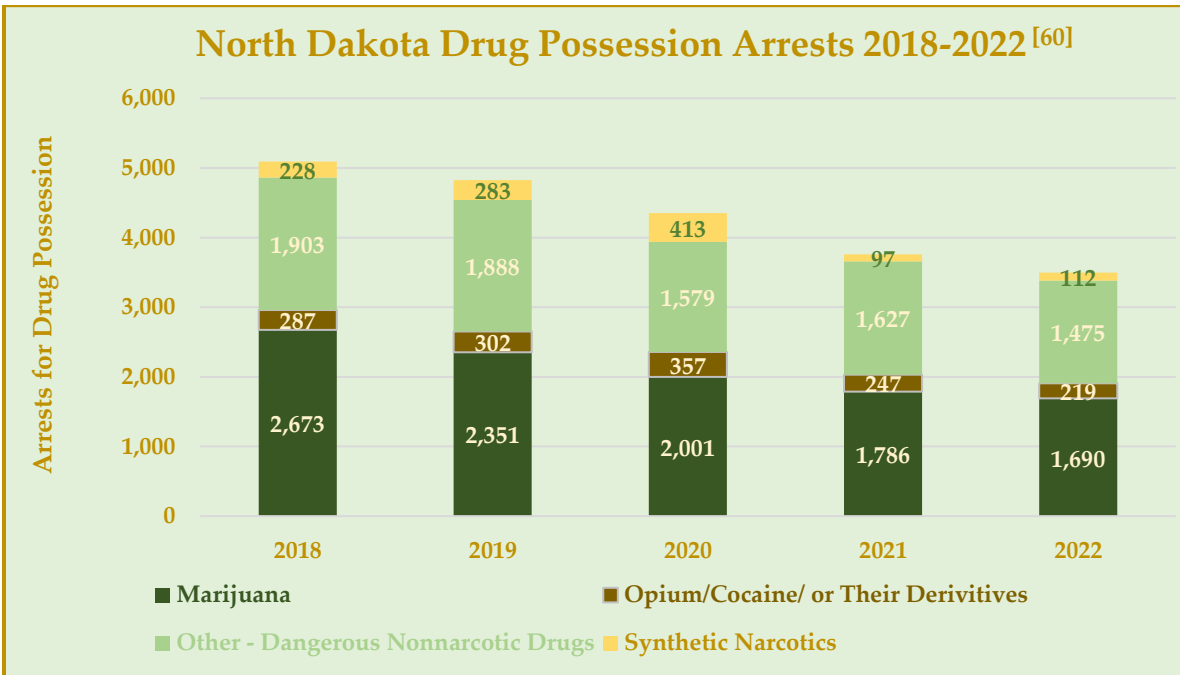
Dispensary/Cultivator/Medical License Statistics

North Dakota Health & Human Services Licensed Facilities as Fiscal Year 2023 ^[67]	
Medical Marijuana Manufacturing Facilities	2
Medical Marijuana Dispensary Facilities	8
<p>"Manufacturing Facility"- an entity registered by the department as a compassion center authorized to produce and process and to sell usable marijuana to a dispensary.</p> <p>"Dispensary" - an entity registered by the department as a compassion center authorized to dispense usable marijuana to a registered qualifying patient and a registered designated caregiver.</p>	



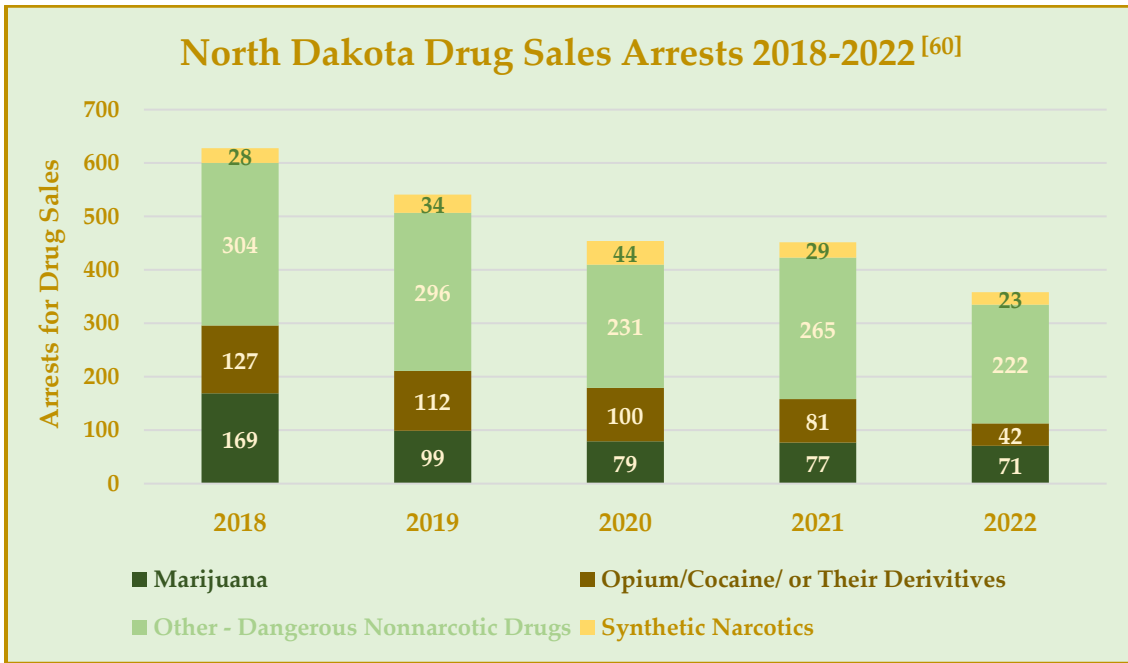
- From June 2019 to March 2024, there was a 1,300 percent increase in the number of qualifying patient cards (707 to 9,901) ^{[67] [70]}
- Anxiety Disorder was listed at the debilitating medical condition for 62 percent of the qualifying patients as of fiscal year 2023 (5,929 of 9,596) ^[67]

Marijuana-Related Crime



	2018	2019	2020	2021	2022	% +/-
Marijuana	2,673	2,351	2,001	1,786	1,690	-36.8%
Opium/Cocaine/ or Their Derivatives	287	302	357	247	219	-23.7%
Other - Dangerous Nonnarcotic Drugs	1,903	1,888	1,579	1,627	1,475	-22.5%
Synthetic Narcotics	228	283	413	97	112	-50.9%
TOTALS	5,091	4,824	4,350	3,757	3,496	-31.3%

- From 2018 to 2022, there was a 31 percent decrease (5,091 to 3,496) in the number of arrests for drug possession ^[60]
- The greatest percent decrease was in the arrests for synthetic narcotics, 51 percent (228 to 112), followed by marijuana, which decreased 37 percent (2,673 to 1,690) ^[60]



Source: FBI Crime Data Explorer

Arrests for Drug Sales Offenses ^[60]						
	2018	2019	2020	2021	2022	% +/-
Marijuana	169	99	79	77	71	-58%
Opium/Cocaine/ or Their Derivatives	127	112	100	81	42	-66.9%
Other - Dangerous Nonnarcotic Drugs	304	296	231	265	222	-27%
Synthetic Narcotics	28	34	44	29	23	-17.9%
TOTALS	628	541	454	452	358	-43%

- From 2018 to 2022, there was a 43 percent decrease (628 to 358) in the number of arrests for drug sales^[60]
- The greatest percent decrease was in the arrests for sales of opium/cocaine/or their derivatives, 67 percent (127 to 42), followed by marijuana, which decreased 58 percent (169 to 71)^[60]

Chapter 6: South Dakota

Background / Regulatory Overview

On November 3, 2020, South Dakota voters passed Initiated Measure 26 (medical) and Constitutional Amendment A (recreational) by garnering 70 percent of the vote (417,242 people voted, 291,754 voted in favor) and 54 percent of the vote (415,737 people voted, 225,260 voted in favor), respectively. The passing of these two would have legalized marijuana for both medical and recreational usage.

However, on November 24, 2021, South Dakota Supreme Court ruled the recreational use measure was unconstitutional; therefore, it remains illegal in South Dakota. Initiated Measure 26 authorizing the sale of medical marijuana went into effect on July 1, 2021.

Link to Medical Cannabis Chapter 34-20G

<https://sdlegislature.gov/Statutes/34-20G>

In November 2022, recreational use marijuana was again on the ballot in South Dakota, Initiated Measure 27, but this time was rejected by 53 percent of the voters.

Impaired Driving & Traffic Fatalities

The Midwest HIDTA recognizes that there are numerous data limitations based on current testing methods and processes that make interpreting traffic fatality data difficult. However, this is the most comprehensive data available that allows for multi-year comparisons of drug-related fatalities. South Dakota, whose medical marijuana program is in its infancy, was contacted; however, the South Dakota Highway Patrol advised the information pertaining to the percentage of drivers testing positive for marijuana involved in a fatality accident was not available at this time.

Key Findings

- From 2018 to 2022, the percentage of total fatalities where a driver tested positive for a cannabinoid decreased 89 percent (8 to 1); these statistics were dramatically lower than previous years, as the percentage increase from 2018 to 2021 was 140 percent ^[48]
- From 2018 to 2022, South Dakota experienced a 5 percent increase in the number of statewide traffic fatalities, from 130 to 137 ^[72]

Definitions

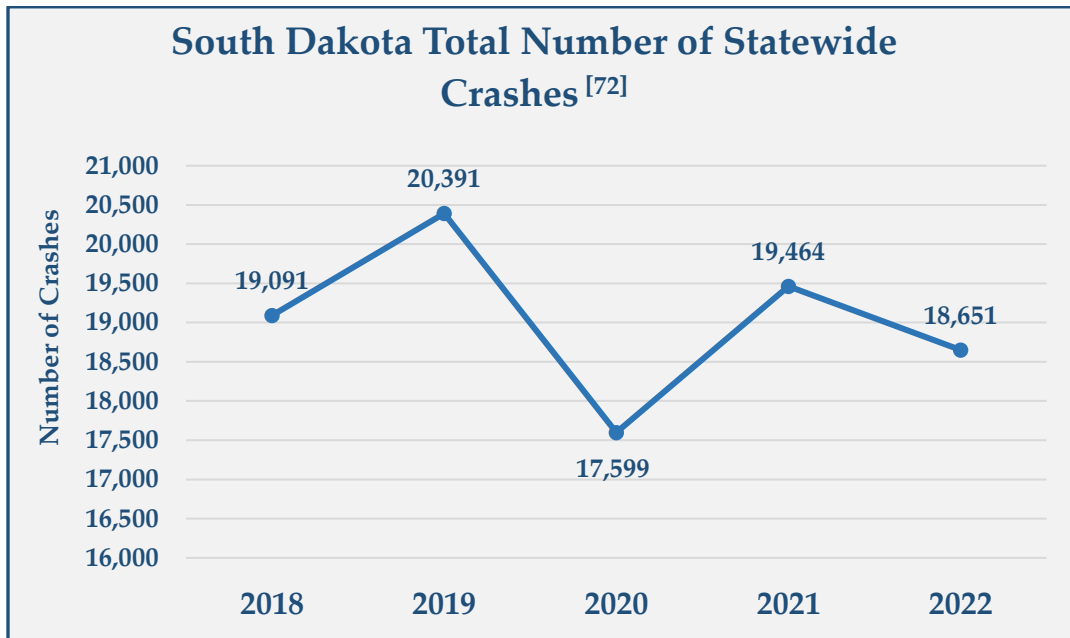
In South Dakota, DUI is defined under South Dakota Codified Law section 32-23-1:

Driving or control of vehicle prohibited with alcohol in blood or while under influence of alcohol, drug, or intoxicant.

No person may drive or be in actual physical control of any vehicle while:

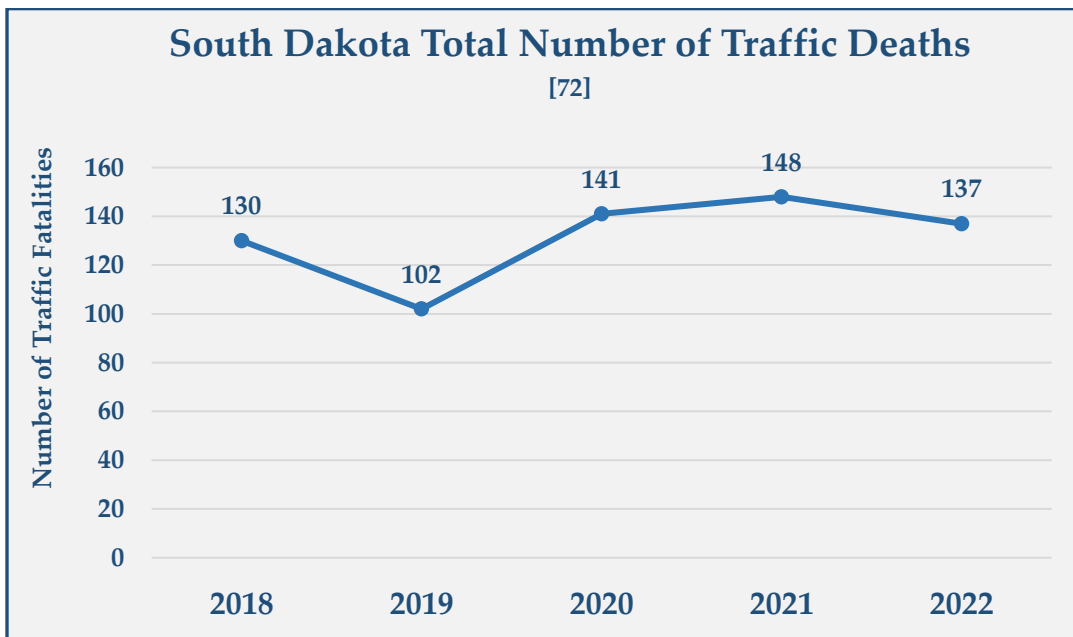
- (1) There is 0.08 percent or more by weight of alcohol in that person's blood as shown by chemical analysis of that person's breath, blood, or other bodily substance;
- (2) Under the influence of an alcoholic beverage, marijuana, or any controlled drug or substance not obtained pursuant to a valid prescription, or any combination of an alcoholic beverage, marijuana, or such controlled drug or substance;
- (3) Under the influence of any controlled drug or substance obtained pursuant to a valid prescription, or any other substance, to a degree which renders the person incapable of safely driving;
- (4) Under the combined influence of an alcoholic beverage and or any controlled drug or substance obtained pursuant to a valid prescription, or any other substance, to a degree which renders the person incapable of safely driving; or
- (5) Under the influence of any substance ingested, inhaled, or otherwise taken into the body as prohibited by § [22-42-15](#).^[71]

Traffic Fatalities



South Dakota Department of Public Safety

- From 2018 to 2022, South Dakota experienced a 2 percent decrease in the number of statewide traffic crashes, from 19,091 to 18,651 ^[72]



South Dakota Department of Public Safety

- From 2018 to 2022, South Dakota experienced a 5 percent increase in the number of statewide traffic fatalities, from 130 to 137 ^[72]

South Dakota Traffic Fatalities - Driver Tested Positive for Drugs 2018-2022 ^[48]					
		Fatalities in Crashes Involving Drugs		Fatalities with Drivers Testing Positive for Cannabinoids*	
Crash Year	Total Statewide Fatalities	Number of Fatalities	Percent of Total Fatalities	Number of Fatalities	Percent of Total Fatalities
2018	130	21	16.2%	8	6.2%
2019	102	16	15.7%	4	3.9%
2020	141	45	31.9%	25	17.7%
2021	148	40	27.0%	22	14.9%
2022	137	3	2.2%	1	0.7%

*Cannabinoids: Delta 9, Hashish Oil, Hashish, Marijuana, Marinol, and THC.

- From 2018 to 2022, the percentage of total fatalities where a driver tested positive for a cannabinoid decreased 87.5 percent (from 8 to 1); these statistics were dramatically lower than previous years, as the percentage increase from 2018 to 2021 was 175 percent (from 8 to 22) ^[48]

Marijuana Availability & Use

South Dakota's approved both a medical marijuana and adult use marijuana program in 2020, although a circuit court ruling overturned adult use marijuana in early 2021. In November 2022, adult use marijuana was again on the ballot in South Dakota, but this time was rejected by voters. Medical marijuana sales, to those with patient cards approved by the South Dakota Medical Cannabis Program, initiated in July of 2022.

Key Findings

- From 2011 to 2021, the percentage of South Dakota students who think people are at moderate/great risk of harm when they smoke marijuana once or twice a week decreased by 39 percent (62.0 to 37.7) ^[73]
- From 2015-2016 to 2021-2022 numbers for past month marijuana usage, among those over 12 years of age, found there was a 42.1 percent increase in South Dakota (7.6 to 10.8), compared to a 64 percent increase nationally (8.6 to 14.1) ^[49]

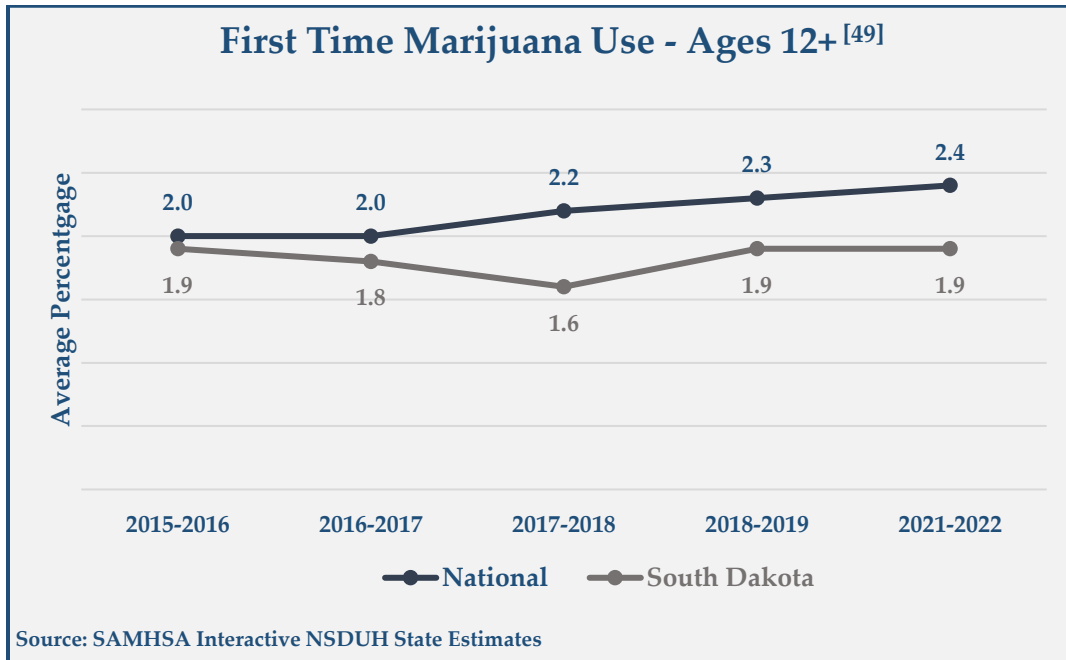
NSDUH Data

South Dakota Averages Compared to National Averages 2022		
Ages 12 and Older	South Dakota	United States
Alcohol Past Month Use	51.1%	48.1%
Cigarette Past Month Use	18.0%	15.3%
Illicit Drug Use (Other than Marijuana) Past Month	3.5%	3.3%
Marijuana Use Past Month	10.8%	14.1%
Perception of Risk for Smoking Marijuana	18.5%	21.0%

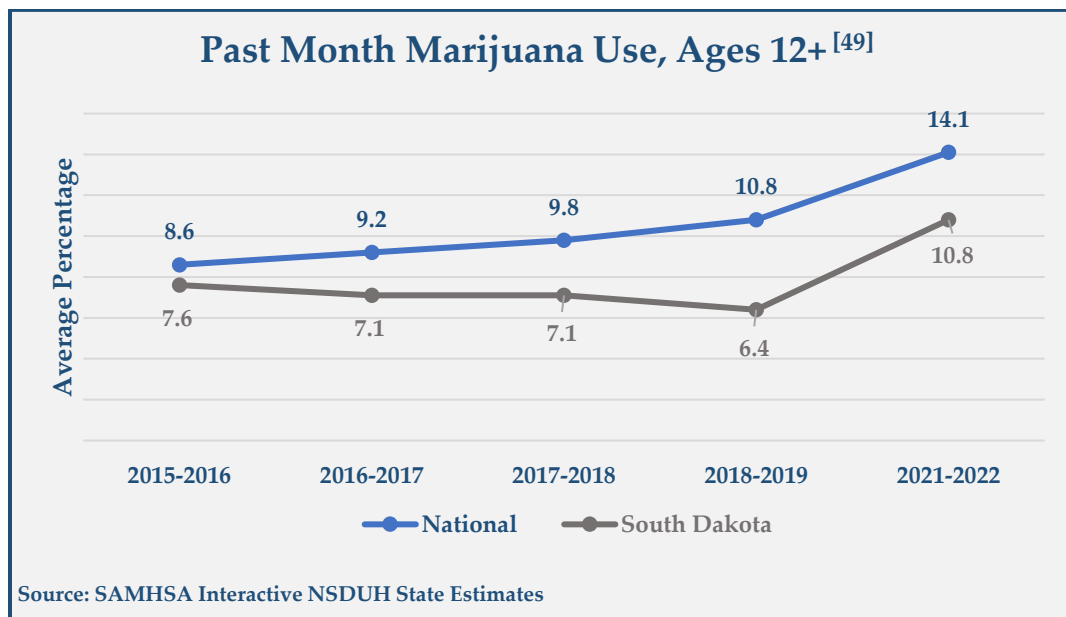
SOURCE: SAMHSA, Center for Behavioral Health Statistics and Quality, NSDUH, 2022

Marijuana First Time Use in Last Year - 2022 ^[49]			
Age	South Dakota %	South Dakota U.S. Ranking	National %
12 Years +	1.9%	45	2.4%
12-17 YOA	2.7%	50	4.4%
18 Years +	1.8%	41	2.0%
18-25 YOA	6.8%	47	8.5%
26 Years +	0.9%	34	1.0%

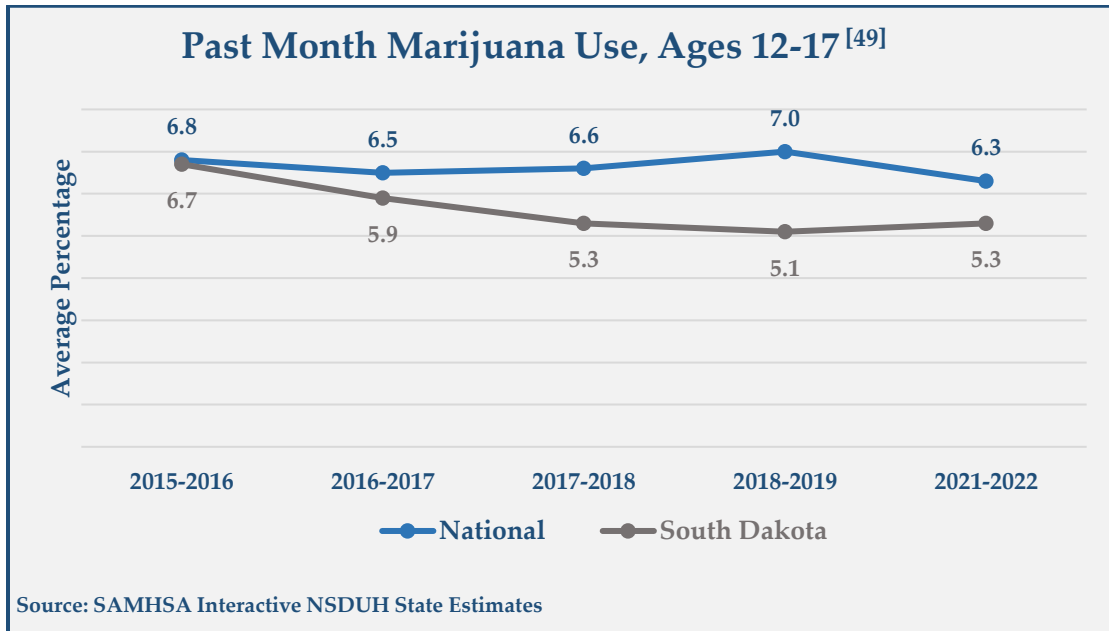
SAMHSA, Interactive NSDUH State Estimates



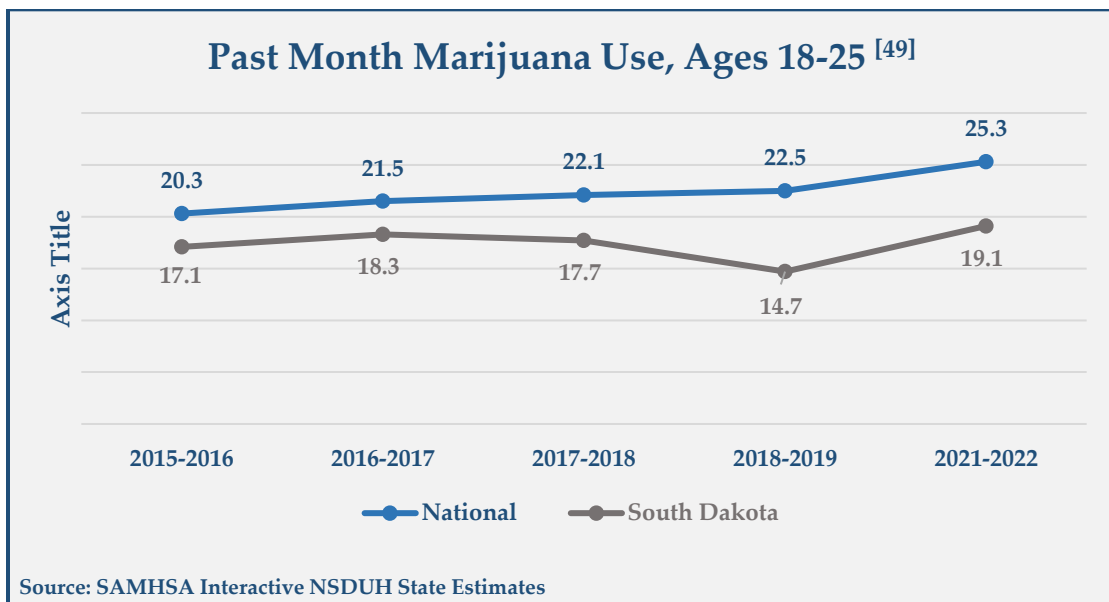
- From 2015-2016 to 2021-2022 numbers for first time marijuana usage, among those over 12 years of age, found there was no increase (1.9 to 1.9) in South Dakota, compared to a 20 percent increase nationally (2.0 to 2.4) ^[49]



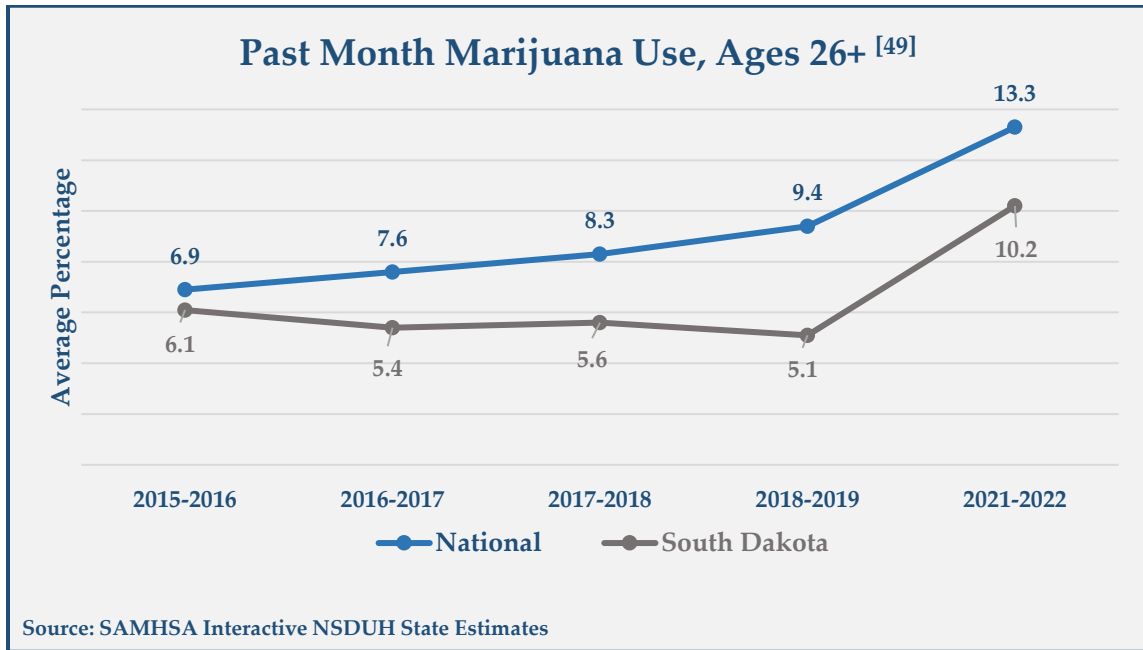
- From 2015-2016 to 2021-2022 numbers for past month marijuana usage, among those over 12 years of age, found there was a 42.1 percent increase in South Dakota (7.6 to 10.8), compared to a 64 percent increase nationally (8.6 to 14.1) ^[49]



- From 2015-2016 to 2021-2022 numbers for past month marijuana usage, among those 12-17 years of age, found there was a 20.9 percent decrease in South Dakota (6.7 to 5.3), compared to a 7.4 percent decrease nationally (6.8 to 6.3) ^[49]



- From 2015-2016 to 2021-2022 numbers for past month marijuana usage, among those 18-25 years of age, found there was a 11.7 percent increase in South Dakota (17.1 to 19.1), compared to a 24.6 percent increase nationally (20.3 to 25.3) ^[49]



- From 2015-2016 to 2021-2022 numbers for past month marijuana usage, among those 26+ years of age, found there was a 67.2 percent increase in South Dakota (6.1 to 10.2), compared to 92.8 percent increase nationally (6.9 to 13.3)^[49]

Marijuana in Schools

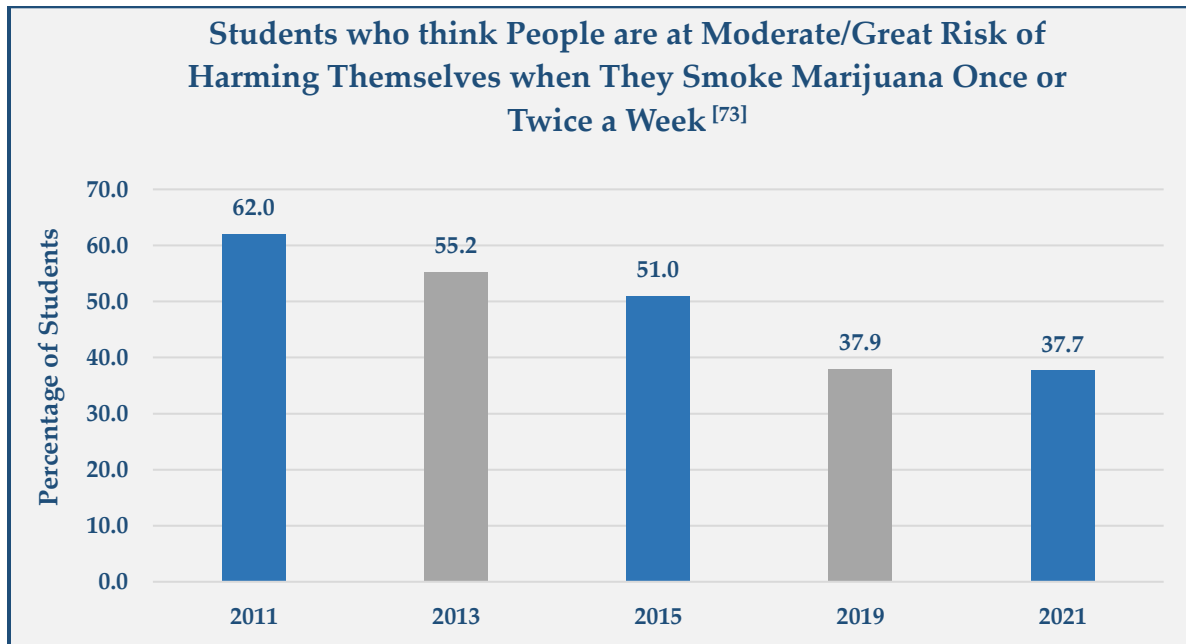
Since its inception in 1991, the Youth Risk Behavior Survey (YRBS) has been a tool for monitoring six priority health behaviors among high school students. These behaviors include unintentional injuries and violence, sexual behaviors that contribute to unintended pregnancy and sexually transmitted diseases, alcohol and drug use, tobacco use, dietary behaviors, and physical activity.^[73]

Administered biennially during odd-numbered years to grades 9-12 at randomly selected schools across South Dakota, the YRBS focuses on collecting data for developing targeted interventions. This voluntary and anonymous survey provides both unweighted and weighted data, which help in generalizing the findings to all high school students within the state. The weighted data are particularly valuable as they enable the formulation of effective prevention and early intervention programs. Additionally, maintaining a high participation rate is crucial for the validity of the weighted data, as the selected schools cannot be replaced.

^[73]

Percentage of Substance Use in South Dakota Users (Grades 9-12) Compared to United States Users* (12-17 Years) ^[73]				
	South Dakota Student Survey		United States (NSDUH)	
	Lifetime	Last 30-Days	Lifetime	Last 30-Days
Alcohol	Not Collected	24.3	22.3	6.8
Cigarettes	20.6	5.5	6.6	1.2
Chewing Tobacco	6.9	2.8	1.5	0.2
Heroin	0.9	Not Collected	0.0	**
Inhalants	5.6	Not Collected	7.5	0.7
Marijuana	25.3	14.6	13.5	6.4
Methamphetamine	1.0	Not Collected	0.1	0.0

These are general comparisons between these two surveys, as the data is collected differently, and involved different time frames; *2021 South Dakota Youth Risk Behavior Survey / NSDUH 2022 Data
**Low Precision



South Dakota Department of Health, Youth Risk Behavior Survey

- From 2011 to 2021, the percentage of students who think people are at moderate/great risk of harm when they smoke marijuana once or twice a week decreased by 39 percent (62.0 to 37.7) ^[73]

Public Health

Following the vote to legalize medical marijuana legalization in 2020, South Dakota’s hospitals observed an increase in both emergency room visits and hospitalizations due to marijuana-related events, despite the medical marijuana program not being implemented until 2022.^[74] The data in the figure below is for those patients seen in a South Dakota hospital, regardless of where the patient resides, and was compiled utilizing ICD-10-CM codes F12 (Cannabis-related disorders) and T40.7 (Poisoning by, adverse effect of and under dosing cannabis).

Key Findings

- From 2018 to 2022, South Dakota unintentional overdose deaths increased 95 percent (43 to 84)^[75]
- From 2018 to 2023 the number of cannabis related calls to the South Dakota Poison Control Center increased 169 percent (42 to 113)^[74]

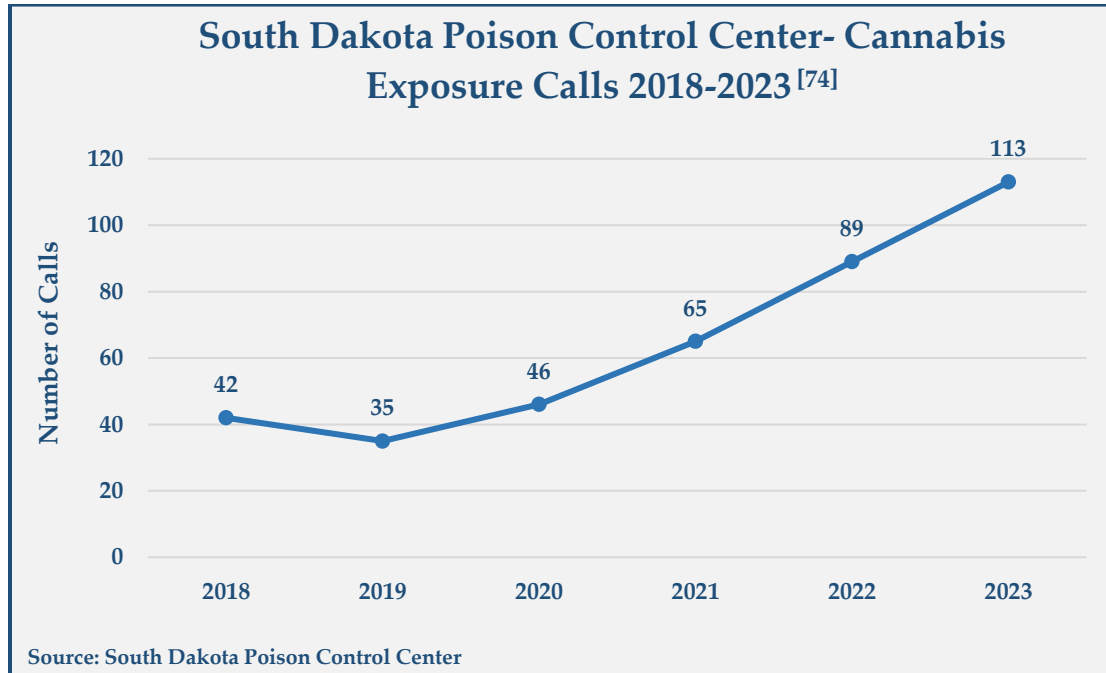
Emergency Department Visits & Hospitalizations

Following medical marijuana legalization in South Dakota, hospitals observed an increase in emergency department visits and hospitalizations for marijuana complications/poisonings.^A From 2018 to 2022, cannabis-related emergency department visits increased 184 percent (58 to 165), and hospitalizations increased 74 percent (19 to 33).

South Dakota Department of Health						
Cannabis-Related Emergency Department Visits and Hospitalizations 2018-2022						
Type	2018	2019	2020	2021	2022	% Change
ED Visits	58	92	108	125	165	+184%
Hospitalizations	19	25	21	37	33	+74%

Source: South Dakota Department of Health Epidemiology, Surveillance, and Informatics Center

Poison Center Calls

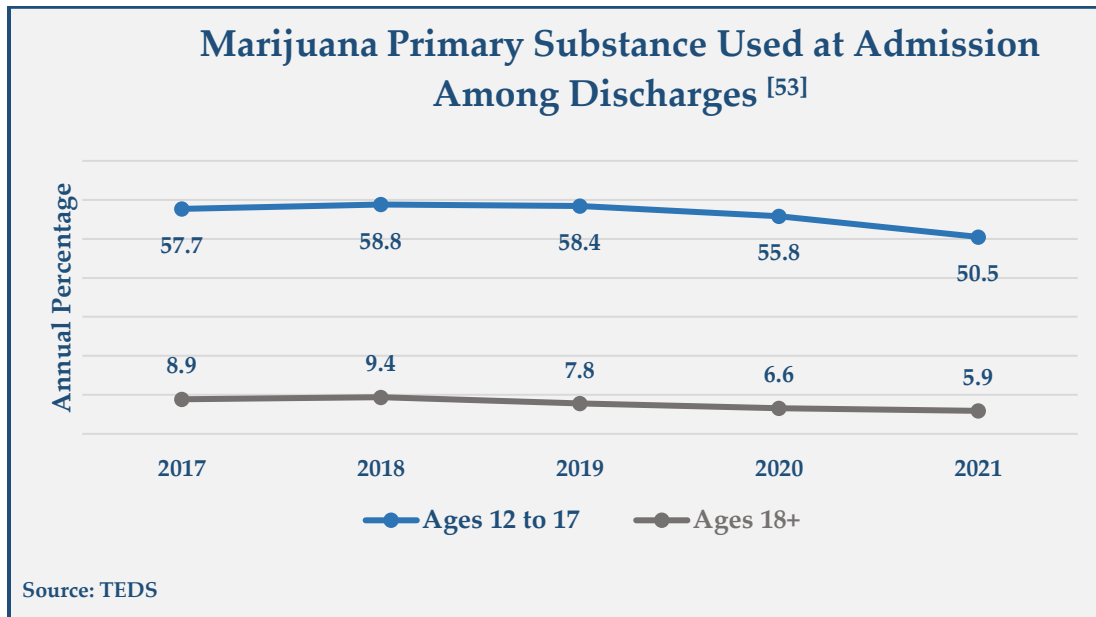


Cannabis Exposures include extracts, oral pills/capsules, vape, topical and other/unknown products.

Disclaimer: Reporting to the Poison Control System is voluntary and the data likely results in underrepresentation of the true occurrence of exposure. Exposure is defined as an actual or suspected contact with any substance, regardless of toxicity or clinical manifestation. Exposures do not necessarily represent a poisoning or overdose.

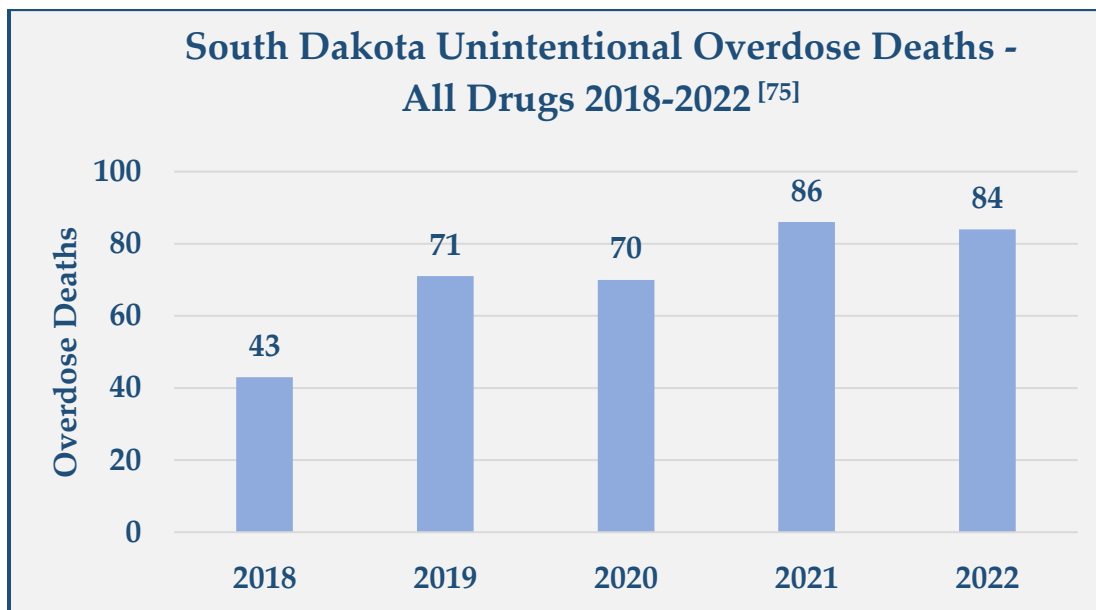
- From 2018 to 2023 the number of cannabis related calls to the South Dakota Poison Control Center increased 169 percent (42 to 113) ^[74]

Treatment Admissions Drug Type / Age Group



- From 2017 to 2021, marijuana being identified as the primary substance at admission to treatment, decreased 12.4 percent for ages 12 to 17 (57.7 to 50.5) and 34 percent for ages 18+ (8.9 to 5.9) [53]

Overdose Data Post Legalization



South Dakota Department of Health

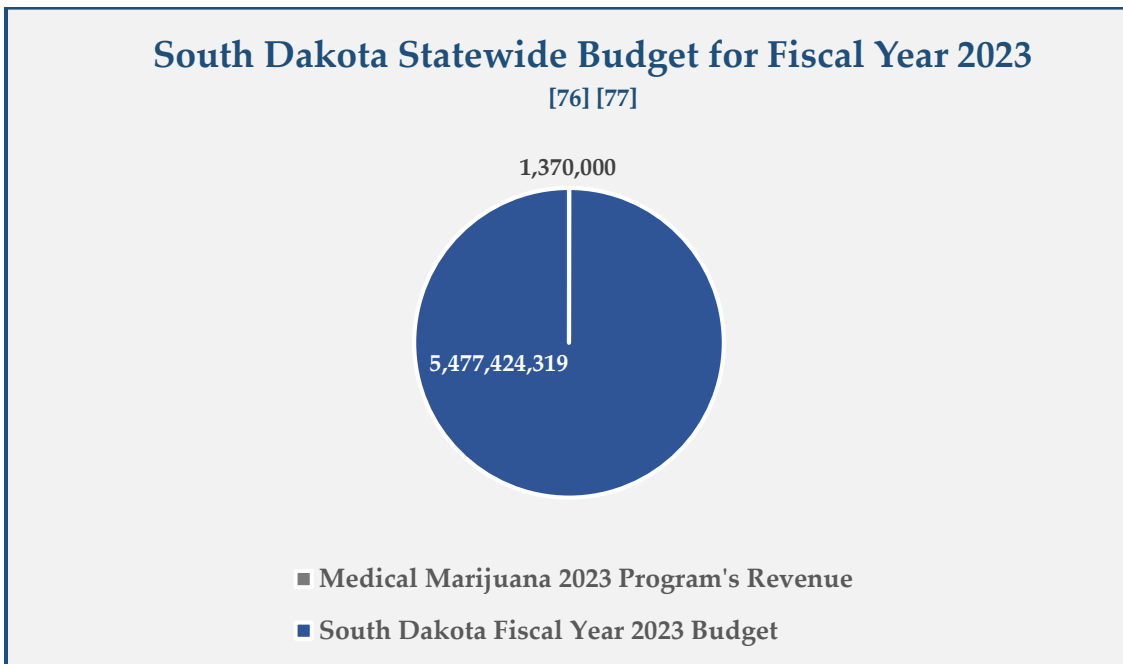
- From 2018 to 2022, South Dakota unintentional overdose deaths increased 95 percent (43 to 84) [75]; this data is included in response to assertions that opioid overdose deaths would decline post-marijuana legalization.

Social Impacts

Key Findings

- From 2018 to 2022, there was a 42 percent decrease (499 to 290) in the number of arrests for drug sales ^[60]
- The revenue from the medical marijuana program was 0.03 percent of the 2023 Fiscal Year Budget ^{[76] [77]}

Budgetary and Taxation Impacts

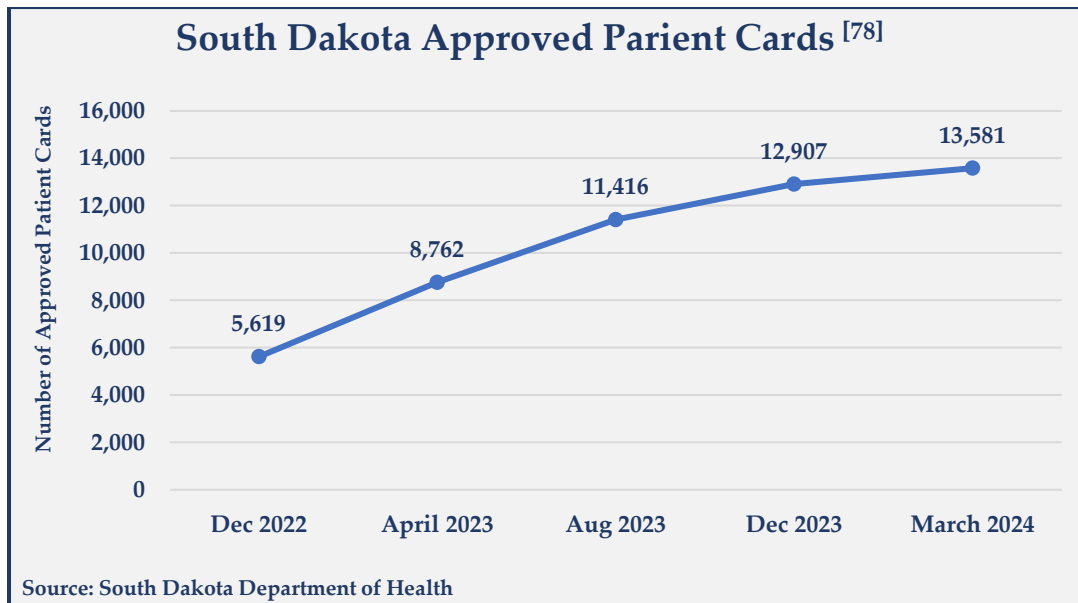


- The revenue from the medical marijuana program (\$1,370,000) was 0.03 percent of the 2023 Fiscal Year Budget (\$5,477,424,319) ^{[76] [77]}
- The bulk of the revenue generated was reportedly produced by application fees for new medical marijuana cards ^[76]

Dispensary/Cultivator/Medical License Statistics

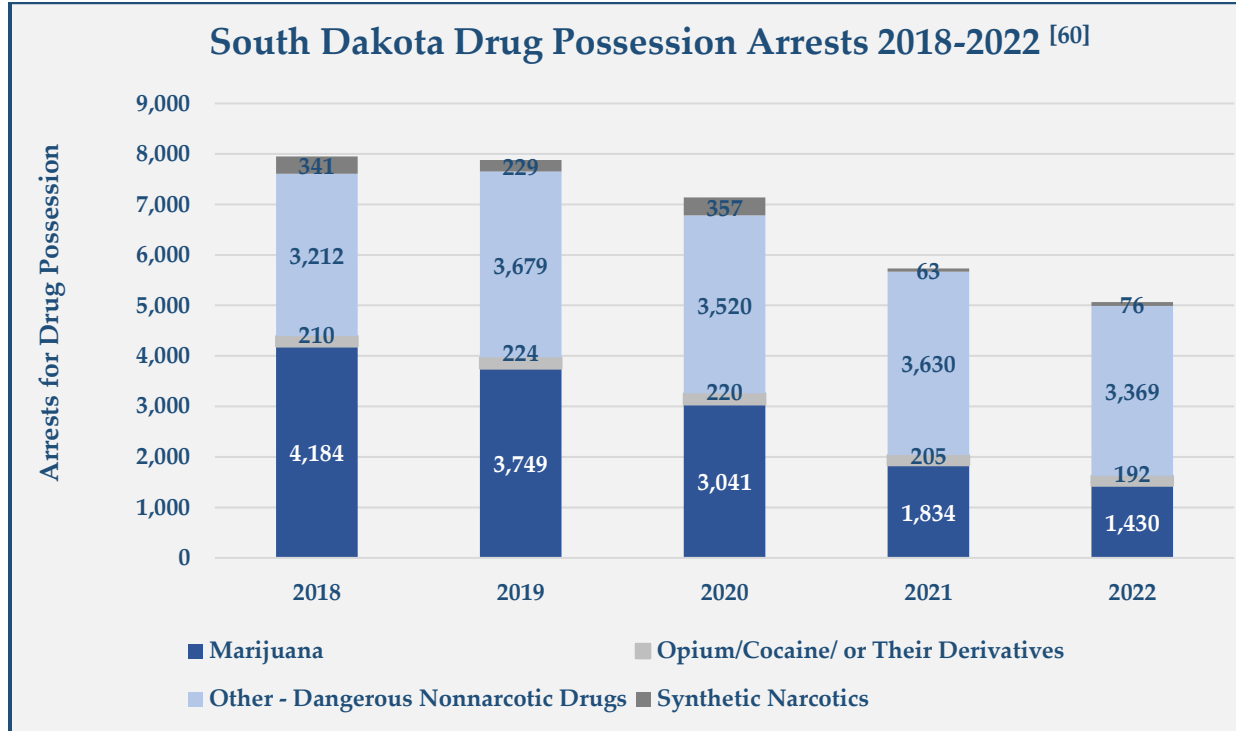
South Dakota Department of Health Certified Establishments* as of 06-06-2024 ^[73]	
Medical Marijuana Cultivation Facilities	40
Medical Marijuana Manufacturing Facilities	21
Medical Marijuana Dispensary Facilities	58

Source: South Dakota Department of Health / *Count by Legal Name



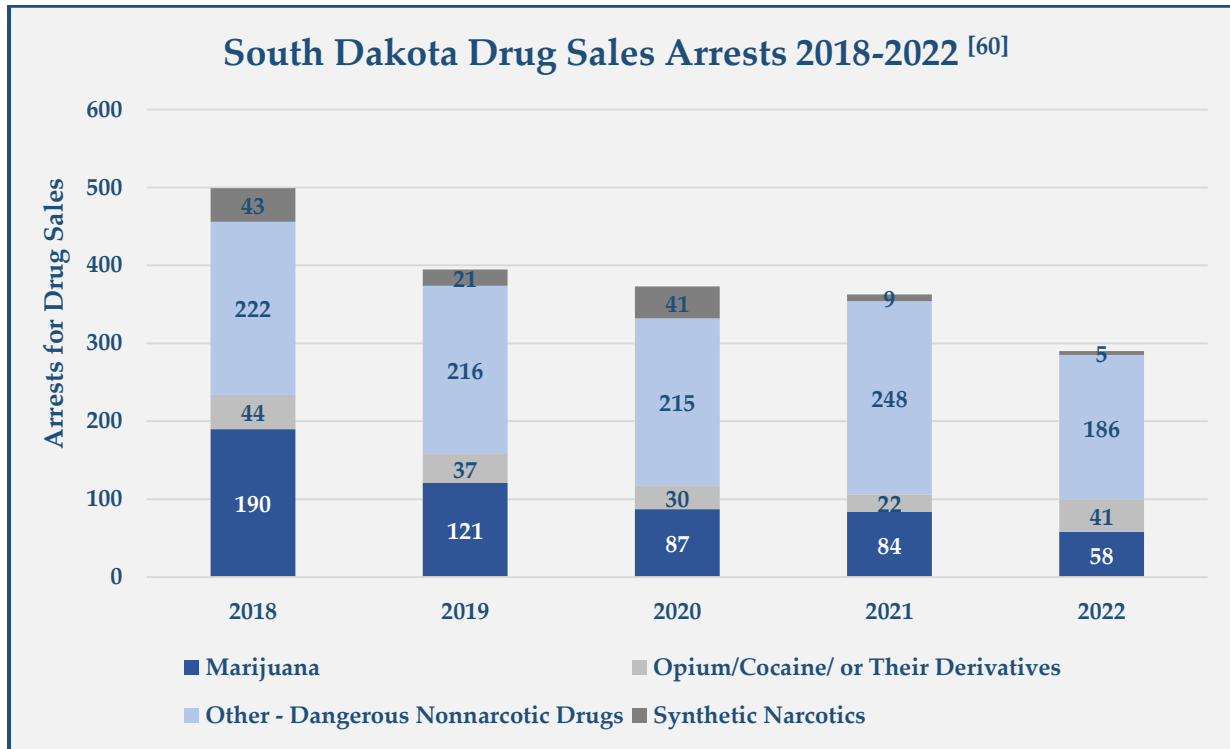
- From December 2022 to March 2024, there was a 142 percent increase in the number of qualifying patient cards (5,619 to 13,581)^[78]

Marijuana-Related Crime



Arrests for Drug Possession Charges ^[60]						
	2018	2019	2020	2021	2022	% +/-
Marijuana	4,184	3,749	3,041	1,834	1,430	-65.8%
Opium/Cocaine/ or Their Derivatives	210	224	220	205	192	-8.6%
Other - Dangerous Nonnarcotic Drugs	3,212	3,679	3,520	3,630	3,369	+4.9%
Synthetic Narcotics	341	229	357	63	76	-77.7%
TOTALS	7,947	7,881	7,138	5,732	5,067	-36.2%

- From 2018 to 2022, there was a 36 percent decrease (7,947 to 5,067) in the number of arrests for drug possession ^[60]
- The greatest percent decrease was in the arrests for synthetic narcotics, 78 percent (341 to 76), followed by marijuana, which decreased 66 percent (4,184 to 1,430) ^[60]



Arrests for Drug Possession Charges ^[60]

	2018	2019	2020	2021	2022	% +/-
Marijuana	4,184	3,749	3,041	1,834	1,430	-65.8%
Opium/Cocaine/ or Their Derivatives	210	224	220	205	192	-8.6%
Other - Dangerous Nonnarcotic Drugs	3,212	3,679	3,520	3,630	3,369	+4.9%
Synthetic Narcotics	341	229	357	63	76	-77.7%
TOTALS	7,947	7,881	7,138	5,732	5,067	-36.2%

- From 2018 to 2022, there was a 42 percent decrease (499 to 290) in the number of arrests for drug sales ^[60]
- The greatest percent decrease was in the arrests for sales of synthetic narcotics, 88 percent (43 to 5), followed by marijuana, which decreased 69 percent (190 to 58) ^[60]

Conclusion

While the full consequences of marijuana legalization may take decades to emerge, many outcomes are already apparent. The data in this report document the many negative impacts of marijuana legalization on public health and safety, both in the Midwest HIDTA region and beyond. These impacts include, but are not limited to:

- Expanding illicit markets supplied by illegal growing operations and diversion.
- Crime rates may follow pre-legalization trends, but increases in various crimes have occurred following legalization.
- Increased use rates of marijuana following legalization.
- Increased rates of marijuana-related emergency department visits and hospitalizations following legalization.
- Increased rates of marijuana-related calls to state poison centers following legalization.
- Detrimental impacts to the environment, public lands, and various ecosystems because of both licit and illicit marijuana production.

As marijuana markets mature across the Midwest HIDTA region, the region will likely continue to see a decrease in the perception of harm from marijuana use among all age groups. The Midwest may experience a continuation of marijuana use, particularly among young adults, and non-medically qualifying candidates. Largely due to the rise in marijuana's availability and social acceptance. This can contribute to unforeseen consequences, such as increases in marijuana use disorders and the use of other illicit drugs, decreased youth academic performance, and adverse marijuana-related mental health conditions.

The marijuana programs of the Midwest HIDTA region may be in their infancy, but the impacts of state-sanctioned marijuana usage are already known and well-documented by the early programs in Western states. The economic and social costs of legalization to state and local governments will potentially outweigh the revenue generated by the marijuana industry. Those living in the Midwest region should be aware of the variety of issues associated to legalization. Its costs, its impacts to public health and public safety. Of key importance, is the need for improved data collection and reporting. The sharing of evidence-

based research will allow people and policy makers alike to make informed decisions when it comes to policy formation.

References

- ¹ Status of State and Tribal Hemp Production Plans for USDA Approval. (2020, April 29). Retrieved May 14, 2020, from <https://www.ams.usda.gov/rules-regulations/hemp/state-and-tribal-plan-review>
- ² Smart Approaches to Marijuana (December 14, 2023) *Bipartisan Coalition of Former U.S. Attorneys Urge DOJ, DEA to Reject Marijuana Rescheduling*, <https://learnaboutsam.org/2023/12/bipartisan-coalition-of-former-u-s-attorneys-urge-doj-dea-to-reject-marijuana-rescheduling/>
- ³ Padilla, Alex (January 30, 2024), Newsroom – Press Releases, <https://www.padilla.senate.gov/newsroom/press-releases/padilla-urges-biden-administration-to-swiftly-deschedule-marijuana/>
- ⁴ Romney, Ricketts, Risch (March 27, 2024), United States Senate letter to DEA, https://www.romney.senate.gov/wp-content/uploads/2024/03/3.27.24_Letter-to-DEA-Final.pdf
- ⁵ https://learnaboutsam.org/wp-content/uploads/2023/12/US-Attorney-letter-re-marijuana-rescheduling_December2023-1.pdf
- ⁶ Levine, R.L. (August 29, 2023), United States Health and Human Services, Assistant Secretary for Health, *Letter for Anne Milgram, Administrator, DEA*; <https://www.hhs.gov/sites/default/files/scheduling-recommendation.pdf>
- ⁷ Strategic Intelligence Section, D. E. A. (2021). (rep.). National Drug Threat Assessment; https://www.dea.gov/sites/default/files/2021-02/DIR-008-21%202020%20National%20Drug%20Threat%20Assessment_WEB.pdf
- ⁸ Beittel, J. S. (2020). (rep.). Mexico: Organized Crime and Drug Trafficking Organizations. Congressional Research Service. <https://crsreports.congress.gov/product/pdf/R/R41576/45>
- ⁹ Millhollin, Matthew (May 3, 2023), Assistant Director Homeland Security Investigations, Statement at Hearing on Combatting Transnational Criminal Organizations and the Trafficking of Humans, Narcotics, and Firearms; <https://www.ice.gov/doclib/news/library/speeches/230503Millhollin.pdf>
- ¹⁰ Rotella, Berg -ProPublica, Yalch, Adcock – The Frontier (March 14, 2024), *Gangsters, Money and Murder: How Chinese Organized Crime is Dominating America’s Illegal Marijuana Market*; <https://www.propublica.org/article/chinese-organized-crime-us-marijuana-market>
- ¹¹ Ruggiero, Anthony (April 26, 2023), *China in Our Backyard: How Chinese Money Laundering Organizations Enrich the Cartels*, Foundation for Defense of Democracies, <https://www.fdd.org/analysis/2023/04/26/china-in-our-backyard/>
- ¹² McKay, Hollie (April 9, 2021), *Behind the Deadly Rise of the China-Mexican Cartel Alliance That is Killing Americans*, Coffee or Die Magazine
- ¹³ Olay, Matthew (March 14, 2024), *NORAD Commander: Incursions by Unmanned Aircraft Systems on Southern Border Likely Exceed 1,000 a Month*, DOD News, <https://www.defense.gov/News/News-Stories/Article/Article/3707785/norad-commander-incursions-by-unmanned-aircraft-systems-on-southern-border-like/>
- ¹⁴ Hayes, Mills, “Texas DPS warns of human smugglers targeting kids on social media,” Fox News, April 30, 2022; <https://www.foxnews.com/us/texas-dps-human-smugglers-targeting-kids-social-media>
- ¹⁵ Kaste, M., (May 16, 2018) NPR, Morning Edition, *Despite Legalization, Marijuana Black Market Hides in Plain Sight*; <https://www.npr.org/2018/05/16/610579599/despite-legalization-marijuana-black-market-hides-in-plain-sight>
- ¹⁶ Frazier, R. (2024, March), Midwest HIDTA Performance Management Process Data, 2023. Kansas City; Midwest HIDTA
- ¹⁷ Frazier, R. (2024, March), Midwest HIDTA Threat Assessment Survey Results, 2023. Kansas City; Midwest HIDTA

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- ¹⁸ Frazier, R. (2024, March), National Seizure System, EPIC, 2023, Kansas City; Midwest HIDTA
- ¹⁹ Frazier, R. (2024, March), Midwest HIDTA Domestic Highway Enforcement Program Data, EPIC, 2023, Kansas City; Midwest HIDTA
- ²⁰ CBS News (April 21, 2024), *Feds bust another illegal grow house in Maine as authorities probe foreign-backed drug trade in other states*, <https://www.cbsnews.com/news/marijuana-grow-bust-maine-passadumkeag-foreign-drug-black-market/>
- ²¹ Mowbray, Sean (June 2, 2022), *Legal and illegal cannabis: A cause for growing environmental concern*, Mongabay, <https://news.mongabay.com/2022/06/legal-and-illegal-cannabis-a-cause-for-growing-environmental-concern/>
- ²² Domestic Cannabis Suppression/Eradication Program, <https://www.dea.gov/operations/eradication-program>
- ²³ Drug Enforcement Administration, National Drug Threat Assessment 2024, https://www.dea.gov/sites/default/files/2024-05/NDTA_2024.pdf
- ²⁴ Missouri Department of Health and Senior Services (April 19, 2024), Cultivation Facilities, <https://health.mo.gov/safety/cannabis/licensed-facilities.php>
- ²⁵ North Dakota, Health & Human Services, Medical Marijuana Program Annual Report, Fiscal Year 2023, <https://www.hhs.nd.gov/sites/www/files/documents/DOH%20Legacy/MM/Fiscal%20Year%202023.pdf>
- ²⁶ South Dakota, Medical Cannabis in South Dakota (May 2, 2024) <https://medcannabis.sd.gov/Establishments/CertifiedEstablishments.aspx>
- ²⁷ Zheng Z, Fiddes K, Yang L. A narrative review on environmental impacts of cannabis cultivation. *J Cannabis Res.* 2021 Aug 6;3(1):35. doi: 10.1186/s42238-021-00090-0. PMID: 34362475; PMCID: PMC8349047
- ²⁸ Thompson, Gabriel, and Purcell (May/June 2017), *An Ever-Changing Ecological Battlefield, Marijuana Cultivation and Toxicant Use in Western Forests*, United States Forest Service, https://www.fs.usda.gov/psw/publications/thompson/psw_2017_thompson001.pdf
- ²⁹ Rohrlich, Justin / Schlanger, Zoe (August 23, 2019), *Illegal marijuana growers are poisoning national forests with banned pesticides*, Quartz, <https://qz.com/1693328/illegal-pot-growers-poison-national-parks-with-banned-pesticide>
- ³⁰ Warren, B. (May 31, 2023), Louisville Courier Journal, *Left Behind: Dogs often abandoned at illegal California pot grows, filling shelters*; <https://www.courier-journal.com/in-depth/news/investigations/2023/05/31/animal-abuse-abandonment-at-cartel-linked-california-cannabis-grows/70165473007/>
- ³¹ Prakash J, Erickson TB, MacGibbon M, Stoklosa H. Labor trafficking in marijuana production: a hidden epidemic in the shadows of the cannabis industry. *Front Sociol.* 2023 Dec 12;8:1244579. doi: 10.3389/fsoc.2023.1244579. PMID: 38152460; PMCID: PMC10751904.
- ³² DEA Drug Fact Sheet, Marijuana/Cannabis; https://www.dea.gov/sites/default/files/2020-06/Marijuana-Cannabis-2020_0.pdf
- ³³ McCartney D, Suraev A, McGregor IS. The "Next Day" Effects of Cannabis Use: A Systematic Review. *Cannabis Cannabinoid Res.* 2023 Feb;8(1):92-114. doi: 10.1089/can.2022.0185. Epub 2022 Dec 6. PMID: 36475998; PMCID: PMC9940812.
- ³⁴ MedlinePlus [Internet]. Bethesda (MD): National Library of Medicine (US); Substance Use - marijuana; [reviewed 2022 April 30; cited 2024 May 23]; Available from: <https://medlineplus.gov/ency/patientinstructions/000796.htm>
- ³⁵ Volkow ND, Baler RD, Compton WM, Weiss SR. Adverse health effects of marijuana use. *N Engl J Med.* 2014 Jun 5;370(23):2219-27. doi: 10.1056/NEJMra1402309. PMID: 24897085; PMCID: PMC4827335.
- ³⁶ Gobbi G, Atkin T, Zytynski T, et al. Association of Cannabis Use in Adolescence and Risk of Depression, Anxiety, and Suicidality in Young Adulthood: A Systematic Review and Meta-analysis. *JAMA Psychiatry.* 2019;76(4):426-434. doi:10.1001/jamapsychiatry.2018.4500
- ³⁷ SAMHSA (February 27, 2023), *Learn About Marijuana Risks*, <https://www.samhsa.gov/marijuana>
- ³⁸ Hjorthøj C, Compton W, Starzer M, et al. Association between cannabis use disorder and schizophrenia stronger in young males than in females. *Psychological Medicine.* 2023;53(15):7322-7328. doi:10.1017/S0033291723000880

-
- ³⁹ Jeffers, A., Glantz, S., Byers, A., Keyhani, S., *Association of Cannabis Use With Cardiovascular Outcomes Among US Adults*, 2024, Journal of the American Heart Association, <https://www.ahajournals.org/doi/abs/10.1161/JAHA.123.030178>
- ⁴⁰ Danise, Amy (September 13, 2023), *A Marijuana User's Guide to Life Insurance*, Forbes Advisor, <https://www.forbes.com/advisor/life-insurance/marijuana/>
- ⁴¹ Stuyt E. The Problem with the Current High Potency THC Marijuana from the Perspective of an Addiction Psychiatrist. *Mo Med*. 2018 Nov-Dec;115(6):482-486. PMID: 30643324; PMCID: PMC6312155, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6312155/>
- ⁴² Chatterjee, Rhitu (May 15, 2019), *Highly Potent Weed Has Swept the Market, Raising Concerns About Health Risks*, NPR, <https://www.npr.org/sections/health-shots/2019/05/15/723656629/highly-potent-weed-has-swept-the-market-raising-concerns-about-health-risks>
- ⁴³ Wnuk, Alexis (October 11, 2023), *Is cannabis today really much more potent than 50 years ago?*, *New Scientist*, <https://www.newscientist.com/article/2396976-is-cannabis-today-really-much-more-potent-than-50-years-ago/#:~:text=The%20data%20shows%20a%20clear,has%20increased%20more%20than%20tenfold>
- ⁴⁴ Ballotpedia, Missouri Amendment 2, Medical Marijuana and Veteran Healthcare Services Initiative; [https://ballotpedia.org/Missouri_Amendment_2,_Medical_Marijuana_and_Veteran_Healthcare_Services_Initiative_\(2018\)](https://ballotpedia.org/Missouri_Amendment_2,_Medical_Marijuana_and_Veteran_Healthcare_Services_Initiative_(2018))
- ⁴⁵ Ballotpedia, Missouri Amendment 3, Marijuana Legalization Initiative; [https://ballotpedia.org/Missouri_Amendment_3,_Marijuana_Legalization_Initiative_\(2022\)](https://ballotpedia.org/Missouri_Amendment_3,_Marijuana_Legalization_Initiative_(2022))
- ⁴⁶ National College for DUI Defense, DUI Laws in Missouri, <https://www.ncdd.com/missouri-dwi-laws>
- ⁴⁷ Missouri State Highway Patrol, Report on Missouri Crashes by Crash Severity, Personal Injury, and Year, 2002- 2022; <https://www.mshp.dps.missouri.gov/MSHPWeb/SAC/Compendium/TrafficCompendium.html#>
- ⁴⁸ National Center for Statistics and Analysis, Information Services Team, Fatality Analysis Reporting System (FARS), 2018-2022; <https://cdan.dot.gov/stsi.htm>
- ⁴⁹ SAMHSA, Interactive NSDUH State Estimates, <https://datatools.samhsa.gov/saes/state>
- ⁵⁰ United States Department of Health and Human Services, Office of Disease Prevention and Health Promotion, National Survey on Drug Use and Health; <https://health.gov/healthypeople/objectives-and-data/data-sources-and-methods/data-sources/national-survey-drug-use-and-health-nsduh#:~:text=The%20NSDUH%20collects%20data%20through,%2C%20rooming%20houses%2C%20dormitories>
- ⁵¹ Depue, Kryah, Kaur, and Peabody, *2022 Missouri Student Survey*, Missouri Department of Mental Health, Missouri Institute of Mental Health, https://dmh.mo.gov/sites/dmh/files/media/pdf/2022/10/mss-2022-report-final_0.pdf
- ⁵² Ruback, A.B. (2024, April 2). *Marijuana-Related Calls to the Missouri Poison Center, 2018-2023*. St. Louis; Missouri
- ⁵³ Treatment Episode Data Set (TEDS), Annual Detailed Tables, 2017-2021, <https://www.samhsa.gov/data/data-we-collect/teds-treatment-episode-data-set>
- ⁵⁴ Missouri Department of Health and Senior Services, Drug Overdose Dashboard, <https://health.mo.gov/data/opioids/>
- ⁵⁵ Urban Institute, State Fiscal Briefs, <https://www.urban.org/policy-centers/cross-center-initiatives/state-and-local-finance-initiative/projects/state-fiscal-briefs/missouri>
- ⁵⁶ Missouri Department of Health and Human Services, Monthly and Cumulative Marijuana Sales, <https://health.mo.gov/safety/cannabis/img/cumulative-monthly-sales.png>
- ⁵⁷ Missouri Budget Project (February 9, 2024), Overview of Missouri's Recreational Marijuana Tax Revenue, <https://mobudget.org/overview-mo-rec-marijuana-revenue/#:~:text=Based%20on%20the%20pace%20of,collected%20through%20this%20tax%20annually>

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- ⁵⁸ Missouri Department of Health and Senior Services, Division of Cannabis Regulation, Licensed Facilities, <https://health.mo.gov/safety/cannabis/licensed-facilities.php>
- ⁵⁹ Missouri Department of Health and Senior Services, Division of Cannabis Regulation, Data and Reports, <https://health.mo.gov/safety/cannabis/stats.php>
- ⁶⁰ Federal Bureau of Investigation, Crime Data Explorer, <https://cde.ucr.cjis.gov/LATEST/webapp/#/pages/explorer/crime/crime-trend>
- ⁶¹ North Dakota Legislative, Regulations Governing Operators, <https://ndlegis.gov/cencode/t39c08.pdf>
- ⁶² North Dakota Department of Transportation, *2022 North Dakota Crash Summary*, https://visionzero.nd.gov/uploads/105/NDDOT_2022_Crash_Summary_hiresUPDATES.pdf
- ⁶³ North Dakota Youth Risk Behavior Survey 2021, <https://www.hhs.nd.gov/sites/www/files/documents/DOH%20Legacy/2021ND-High-School-YRBS-Trend-Report.pdf>
- ⁶⁴ Pinks, K. A. (April 3, 2024), Unit Director, North Dakota Department of Health, ND Essence and Hospital Discharge Data; Bismarck, North Dakota
- ⁶⁵ Slag, M., (April 4, 2024), Poison Control Educator, Minnesota Poison Control System, Minneapolis, Minnesota
- ⁶⁶ North Dakota Health and Human Services, Unintentional Drug Overdose Deaths, 2023 Legislative Report, <https://www.hhs.nd.gov/sites/www/files/documents/2023-24-interim/8-31-REPORT-unintentional-drug-overdose.pdf>
- ⁶⁷ North Dakota Health and Human Services, Medical Marijuana Program Annual Report, Fiscal Year 2023, <https://www.hhs.nd.gov/sites/www/files/documents/DOH%20Legacy/MM/Fiscal%20Year%202023.pdf>
- ⁶⁸ North Dakota, Legislative Appropriations 2023-2025 Biennium, Page 52, <https://www.omb.nd.gov/sites/www/files/documents/financial-transparency/state-budgets/appropbook2023-25.pdf>
- ⁶⁹ North Dakota Office of State Tax Commissioner, Guideline – Sales Tax: Exemptions, <https://www.tax.nd.gov/sites/www/files/documents/guidelines/business/sales-use/guideline-exemptions.pdf>
- ⁷⁰ North Dakota, Health & Human Services, Medical Marijuana, March 2024, <https://www.hhs.nd.gov/mm>
- ⁷¹ South Dakota Legislature, Legislative Research Council, Codified Law 32-23-1, <https://sdlegislature.gov/Statutes/32-23-1>
- ⁷² South Dakota, Department of Public Safety, Office of Highway Safety/Accident Records, *2022 South Dakota Motor Vehicle Traffic Crash Summary*, <https://dps.sd.gov/application/files/5816/9575/2342/2022-facts-book.pdf>
- ⁷³ South Dakota Department of Health, South Dakota Youth Risk Behavior Survey Summary 2011-2021, https://doh.sd.gov/media/zribx0mr/yrbs_2011-2021_summary.pdf
- ⁷⁴ Kinder, E. (April 12, 2024), Syndromic Surveillance Epidemiologist, South Dakota Department of Health, Pierre, South Dakota
- ⁷⁵ South Dakota Department of Health, 2022 South Dakota Vital Statistics Report: A State and County Comparison of Leading Health Indicators, <https://doh.sd.gov/media/x2katkvm/2022-vital-statistics-report.pdf>
- ⁷⁶ Makenzie Huber (August 21, 2023), *Medical marijuana cards surpass 11,500*, South Dakota Searchlight, <https://southdakotasearchlight.com/2023/08/21/medical-marijuana-sd-cards-pop-up-clinics-concern-oversight-committee/>
- ⁷⁷ South Dakota State Budget, Governor’s Budget Report for FY2023, <https://bfm.sd.gov/budget/Budgets.html>
- ⁷⁸ South Dakota Department of Health, Medical Cannabis in South Dakota, Data & Statistics, Monthly Practitioner & Patient Card Numbers, <https://medcannabis.sd.gov/Updates/Data.aspx>