

“Marijuana’s Pandora’s Box in the U.S.”

What America Has Learned About High-Potency Cannabis, Commercialization, Children, Mental Health, Public Safety—And The Promise Of Tax Revenue

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September 2026 Expanded Statistical Revision — Updated with current medical research, public-health evidence, product-potency data, pediatric poisonings, emergency-department statistics, workplace-injury research, pregnancy outcomes, road-safety evidence, illicit-market enforcement data, and updated national facts and figures.



In dedication and memory of Chuck Norris (1940–2026), with whom I originally researched and wrote this warning about America’s changing cannabis culture. This revised edition is offered in gratitude for his friendship, conviction, and lifelong concern for the well-being of America’s families.

Chuck passed away on March 19, 2026, before this expanded edition was completed. I have therefore undertaken this September 2026 revision myself, preserving the concerns we originally raised together while correcting outdated figures, strengthening claims where newer evidence warrants it, qualifying claims where the science requires greater precision, and incorporating major research published since our original article. (See [The Washington Post obituary of Chuck Norris](#) and “[My 20-Year Adventure with Chuck Norris: My Tribute](#)”)

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When actress Whoopi Goldberg wrote enthusiastically in 2014 about the marijuana vape pen she nicknamed “Sippy,” America was already entering a cannabis era markedly different from anything previous generations had known. The marijuana debate many Americans remembered from the 1960s, 1970s and even 1990s was largely a debate about smoking a plant. Today that same word—marijuana or cannabis—can describe not only the plant but also concentrated oils, vape cartridges, gummies, chocolates, beverages, waxes, “dabs,” and other manufactured products capable of delivering concentrations of THC that earlier generations rarely encountered.

When we originally wrote “Marijuana’s Pandora’s Box in the U.S.,” our central concern was that Americans were making enormous social decisions about cannabis while the product itself was changing underneath us. We warned about increasing THC potency, vaping, edibles, youth exposure, addiction, psychiatric consequences and emergency-room visits. Years later, a much larger body of research allows us to revisit those concerns with far greater precision.

From the beginning, Chuck and I did not approach this issue as detached observers of legalization. During the years we researched and wrote about marijuana together, we both opposed the legalization and commercial expansion of recreational cannabis because of what we believed the accumulating medical, family and social evidence was showing. We had also seen firsthand, over many years, what drug abuse and addiction could do to individuals, marriages, children and entire families. In my own case, that experience began even before my four decades of pastoral ministry. While completing my graduate-degree education and ministry internships in Southern California, I volunteered as a drug counselor at a recovery center in Los Angeles, working directly with men and women struggling to break the grip of substance abuse and rebuild damaged lives. In the forty years of pastoral ministry that followed, I continued seeing the other side of that tragedy—not merely the person using the substance, but spouses losing trust, parents grieving over children, children living with the consequences of an impaired parent, marriages strained or broken, and families attempting to recover long after the original choices had been made.

Those experiences do not by themselves settle every scientific or public-policy question, and they should never be used to pretend that every person who uses marijuana will become addicted or that cannabis alone explains every family crisis. They are, however, part of the reason I have taken the medical and social evidence surrounding marijuana so seriously. Chuck and I consistently opposed recreational marijuana legalization and commercialization during the years we addressed this subject together. The evidence has continued to evolve since our original article, but in my judgment the broader concerns that led us to that conclusion have become more—not less—serious as the modern cannabis marketplace has expanded.

Serious public-health analysis should never depend upon exaggeration. Where studies demonstrate an association rather than proof of causation, this revision says so. Where researchers disagree, that uncertainty belongs in the discussion. Where legal cannabis generates genuine tax revenue, that fact should be acknowledged before asking whether those revenues are large, dependable and sufficient to offset the administrative, medical and social costs accompanying commercialization.

The scientific discussion itself has also matured. In 2024, the National Academies of Sciences, Engineering, and Medicine, at the request of the CDC and NIH, published a major consensus report examining what several decades of changing cannabis policy have taught the United States. Its expert committee represented public health, addiction medicine, epidemiology, economics, neuroscience, pediatrics and policy analysis. The report concluded

that cannabis markets, products and policies have evolved faster than consistent public-health protections and research systems have kept pace. (See [National Academies, Cannabis Policy Impacts Public Health and Health Equity](#).)

The Marijuana Of Yesterday Is Not The THC Marketplace Of Today

One of the clearest developments in modern cannabis is the enormous change in THC potency. THC—delta-9-tetrahydrocannabinol—is the principal psychoactive component responsible for marijuana’s intoxicating effects, and the quantities available in modern commercial products can be dramatically greater than those found in marijuana consumed several decades ago.

For perspective, modern cannabis flower commonly falls in the range of roughly 15– 25 percent THC, with many commercial products exceeding 20 percent. Concentrates such as wax, shatter and dabs may contain roughly 60–90 percent THC, while vape oils can also reach similarly high concentrations. Edibles are measured differently, usually in milligrams of THC rather than percentage THC; in California, adult-use edibles are limited to 10 milligrams of THC per serving and 100 milligrams per package.

Ziva Cooper, Ph.D., a UCLA neuroscientist and psychopharmacologist who directs the UCLA Center for Cannabis and Cannabinoids and has served on the National Academies cannabis-policy committee, is among the researchers conducting controlled human studies of cannabis potency, concentrates and the interaction between THC and CBD. UCLA continues to study high-potency concentrates alongside smoked cannabis because potency has become a central question in contemporary cannabis science. (See [UCLA — Ziva Cooper research profile](#).)

The Centers for Disease Control and Prevention notes that THC concentrations in cannabis have increased over recent decades and that greater concentrations can produce stronger effects on the brain. Modern public-health research therefore increasingly distinguishes high-potency products from lower-potency cannabis instead of treating every exposure as pharmacologically equivalent. (See [CDC — Understanding Your Risk for Cannabis Use Disorder](#).)

The magnitude of the difference becomes even clearer when specific modern products are compared. One national product-level analysis reported average THC concentrations of 17.9 percent in cannabis flower and 60.5 percent in concentrates—meaning the concentrates averaged approximately 3.4 times the THC concentration of flower. The National Academies likewise reports that concentrates such as dabs, wax and shatter usually contain around 60 percent THC but can reach as much as 90 percent THC. (See [Nationally representative surveys on cannabis use lack product details relevant to public health](#); and [National Academies — Cannabis Policy Impacts Public Health and Health Equity](#).)

These are not marginal differences. A concentrate containing 80 percent THC, for example, contains roughly four times the THC concentration of 20-percent flower, although the actual dose absorbed by a consumer will also depend upon the amount used, method of consumption, inhalation pattern, individual tolerance and other factors. Percentage THC therefore should not be confused with the exact dose reaching the bloodstream, but it remains an important measure of how concentrated the product itself has become.

Vape cartridges introduce another high-potency delivery system. Rather than burning dried plant material, many cannabis vapes use concentrated THC oils capable of containing far

greater THC concentrations than traditional marijuana flower. That means two individuals may both say they “used marijuana” while one smoked moderate-potency flower and the other inhaled a highly concentrated THC oil. Those are not necessarily comparable pharmacological exposures.

Edibles create still another category because their potency is generally measured in milligrams of THC per serving, rather than as a percentage of the product’s weight. California regulations, for example, limit adult-use edible cannabis products to 10 milligrams of THC per serving and 100 milligrams per package. A single package can therefore contain multiple psychoactive servings, which becomes especially important when consumers do not understand serving sizes or when products are accidentally consumed by children. California also permits substantially greater total THC amounts in certain medicinal products and non-edible concentrates. (See [California Department of Cannabis Control — Medicinal and Adult Use Cannabis Regulations](#).)

This is why the word “cannabis” is no longer a precise description of dose. Lower- potency flower, 20-percent-plus flower, a 10-milligram edible, a concentrated vape cartridge and an 80-percent THC extract can all be placed under the same broad cannabis label while exposing consumers to markedly different amounts and patterns of THC.

For Americans whose personal experience with marijuana comes from the 1960s, 1970s, 1980s or even the early 1990s, this distinction is essential. They may remember comparatively low-potency plant material and assume that modern cannabis is essentially the same substance with different packaging. But today’s marketplace includes flower exceeding 20 percent THC, concentrates commonly reaching 60 percent or more, products approaching 90 percent THC, highly concentrated vape oils and precisely dosed edible products capable of delivering substantial amounts of THC in forms that earlier generations rarely encountered.

The 2024 National Academies report documents precisely this contemporary marketplace of flower, concentrates, edibles, dabs, vape cartridges and other products that differ substantially in THC concentration and method of administration. The national discussion therefore concerns not merely whether marijuana is legal, but what kind of cannabis products are being commercialized, how much THC those products can deliver, and whether public-health knowledge and regulation have kept pace with the transformation of the product itself. (See [National Academies — Cannabis Policy Impacts Public Health and Health Equity](#).)

From Legalization To Commercialization: Why They Are Not The Same Question

One of the most important distinctions in the entire marijuana debate is the difference between decriminalization, legalization, and commercialization. These terms are often treated as though they describe the same public policy, but they do not. A society may decide that adults should not be jailed for possessing small amounts of marijuana without also deciding to create a large commercial industry built around manufacturing, marketing, distributing, and selling increasingly potent cannabis products.

A government might reduce criminal penalties for possession without establishing retail stores. It might authorize tightly controlled medical access without creating a recreational marketplace. It might permit adults to possess cannabis while still restricting delivery, advertising, storefront density, edible products, concentrates, or THC potency. In other words,

marijuana policy is not simply a choice between total prohibition on one side and unrestricted commercial sales on the other.

Jonathan P. Caulkins, Ph.D., Carnegie Mellon University's H. Guyford Stever University Professor of Operations Research and Public Policy and a member of the National Academy of Engineering, has spent decades applying mathematical and systems analysis to drug markets, illegal markets, and cannabis policy. He coauthored *Marijuana Legalization: What Everyone Needs to Know* and has repeatedly emphasized that cannabis policy involves a wide range of possible regulatory models rather than a simple binary choice between prohibition and full commercial legalization. (See [Carnegie Mellon — Jonathan P. Caulkins biography](#).)

The 2024 National Academies of Sciences, Engineering, and Medicine report reaches a similar conclusion. Cannabis legalization has taken many different forms across jurisdictions, with widely varying levels of retail access, advertising, taxation, potency limits, product availability, delivery systems, and commercial participation. For that reason, public-health consequences cannot be understood merely by dividing places into the categories of “legal” and “illegal.” The structure of the market matters. (See [National Academies — Cannabis Policy Impacts Public Health and Health Equity](#).)

This is where commercialization becomes particularly important. Legalization may change what government permits an individual adult to possess or consume. Commercialization changes the economic system surrounding the product. Once cannabis becomes a conventional consumer industry, it is subject to the same market pressures that shape almost every other commercial product: competition, product innovation, lower prices, convenience, branding, customer retention, increased availability, delivery services, and attempts to expand market share.

Those forces are not inherently sinister. They are normal features of a market economy. But they deserve special scrutiny when the commodity being commercialized is psychoactive, intoxicating, and capable of producing dependency in some consumers. A successful shoe company benefits when people buy more shoes. A successful cannabis company similarly benefits when consumers purchase more cannabis. Yet the public-health implications of increasing consumption are obviously not equivalent.

Commercial competition can also change the product itself. Once companies compete for consumers, they have incentives to develop products that are more concentrated, more convenient, more discreet, faster acting, easier to transport, and available in a wider variety of forms. That helps explain why the modern cannabis marketplace now includes not simply dried marijuana flower, but high-potency concentrates, vape cartridges, wax, shatter, dabs, gummies, chocolates, beverages, and other manufactured THC products that earlier generations rarely encountered.

Rosalie Liccardo Pacula, Ph.D., an economist who holds USC's Elizabeth Garrett Chair in Health Policy, Economics and Law, previously spent 21 years at RAND and co-directed RAND's Drug Policy Research Center for 15 years. Her research has focused extensively on the economics of addictive products and the consequences of alternative regulatory systems. She has served on cannabis-policy bodies for the National Institute on Drug Abuse, the World Health Organization, and the National Academies. Her work has repeatedly emphasized the importance of considering potency, product form, pricing, commercial incentives, and patterns of heavy use, rather than treating every cannabis product and every legalization model as essentially equivalent. (See [USC — Rosalie Liccardo Pacula biography](#).)

Pacula and other drug-policy researchers have therefore urged policymakers to distinguish between allowing adult cannabis use and building a commercial marketplace designed to sell cannabis efficiently and competitively. That distinction becomes especially important when higher-potency products may be cheaper per unit of THC, delivery makes access easier, edible products make consumption more convenient, and retail competition encourages companies to differentiate themselves through potency, product design, and availability.

The difference can be illustrated simply. A government that says, “We will no longer arrest an adult for possessing marijuana in his own home,” has made one kind of policy decision. A government that says, “We will license companies to manufacture high- potency concentrates, produce THC-infused candy and beverages, advertise products, operate storefronts, deliver cannabis to homes, and compete for customers,” has made a much broader one.

Those decisions should not be confused.

This distinction lies near the heart of the modern American cannabis experience. Much of the early legalization debate centered on questions of criminal justice, personal liberty, medical access, and whether adults should face arrest for possessing marijuana. But once legalization opened the door to commercial markets, the national question changed. America was no longer debating only whether adults should be punished for using marijuana. It was also deciding what kind of cannabis industry it was willing to create.

That is why the discussion throughout this report focuses not merely on legalization, but on commercialization. The two can overlap, but they are not identical. A society may choose to reduce criminal penalties without encouraging commercial expansion. It may permit some adult use while still restricting high-potency products, advertising, retail density, delivery, or edible forms. And it may conclude that protecting individuals from unnecessary criminal penalties does not require giving a rapidly expanding psychoactive-product industry the same commercial freedom enjoyed by ordinary consumer goods.

That distinction becomes even more important as we examine what happened next: THC potency rose, product forms multiplied, retail access expanded, edibles entered homes, concentrates approached levels of THC earlier generations rarely encountered, and public-health researchers found themselves trying to catch up with a marketplace that was evolving faster than the science surrounding it.

The National Academies Issued An Important Warning

The National Academies’ 2024 consensus report deserves particular attention because it was not produced by a marijuana-industry group or an anti-marijuana advocacy organization. It was commissioned by the CDC and NIH and written by an interdisciplinary committee of scientists, economists, physicians and policy specialists who approached cannabis from different fields and perspectives.

Among its members were Yasmin Hurd, Ph.D., director of the Addiction Institute at Mount Sinai; Ziva Cooper of UCLA; Beau Kilmer of RAND; Rosalie Pacula of USC; Magdalena Cerdá of NYU; and other nationally recognized researchers. The National Academies describes consensus reports as evidence-based findings subjected to rigorous independent peer review and representing the institution’s conclusions concerning the assigned question. (See [National Academies — committee and consensus report.](#))

Yasmin Hurd, Ph.D., the Ward-Coleman Chair of Translational Neuroscience and director of Mount Sinai's Addiction Institute, is one of America's leading researchers on addiction neurobiology and developmental exposure to cannabis. Hurd served as vice chair of the National Academies committee. Looking at the rapidly changing marketplace, she observed that "the knowledge of the scientists, policymakers, and the public has failed to keep pace" with the expansion of the American cannabis market. (See [Mount Sinai — Setting the Stage for Better Education on Cannabis Use](#).)

That observation goes to the heart of the problem. Cannabis commercialization accelerated while researchers were still trying to understand products that were becoming stronger, more diverse and easier to consume. That does not prove that every commercial innovation is harmful, but it does mean public policy has often had to respond after new products and consumption patterns were already established.

Marijuana Can Produce Cannabis-Use Disorder

One of the persistent myths surrounding marijuana has been that it is essentially non-addictive. Contemporary medicine does not support that categorical claim. Cannabis-use disorder is a recognized clinical diagnosis ranging from mild to severe and can involve craving cannabis, using more than intended, repeated unsuccessful attempts to stop, spending considerable time obtaining or using it and continuing despite health or social consequences.

The CDC estimates that approximately three in ten people who use cannabis have cannabis-use disorder, with risk increasing among those who begin using during youth or adolescence and among people who use it more frequently. That statistic does not mean three out of every ten people who ever experiment with marijuana become profoundly addicted, because cannabis-use disorder exists along a continuum of severity. It does mean the familiar assertion that marijuana cannot produce dependency is inconsistent with contemporary medical knowledge. (See [CDC — Understanding Your Risk for Cannabis Use Disorder](#).)

The national burden is not merely theoretical. SAMHSA's 2024 National Survey on Drug Use and Health estimated that 20.6 million Americans age 12 or older—7.1 percent of that population—met criteria for marijuana-use disorder during the previous year, up from 16.7 million in 2021. Among young adults ages 18 to 25, the 2024 estimate was 5.5 million people, or 15.8 percent of that age group. These figures describe a spectrum ranging from mild to severe disorder; they do not mean that every affected person is profoundly addicted. They do demonstrate that cannabis-use disorder now involves tens of millions of Americans. (See [SAMHSA — 2024 National Survey on Drug Use and Health](#).)

Dr. Hurd's laboratory at Mount Sinai has spent years investigating the neurobiological mechanisms of addiction and how developmental drug exposure may influence later vulnerability. Her work combines human brain research with experimental models and illustrates why cannabis dependency is now studied as a genuine neurobiological and behavioral disorder rather than dismissed as a matter of weak willpower. (See [Mount Sinai — Addiction Institute and Yasmin Hurd research](#).) Potency intensifies the concern. A 2025 systematic review examining high-concentration THC products found especially consistent unfavorable associations with cannabis-use disorder and psychosis or schizophrenia, while also warning that much of the literature remains observational and that many studies carry moderate or high risk of bias. That combination is exactly why this article distinguishes concern from certainty: the signal is serious, but the limitations of the evidence should remain visible. (See PubMed — High- Concentration THC Products and Mental Health Outcomes.)

High-Potency THC And Psychosis

Our original article referred to research suggesting an approximately fivefold increase in psychosis associated with marijuana. That formulation was too broad and deserves correction because the strongest finding did not apply to every person who had ever used cannabis. It involved daily use of high-potency cannabis compared with never-use.

The influential international research was led by Marta Di Forti, M.D., Ph.D., Professor of Drug Use, Genetics and Psychosis at King's College London and an honorary consultant psychiatrist who leads the United Kingdom's first specialist cannabis clinic for patients with psychosis. Her team compared people experiencing first-episode psychosis with healthy controls across 11 European sites and found that daily cannabis use was associated with roughly three times the odds of first-episode psychosis, while daily high-potency use was associated with approximately five times the odds. (See [King's College London — High-potency cannabis linked to higher rates of psychosis.](#))

The size of that association deserves precision. In the 2019 EU-GEI multicenter case-control study, involving 901 first-episode psychosis patients and 1,237 population controls across 11 sites, daily cannabis use was associated with an adjusted odds ratio of 3.2 for psychotic disorder compared with never-use; daily use of high-potency cannabis was associated with an adjusted odds ratio of 4.8—nearly five times the odds. Because this was observational case-control research, those odds ratios should not be read as proof that cannabis alone caused each case. They do, however, show why frequency and potency have become central variables in contemporary psychosis research. (See [PubMed — Di Forti et al., EU-GEI multicenter study.](#))

Professor Di Forti, recipient of the 2025 Schizophrenia International Research Society Outstanding Translational Research Award, has emphasized that changing patterns of cannabis use make potency a major public-health concern. She has said it is “of vital public health importance” to consider adverse effects associated with daily and high-potency cannabis use. (See [King's College London — Di Forti translational research award.](#))

More recent work from Di Forti's group has added another important dimension by finding that the risk of psychotic disorder appears to decline after cannabis cessation, while some frequent high-potency users may retain elevated risk for a longer period. That evidence does not establish that cannabis alone explains every case of psychosis, because genetics, previous psychiatric symptoms, other substance use and socioeconomic factors can complicate observational research. It does reinforce the conclusion that frequency and potency matter greatly. (See [King's College London — Cannabis cessation and psychosis risk.](#))

Cannabinoid Hyperemesis Syndrome Is Now A Recognized Clinical Disorder

Our original article discussed reports of chronic marijuana users experiencing cycles of severe nausea and repeated vomiting, a condition that at the time was often described in popular media as mysterious. Today it is widely recognized clinically as cannabinoid hyperemesis syndrome, or CHS, generally occurring among some people who use cannabis frequently over long periods and producing recurrent bouts of severe nausea, vomiting, abdominal pain and dehydration.

The National Academies defines CHS as cyclical nausea, vomiting and abdominal pain occurring after prolonged cannabis use, with symptoms typically resolving after cessation. The irony is striking because cannabis can have anti-nausea applications in some medical contexts, yet prolonged heavy use in susceptible individuals can produce repeated severe vomiting. That apparent contradiction demonstrates why cannabis cannot responsibly be described simply as either “medicine” or “poison”; effects depend on dose, frequency, formulation and individual susceptibility. (See [National Academies — cannabis terminology and health effects](#).)

National emergency-department data now put numbers behind that diagnosis. A 2026 JAMA Network Open analysis of the Nationwide Emergency Department Sample examined more than 188 million unweighted ED visits from 2016 through 2022. Visits consistent with CHS increased from 4.4 per 100,000 ED visits in 2016 to 22.3 per 100,000 in 2022—more than a fivefold increase—after peaking at 33.1 per 100,000 during 2020. The highest relative risk was concentrated among adults ages 18 to 25. Diagnostic recognition changed during this period, so the trend should not be interpreted as a pure measure of incidence, but it confirms that CHS has become an increasingly visible emergency-medicine problem. (See [JAMA Network Open — Cannabinoid Hyperemesis Syndrome, 2016 to 2022](#).)

Pregnancy And Another Developing Life

Pregnancy deserves similar care. THC can reach the developing fetus, which is why major medical and public-health bodies advise against cannabis use during pregnancy. Research continues to evaluate outcomes including birth weight, neurodevelopment and pregnancy complications while attempting to disentangle cannabis exposure from tobacco use, socioeconomic conditions and other variables.

The CDC advises pregnant women not to use cannabis and states that prenatal exposure may affect fetal development and increase pregnancy complications. Some studies have found associations with lower birth weight and abnormal neurological development, although the agency emphasizes that additional research is still needed to understand the magnitude and mechanisms of these effects fully. (See [CDC — Cannabis and Pregnancy](#).)

A large 2025 systematic review and meta-analysis in JAMA Pediatrics substantially strengthens that evidence base. The review synthesized 51 studies involving more than 21 million pregnancies. After adjustment for important confounders including tobacco co-use, prenatal cannabis exposure was associated with 75 percent higher odds of low birth weight (OR 1.75), 52 percent higher odds of preterm birth (OR 1.52), and 57 percent higher odds of being small for gestational age (OR 1.57). The evidence for those three outcomes was rated moderate certainty; the association with perinatal mortality was smaller and rated low certainty. As with other observational pregnancy research, these are associations rather than randomized proof, but the size and consistency of the dataset make the findings difficult to dismiss. (See [JAMA Pediatrics — Prenatal Cannabis Use and Neonatal Outcomes](#).)

The biological point is straightforward: “natural” and “harmless” are not synonyms. Cannabis contains pharmacologically active compounds capable of crossing into fetal circulation, so pregnancy represents a population for whom substantially greater caution is warranted.

The Developing Adolescent Brain Deserves Special Attention

Cannabis exposure during adolescence deserves special attention because the nervous system is still undergoing major development. This does not justify claiming that every teenager who experiments with marijuana will experience permanent brain damage. Human development is more complicated, and adolescent cannabis use can coexist with educational, psychiatric, family and social factors that make causal interpretation difficult.

The CDC nevertheless warns that cannabis can affect functions involving memory, learning, attention, decision-making, coordination and reaction time, while the risk of cannabis-use disorder is higher among those who begin using during youth or adolescence. These concerns become more consequential when young users are exposed not only to traditional cannabis flower but also to discreet high-potency vapes and concentrates. (See [CDC — Cannabis and Teens](#).)

The scale of adolescent exposure makes those developmental questions more than hypothetical. The CDC reports that in 2022, 30.7 percent of U.S. 12th graders reported cannabis use during the previous year and 6.3 percent reported daily use during the previous 30 days. Those prevalence figures do not establish that all of these students experienced harm, but they show why even moderate individual-level risks can become significant public-health concerns when exposure is widespread during a period of continuing brain development. (See [CDC — Cannabis and Teens](#).)

Dr. Hurd's research has focused extensively on developmental drug exposure and the neurobiology of addiction. Her laboratory combines human and experimental research to investigate how cannabis exposure during developmental periods may alter neural systems associated with later vulnerability, which is why the adolescent brain cannot responsibly be treated as simply a smaller version of the mature adult brain. (See [Mount Sinai — Yasmin Hurd laboratory research](#).)

When Marijuana Becomes Candy

Perhaps nothing illustrates the transformation of cannabis more vividly than edible products. Marijuana can now be consumed as gummies, chocolates, baked goods, beverages and other familiar food forms. The danger to children does not require assuming that legal businesses deliberately want toddlers consuming cannabis; a small child cannot reliably distinguish an ordinary gummy from a THC-infused gummy based solely on appearance.

A major national pediatric study published in Pediatrics subsequently documented thousands of edible-cannabis exposures among children younger than six during the rapid expansion of the commercial edible market. Rather than repeat the full dataset here, the next section examines those findings in detail—including the age of the children, hospitalizations, critical-care admissions and the extraordinary rise in reported exposures. (See [American Academy of Pediatrics — Pediatric Edible Cannabis Exposures and Acute Toxicity: 2017–2021](#).)

The Youngest Children Provide One Of The Clearest Warnings

The national pediatric data deserve to be stated in full. The Pediatrics study documented 7,043 reported edible-cannabis exposures among children younger than six between 2017 and 2021. Cases increased from 207 in 2017 to 3,054 in 2021—a 1,375 percent increase. More

than 90 percent occurred in the child's own home. Approximately 1,600 children were admitted to hospitals, including 573 admitted to critical-care units; 193 children required oxygen and 35 were intubated. The median age was only three years, and two-year-olds represented the largest single age group. (See [Pediatrics — Pediatric Edible Cannabis Exposures and Acute Toxicity: 2017–2021](#).)

There were no deaths in that particular study, but that fact illustrates why fatality is an inadequate measure of toxicity. A three-year-old child does not have to die for THC poisoning to constitute a serious medical event. Intensive-care admission, respiratory support and intubation are meaningful harms regardless of whether physicians ultimately save the child's life.

California poison-control data show the same problem from another angle. From 2016 through 2024, cannabis-related poison-control calls involving children five years old and younger increased 406 percent, from 148 calls to 749. Among children in that age group, calls involving exposure to cannabis edibles increased 743 percent from 2017 through 2024. In 2024, children five and younger accounted for 34 percent of all cannabis-related calls to the California Poison Control System, and edibles accounted for 57 percent of calls in that age group. (See [California Department of Public Health — Cannabis Poison Control System Calls Dashboard](#).)

California public-health officials emphasize why edibles are especially dangerous for small children: they can be mistaken for ordinary candy or food, and children are more sensitive to THC because of their smaller size and weight. Symptoms of poisoning can include severe sleepiness, difficulty walking or sitting, confusion, vomiting, breathing difficulty, hallucinations, unresponsiveness and, in rare cases, seizures. (See [California Department of Public Health — Cannabis Poisoning](#).)

Child-Resistant Does Not Mean Child-Proof

Regulation can reduce risk, and child-resistant packaging is an important example. California requires cannabis goods to be sold in child-resistant packaging, but the state defines that packaging as designed to be difficult for children under five to open—not impossible. California recognizes both single-use and multiple-use child-resistant packaging. Single-use packaging is initially child-resistant, but once opened it is no longer child-resistant and must carry the warning: “This package is not child-resistant after opening.” Multiple-use packaging is designed to retain its child resistance after repeated opening and closing. (See [California Department of Cannabis Control — Child-Resistant Packaging](#).) That distinction is more important than it may first appear. Under the federal Poison Prevention Packaging Act standard used for many child-resistant packages, a package qualifies as child-resistant if at least 85 percent of tested children under five cannot open it during the first five minutes, and at least 80 percent cannot open it during the full ten-minute test. Put another way, “child-resistant” is a tested risk-reduction standard; it is not a promise that no child can open the container. (See [U.S. Consumer Product Safety Commission — Child-Resistant Packaging Requirements](#).)

The U.S. Consumer Product Safety Commission has repeatedly stressed this distinction. Its guidance says that even products in child-resistant packaging should be locked away and kept out of reach, because such packaging is not necessarily child-proof. The purpose of the packaging standard is to make access substantially more difficult and buy adults more time—not to substitute for supervision and safe storage. (See [U.S. Consumer Product Safety Commission — Childproofing Your Home](#).)

Cannabis products create several practical examples of how that protection can break down. A package of flower, pre-rolls, a vape cartridge, wax, shatter or dab concentrate may be sold in packaging that is child-resistant only until the first opening. After an adult tears open the package, removes the product and places it on a nightstand, countertop, coffee table, in a purse or in a backpack, the regulatory barrier may be gone altogether. California itself requires those single-use packages to be labeled accordingly.

Edibles create an additional problem because they can resemble familiar foods. California public-health officials specifically warn that cannabis edibles can be mistaken by children for ordinary candy or food, and that children are particularly vulnerable because of their smaller body size and greater sensitivity to THC. A gummy, chocolate, cookie, brownie or cannabis-infused drink does not necessarily look dangerous to a toddler simply because it originally came in a regulated container. (See [California Department of Public Health — Cannabis Poisoning](#).)

Consider a common household scenario. An adult purchases THC gummies in compliant child-resistant packaging, opens the package, takes one serving and leaves the package on a kitchen counter. Or several gummies are removed and placed in another container. Or a vape cartridge is taken out of its original package and left in a purse. Or a package labeled “child-resistant after closing” is simply not fully resecured. In each of those situations, the effectiveness of the original packaging depends heavily upon adult behavior after the point of sale.

That is not a criticism unique to cannabis packaging; the same basic limitation applies to medicines and household chemicals. But it becomes particularly relevant with cannabis because some products are edible, sweet, flavored, brightly colored or otherwise visually similar to ordinary consumer products. A regulatory package can reduce the probability that a child gains access, but it cannot control what happens after the product enters the home.

California’s own poison-control data demonstrate why that distinction matters. In 2016, the California Poison Control System received 148 cannabis-related calls involving children five and younger. By 2024, that number had risen to 749, an increase of more than 400 percent. Children five and younger accounted for 34 percent of all cannabis-related poison-control calls in California in 2024, and 57 percent of the calls involving that age group were associated with cannabis edibles. (See [California Department of Public Health — Cannabis Poison Control System Calls Dashboard](#).)

Those statistics do not prove that packaging failed in every case, nor do they establish that every exposure involved a legally purchased product. But they demonstrate something important: regulated packaging has not eliminated pediatric exposure. Even in a state with detailed cannabis-packaging requirements, very young children continue to account for a striking share of cannabis-related poison-center calls.

The national Pediatrics study discussed above reinforces the same lesson. The median exposed child was only three years old, two-year-olds constituted the largest single age group, and more than 90 percent of the exposures occurred in the child’s own home. Some children required hospitalization, intensive care, oxygen and intubation. The point is not that regulated packaging has no value; it plainly does. The point is that child-resistant packaging reduces risk—it does not eliminate access once cannabis products enter ordinary homes. (See [American Academy of Pediatrics, Pediatrics — Pediatric Edible Cannabis Exposures and Acute Toxicity: 2017–2021](#).)

That finding illustrates the practical limit of packaging regulation. Once a legally purchased product crosses the threshold of a home, regulation can no longer determine whether it is locked away, properly resealed, removed from its original container, left on a coffee table, stored in a purse or accidentally placed beside ordinary snacks. The final line of defense becomes adult storage and supervision.

This is why the phrase “child-resistant” must be understood literally and scientifically. It means more difficult for a young child to open under standardized testing conditions. It does not mean impossible to open. It does not mean the product remains protected after every package is opened. It does not mean a gummy removed from the package remains protected. And it does not mean a cannabis product brought into a home is somehow insulated from accidental ingestion.

The broader public-health lesson is straightforward: regulation can reduce risk, but it cannot regulate human behavior inside every household. Once THC products move from a licensed retailer into kitchens, bedrooms, purses, backpacks, cars and family rooms, safe storage becomes the final barrier between the product and the child. That is why the continuing poison-control, hospitalization and emergency-care data remain so important even in highly regulated legal markets.

California’s Emergency Rooms Are Part Of The Story

California now has enough experience with legal cannabis that the state maintains a dedicated cannabis-related emergency-department surveillance system. The California Department of Public Health tracks emergency visits involving cannabis poisoning, dependence, abuse and use, allowing public-health officials to examine patterns across time, age groups and counties.

These statistics require careful interpretation because a cannabis-related emergency visit does not necessarily mean marijuana was the sole cause of every medical problem. Cannabis may be the primary cause, a contributing factor or one of several substances involved. Yet the existence of a substantial statewide burden of cannabis-associated emergency care remains relevant to claims that modern marijuana produces little meaningful public-health consequence. (See [California Department of Public Health — Cannabis-Related Emergency Department Visits Dashboard](#).)

The statewide totals are substantial. In 2024, California recorded 127,723 cannabis-burden-related emergency-department visits, representing an age-adjusted rate of 329.4 visits per 100,000 residents. The rate rose from 298.3 per 100,000 in 2016 to a peak of 363.6 in 2019 before declining by 2024. Reporting the decline is important, but so is the continuing scale: more than 127,000 cannabis-associated emergency visits were recorded in a single year. (See [California Department of Public Health — Cannabis-Related Emergency Department Visits Dashboard](#).)

Cannabis poisoning represents a narrower subset. California recorded 4,289 cannabis-poisoning-related emergency-department visits in 2024. The age-adjusted poisoning rate increased from 10.1 per 100,000 residents in 2016 to 14.7 in 2018—a 45.5 percent rise—before declining to 11.3 in 2024. Among children ages 0 to 14, poisoning-related emergency-visit rates fluctuated but showed an overall increase through 2024, with the largest increase among children ages 0 to 4. (See [California Department of Public Health — Cannabis-Related Emergency Department Visits Dashboard](#).)

Hospitalizations also remain measurable. California reported 1,053 cannabis-poisoning-related nonfatal hospitalizations in 2024. The poisoning-related hospitalization rate rose from 3.0 per 100,000 residents in 2016 to 5.0 in 2019, then declined to 2.7 in 2024. These trends caution against presenting every cannabis indicator as an uninterrupted increase, but they also demonstrate that cannabis poisoning continues to consume emergency and inpatient healthcare resources. (See [California Department of Public Health — Cannabis-Related Hospitalizations](#).)

The larger lesson is that a commercial cannabis system does not exist only at the cash register where taxes are collected. Its consequences also appear in healthcare systems, poison centers, mental-health services and emergency departments, and those effects do not always fit neatly into the optimistic economic projections offered when retail legalization is debated.

Driving Presents A Problem Science Has Not Solved As Neatly As Alcohol

Cannabis presents a difficult road-safety problem because the relationship between THC concentration and functional impairment is more complicated than the relationship between blood-alcohol concentration and alcohol impairment. A person can test positive for THC after the period of greatest acute impairment has passed, and individuals vary substantially in their responses.

That measurement problem does not mean cannabis cannot impair driving. The CDC states that marijuana can slow reaction time, impair coordination and decision-making, and alter perception—abilities essential to operating a vehicle safely. This means communities cannot simply import the regulatory model developed for alcohol, because legalization can expand lawful access while law enforcement continues to face substantial difficulty establishing precisely when an individual cannabis user is functionally impaired. (See [CDC — Cannabis and Driving](#).)

A 2025 systematic review and meta-analysis provides a useful quantitative summary while preserving that uncertainty. Across 31 studies involving 328,388 individuals, cannabis consumption was associated with an estimated 55 percent increase in the odds of motor-vehicle-collision fatality (OR 1.55) and approximately double the odds of injury from a collision (OR 2.00). The authors rated the certainty of these estimates as low and found very- low-certainty evidence regarding culpability or unsafe driving actions. That caution matters: the evidence supports concern about crash risk without pretending that a blood THC number functions like a simple alcohol BAC threshold. (See [PubMed — Cannabis Consumption and Motor Vehicle Collision: Systematic Review and Meta-analysis](#).)

Wilson Compton, M.D., M.P.E., Deputy Director of the National Institute on Drug Abuse and a psychiatrist and epidemiologist who has spent decades studying substance-use patterns and prevention, has helped oversee NIDA's national research portfolio addressing drug use, epidemiology and public health. His career illustrates why cannabis-impaired driving, dependency and changing consumption patterns remain active research questions rather than fully solved problems. (See [NIH/NIDA — Wilson Compton biography](#).)

The Rural Workplace Deserves Far More Attention: New National Data Put Numbers Behind The Risk

Our original article gave too little attention to cannabis in safety-sensitive employment. That omission is particularly important for rural communities, where forestry, construction, agriculture, trucking, utilities, road crews, emergency response and heavy-equipment operation all require rapid judgment, coordination and reaction time. An error that might be inconsequential while sitting at home can become catastrophic while operating a logging truck, chainsaw, excavator or other industrial equipment.

This does not justify assuming that every person who lawfully uses cannabis away from work is impaired during working hours. It does mean that increasing access to an intoxicating product presents practical questions for employers because biological testing can often reveal previous cannabis exposure more easily than it can establish precise impairment at a particular moment. For rural America, the cannabis debate therefore cannot remain confined to discussions of storefront locations and tax receipts; employers, workers, insurers, first responders and public-safety agencies are stakeholders as well.

A 2026 study in the *American Journal of Industrial Medicine* analyzed national survey data from 30,123 U.S. workers ages 16 to 65. Approximately one in ten workers reported using cannabis at work or within two hours before work. Among those workplace users, about two in five reported feeling high at work “often” or “every time.” (See [American Journal of Industrial Medicine — Self-Reported Cannabis Use and Intoxication at Work](#).) The industry differences are particularly relevant to rural America. Workplace cannabis use was highest among workers in agriculture, forestry, fishing and hunting at 24.9 percent. Construction followed at 14.4 percent, and accommodation and food services at 12.6 percent. The category containing many of America’s most physically hazardous rural occupations therefore had the highest reported prevalence in the study. (See [PubMed — Self-Reported Cannabis Use and Intoxication at Work](#).)

The injury findings were equally important. Among workers who reported cannabis consumption and feeling high at work at least sometimes, 29.6 percent reported a work-related injury during the previous year, compared with 11.2 percent among workers reporting no cannabis use during the previous year. After statistical adjustment, self-reported intoxication at work remained associated with higher odds of work-related injury. (See [American Journal of Industrial Medicine — workplace cannabis and injury results](#).)

These results should not be distorted into the claim that anyone who uses cannabis away from work is automatically an unsafe employee. The study itself points toward a narrower occupational concern: use at work or shortly before work, especially when the worker reports feeling intoxicated. That distinction is especially important in agriculture, forestry, construction, trucking, utilities, road work and heavy-equipment operation, where small errors can produce catastrophic consequences.

The Illegal Market Did Not Simply Disappear

One of legalization’s most attractive promises was that licensed businesses would replace illicit cannabis sellers. Legal markets unquestionably can displace part of the illegal market and provide real advantages involving product testing, labeling and traceability, but experience in

legal-cannabis states demonstrates that regulated and illegal suppliers can coexist for long periods.

Dr. Pacula's work on California's legal and illicit cannabis markets has emphasized that illegal producers can remain competitive when taxes, compliance costs and prices create significant differences between regulated and unregulated products. Her analysis of California's cannabis economy has consequently warned against assuming that legalization automatically removes the illegal market. (See [USC — Small Cannabis Producers Have Bigger Problems than State Taxes and Regulation.](#))

The responsible conclusion is therefore modest but important. Legal retail may reduce portions of illegal commerce and may provide safer tested products for legal consumers, but legalization does not automatically make the black market disappear. A jurisdiction considering commercial retail should evaluate illegal-market enforcement separately rather than assuming licensed storefronts will solve that problem on their own.

California Law-Enforcement Data Show How Large The Illicit Market Remains

California's legal market has not eliminated the need for large-scale cannabis enforcement. In 2025, the California Department of Justice's Eradication and Prevention of Illicit Cannabis program reported eradicating 728,458 illegally cultivated cannabis plants and making 204 arrests across 34 counties. The program focuses not only on unlawful cultivation but also on environmental damage, economic harms and labor exploitation associated with illicit operations. (See [California Attorney General — 2025 EPIC enforcement results.](#)) The state's broader Unified Cannabis Enforcement Task Force illustrates the scale even more dramatically. By July 2026, California reported that task-force operations since 2022 had seized or destroyed more than 841,000 pounds—over 420 tons—of illicit cannabis valued at more than \$1.3 billion, including 1.3 million plants, through more than 750 search warrants across 29 counties. (See [Governor of California — Unified Cannabis Enforcement Task Force results.](#))

Those figures do not prove that legalization created the illegal market; illicit cannabis existed long before legal retail. They establish a narrower but important point: legalization did not make illegal cannabis disappear, and maintaining a legal industry has not eliminated the need for substantial law-enforcement activity against unlicensed cultivation and distribution.

Crime Is One Area Where Evidence Should Not Be Exaggerated

Public discussions about dispensaries sometimes imply that every marijuana retailer automatically produces a surge in violent or property crime. The research does not justify such a universal conclusion, and repeating it indiscriminately can weaken stronger, better-supported concerns.

Different studies have reached different results depending upon location, store density, neighborhood conditions, security requirements, illicit-market competition and research methodology. Some have identified increases in particular categories or nearby areas, while others have not found significant changes. There remain legitimate public-safety questions involving impaired driving, theft, diversion, youth access, cash handling and unlicensed competitors, but those concerns are substantial enough without claiming that every dispensary inevitably transforms its neighborhood into a high-crime area.

Tax Revenue Is Real—But That Is Only The Beginning Of The Calculation

Supporters of commercial cannabis frequently cite tax revenue, and responsible analysis should acknowledge immediately that the revenue is real. States with mature legal markets have collected hundreds of millions of dollars annually from cannabis taxes and fees, and some of those revenues fund worthwhile public programs. Dismissing those receipts merely because one opposes cannabis commercialization would weaken rather than strengthen the fiscal analysis.

Colorado provides one of the clearest long-term examples. Official state figures show marijuana tax and fee revenue of approximately \$423.5 million in 2021, followed by approximately \$325.1 million in 2022, \$274.1 million in 2023, \$255.4 million in 2024 and \$236.4 million in 2025. Those are substantial sums, but the same figures show that annual collections fell by roughly 44 percent from the 2021 peak to 2025. (See [Colorado Department of Revenue — Marijuana Tax Reports](#).)

That decline is why “increased tax revenue” is not, by itself, a complete argument for retail cannabis. A jurisdiction considering commercial marijuana needs to know how much revenue is expected relative to its total budget, whether that revenue will remain stable, what portion is recurring, and how much must be spent on planning, inspections, tax administration, legal review, public-health oversight and law enforcement before determining the genuine net fiscal benefit.

Government budgets can quantify license fees, tax receipts and employee salaries. They have much greater difficulty assigning a single dollar amount to a teenager developing cannabis-use disorder, a family dealing with psychosis or a child hospitalized after ingesting an edible, a driver involved in an impairment-related crash or a worker injured in a safety-sensitive environment, and the costs borne by law enforcement and other government agencies in responding to such events.

Dr. Pacula’s career has centered on precisely these questions involving the economics of addictive goods, illicit markets and government regulation. Her work emphasizes that cannabis markets respond to ordinary supply-and-demand forces and that tax and regulatory structures alter both consumer and producer behavior. A cannabis tax therefore should not automatically be treated as an indefinitely expanding revenue source capable of permanently financing recurring governmental obligations. (See [USC — Rosalie Liccardo Pacula research profile](#).)

Regulation Costs Money And Expertise

Cannabis does not become administratively simple merely because it becomes legal. Local governments must address zoning, application review, background investigations, inspections, taxation, building compliance, product rules, advertising restrictions, legal questions, security, complaints and enforcement against operators who remain outside the licensed market.

The National Academies’ 2024 review concluded that states have developed widely inconsistent public-health protections as policy changes proceeded rapidly without a single coherent federal regulatory framework. That finding is particularly relevant to small counties, which may have far fewer planning, enforcement and public-health personnel than major metropolitan governments even though they must still understand and administer complex

cannabis regulations. (See [National Academies — Cannabis Policy Impacts Public Health and Health Equity](#).)

This does not prove that every cannabis regulatory program costs more than it generates. It demonstrates why gross tax revenue and net public benefit are not the same figure. Planning staff, legal counsel, tax administration, inspections, public-health monitoring and enforcement all impose costs that should be included whenever a jurisdiction advertises the economic advantages of commercial cannabis.

Rural California Offers A Caution About Cannabis As An Economic Strategy

The experience of cannabis-intensive rural counties should also be considered carefully. Mendocino County, for example, has faced broader financial challenges documented by the California State Auditor, including rising expenditures and weakening reserves. The audit did not conclude that cannabis caused Mendocino County's overall fiscal problems, and it would be inaccurate to characterize the county's finances that way.

Nevertheless, Mendocino officials told state auditors that the sharp decline in the local cannabis market may have contributed to difficulties collecting taxes from properties involved in cannabis-related activity. The lesson is not that cannabis inevitably bankrupts rural counties; it is that a once-growing cannabis economy can contract sharply and should not automatically be treated as a permanently expanding foundation for local economic development. (See [California State Auditor — Mendocino County audit](#).)

Rural communities have seen similar cycles in agriculture, mining, timber and other industries. Markets rise, investment follows, tax projections become optimistic and eventually prices or demand change. Cannabis should be evaluated with the same economic realism rather than being granted an assumption of permanent growth.

Limited Licenses Create Another Governmental Challenge

Whenever government allows only a small number of businesses to operate, the licenses themselves can acquire substantial private economic value. Scarcity can produce intense competition for those licenses, making transparent scoring criteria, conflict-of-interest rules and meaningful appeals particularly important.

California's State Auditor examined cannabis permitting practices in several local jurisdictions and warned that systems limiting the number of permits can increase the value of those permits and therefore increase incentives for favoritism or improper influence if safeguards are weak. The Auditor recommended structural protections including blind scoring, impartiality declarations, transparent criteria and independent appeals. That warning does not imply that every local official or applicant is corrupt; it means the structure deserves careful protection wherever government distributes a small number of economically valuable commercial privileges. (See [California State Auditor — Local Cannabis Permitting](#).)

The audit's numbers show why those safeguards are not merely theoretical. Of the six local jurisdictions examined, only two used blind scoring of applications, four did not require everyone reviewing applications to sign impartiality statements, and all six were inconsistent in documenting required background-check steps. The finding was not that every permitting decision was corrupt; it was that systems distributing economically valuable cannabis privileges

can contain preventable weaknesses unless transparency and conflict-of-interest protections are built in from the beginning. (See [California State Auditor — Local Cannabis Permitting, Report 2023-116](#).)

America Is No Longer Conducting A Small Cannabis Experiment

Whatever one's policy position, the American cannabis marketplace is no longer marginal. Pew Research Center identified 14,932 cannabis dispensaries nationwide in its 2024 analysis and found that 79 percent of Americans lived in a county with at least one dispensary. California alone accounted for 3,659 dispensaries in that analysis, and 99.5 percent of Californians lived in a county containing at least one. (See [Pew Research Center — Most Americans Live in a Legal Marijuana State](#).)

Cannabis use has also become more common. Gallup reported in August 2026 that 17 percent of U.S. adults said they smoked marijuana, more than double the 7 percent recorded when Gallup first asked the question in 2013. Separately, 15 percent of adults said they consumed marijuana edibles. Those figures do not establish that legalization alone caused every increase, but they show how deeply cannabis has moved into ordinary American consumer life. (See [Gallup — U.S. Marijuana Smoking at Record High, Cigarettes at Low](#).)

That scale matters for public health. Even risks that affect only a minority of consumers can become significant when the exposed population numbers in the tens of millions and products are available through thousands of retail outlets in most of the country. The national debate therefore is no longer simply about whether some adults will use marijuana; it is about the consequences of normalizing and commercializing a large psychoactive-product market.

What America Still Does Not Know

One of the most striking conclusions from the National Academies' review is not simply how much researchers now know, but how many important questions remain unanswered.

Cannabis products, use patterns and markets continue evolving, while researchers still need better long-term evidence concerning product potency, modes of consumption, population-level harms, roadside impairment, the comparative risks of smoking, vaping, edibles and concentrates, and the consequences of different regulatory systems.

The committee concluded that scientific knowledge and public-health infrastructure have struggled to keep pace with rapidly changing cannabis products and policies. Dr. Hurd's warning therefore bears repeating: "the knowledge of the scientists, policymakers, and the public has failed to keep pace." (See [Mount Sinai — Setting the Stage for Better Education on Cannabis Use](#).)

That is a remarkable sequence. America has moved deeply into commercial cannabis while researchers are still trying to understand the long-term consequences of products dramatically stronger and more varied than those around which much of the original legalization debate developed. In many respects, society changed the marketplace first and researchers were left trying to measure the consequences afterward.

Pandora's Box Revisited

The ancient story of Pandora describes the opening of something whose consequences could not simply be gathered up and placed back inside once released. Like every metaphor, it

is imperfect, but it continues to illuminate something important about America's cannabis experience.

The country did not merely legalize the comparatively weak marijuana remembered by many older Americans. It helped create a commercial environment in which cannabis could evolve into stronger flower, concentrated extracts, vape products, gummies, beverages and increasingly convenient forms of THC consumption. Medical researchers such as Yasmin Hurd at Mount Sinai, Ziva Cooper at UCLA and Marta Di Forti at King's College London, along with economists and policy scholars such as Rosalie Pacula at USC and Jonathan Caulkins at Carnegie Mellon, have spent years documenting different pieces of that transformation. Their conclusions are not identical, nor do they all advocate precisely the same cannabis policies, which is exactly why their collective work is valuable.

Some adults use cannabis without developing cannabis-use disorder. Some cannabinoids have legitimate therapeutic potential. Regulated products can provide testing and labeling that illicit products lack. Cannabis taxes can generate meaningful government revenue, and not every feared consequence of legalization has appeared uniformly in every jurisdiction. Those facts should be acknowledged because scientific credibility depends on telling the whole truth, not only the evidence that supports one side of a policy argument.

Those acknowledgments do not erase the other side of the evidence. Cannabis can produce dependency. Younger initiation and frequent high-potency use are associated with greater psychiatric risk. Modern products can deliver much larger doses of THC than marijuana from previous generations. Edibles create new accidental-ingestion hazards, cannabis can impair activities essential to safe driving and work, and legal markets require substantial systems of regulation while illegal markets can persist alongside them.

For all of these reasons, Chuck and I opposed the legalization and commercialization of recreational marijuana throughout the years we addressed this subject together. That conclusion grew from both the evidence we examined and what we had seen substance abuse do to real people and families. Since Chuck's passing in March 2026, I have continued reviewing the newest medical and public-health literature for this revised edition. Nothing in that updated record persuades me that the core concerns we raised should be relaxed; in my judgment, the emergence of higher-potency products, concentrated THC, edible exposures, cannabis-use disorder, psychiatric concerns and the difficulties of regulating a rapidly commercialized market make those questions even more pressing.

For me personally, this conclusion is not merely the product of reading medical journals. Long before completing forty years of pastoral ministry, while pursuing my graduate-degree education and fulfilling ministry internships in Southern California, I volunteered as a drug counselor in a Los Angeles recovery center. I saw people struggling desperately to regain control of lives that substance abuse had helped unravel. During the decades of ministry that followed, I encountered those struggles from another vantage point—across the desk, in homes, beside hospital beds and among families trying to put relationships back together. I have watched the effects reach far beyond the individual to husbands and wives, mothers and fathers, sons and daughters, employers, churches and communities.

Those experiences do not permit me to say that every person who uses marijuana will become addicted, that every struggling family reached its condition because of cannabis, or that marijuana should be blamed for every social consequence associated with substance abuse. The scientific evidence itself would not justify those claims. But firsthand experience has taught

me something statistics can easily obscure: when substance use does become destructive, the consequences rarely stop with the person consuming the drug. Families often live with them too, which is why the discussion over commercialization has never seemed to me like an abstract debate over tax receipts, personal preference or another item appearing on a retail shelf.

Our original article closed with a biblical principle that remains remarkably relevant: “All things are permitted, but not all things are of benefit.” — 1 Corinthians 10:23. The distinction between what government permits and what genuinely benefits individuals, families and communities sits near the center of the cannabis debate. Something can be legal while still carrying significant health risks, and an industry can produce genuine tax revenue while also requiring regulation and creating public costs.

America now possesses considerably more evidence than it did when the modern legalization movement accelerated. Yet the nation is also experimenting with products, concentrations and commercial systems that earlier generations never contemplated. The responsible task is to examine that evidence without minimizing it and without claiming more than it proves, remembering that behind every statistic about potency, addiction, psychosis, impaired driving, childhood exposure or revenue are real people and real families who will ultimately carry the consequences.

Chaplain Todd DuBord, M.Div.

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