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“High” Standards: The Wave of Marijuana Legalization Sweeping America Ignores the Hidden Risks of Edibles

STEVE P. CALANDRILLO* AND KATELYN FULTON**

As a tide of marijuana legalization sweeps across the United States, there is a surprising lack of scrutiny as to whether the benefits of recreational marijuana outweigh the risks. Notably, marijuana edibles present special risks to the population that are not present in smoked marijuana. States that have legalized recreational marijuana are seeing an increase in edible-related calls to poison control centers and visits to emergency rooms. These negative reactions are especially prevalent in vulnerable populations such as children, persons with underlying preexisting conditions, and out-of-state marijuana novices.

Unfortunately, research on edible marijuana is scant and state regulatory regimes are not adequately accounting for the special risks that edibles pose. Edibles are metabolized differently than smoked marijuana, resulting in late-onset, longer-lasting, and unpredictable intoxication. Novices are particularly vulnerable because of inaccurate dosing and delayed highs. Children are also at risk because edibles are often packaged as chocolate and other forms of candy to which unsuspecting kids are attracted. To minimize these risks and maximize the social utility received from marijuana edibles, further study of their effects is required and potentially tighter regulations may be necessary. These measures will take time to accomplish, and in the interim state-implemented restrictions on marijuana edibles may be necessary to halt the increase of edible-related harms and hospitalizations.

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* Jeffrey & Susan Brotman Professor of Law, University of Washington School of Law, stevecal@uw.edu. J.D., Harvard Law School, B.A. in Economics, U.C. Berkeley.
** University of Washington School of Law, B.A. in Biology, Washington State University.

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I. INTRODUCTION

Over the past few decades, the popularity of marijuana as a recreational and medicinal drug has grown rapidly as its reputation has evolved. In the 1960s, it was associated with the free love and peace movements, and often scorned by the establishment. Later, it was adopted by American pop culture, amassing celebrity advocates such as Snoop Dogg, Willie Nelson, Whoopi Goldberg, and Woody Harrelson. As pop culture and social movements brought marijuana into the limelight, popular opinion shifted towards supporting marijuana legalization. Many marijuana advocates cited the drug’s potential medicinal properties as a reason that it should be legalized. In 1996, California became the first state to pass legislation legalizing medical marijuana, and over the next few decades thirty-two other states and the District of Columbia followed suit. Now, a wave of recreational marijuana legalization has hit the country. Ten states and the District of Columbia have all legalized marijuana for recreational use, and other states are currently considering similar legislation.
The tide of legalization is unsurprising, given the joy and utility that the drug brings to many users. It allows recreational users to relax and experience a euphoric “high,” and affords medical users relief from chronic pain and nausea. According to a recent Gallup Poll, 45% of Americans have now tried marijuana at least once in their lives, and 12% of Americans currently use it. There is also a generational divide in perceptions of whether marijuana should be legal. Millennials (ages twenty to thirty-seven in 2018) were over twice as likely to support legalization of marijuana in 2016 than they were a decade prior (71% in 2016 versus just 34% in 2006). Millennials are also more likely to support it than other generations, although support for the legalization of marijuana is rising in other generations as well. In 2016, 57% of Generation X (ages thirty-eight to fifty-three in 2018) and 56% of Baby Boomers (ages fifty-four to seventy-two in 2018) supported legalization. These numbers are up dramatically from just 21% and 17% in 1990, respectively.

Despite a majority of Americans now supporting decriminalization, the legal and regulatory regime surrounding marijuana continues to create inconsistent expectations. State and federal marijuana laws conflict to an extreme. While a majority of states have legalized medical marijuana and a growing number have legalized recreational marijuana, federal law still

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11 Id.


13 Geiger, supra note 10.

14 Id.

15 See NCSL, supra note 5 (listing the jurisdictions that have legalized medical marijuana as Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, the District of Columbia, Florida, Hawaii, Illinois, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, Utah, Vermont, Washington, and West Virginia); see also Berke & Gould, supra note 7 (listing the jurisdictions that have legalized recreational marijuana as Alaska, California, Colorado, the District of Columbia, Maine, Massachusetts, Michigan, Nevada, Oregon, Vermont, and Washington).
classifies marijuana as a Schedule I substance under the Controlled Substances Act, placing it firmly in the category of an illegal substance.\(^\text{16}\)

The current tide of recreational marijuana legalization has brought about huge opinion and social change, and most commentators now simply assume that the benefits outweigh the risks. Although this may be true, the very recent legalization of marijuana means that well-conducted, scientifically rigorous studies on the drug are scant and there are large gaps in research. More specifically, advocates have almost entirely ignored the special risks that marijuana edibles present. The way in which edibles are metabolized (as opposed to smoked marijuana) results in a late-onset, longer-lasting, and unpredictable intoxication.\(^\text{17}\) Novices are particularly vulnerable to edibles because of inaccurate dosing and delayed highs. Children are also at risk because edibles are often packaged as candy to which children are attracted.\(^\text{18}\) Assuming that the future of marijuana is increased social acceptance and legalization, state actors must be vigilant to maximize the benefits while minimizing the risks of increased usage and access. Particularly in the case of edibles, guarding against their unique risks is critical to ensuring that the net utility of marijuana legalization to society is a positive one.

Part II of this Article gives a brief background and history of marijuana and details the underlying laws and regulations that currently govern the drug. Part III lays out the pros and cons of marijuana legalization, both recreational and medical. Part IV examines the special case of edibles by detailing the unique risks associated with this form of marijuana consumption. Part IV also summarizes the current regulations governing edibles in states that have now legalized recreational marijuana. Finally, Part V argues that the risks of edibles require further study and proposes common-sense regulatory responses that states should immediately adopt to minimize the risks associated with edible use.


II. THE LAWS AND REGULATIONS THAT GOVERN MARIJUANA

A. Brief Overview of Cannabis and Its History

Cannabis has been popular among humankind since the advent of agriculture more than 10,000 years ago.\(^\text{19}\) It is native to the steppes of Central Asia and believed to be indigenous to present-day Mongolia and southern Siberia.\(^\text{20}\) The genus cannabis is made up of a group of closely related species.\(^\text{21}\) The two subspecies that are most prevalent are *cannabis sativa* L. and *cannabis sativa* L.\(^\text{22}\) *Cannabis sativa* L. is known as hemp and is not psychoactive.\(^\text{23}\) *Cannabis sativa* L. is psychoactive and is most widely known as marijuana.\(^\text{24}\) As human migration spread marijuana across Europe, Asia, and Africa, *Cannabis sativa* L. became widely cultivated in historical civilizations that were located in cooler climates.\(^\text{25}\) *Cannabis sativa* (i.e., marijuana), among other psychoactive species of cannabis, was historically widely used for its psychoactive properties in areas of the world closer to the equator.\(^\text{26}\) *Cannabis sativa* was used in China and Japan, and became heavily used for psychoactive purposes once it was carried into South Asia, sometime between 2000 and 1000 BC.\(^\text{27}\) In India, cannabis became interwoven into traditions and cultures, and had an influence on religion and medicine.\(^\text{28}\) Over the centuries, migratory and conquest patterns brought *Cannabis sativa*, as well as the historical practice of using the plant for its psychoactive properties, to the rest of the globe.\(^\text{29}\)

The psychoactive effects of marijuana are the result of a resin produced by the female marijuana plant.\(^\text{30}\) This resin contains cannabinoids, including delta-9-tetrahydrocannabinol (THC).\(^\text{31}\) THC is responsible for the “high” that marijuana produces, which includes symptoms such as euphoria, increased sensory cognizance, distortions in perceptions of time and space, and increased appetite.\(^\text{32}\) The effects of THC vary from person to person based on differences such as dose, age, and strain of marijuana.\(^\text{33}\) In order to be absorbed into the

\(^{20}\) Warf, *supra* note 8, at 418 (“[O]thers have variously suggested the Huang He River valley, the Hindu Kush mountains, South Asia, or Afghanistan as possible source areas.”).
\(^{21}\) Id. at 416.
\(^{22}\) Id.
\(^{23}\) Id.
\(^{24}\) Id.
\(^{26}\) See id.
\(^{27}\) Warf, *supra* note 8, at 420.
\(^{28}\) Id. at 420–21.
\(^{29}\) Id. at 418–33.
\(^{30}\) Id. at 416.
\(^{31}\) Id.
\(^{32}\) Id.
\(^{33}\) Warf, *supra* note 8, at 416.
bloodstream, THC must reach a temperature of over 100 degrees Celsius, which is why marijuana has historically been prepared with methods involving heat (i.e., smoking or cooking).34

B. The Rise of Anti-Marijuana Laws in the United States

American history has been fraught with the ebb and flow of marijuana popularity and stigmatization. From the mid-1800s to the early 1900s, American physicians explored the medical use of marijuana.35 However, anti-marijuana sentiments were on the rise during this time because the opium addiction gripping America brought about the desire to control drug addiction.36 Anti-immigration sentiments also created a desire in many Americans to criminalize marijuana because they believed that Mexican immigrants who entered the United States after the Mexican Revolution in 1910 had introduced the drug.37 States began passing laws restricting marijuana use beginning in 1911,38 and the first local ordinance that banned citizens from selling or possessing marijuana was issued by El Paso, Texas in 1914.39

The 1920s and ‘30s witnessed an increase in both medicinal and recreational marijuana use.40 Immigrants and sailors arriving by ship brought marijuana to coastal cities.41 In New Orleans marijuana soared in popularity, thanks to its use by jazz musicians who wrote songs that sang the plant’s praises.42 From New Orleans, traveling jazz musicians brought marijuana to other prominent jazz cities such as Chicago, Harlem, Kansas City, and St. Louis.43 Meanwhile, pharmaceutical companies were manufacturing marijuana extracts and cigarettes for medical purposes, including for use as painkillers and asthma treatments.44

But the 1920s also brought Prohibition, and with it a slew of anti-drug sentiment.45 American anti-marijuana laws not only sought to restrict the growing and selling of marijuana, but the mere possession of it as well.46

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34 Id.
35 86 THE REFERENCE SHELF, MARIJUANA REFORM ix (2014) [hereinafter MARIJUANA REFORM].
36 Id.
37 Id. at ix–x.
38 Id. at x.
39 Warf, supra note 8, at 429.
40 Id.
41 Id.
42 Id.
43 Id.
44 Reid, supra note 16, at 170 (listing Parke-Davis, Eli Lilly, and Grimault & Company among the pharmaceutical companies that manufactured medicinal marijuana).
45 Prohibition was a time period in American history in which, pursuant to the ratification of the 18th Amendment, the manufacture, sale, and transportation of alcohol was banned. U.S. CONST. amend. XVIII (repealed 1933); Warf, supra note 8, at 429.
46 Warf, supra note 8, at 429.
Furthermore, cotton-growers who feared hemp as a competitor opined that the drug must be criminalized. Because American laws did not differentiate between *Cannabis sativa* L. and *Cannabis sativa*, the industrial war against hemp by cotton-growers and producers of synthetic fiber resulted in the complete outlawing of the cannabis plant.

Additionally, perhaps the most influential fuel in the fight against marijuana was racial prejudice. Anti-immigration and racist sentiments, particularly aimed at African-American and Mexican-American populations, ran rampant in the criminalization movement. Many prohibitionists contended that marijuana drove racial minorities “crazy” and “scapegoated [marijuana] as prompting murder, rape, and mayhem among blacks in the South, Mexican Americans in the Southwest, and disfavored white immigrants from laboring classes with marijuana blamed for the seduction of white girls by black men and for violent crimes committed by these groups.” By 1931, twenty-nine states had outlawed its production or use.

During the 1930s and beyond, the federal government’s battle against marijuana reached a new level of vitality. The Federal Bureau of Narcotics (FBN) was established on June 14, 1930, and its first commissioner, Harry Anslinger, waged a three-decade war on the drug. Journalists dispersed Anslinger’s anti-marijuana messages to the public, releasing racist stories that claimed marijuana contributed to the “evils” of jazz music, as well as World War II and the Cold War. Propaganda about the dangers of marijuana reached a new height in the 1936 film *Reefer Madness*, in which the “evil” drug marijuana corrupted a group of teens and adults and caused them to spiral into a haze of rape, murder, suicide, and insanity. In 1932, the Uniform Law Commission passed the Uniform Narcotic Drug Act, which encouraged states

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47 Id.
48 See id.
50 Id.
51 Id.
52 Id. at 690–91.
53 Warf, *supra* note 8, at 429.
54 Records of the Drug Enforcement Administration [DEA], NATIONAL ARCHIVES, https://www.archives.gov/research/guide-fed-records/groups/170.html#170.3
56 Warf, *supra* note 8, at 430 (Anslinger argued that the Japanese (in WWII) and Communists (in the Cold War) were using cannabis to dull the will of Americans).
57 Reefer Madness (George A. Hirliman Productions 1936); see Warf, *supra* note 8, at 430.
to criminalize the use of marijuana. By 1937, all fifty states had passed laws restricting the use of marijuana, and thirty-five states had criminalized the drug.

In addition, Congress passed the Marijuana Tax Act in 1937. The Act put the regulation of cannabis under the control of the Drug Enforcement Agency (DEA) and made marijuana sales illegal to anyone without a prescription for its use, effectively criminalizing the drug. The DEA further promoted anti-hemp programs following World War II, and in 1948 it was again criminalized. Three years later Congress made the penalties for marijuana possession equal to heroin when it passed the Boggs Act.

Despite the political push to prohibit marijuana use, the 1960s saw pervasive use of marijuana among all classes and races in the United States. This upswing in popularity was the result of the social revolution of the hippies, civil rights movements, environmentalism, antiwar sentiments, and other countercultural movements and activists. As a result, many states’ legal penalties for the use of marijuana were reduced in the 1960s.

Anti-marijuana factions met the increasing popularity of marijuana with strong opposition. In 1970, Congress passed the Controlled Substances Act (CSA), prohibiting the distribution and importation of drugs that Congress deemed to have a “high potential for abuse, and little-to-no medicinal value.” The CSA created a five-schedule classification system for drugs that was based on factors such as the potential for abuse, the physical and mental ramifications of the drug’s abuse, and its medical utility. The FDA or the DEA places all drugs in one of the five schedules, and that schedule classification determines what level of regulation and severity of penalty the drug carries. At the time

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59 Reid, supra note 16, at 170.
61 Warf, supra note 8, at 430.
62 Reid, supra note 16, at 170; Warf, supra note 8, at 430.
63 Warf, supra note 8, at 430.
65 Warf, supra note 8, at 430.
66 Id. at 430–31.
67 Marijuana Reform, supra note 35, at x.
69 Controlled Substances Act § 812; Reid, supra note 16, at 170.
of the CSA’s passing, Congress created the initial listing of drugs and classified marijuana as a Schedule I substance, “a category designated for substances that have a high potential for abuse, no current or accepted medical use, and no accepted standards for safe use.”

Throughout the 1970s and 1980s, the American “War on Drugs” resulted in ever-stricter penalties for marijuana production and use.

C. States Break the Mold: A Modern-Day Wave of Marijuana Legalization

During the 1990s, evidence began to surface that demonstrated marijuana’s medical potential for chronic pain and nausea relief, resulting in better footing for medical marijuana advocates. States began to legalize medical marijuana starting in the late 1990s; California was the first state to do so in 1996 via Proposition 215. Alaska, Arizona, Colorado, Nevada, Oregon, and Washington soon followed suit. States continued to legalize medical marijuana over the next two decades. By 2018, thirty-three states and the District of Columbia had legalized the use of medical marijuana. A 2016 Quinnipiac poll found that nearly nine out of ten respondents now favor the use of medical cannabis.

In 2012, states also began to legalize recreational marijuana. Washington and Colorado were the first states to do so, and Alaska, California, the District of Columbia, Maine, Massachusetts, Michigan, Nevada, and Oregon, have since passed laws to legalize its recreational use. Recreational marijuana laws vary by state in terms of the level of restrictions on the growing, packaging, sale, and purchase of marijuana.

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71 MARIJUANA REFORM, supra note 35, at x; Reid, supra note 16, at 170 (LSD and heroin are also placed in Schedule I).
72 MARIJUANA REFORM, supra note 35, at x.
73 Id. (“[E]vidence suggested that marijuana was effective in treating a number of serious medical issues, including the side effects from HIV and cancer treatment, glaucoma, multiple sclerosis, and chronic pain.”).
75 MARIJUANA AND MEDICINE, supra note 74.
76 NCSL, supra note 5.
77 NASEM, supra note 8, at 79.
78 Berke & Gould, supra note 7.
79 State Marijuana Laws in 2018 Map, supra note 74; see Berke & Gould, supra note 7.
80 See Berke & Gould, supra note 7.
The current state of marijuana laws is summarized below:81

Table 1: Current State of Marijuana Laws in the United States (2019)

<table>
<thead>
<tr>
<th>State</th>
<th>Medical Marijuana</th>
<th>Recreational Marijuana</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Legalized?</td>
<td>Legislation (date passed)</td>
</tr>
<tr>
<td>Alabama</td>
<td>No</td>
<td>–</td>
</tr>
<tr>
<td>Arizona</td>
<td>Yes</td>
<td>Ballot Proposition 203 (2010)</td>
</tr>
<tr>
<td>Arkansas</td>
<td>Yes</td>
<td>Ballot Measure Issue 6 (2016)</td>
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<tr>
<td>Connecticut</td>
<td>Yes</td>
<td>HB 5389 (2012)</td>
</tr>
<tr>
<td>Delaware</td>
<td>Yes</td>
<td>SB 17 (2011)</td>
</tr>
<tr>
<td>Florida</td>
<td>Yes</td>
<td>Ballot Amendment 2 (2016)</td>
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<tr>
<td>Georgia</td>
<td>No</td>
<td>–</td>
</tr>
<tr>
<td>Hawaii</td>
<td>Yes</td>
<td>SB 862 (2000)</td>
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<tr>
<td>Idaho</td>
<td>No</td>
<td>–</td>
</tr>
<tr>
<td>Illinois</td>
<td>Yes</td>
<td>HB 1 (2013)</td>
</tr>
<tr>
<td>Indiana</td>
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<td>–</td>
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<td>Louisiana</td>
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<td>SB 271 (2017)</td>
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81 Id.; NCSL, supra note 5.
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D. The Current Federal Legal Regime

1. Department of Justice Guidance—Four (Conflicting) Memoranda

Notwithstanding the fact that many states have legalized medical and then recreational marijuana, it remains a Schedule I drug under the CSA. In the past few years, the federal government has released guidance on how it will treat marijuana in states in which the drug has been legalized. In particular, the United States Deputy Attorney General has issued four memoranda. First, in 2009, the Ogden Memorandum was released, which stated that the enforcement of federal marijuana law “should not focus federal resources . . . on individuals whose actions are in clear and unambiguous compliance with existing state laws providing for the medical use of marijuana.” Many states and citizens interpreted this memorandum to say that the federal government would not prosecute people for federal marijuana crimes so long as their actions complied with applicable state law, at least in terms of medical marijuana. The Ogden Memo also stated, however, that:

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<tr>
<th>State</th>
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<td>Wyoming</td>
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83 Ogden Memo, supra note 82, at 1–2.

The Department of Justice is committed to the enforcement of the Controlled Substances Act in all States. . . . This guidance regarding resource allocation does not ‘legalize’ marijuana or provide a legal defense to a violation of federal law. . . . Nor does clear and unambiguous compliance with state law . . . create a legal defense to a violation of the Controlled Substances Act.85

Subsequent to this memo, the federal government has indeed prosecuted several manufacturers complying with their state’s medical marijuana laws, charging them with CSA violations.86

In 2011, a second memorandum (the Cole Memo) was released.87 The Cole Memorandum’s subject line proclaimed, “Guidance Regarding the Ogden Memo in Jurisdictions Seeking to Authorize Marijuana for Medical Use.”88 The Cole Memo stated that it is not an efficient use of federal government resources to pursue enforcement actions against seriously ill individuals who use marijuana for medical treatment, or against their caregivers.89 However, the Cole Memo went on to say that:

There has [ ] been an increase in the scope of commercial cultivation, sale, distribution and use of marijuana for purported medical purposes . . . several jurisdictions have considered or enacted legislation to authorize multiple large-scale, privately–operated industrial marijuana cultivation centers. Some of these planned facilities have revenue projections of millions of dollars based on the planned cultivation of tens of thousands of cannabis plants.

The Ogden Memorandum was never intended to shield such activities from federal enforcement action and prosecution, even where those activities purport to comply with state law.90

The 2011 Cole Memo language was somewhat in conflict with the Ogden Memo, and took a harder stance against medical marijuana production in states in which the drug had been legalized. The result of these two memoranda was further confusion for federal prosecutors as well as potential producers and users.

In an effort to assuage that confusion, the DOJ released yet another memo in 2013 (the 2013 Memo).91 This memo laid out a list of enforcement priorities and directed DOJ attorneys and law enforcement to focus their resources and

85 Ogden Memo, supra note 82, at 1–2.
87 Cole 2011 Memo, supra note 82, at 1.
88 Id.
89 Id.
90 Id. at 1–2.
91 Cole 2013 Memo, supra note 82, at 1.
enforcement efforts on “persons or organizations whose conduct interferes with any one or more of these priorities, regardless of state law.” The priorities listed in the 2013 Memo were:

- Preventing the distribution of marijuana to minors;
- Preventing revenue from the sale of marijuana from going to criminal enterprises, gangs, and cartels;
- Preventing the diversion of marijuana from states where it is legal under state law in some form to other states;
- Preventing state-authorized marijuana activity from being used as a cover or pretext for the trafficking of other illegal drugs or other illegal activity;
- Preventing violence and the use of firearms in the cultivation and distribution of marijuana;
- Preventing drugged driving and the exacerbation of other adverse public health consequences associated with marijuana use;
- Preventing the growing of marijuana on public lands and the attendant public safety and environmental dangers posed by marijuana production on public lands; and
- Preventing marijuana possession or use on federal property.

The 2013 Memo went on to state that, despite what the DOJ had directed in previous memoranda, proper state regulation of large-scale, for-profit marijuana commercial enterprises might alleviate any threat to federal interests that the operation’s size may have posed. Therefore, the Department directed that “prosecutors should not consider the size or commercial nature of a marijuana operation alone as a proxy for assessing whether marijuana trafficking implicates the Department’s enforcement priorities listed above. Rather, prosecutors should continue to review marijuana cases on a case-by-case basis.” Understandably, this 2013 revision was viewed with favor by marijuana advocates and producers, but certainly does not resolve all the questions and concerns that the industry and users might have.

Finally, in January of 2018 Attorney General Jefferson Sessions released a memorandum with a subject line titled “Marijuana Enforcement.” This memorandum states that in exercising discretion to prosecute a marijuana activity or not, prosecutors should follow the same principles governing all federal prosecutions. Furthermore, the memorandum went on to state that “previous [i.e., Obama era] nationwide guidance specific to marijuana

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92 Id. at 1–2.
93 Id. at 1–2.
94 Id. at 3.
95 Id.
96 Sessions Memo, supra note 82, at 1.
97 Id.
enforcement is unnecessary and is rescinded, effective immediately” and specifically listed the Ogden and Cole Memoranda among the rescinded.98 This new decision has created even more confusion among the marijuana states, industries, and users as to the risks posed by participating in the marijuana market.99

2. Financial Regulations and Implications

Besides the CSA, other federal laws affect the use and distribution of marijuana. Businesses that deal in marijuana are prevented from certain aspects of interstate commerce because the drug is still federally prohibited.100 In particular, laws that govern banking101 and finance102 prevent businesses that deal in marijuana from gaining access to lines of credit or banking.103 Laws that govern money laundering also prevent banks from dealing with marijuana businesses.104 The U.S. Treasury Department has attempted to assuage this tension by stating that financial establishments may deal with businesses within the marijuana industry, so long as they comply with state law.105

Congress also passed Section 538 of the Consolidated Appropriations Act of 2015, which provided that, beginning in December 2014, DOJ funds may not be used to prevent states from implementing laws that authorize the use, distribution, possession or cultivation of medical marijuana.106 Congress again passed this law in Section 542 of the Consolidated Appropriations Act of 2016.107 As of 2017, Congress’s latest Consolidated Appropriations Act includes the same protections for state medical marijuana laws under Section 537.108

98 Id.
100 See Gonzales v. Raich, 545 U.S. 1, 22 (2005) (holding that Congress did not exceed its Commerce Clause powers by regulating marijuana).
103 NASEM, supra note 8, at 77.
105 DEP’T OF THE TREASURY, supra note 101; NASEM, supra note 8, at 77.
108 The Consolidated Appropriations Act of 2017 states:
Several pieces of legislation were proposed in the 114th Congress that would lessen federal marijuana restrictions. These proposals range from making cannabis more accessible to researchers to removing marijuana completely from the CSA and treating it like alcohol. For example, Senator Cory Booker of New Jersey proposed a bill that would completely remove marijuana as a scheduled drug under the CSA. Under this proposal, states would be free to choose their own marijuana laws without fear of federal government interference. The bill also proposes to withhold criminal justice funding from states in which marijuana remains illegal if rates of arrest and incarceration for marijuana offenses are racially disproportionate. Furthermore, the bill would create an avenue for individuals with federal marijuana convictions to have their records expunged, and for those still serving time to be resentenced. Part of the bill’s aim is to reduce the harm caused disproportionately to low-income and minority communities so that past and current harm caused by federal marijuana laws can be reduced.

None of the funds made available in this Act to the Department of Justice may be used, with respect to any of the States of Alabama, Alaska, Arkansas, Arizona, California, Colorado, Connecticut, Delaware, Florida, Georgia, Hawaii, Illinois, Iowa, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, and Wyoming, or with respect to the District of Columbia, Guam, or Puerto Rico, to prevent any of them from implementing their own laws that authorize the use, distribution, possession, or cultivation of medical marijuana.


109 NASEM, supra note 8, at 78.
110 Medical Marijuana Research Act, H.R. 5549, 114th Cong. (2016); NASEM, supra note 8, at 78.
112 S. 1689 § 2; Ingraham, supra note 111.
113 S. 1689 § 3(b); Ingraham, supra note 111.
114 S. 1689 § 3(c); Ingraham, supra note 111.
115 See supra Part II.B; Bender, supra note 49, at 690–92.
117 S. 1689 §§ 3–4; see Ingraham, supra note 111.
3. Court Cases

Recent cases in the federal court system have demonstrated that the courts err on the side of refusing to entertain challenges to state marijuana legalization regimes.\(^{118}\) For instance, in *United States v. McIntosh*, the Ninth Circuit held that Section 542 of the Consolidated Appropriations Act of 2016 prevents the federal government from prosecuting individuals whose conduct is in compliance with state medical marijuana laws.\(^{119}\) The court held that Section 542 proscribes the DOJ from expending funds on actions that are meant to prevent states with laws legalizing medical marijuana from giving effect to those laws.\(^{120}\)

In March of 2016, the Supreme Court declined to hear a case in which Oklahoma and Nebraska challenged Colorado’s marijuana legalization regime.\(^{121}\) Oklahoma and Nebraska argued that Colorado’s legalization of marijuana had created issues with enforcement of their own marijuana laws because it had resulted in more marijuana crossing the border from Colorado into their states.\(^{122}\) The Supreme Court refused to hear the case without comment and by a 6-2 majority.\(^{123}\)

4. Effect of Conflicting Federal and State Laws on Marijuana Research

The conflicting federal and state marijuana regimes create numerous complications for users and the marijuana industry, but perhaps one of the most deleterious impacts is the chilling effect that it has had on conducting scientific research.\(^{124}\) Because federal law still criminalizes marijuana, obtaining federal funding for research of the drug is extremely difficult.\(^{125}\) The DEA has


\(^{119}\) *United States v. McIntosh*, 833 F.3d 1163, 1177 (9th Cir. 2016).

\(^{120}\) *Id.* at 1176–77.


\(^{122}\) Ingraham, *supra* note 121.

\(^{123}\) *Id.*


\(^{125}\) *Id.*; see also NASEM, *supra* note 8, at 384–85.
regulatory power over the cultivation of marijuana for research purposes.\textsuperscript{126} The DEA sets forth specific licensing requirements and quotas for yearly aggregate production under the CSA.\textsuperscript{127} So far, the DEA has only issued one marijuana research cultivation license to the University of Mississippi.\textsuperscript{128} Therefore, the sole source of marijuana for the entire nation’s research originates from one plot of land.\textsuperscript{129} This limited source presents practical problems—most notably, it creates a lack of competitive research because of the isolation to only Mississippi strains, which have been described as “low-quality.”\textsuperscript{130} The National Institute on Drug Abuse (NIDA), part of the National Institutes of Health (NIH) and Department of Health and Human Services (DHHS), contracts with the University of Mississippi for the marijuana that it cultivates and is the sole source of this material for marijuana research.\textsuperscript{131} Before researchers may obtain NIDA funding and marijuana materials for their projects they must meet strict requirements.\textsuperscript{132} In particular, they must: (1) “[d]emonstrate scientific validity and ethical soundness through NIH review,” (2) hold a “DEA registration for marijuana, a Schedule I controlled substance,” and (3) have “[a]n active-status Investigational New Drug (IND) application on file with the FDA (for human research only), which has been evaluated by FDA and found safe to proceed.”\textsuperscript{133}

NIDA’s tight hold on funding and materials for marijuana research is more significant in light of the fact that the federal government owns the sole patent on cannabis plant compounds.\textsuperscript{134} U.S. Patent 6,630,507 was issued to DHHS, and was a result of NIH research, of which NIDA is a subset.\textsuperscript{135} The patent describes cannabinoid chemical compounds that are similar to THC structurally but are devoid of psychoactive effects, and lays out their therapeutic possibilities for certain medical conditions.\textsuperscript{136} Research companies must apply for licenses

\begin{itemize}
  \item \textsuperscript{127} Id.
  \item \textsuperscript{128} Id.
  \item \textsuperscript{130} Ingraham & Chappell, supra note 129.
  \item \textsuperscript{131} NASEM, supra note 8, at 384; NIDA, supra note 126.
  \item \textsuperscript{132} See NIDA, supra note 126.
  \item \textsuperscript{133} Id.
  \item \textsuperscript{135} Id.; NASEM, supra note 8, at 384.
  \item \textsuperscript{136} Id.
\end{itemize}
in order to use the technology covered in the patent. On the positive side, much of this will change on April 21, 2019, when the patent is due to expire. After that date, researchers will be free to use the cannabinoids covered in the patent and competitive research should bloom.

The net result of the above-described marijuana research regulatory regime is a glaring lack of reputable scientific studies on the health risks and benefits of cannabis. States are legalizing marijuana (or deciding to keep it criminal) based on extremely limited research on the effect that marijuana has on the human body and the broader human population. As noted by one drug policy journalist, “[t]he gap between permissive state laws and a restrictive federal policy has become increasingly untenable in the minds of many doctors, patients, researchers, business owners and legislators.” The DEA’s regime and continued refusal to reschedule marijuana results in a circular catch-22 problem for marijuana research: “[b]y ruling that there is not enough evidence of ‘currently accepted medical use’—a key distinction between the highly restrictive Schedule I classification and the less restrictive Schedule II—the administration essentially makes it harder to gather such evidence.”

III. PROS AND RISKS OF MARIJUANA LEGALIZATION

A. The Pros of Marijuana Legalization

1. Economic Benefits

Marijuana legalization provides substantial economic benefits, as the marijuana industry has become a booming business in states in which it has been legalized. Colorado has accrued tax revenue over $905 million since marijuana legalization went into effect in 2014 until the end of 2018. Washington State reports its revenue at over $686 million since its legalization of marijuana in 2014. In Oregon, almost $21 million was made in tax revenue in the 2016 fiscal year in which marijuana was legalized, over $70 million in the 2017 fiscal year.
year, and over $82 million in the 2018 fiscal year. In less than two full years, Oregon collected $108.6 million in taxes on the state and local levels. Based off of the tax revenues of the earliest states to have legalized marijuana, a May 2016 study found that the new industry could create $28 billion in tax revenues for governments on the local, state, and federal levels. Market valuation estimates put the 2016 legal marijuana market at approximately $7.2 billion, with a projected compound annual growth rate of 17%. Medical marijuana alone is estimated to increase in sales from $4.7 billion in 2016 to $13.3 billion in 2020. Recreational marijuana is projected to grow in sales from $2.6 billion in 2016 to $11.2 billion by 2020. And these numbers do not include any additional markets from other states that are likely to pass legalization initiatives by 2020.

States that legalize marijuana also experience the economic benefit of reduced expenditures on law enforcement—police, judicial, legal, and corrections. Police resource expenditures would be reduced because there would be fewer drug arrests. Legal and judicial expenses would also be reduced because there would be fewer drug prosecutions. Finally, correctional resource expenditures would be reduced because fewer people would be incarcerated for drug offenses. These reductions create a substantial monetary savings for states. For instance, a recent report has estimated that Washington State spent over $211 million on marijuana law enforcement.

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150 Id.
151 Id.
152 Id.
155 Id. at 2.
156 Id.
between the years of 2000 and 2010. In 2010, Colorado spent almost $38 million on marijuana possession enforcement. In the same year, Oregon spent over $50 million and Washington spent over $34 million. California, one of the most recent states to legalize recreational marijuana, spent a massive $491 million. The vast majority of those costs can now be eliminated from cash-strapped budgets and allocated to other pressing concerns like education and transportation.

When combined, the tax revenues raised by states in which marijuana is legal and the saved enforcement costs amount to a large net economic benefit. Economists have been predicting this benefit for quite some time. Over 500 economists have referenced a 2005 study by Jeffrey Miron which found that marijuana legalization would generate significant tax revenue and fiscal savings for federal, state, and local governments. This study, when adjusted for inflation to 2011 dollars, would result in a total net benefit of over $1.6 billion for the California government alone and over $20 billion for the federal government. These numbers would be even larger if adjusted for inflation in 2019.

Finally, the legalization of marijuana also brings employment benefits. In fact, a 2017 report projected that by 2020 the marijuana industry will create more than a quarter of a million jobs. According to the Bureau of Labor Statistics, this number represents more new jobs than those created by both the manufacturing and utilities industries, as well as by the government.

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158 ACLU, supra note 116, at 140.
159 Id. at 172, 182.
160 Id. at 139.
161 See Crombie, supra note 147.
162 See supra note 158–60.
165 Grammy, supra note 163, at 205.
166 NEW FRONTIER DATA, THE CANNABIS INDUSTRY ANNUAL REPORT: 2017 LEGAL MARIJUANA OUTLOOK (2017); see also Borchardt, supra note 149 (citing the report).
2. Health Benefits

Though research on the medical and therapeutic impacts of cannabis is scant,168 in March of 2016, the Health and Medicine Division of the National Academies of Sciences, Engineering, and Medicine was tasked with convening a group of experts to review the current scientific literature on the health effects of cannabis.169 The report, released in early 2017, presents both the current consensus on the medical benefits of marijuana and the areas in which more research is required to fill gaps in knowledge.170 It reached the following conclusions, among others:

- “In adults with chemotherapy-induced nausea and vomiting, oral cannabinoids are effective antiemetics.”171
- “In adults with chronic pain, patients who were treated with cannabis or cannabinoids are more likely to experience a clinically significant reduction in pain symptoms.”172
- “In adults with multiple sclerosis (MS)-related spasticity, short-term use of oral cannabinoids improves patient-reported spasticity symptoms.”173
- “In individuals with schizophrenia and other psychoses, a history of cannabis use may be linked to better performance on learning and memory tasks.”174
- “For these [above] conditions the effects of cannabinoids are modest; for all other conditions evaluated there is inadequate information to assess their effects.”175

The report also found that there is nonexistent or insufficient evidence to conclude that cannabis is an effective treatment for:

- Cancers and associated anorexia;
- Irritable bowel syndrome symptoms;
- Epilepsy;
- Chorea, Huntington’s disease neuropsychiatric symptoms, and motor system symptoms associated with Parkinson’s disease;
- Dystonia; and

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168 See supra Part II.D.4.
169 NASEM, supra note 8, at 1–3. This was to be the first comprehensive review of this kind in almost two decades. Cf. MARIJUANA AND MEDICINE, supra note 74, at vii (released in 1996).
170 NASEM, supra note 8, at xvii.
171 Id. at 85.
172 Id.
173 Id.
174 Id. at 289.
175 Id. at 85.
• Achieving abstinence in the use of addictive substances (cannabinoids); and
• Schizophrenia or schizophrenia-form psychosis mental health outcomes.176

The report suggested that further research is required to determine if there is any merit to claims that marijuana helps with the above, or other, ailments.177

3. Social Benefits

Marijuana also provides social benefits to users. The legalization of marijuana has lessened the taboo surrounding marijuana use, helping users to feel less stigmatized and offering a corresponding social benefit in that respect.178 Furthermore, researchers at the University of Illinois at Chicago and the University of Chicago who conducted a study on college students have reported that low doses of THC can reduce stress and anxiety, although they also found that moderate-to-high doses of THC have precisely the opposite effect.179

The legalization of marijuana is also socially valuable because it coincides with the evolving views of a majority of Americans. According to a Gallup poll released in October of 2017, 64% of Americans now support the legalization of recreational marijuana.180 The knowledge that state law supports an ideal shared by a majority of state citizens provides those citizens with a social benefit.181 Furthermore, there is a social benefit in allowing individual citizens the autonomy to use marijuana if they choose.182 Marijuana legalization may also

176 NASEM, supra note 8, at 129.
177 Id. at 127.
179 Emma Childs et al., Dose-Related Effects of Delta-9-THC on Emotional Responses to Acute Psychosocial Stress, 177 DRUG & ALCOHOL DEPENDENCE 136, 142 (2017); see also Sharon Parmet, Low-Dose THC Can Relieve Stress; More Does Just the Opposite, UIC TODAY (June 2, 2017), https://today.uic.edu/low-dose-thc-can-relieve-stress-more-does-just-the-opposite [https://perma.cc/L6VN-PAT4].
181 See id.
lessen animosity towards law enforcement due to the reduction of arrests for marijuana possession, use, and sale. Reducing the stigma surrounding marijuana via legalization also permits schools to take a different approach to marijuana education and adolescent use, rather than employing the overly simplistic and largely ineffective “just say no” campaign popularized by Nancy Reagan in the 1980s. Legalization and taxation also provides funding for that education in some states.

Finally, marijuana legalization also helps those who would otherwise have been incarcerated and have a criminal record, a group in which minority youth are overrepresented. Earning a criminal record in adolescence can have large negative effects for the duration of an individual’s life. In youth, criminal records can result in ineligibility for jobs, financial aid, housing, and higher education programs. The legalization of marijuana prevents hundreds of thousands of adolescents from potentially being disqualified from educational institutions and occupations because of a criminal record that may only exist due to marijuana use.

B. The Risks of Marijuana Legalization

1. Potential Role as a Gateway Drug

Studies have produced conflicting results as to whether marijuana is a gateway drug.

The term ‘gateway’ has sometimes been misinterpreted to imply that all individuals who use cannabis will directly abuse other drugs, [but the] original hypothesis . . . conducted on cohorts of high school students suggested that cannabis use is a critical illicit drug, intermediate in the transition from legal

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185 See Hamilton, supra note 182 (noting Colorado’s use of marijuana tax revenue to fund “a number of programs aimed at improving the standards of education and health”).
186 Committee on Substance Abuse & Committee on Adolescence, The Impact of Marijuana Policies on Youth: Clinical Research, and Legal Updates, 135 PEDIATRICS 584, 586 (2015).
187 Id.
188 Id.
189 See id.
substance use (i.e., cigarettes and alcohol) to illicit drug use (i.e., heroin, amphetamines, and LSD).\textsuperscript{190}

Many studies have found that cannabis use in adolescents increases the risk of addiction to other drugs in the future. According to the original 1975 study examining the gateway drug hypothesis, more than 25\% of individuals who used illicit drugs had used marijuana previously.\textsuperscript{191} Only 2\%–3\% of individuals who used legal drugs (i.e., alcohol and tobacco) but did not use marijuana continued on to use illicit drugs.\textsuperscript{192} In 1986, another longitudinal study found that early-adolescent cannabis use positively predicts across a one-year period the use of cocaine and alcohol.\textsuperscript{193} A 2006 study, which spanned twenty-five years and examined associations between age of first marijuana use and the frequency of use or dependence on other drugs, found that there was a significant association between marijuana use and subsequent drug abuse.\textsuperscript{194} The researchers found this association despite “controlling for a number of confounding variables, such as socio-economic background, other illicit substance use, family functioning, child abuse, and personality traits.”\textsuperscript{195} Another study found that marijuana use was “2.5 times more likely than no previous marijuana [use] to be associated with subsequent abuse of prescription opioids.”\textsuperscript{196} A 2014 study conducting probability estimates showed that 44.7\% of lifetime marijuana users continued on to use illicit drugs at some point.\textsuperscript{197} In animal studies, which give researchers the ability to test the causal relationship between marijuana use and subsequent drug addiction, exposure of adolescent rats to THC increased the self-administration of heroin.\textsuperscript{198}

On the other hand, many scholars argue that the gateway theory of marijuana and other illicit drug use, at least as it is commonly understood, is an
overly simplistic, invalid theory and should be retired. As Doctor John Kleinig has posited:

Since . . . [the popularization of] the idea of gateway drugs, there has been a multitude of studies designed to affirm, elaborate, interpret, fine tune, replicate, contextualize, and question the hypothesis. The result, as I perceive it, is that the hypothesis has suffered the death of a thousand qualifications—it becomes an empty peg whose removal is long overdue. 199

According to Kleinig, the scientific community should focus on the interactions of all factors that could potentially provide a drug gateway, rather than one specific factor like marijuana. 200 Even studies that present results supporting an association between cannabis use and the use of other illicit drugs caveat that the factors that predict whether an individual will progress from cannabis to illicit drugs are still undetermined. 201 Some researchers agree, maintaining that the existence of variances in drug use trajectory, prior alcohol and tobacco use, and the fact that marijuana use does not make illicit substance abuse inevitable present problems for the gateway hypothesis. 202 Furthermore, many scholars believe that the gateway hypothesis assumes a causal connection between marijuana use and the use of other illicit drugs when in reality there is only a statistical association between “common” and “uncommon” drugs. 203 Whether marijuana is a gateway drug that increases the propensity of a user to become addicted to other illicit drugs remains a grey area, with strong, conflicting opinions on both sides of the debate.

2. Effect on Crime Rates

The effect of recreational marijuana legalization on crime is a topic of continuing debate. There has not been sufficient time since the legalization of recreational marijuana for data to reliably support one side of the debate or the other, and crime rates are extremely volatile due to a host of confounding factors that make a direct causation to changes in crime rates difficult to ascertain. 204

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200 Id.
201 See Secades-Villa et al., supra note 197, at 136, 140.
202 Rashi K. Shukla, Inside the Gate: Insiders’ Perspectives on Marijuana as a Gateway Drug, 35 HUMBOLDT J. SOC. REL. 5, 6 (2013).
In Washington, violent crime has decreased by 10% and the overall crime rate has remained at a forty-year low since the passage of I-502 in 2012, suggesting that the legalization of marijuana has not lead to an increase in crime.205 In Portland, Oregon, violent and property crimes have remained steady in the months since legalization.206 Colorado’s violent crime rate decreased 6% and its property crime rate decreased 3% from 2009 to 2014.207 However, it is worth noting that in 2016 Colorado saw a rise in auto thefts, rape, murder, and robbery, and its crime rate shot up by 3.4%.208 Although there are many potential causes for the increase in crime rate, some Colorado pundits blame the marijuana industry for luring criminals and transients into the state.209 Without further study, changes in crime rates cannot be causally linked to marijuana legalization.

3. Increases in Drugged Driving

Determining the trend in driving-under-the-influence (DUI) arrests in states that have legalized marijuana is difficult. There is no centralized database where this information is reported, officers are now taking different approaches to identifying intoxicated drivers, and only drivers who are pulled over and tested on the road are reported.210 Some of the first states to legalize marijuana are beginning to collect information on marijuana DUI citations,211 but the evidence is inconclusive and requires additional study.212 In Washington State, the

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207 LEGALIZATION IN COLORADO, supra note 204, at 9.


209 Id.


212 LEGALIZATION IN COLORADO, supra note 204, at 27.
number of samples containing THC in DUI cases nearly doubled from 19% in 2012 to 33% in 2015.\textsuperscript{213} In Colorado, summonses for DUIs concerning marijuana or marijuana-in-combination surprisingly decreased by about 1% between 2014 and 2015.\textsuperscript{214} However, in Denver, DUIs in which marijuana or marijuana-in-combination was involved predictably increased from 33 cases in 2013 to 73 cases in 2015, and marijuana accounted for 2.5% of 2014 DUI citations and 3% of 2015 DUI citations.\textsuperscript{215} Between July 1 and December 31 of 2015, the Oregon State Police reported 50 drivers driving under the influence of marijuana, as opposed to 19 drivers for the same time period during the previous year in which marijuana was still illegal.\textsuperscript{216} However, due to a lack of systemic study and research controlling for confounding factors, none of these statistics can be used to establish a conclusive trend in DUIs since legalization.\textsuperscript{217}

If more drivers actually are driving under the influence of marijuana it likely means that the roads are less safe, although further study on this issue is necessary.\textsuperscript{218} In a 2017 report by the National Academies of Sciences, Engineering, and Medicine (NASEM), a committee analyzed the most recent reviews of fair-to-good quality that analyzed the potential link between motor vehicle crashes and drivers under the influence of marijuana.\textsuperscript{219} NASEM cited to a 2016 study by Ole Rogeberg and Rune Elvik as “both the most comprehensive and most recently published systematic review,” and it also “pooled studies reviewed in three earlier meta-analyses . . . [and] performed a structured search of online databases.”\textsuperscript{220} Rogeberg and Elvik’s meta-analysis found that driving under the influence of cannabis was associated with 20% to 30% higher odds of a motor vehicle crash.\textsuperscript{221} According to the authors, as well

\textsuperscript{213} Kaste, \textit{supra} note 210.
\textsuperscript{214} LEGALIZATION IN COLORADO, \textit{supra} note 204, at 28.
\textsuperscript{215} \textit{Id.} at 29.
\textsuperscript{216} Noelle Crombie, \textit{Legal Pot in Oregon: One Year Later}, OREGONIAN (June 30, 2016), http://www.oregonlive.com/marijuana/index.ssf/2016/06/oregon_marks_1_year_anniversary.html [https://perma.cc/Y9ST-YHFB].
\textsuperscript{217} See LEGALIZATION IN COLORADO, \textit{supra} note 204, at 27.
\textsuperscript{218} NASEM, \textit{supra} note 8, at 228–30.
\textsuperscript{220} \textit{Id.} (citing Asbridge et al., \textit{supra} note 219; Elvik, \textit{supra} note 219; Li et al., \textit{supra} note 219).
\textsuperscript{221} Rogeberg & Elvik, \textit{supra} note 219, at 1355; NASEM, \textit{supra} note 8, at 228–29.
as the committee that evaluated the study for the NASEM report, there is a low-to-moderate magnitude of association between driving under the influence of cannabis and motor vehicle crashes.\textsuperscript{222} The NASEM committee ultimately concluded, in accordance with the 2016 study, that “[t]here is substantial evidence of a statistical association between cannabis use and increased risk of motor vehicle crashes.”\textsuperscript{223}

4. Decreases in Workplace Productivity and Safety

Marijuana is the drug most often detected in workplace drug tests, a more likely prospect now than it was in the past\textsuperscript{224}. As detailed earlier in the Article, American perceptions of the risk of marijuana have changed drastically since the beginning of the century.\textsuperscript{225} In 2002, 38% of the population saw a great risk in using marijuana once a month, while that number fell to 26.5% by 2014.\textsuperscript{226} While the perceived risk of marijuana use shrinks, the potency of cannabis grows. In the 1970s THC content in marijuana hovered around 1%.\textsuperscript{227} THC levels in modern-day marijuana are now almost 13%, and some strains have a THC content of 25% or higher.\textsuperscript{228} This is a deadly combination in the workplace. Decreased perception of risk is associated with increased use,\textsuperscript{229} and the combination of increased use and increased potency of the drug could result, if used in the workplace, in an unsafe work environment.\textsuperscript{230}

In the workplace, employees who are intoxicated by marijuana present “the risk and associated cost of adverse events and the loss of productivity.”\textsuperscript{231} Marijuana has been connected with impairment of skills that are necessary for the safe operation of motor vehicles, and these results can be transferred to workplace accidents in which use of machines and motorized equipment is

\textsuperscript{222} Rogeberg & Elvik, supra note 219, at 1357; NASEM, supra note 8, at 229.
\textsuperscript{223} NASEM, supra note 8, at 230.
\textsuperscript{225} See supra Parts I, II.
\textsuperscript{227} Id.
\textsuperscript{228} Id.; see also Phillips et al., supra note 224, at 461 (explaining how previous studies on the effects of marijuana may not apply to “today’s higher potency marijuana”).
\textsuperscript{230} See Dougherty, supra note 226; see also Phillips et al., supra note 224, at 461.
\textsuperscript{231} Phillips et al., supra note 224, at 459.
present. In evaluating the effect of drug-free workplace programs on the risk of occupational injuries, one study found that they caused a statistically significant decrease in injury rates for construction, manufacturing, and services industry groups.

To reduce the risk of workplace injury, “The Joint Task Force recommends that marijuana use be closely monitored for all employees in safety-sensitive positions, whether or not covered by federal drug-testing regulations.” Furthermore, employers have duties under the Occupational Health and Safety Act (OSHA) to maintain practices and conditions as are reasonably necessary and appropriate to protect workers. Under this duty, it may be necessary for employers to exclude from employment individuals who are or potentially could be intoxicated by marijuana.

Notwithstanding the above evidence, further research is required to determine if there is a direct link between marijuana use and injuries in the workplace. The National Academies of Sciences, Engineering, and Medicine suggests that, to get a better picture of this association, it “needs to be explored across a broad range of regions, populations, workplace settings, workplace practices (e.g., drug use prevention programs, safety standards), worker characteristics (e.g., medical history, history of drugs and alcohol use), work patterns, and occupations.”

5. Marijuana’s Effect on the Youth

A National Survey on Drug Use and Health found that over the past decade there has been a decrease in the percentage of twelve to seventeen year-olds who consider there to be a “great risk” in using marijuana once per month or even a couple of times per week. This same survey stated that such a decrease in perceived risk often precedes an increase in use. In a recent report from the

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232 Id. at 461.
234 Phillips et al., supra note 224, at 464.
236 Phillips et al., supra note 224, at 464.
237 NASEM, supra note 8, at 236.
238 2013 NATIONAL SURVEY, supra note 229, at 73 fig. 6.2.
239 Id. at 73 (“For example, the percentage of youths aged 12 to 17 indicating great risk in smoking marijuana once a month decreased from 34.4 percent in 2007 to 24.2 percent in 2013 (Figure 6.2). The rate of youths perceiving great risk in smoking marijuana once or twice a week also decreased from 54.6 percent in 2007 to 39.5 percent in 2013. Consistent with these decreasing trends in the perceived risk of marijuana use, the prevalence of past month marijuana use among youths increased between 2007 (6.7 percent) and 2011 (7.9 percent). Despite the perceived risk of marijuana use among youths continuing to decline between 2011 and 2013, however, the rate of past month marijuana use declined between
American Academy of Pediatrics, researchers opined that the legalization of marijuana by many states, although not targeting adolescents, has caused adolescents to increasingly perceive marijuana to be more “acceptable, safe, and therapeutic.”\(^{240}\) The report, citing multiple published studies, stated that the negative consequences of recreational marijuana use in adolescents have been well documented and include “impaired short-term memory and decreased concentration, attention span, and problem-solving skills, all of which interfere with learning. Alterations in motor control, coordination, judgment, reaction time, and tracking ability have also been documented.”\(^{241}\) Because the prefrontal cortex of the brain, which controls decision-making and judgment, does not fully develop until the early-to-mid-twenties, marijuana abuse may affect the brain of an adolescent differently than the brain of an adult.\(^{242}\) For example,

Studies examining brain functioning in youth who use cannabis regularly or heavily (defined as using 10-19 times/month or 20 or more times/month, respectively) show potential abnormalities that occur across a number of brain regions including those affecting memory (hippocampus) and executive functioning and planning (prefrontal cortex) . . . A major study also has shown that long-term marijuana use initiated in adolescence has negative effects on intellectual function and that the deficits in cognitive areas, such as executive function and processing speed, did not recover by adulthood, even when cannabis use was discontinued.\(^{243}\)

According to the American Academy of Pediatrics, evidence demonstrates that marijuana is an addictive substance, particularly when use begins during youth.\textsuperscript{244} While 9\% of individuals who experiment with marijuana eventually become addicted, when individuals begin marijuana use during adolescence this number increases to 17\%.\textsuperscript{245} Furthermore, if individuals are daily users of marijuana in their youth this number increases to a range of 25\% to 50\%.\textsuperscript{246}

A recent study also linked marijuana use to a lower probability of completing high school and obtaining a degree.\textsuperscript{247} According to a study of adolescent use, teenagers who use marijuana daily are over 60\% less likely to complete high school than those who never use marijuana.\textsuperscript{248} Teenagers who use marijuana daily are also 60\% less likely to graduate college.\textsuperscript{249} Finally, and tragically, those teenagers are seven times more likely to attempt suicide.\textsuperscript{250}

6. Negative Health Effects

Marijuana has been associated with certain negative physical health effects, but more research and study is required to truly understand the relationship between marijuana use and these effects.\textsuperscript{251} Negative health impacts on respiratory function, including chronic cough and phlegm production, have been associated with regularly smoking marijuana.\textsuperscript{252} Published reports have also found “temporal relation[s] between marijuana use and the development of acute myocardial infarction, cardiomyopathy, and sudden cardiac death.”\textsuperscript{253} It is difficult to ascertain how direct this cardiac association is, however, because marijuana use is often combined with other drugs, such as alcohol, tobacco, and cocaine, and it is difficult to separate out the effects of each substance on the cardiovascular system.\textsuperscript{254} Smoking marijuana during pregnancy is linked to lower birth weight in babies,\textsuperscript{255} and, according to a recent JAMA study, an increasing number of expectant mothers are smoking marijuana (ironically, to
help ease nausea due to morning sickness). The study found that the number of expectant mothers who reported using marijuana in the past month jumped from 2.37% in 2002 to 3.85% in 2014. Heavy marijuana use is also known to cause cannabinoid hyperemesis syndrome, in which individuals experience extreme nausea and vomiting. These symptoms resolve within days of ceasing marijuana use.

Negative physical health effects are especially prevalent in pediatric populations exposed to marijuana. Studies analyzing pediatric populations exposed to marijuana have demonstrated that potentially serious symptoms may result from marijuana exposures. Secondhand marijuana smoke has been linked to respiratory compromise in children. According to a case report released in 2017 by two Colorado physicians, the death of an eleven-month-old baby who died from cardiac arrest following a seizure and myocarditis may have been linked to cannabis exposure. Another report analyzed symptoms in children between eleven and thirty-three months who were admitted to an ICU in Paris. These children had central nervous system symptoms such as drowsiness and coma, and some required intubation and mechanical ventilation. Another report analyzed calls to an Arizona poison control center concerning children under seven who had accidentally ingested marijuana. This report found that “the most commonly reported symptoms were lethargy (48% of cases), an inability to walk (53%), coma (10%), and vomiting (21%).”

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257 Id.


259 Lapook, supra note 258.


261 Id.


263 Thomas M. Nappe & Christopher O. Hoyte, Pediatric Death Due to Myocarditis After Exposure to Cannabis, 1 CLINICAL PRAC. & CASES EMERGENCY MED. 166, 166 (2017).

264 NASEM, supra note 8, at 232.

265 Id.

266 Id. at 232–33.

267 Id. at 233.
been exposed to cannabis demonstrate the special risks to health that are present in pediatric populations.

Marijuana use has also been associated with negative psychiatric health effects. Ryan and Ammerman found that “longitudinal studies linking marijuana use with higher rates of mental health disorders, such as depression and psychosis, recently have been published, raising concerns about longer-term psychiatric effects.”\(^{268}\) The risk of developing schizophrenia and other psychosis is likely increased by marijuana use.\(^{269}\) The higher the use of marijuana by an individual, the greater the risk is increased.\(^{270}\) Heavy users of marijuana are more likely to report suicidal thoughts than those who do not use marijuana.\(^{271}\) Regular marijuana use also likely increases the risk of the development of social anxiety disorder.\(^{272}\)

7. Increased Calls to Poison Control Centers and Emergency Room Visits

Calls to poison control centers for marijuana exposure have increased in states that have legalized marijuana.\(^{273}\) Particularly in Washington and Colorado, where recreational marijuana has been legalized since 2014 (long enough to obtain some data) statistics demonstrate an increase in these reports.\(^{274}\) In 2012, Washington State had 162 calls to its poison center, a number that spiked up to 245 in 2014.\(^{275}\) Colorado’s poison control center reported 127 marijuana-related calls in 2013.\(^{276}\) This number spiked to 233 in 2014.\(^{277}\) Furthermore, poison control centers reasonably speculate that the number of calls they received is under-representative of actual marijuana adverse reactions, as many people are embarrassed and never call about their adverse symptoms.\(^{278}\)

There has also been a statistically significant increase in non-residents coming to Colorado emergency rooms because of marijuana since

\(^{268}\) Ryan & Ammerman, supra note 240, at 2 (first citing to Volkow et al., supra note 242, at 2221; and then citing A. Eden Evins et al., The Effect of Marijuana Use on the Risk for Schizophrenia, 73 J. CLINICAL PSYCHIATRY 1463, 1463 (2012)).

\(^{269}\) NASEM, supra note 8, at 295.

\(^{270}\) Id. at 289.

\(^{271}\) Id. at 314.

\(^{272}\) Id. at 318.


\(^{274}\) Id.

\(^{275}\) Id.

\(^{276}\) Id.

\(^{277}\) Id.

\(^{278}\) Id.
legalization. The Colorado Hospital Association reported that for every 10,000 hospital visits by non-residents, 78 were due to marijuana in 2012, 112 in 2013, and 163 in 2014. For every 10,000 in-state Colorado resident emergency room visits, 70 were due to marijuana in 2012, 86 in 2013, and 101 in 2014. Marijuana patients in Colorado hospitals typically complain of three types of symptoms: “psychiatric issues, particularly anxiety or agitation or brief psychosis; cardiovascular issues such as high blood pressure and a fast heart rate; and gastrointestinal issues such as nausea or vomiting.”

According to Dr. Andrew Monte, an emergency room toxicologist at the University of Colorado Denver, three typical types of visitors are seen. The first are patients whose underlying medical conditions were exacerbated by marijuana use. The second are patients who were put in dangerous situations (like motor vehicle accidents) when under the influence of marijuana. Finally, the third are patients who had smoked or ingested too much marijuana and were overly intoxicated.

IV. THE SPECIAL RISKS POSED BY MARIJUANA EDIBLES

A. Why Are Edibles So Popular?

Many marijuana users choose to consume through the use of edibles—marijuana-infused food that is ingested for a high. Marijuana edibles come in...
a vast range of forms and potency levels, such as brownies, chocolate bars, lollipops, and candy. Edibles have become a highly desirable product within legal marijuana markets. “Among Colorado, Washington and Oregon, edibles ranked #3 in terms of market share of dollars sold during 2016, capturing 12 percent ($269.8 million) of the $2.33 billion cannabis market. Flower leads with 58 percent of the market, followed by concentrates at 20 percent.” In California, consumers purchased more than $180 million in edibles in 2016, representing 10% of the cannabis market in the state. Washington State’s edible sales increased 121% in 2016. Colorado’s edible sales tripled between the first quarter of 2014 and the third quarter of 2016, increasing from $17 million to $53 million. Typically, 25% to 60% of a dispensary’s profits are attributable to edibles.

According to one study and anecdotal accounts, edibles are appealing to many users due to several common perceptions: “(1) edibles are a discreet and more convenient way to consume cannabis; (2) edibles offer a ‘high’ that is calmer and more relaxing than smoking cannabis; and (3) edibles avoid the harmful toxins and health risks that come with smoking cannabis.” But scientific research and evaluation has not yet been completed to determine if these perceptions are legitimate.

Edibles do carry a level of discretion and ease-of-use that other forms of marijuana consumption do not. For instance, in Washington State the most popular edible is “Mr. Moxey’s Mints,” which from an outside perspective simply gives the appearance of a user consuming a mint (a commonplace activity), rather than lighting up a joint. More than $700,000 worth of

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289 MacCoun & Mello, supra note 287, at 989.
291 Montgomery, supra note 287.
292 Id.
293 Id.
294 Id.
295 Barrus et al., supra note 288, at 2.
296 Id.
Moxey’s mints have been sold nationwide. In Colorado, the top seller in marijuana shops was Americanna’s Sour Leaf Gummies in 2016, another discreet form of edible marijuana.

B. Anecdotes of Edibles Gone Wrong

Many instances of bad edible reactions have been documented since states legalized marijuana. Many of these cases have come from Colorado. In March of 2014, Levy Thamba, a 19-year-old Wyoming college student, jumped from his hotel room balcony after eating a marijuana-infused cookie that had been purchased from a licensed and legal pot shop in Denver. Thamba’s autopsy found that his blood contained 7.2 nanograms (ng) of active THC per milliliter of blood, and that marijuana intoxication was a chief contributing factor to his death. The legal limit in Colorado for individuals driving is 5 ng per milliliter. Thamba had consumed an entire marijuana cookie before his death, which had a total THC content of 65 mg. Originally, Thamba had only consumed a single serving size of the cookie (10 mg) as directed by the sales clerk. However, when he did not experience any effects an hour later he consumed what remained of the cookie. Still, the amount of marijuana that Thamba had consumed was by no means a lethal amount. According to one doctor, Thamba likely had a predisposition or underlying mental illness that the ingestion of so much marijuana triggered. According to the police report, Thamba had no known history of mental illness.

In the summer of 2014, Jordan Coombs inadvertently consumed THC-infused chocolates at a county fair’s pot pavilion, despite the food being labeled as THC-free. Within twenty minutes, Coombs began to lose touch with...
reality and thought that he was having a heart attack and dying.\textsuperscript{313} His family drove him to the hospital, where he was admitted for a marijuana overdose.\textsuperscript{314}

In April of 2014, a Denver man shot and killed his wife after eating a marijuana-infused Karma Kandy, which contained 100 mg of THC, ten times the amount that Colorado defines as one serving of THC.\textsuperscript{315} Richard Kirk shot and killed his wife, Kris Kirk, while she was on the phone with a 911 operator.\textsuperscript{316} Before being shot, Kris Kirk told the operator that her husband had eaten marijuana candy, was behaving as though he was drunk, was hallucinating, and was retrieving his gun.\textsuperscript{317} Richard Kirk’s toxicology results found that he had 2.3 ng of THC per milliliter of blood in his system, less than the legal limit.\textsuperscript{318} Richard Kirk originally claimed that he was not guilty due to reason of insanity because of marijuana-induced psychosis.\textsuperscript{319} However, he eventually agreed to a plea deal of thirty years in prison.\textsuperscript{320} The prosecutor in the case stated that Kirk’s marijuana use factored into her decision to broker a plea deal.\textsuperscript{321}

In March of 2015, Luke Goodman, a 22-year-old Oklahoma man, consumed between four and five servings of edibles after purchasing them while on a Keystone, Colorado family ski vacation.\textsuperscript{322} After his family left the condo where they were staying, Goodman shot himself with a handgun that he traveled with for protection.\textsuperscript{323} Goodman’s family was adamant that the edible marijuana had caused his suicide, stating that Goodman had no history of depression that would lead them to be concerned about suicidal tendency.\textsuperscript{324} The toxicology report, released by the Summit County Sheriff’s Office, found that Goodman’s blood contained 3.1 ng of THC per milliliter, which in Colorado is below the level of

\begin{footnotes}
\item[313] Id.
\item[314] Id.
\item[316] Id.
\item[318] Sheldon et al., supra note 315.
\item[319] Id.
\item[320] Id.
\item[321] ASSOCIATED PRESS, supra note 317.
\item[323] Id.
\item[324] Id.
\end{footnotes}
THC that is considered to be legally impaired. However, the coroner stated that the results characterize a “gray area” and may not represent the original full dosage that Goodman had in his system at the time of death.  

Within the first hour of ingestion, THC levels in the blood drop sharply, but following this initial time period, the half-life of the drug is longer. THC in the blood is “relatively short-lived—not something that [is] going to stay in the blood for a long time . . . [THC is] going to affect people differently. There is no across-the-board, cookie-cutter standard.”

And perhaps the most famous account of edibles-gone-wrong comes from New York Times op-ed columnist Maureen Dowd, who tried part of an edible marijuana candy bar when reporting on the marijuana revolution in Colorado in June of 2014. She ate part of the bar while in her Denver hotel room. What followed were eight hours in which she lost control of her body. As Dowd recounts:

I felt a scary shudder go through my body and brain. I barely made it from the desk to the bed, where I lay curled up in a hallucinatory state for the next eight hours. I was thirsty but couldn’t move to get water. Or even turn off the lights. I was panting and paranoid, sure that when the room-service waiter knocked and I didn’t answer, he’d call the police and have me arrested for being unable to handle my candy. I strained to remember where I was or even what I was wearing, touching my green corduroy jeans and staring at the exposed-brick wall. As my paranoia deepened, I became convinced that I had died and no one was telling me.

Dowd learned the next day that, for novices, the candy bar she had tried was supposed to be cut into sixteen pieces.

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326 Id.
327 Id.
328 Id. (quote by George Behonick, a toxicologist with the American Institute of Toxicology, the lab that processed Goodman’s results).
330 Id.
331 Id.
332 Id.
333 Id.
C. The Root of Negative Reactions to Edibles: Ingesting Versus Smoking Marijuana

Edibles present unique risks distinct from other methods of consuming marijuana.\(^\text{334}\) This is mainly due to the difference in the way that the body processes ingested versus smoked marijuana.\(^\text{335}\) Once marijuana has reached the bloodstream, it is quickly circulated to the brain and operates there to induce the typical symptoms thought of as a "high."\(^\text{336}\) When marijuana is smoked, peak blood levels occur within five to ten minutes.\(^\text{337}\) Conversely, when marijuana is ingested as an edible, peak blood levels do not occur until one to two hours later.\(^\text{338}\) The duration of marijuana intoxication is also much longer when ingested than when smoked.\(^\text{339}\) Because of the lengthened wait for individuals to feel the effects of edibles, users sometimes consume multiple servings close together before feeling the effects of the original serving.\(^\text{340}\) "[I]t’s easier to self-monitor when smoking a joint, since one feels the effects so quickly. But with edible pot, because there can be an hours-long lag before experiencing the high, you might inadvertently consume an overdose amount while waiting [for the first effects to occur]."\(^\text{341}\)

Furthermore, edibles interact differently and less predictably with the body than smoking.\(^\text{342}\) When inhaling marijuana, the drug goes directly to the brain.\(^\text{343}\) But edibles present a situation in which THC interacts with the digestive system of the body.\(^\text{344}\) Variables such as how recently the user has eaten and whether the user has taken other medications can affect how THC is metabolized.\(^\text{345}\) The amount of THC in the blood can be changed five-fold by these variables.\(^\text{346}\) The unpredictable nature of edible marijuana makes it more difficult to use with accuracy than inhaled marijuana.\(^\text{347}\) For instance, the Colorado Department of Revenue commissioned a report to determine the dosage equivalency between edibles and smoked marijuana in Colorado’s marijuana market.\(^\text{348}\) The report found that 1 mg of THC in an edible affects

\(^{334}\) Blake, supra note 301; MacCoun & Mello, supra note 287, at 989.
\(^{335}\) See Hancock-Allen et al., supra note 304.
\(^{336}\) Walton, supra note 17.
\(^{337}\) Hancock-Allen et al., supra note 304.
\(^{338}\) Id.
\(^{339}\) Id.
\(^{340}\) Id.
\(^{341}\) Walton, supra note 17.
\(^{342}\) Id.
\(^{343}\) Id.
\(^{344}\) Id.
\(^{345}\) Id.
\(^{346}\) Id.
\(^{347}\) Walton, supra note 17.
\(^{348}\) ADAM ORENS ET AL., COLO. DEP’T OF REVENUE, MARIJUANA EQUIVALENCY IN PORTION AND DOSAGE (Aug. 2015).
behavior similarly to 5.71 mg of THC in smoked marijuana.\textsuperscript{349} Currently, many
states define a single edible serving size as 10 mg, but researchers recommend
that edible users start with a low dose and gradually raise the dosage level until
they find an effective dose in order to prevent accidental overdose.\textsuperscript{350}

D. Statistics and Studies on Edibles

Although studies on the differences between the effects of edibles versus
smoked marijuana are scant,\textsuperscript{351} some preliminary research has been done on the
topic. Typically, marijuana-induced psychotic symptoms due to an overdose of
cannabis only last while an individual is intoxicated.\textsuperscript{352} However, in some cases
these psychotic symptoms persist for much longer—up to days afterwards.\textsuperscript{353}
"Literature regarding such cases of ‘cannabis-induced psychosis’ is limited, but
the condition is believed to be the result of overconsumption of [THC], and
many of the reported cases occur following ingestion of an edible."\textsuperscript{354} Studies
have found that nonusers report a greater negative reaction to edibles than to
smoked marijuana.\textsuperscript{355} Another study found that the majority of hospital visits
concerning marijuana intoxication are due to edibles, likely because users do
not account for the delayed effects of ingested cannabis.\textsuperscript{356} Furthermore,
inaccuracy of edible dosing can present huge problems for users.\textsuperscript{357} One study
found that 83% of medicinal edibles from California and Washington contained
THC levels that differed by over 10% from the labeled amounts when tested.\textsuperscript{358}
Of these edibles, more than one-half contained significantly less THC and one-
quarter contained significantly more THC than labeled.\textsuperscript{359}

\textsuperscript{349} Barrus et al., supra note 288, at 6 (citing ORENS ET AL., supra note 348, at 7).
\textsuperscript{350} Id. (citing ORENS ET AL., supra note 348, at 6).
\textsuperscript{351} See id. at 2.
\textsuperscript{352} Id. at 5.
\textsuperscript{353} Id.
\textsuperscript{354} Id. (citing three studies: Quan M. Bui et al., Psychiatric and Medical Management
of Marijuana Intoxication in the Emergency Department, 16 W. J. EMERGENCY MED. 414,
415 (2015); Bernard Favrat et al., Two Cases of ‘Cannabis Acute Psychosis’ Following the
Administration of Oral Cannabis, BMC PSYCHIATRY (2005); Marissa Hudak et al., Edible
Cannabis-Induced Psychosis: Intoxication and Beyond, 172 AM. J. PSYCHIATRY 911, 911
(2015)).
\textsuperscript{355} Barrus et al., supra note 288, at 3 (citing Sarah R. Calhoun et al., Abuse Potential of
Dronabinol (Marinol), 30 J. PSYCHOACTIVE DRUGS 187, 192 (1998); Margaret Haney,
Opioid Antagonism of Cannabinoid Effects: Differences Between Marijuana Smokers and
\textsuperscript{356} Id. at 5–6 (citing Andrew A. Monte et al., The Implications of Marijuana
Legalization in Colorado, 313 JAMA 241, 242 (2015)).
\textsuperscript{357} Id. at 5.
\textsuperscript{358} Id. at 8 (citing Ryan Vandrey et al., Cannabinoid Dose and Label Accuracy in Edible
Medical Cannabis Products, 313 JAMA 2491, 2491 (2015)).
\textsuperscript{359} Id. (citing Vandrey et al., supra note 358, at 2491).
Children in particular are susceptible to the risks that edibles present. A 2016 study used National Poison Data System data in finding that poison centers received 1,969 calls related to children younger than six being exposed to cannabis between the years 2000 and 2013. Of these calls, 75% occurred because a child had ingested cannabis or a cannabis product. The side effects associated with these incidences ranged from lethargy to cardiovascular symptoms to respiratory depression to coma. According to another report analyzing poison control calls between 2005 and 2011, the rate of calls for unintentional pediatric cannabis exposures increased by 1.5% annually in states where cannabis was illegal; increased by 11.5% in states transitioning to decriminalization; and increased by 30.3% in states where cannabis was legalized. According to this report, ingestion accounted for 78% of all documented incidents, making it the most common method of accidental pediatric exposure. The Children’s Hospital of Colorado reported that fourteen children under ten were admitted to the hospital for edible ingestion in the first eleven months of 2014, seven of whom required ICU treatment. The Colorado Department of Public Health and Environment, informed by the above evidence, “found moderate evidence that more unintentional pediatric cannabis exposures have occurred in states with increased legal access to cannabis and that the exposures can lead to significant clinical effects requiring medical attention.” According to a recent study in the JAMA Pediatrics medical journal, the number of children visiting the Children’s Hospital of Colorado emergency room for marijuana was nearly twice that in 2014 and 2015 as it was before recreational marijuana stores were opened, and poison control center calls multiplied by five. The study found that of the cases of pediatric accidental marijuana ingestion seen at the Children’s Hospital of Colorado, edibles caused almost half.

Increases in negative reactions to edibles are not limited to children, however. Adults, particularly novices and tourists in states that have legalized

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360 MacCoun & Mello, supra note 287, at 989.
361 NASEM, supra note 8, at 233 (citing Bridget Onders et al., Marijuana Exposure Among Children Younger than Six Years in the United States, 55 CLINICAL PEDIATRICS 428, 430 (2016)).
362 Id.
363 Id. at 233–34.
364 Barrus et al., supra note 288, at 6–7 (citing George S. Wang et al., Association of Unintentional Pediatric Exposures with Decriminalization of Marijuana in the United States, 63 ANNALS EMERGENCY MED. 684, 686 (2014)).
365 NASEM, supra note 8, at 234.
366 Gliha, supra note 312.
367 NASEM, supra note 8, at 234.
369 Id.
marijuana, have also experienced increased emergency room visits since legalization. For instance, in Aurora, Colorado, one study found that the amount of non-Colorado resident patient hospital visits due to marijuana almost doubled from 85 in every 10,000 visits in 2013 to 168 in every 10,000 visits in 2014. The study attributed the increase in hospital visits to higher potency of marijuana products and the visiting individuals’ unfamiliarity with edible products. The Colorado Department of Public Health also released a report in 2016 that found hospitalizations of patients with possible marijuana exposures increased from 803 per 100,000 between 2001 and 2009 to 2,413 per 100,000 between 2014 and June of 2015 (after commercialization). This is an increase from approximately .8% pre-legalization to a little over 2.4% post-legalization. Edibles were the most common form of marijuana responsible for these exposures.

Furthermore, a 2016 study analyzing data obtained from the National Poison Data System shows that between 2013 and 2015 there was an increase in poison control center calls directly related to edibles. Edible-related calls were most commonly placed in Washington and Colorado, and (a shocking) 91% of these calls occurred in states in which marijuana has been decriminalized. The calls increased every year of the study. The study concluded that most symptoms were minor, with some adults and children requiring ventilator support. Finally, the study speculated “the increasing exposures may be related to a combination of delayed absorption [of THC] . . . lagging packaging regulations, increased accessibility in decriminalized states, and increased familiarity of poison center specialists with edible product codes.” The above data suggest that negative reactions to edible exposure will continue to increase as the trend of legalization among the states continues.

370 Barrus et al., supra note 288, at 7.
371 Id. at 7 (citing Marijuana Tourism, supra note 279, at 797–98).
372 Id.
373 JACK K. REED, COLO. DEP’T OF PUBLIC SAFETY, MARIJUANA LEGALIZATION IN COLORADO: EARLY FINDINGS, A REPORT PURSUANT TO SENATE BILL 13-283, at 7 (2016).
374 See id.
377 Id.
378 Id.
379 Id. at 845.
380 Id. at 840.
381 Barrus et al., supra note 288, at 7.
E. Edible Regulations by State

As more states begin to legalize recreational marijuana, varying regulatory regimes are emerging with respect to edibles. All states have instituted labeling requirements for edibles, but there is a wide range of approaches to those requirements. All states require that warning labels about the intoxicating effects of THC are included, some require a state-designated marijuana symbol to be included on the label, some require nutrition facts on the label, and some merely require a list of ingredients on the label. States also vary with respect to how many milligrams of THC constitute a serving size, choosing between five milligrams and ten milligrams. All states limit in some manner the manufacture and presentation of edibles in a way that appeals to children, but they vary widely in how they do so. Some only prohibit the use of cartoon characters on the packaging, whereas a few prohibit candy altogether. Finally, all states require packaging that is child-resistant.

The table below outlines the scattered regulatory state of affairs as of January 2018 for edibles in states in which recreational marijuana use is legal:

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383 COLO. CODE REGS. § 212-2 R. 1002–1; OR. ADMIN. R. 333-007-0070.
384 OR. ADMIN. R. 333-007-0070.
385 WASH. ADMIN. CODE § 314-55-105.
387 CAL. CODE REGS. tit. 17, § 40305; COLO. CODE REGS. § 212-2 R 604; NEV. REV. PROPOSED REG. OF DEP’T OF TAX. LCB File No. R092-17 § 167(2); WASH. ADMIN. CODE § 314-55–095.
391 ALASKA ADMIN. CODE tit. 3, § 306.345(a)(3); CAL. CODE REGS. tit. 17, § 40415(c); COLO. CODE REGS. § 212-2 R 1002-1; NEV. REV. PROPOSED REG. OF DEP’T OF TAX. LCB File No. R092-17 § 219(2); OR. ADMIN. R. 845-025-7020; WASH. ADMIN. CODE § 314-55-105.
Table 2: Recreational Marijuana Laws in the United States (January 2018)

<table>
<thead>
<tr>
<th>State</th>
<th>Governing Regulatory Body</th>
<th>Laws Governing Edibles</th>
<th>Summary of Laws Governing Edibles</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Quality control testing information must be maintained.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Amount of THC that may be included in each individual edible serving is limited to 5 mg, and the amount of THC in a single package of marijuana food product is limited to 50 mg.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Edibles cannot be packaged in a way that appeals to children, and must be packaged in child-resistant packaging.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Packaging cannabis products in bright colors or with cartoons or other visuals that would appeal to children are prohibited.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The manufacture of edibles likely to appeal to children (e.g., candy) is prohibited.</td>
</tr>
</tbody>
</table>

392 ALASKA ADMIN. CODE tit. 3, § 306.345.
393 Id. at § 306.645.
394 Id. at § 306.560.
395 Id. at § 306.345.
396 Id. at § 306.510.
397 Id. at § 306.510.
<table>
<thead>
<tr>
<th>Location</th>
<th>Agency/Regulation</th>
<th>Law/Regulation/Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>California</td>
<td>Bureau of Cannabis Control Proposition 64 (2016)</td>
<td>THC must be uniformly distributed throughout the edible product and inventory tracking from cultivation to sale is required.398</td>
</tr>
<tr>
<td></td>
<td>(regulations go into effect January 2018) DPH-17-010E</td>
<td>Limits the amount of THC that may be included in each individual edible serving to 10 mg, and limits the amount of THC in a single package of marijuana food product to 100 mg.399</td>
</tr>
<tr>
<td></td>
<td>Emergency Cannabis Regulations</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Edible products consisting of more than one serving shall be marked to indicate one serving or be packaged in a way in which a single serving is easily identifiable.400</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Edible products shall be homogenized (within a standard deviation of 10%).401</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The words “cannabis-infused” must be included on the packaging in bold type and a text size larger than the text size used for the identity of the product. The packaging must also include THC content and CBD content expressed in mg per serving.402</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Packaging of the edible products must be opaque,403 and must not include content</td>
</tr>
</tbody>
</table>

398 ALASKA ADMIN. CODE tit. 3, § 306.560; ld. at § 306.565.
400 ld. at § 40305(d).
401 ld. at § 40305(c).
402 ld. at § 40406.
403 ld. at § 40415.
that is or is designed to be attractive to individuals under twenty-one, including cartoons, imitation candy packaging, etc. The packaging must also include California’s universal symbol for cannabis. The package must be child-resistant and tamper-evident.

<table>
<thead>
<tr>
<th>State</th>
<th>Agency</th>
<th>Regulation Title and Section</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colorado</td>
<td>Marijuana Enforcement Division</td>
<td>COLO. CODE REGS. § 212-2 (2017)</td>
<td>Requires labeling of edibles cannabis products. The label must state that cannabis has intoxicating effects, it must contain the state-designated cannabis symbol, and it must state that intoxicating effects may take up to 2 hours after consumption to experience. Quality control testing information must be made available to the consumer. Edibles cannot be packaged in a way that appeals to children, and must be packaged in child-resistant packaging. THC must be uniformly distributed throughout the edible product and</td>
</tr>
</tbody>
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404 *Id.* at § 40410.
405 CAL. CODE REGS. tit. 17, § 40412.
406 *Id.* at § 40415.
408 *Id.* at § 212-2 R 604.
409 *Id.* at § 212-2 R 1003-1.
410 *Id.* at § 212-2 R 708(A).
411 *Id.* at § 212-2 R 1002-1.
412 *Id.* at § 212-2 R 602.
<table>
<thead>
<tr>
<th>State</th>
<th>Regulatory Authority</th>
<th>Status as of November 2017</th>
<th>Relevant Regulations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Massachusetts</td>
<td>Cannabis Control Commission</td>
<td>None as of November 2017: Under Massachusetts General Law c.94G (&quot;The Regulation and Taxation of Marijuana Act&quot;), adults may possess and use marijuana as of December 2015, whereas retail marijuana stores will be permitted to open, after complying with licensing procedures, beginning July 2018.</td>
<td>Not Applicable.</td>
</tr>
<tr>
<td>Maine</td>
<td>State Licensing Authority</td>
<td>None as of November 2017: Although the use of recreational marijuana is not applicable.</td>
<td>Not Applicable.</td>
</tr>
</tbody>
</table>

inventory tracking from cultivation to sale is required.\textsuperscript{413}

Limits the amount of THC that may be included in each individual edible serving to 10 mg, and limits the amount of THC in a single package of marijuana food product to 100 mg.\textsuperscript{414}

\textsuperscript{413} COLO. CODE REGS. § 212-2 R 405 (2017).

\textsuperscript{414} Id. at § 212-2 R 604.
marijuana was passed by ballot measure in November of 2016, legislation that would have regulated and taxed the sale of recreational marijuana was vetoed by Maine Governor Paul LePage on November 3, 2017\textsuperscript{415} and the Governor’s veto was sustained on November 6 by the Maine House.\textsuperscript{416} The legislature has since enacted legislation facilitating “the development and administration of a regulated marketplace”.


| Nevada | State of Nevada Department of Taxation | Emergency regulation to implement packaging and labeling provisions for The Regulation and Taxation of Marijuana Act under NEV. REV. STAT. § 453D (2016). | Requires edibles to be clearly labeled with the words “This is a Marijuana Product”. Requires child-proof packaging of marijuana and marijuana products, restricts the amount of THC that may be included in each individual edible serving to 10 mg, and limits the amount of THC in a single package of marijuana food product to 100 mg. The label must state that the intoxicating effects of the edible marijuana may be delayed by two hours or more and that the user should initially ingest a small amount of the product (containing no more than 10 mg of THC) and wait at least two hours before ingesting more. The labeling must also contain information about other side effects associated with marijuana use. |


420 Id.

421 Id.
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<th></th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Requires labeling of edible cannabis products: the label must contain state-designated cannabis symbol; must state that intoxicating effects may take up to two hours after consumption to experience. Limits the amount of THC that may be included in each individual edible serving to 5 mg, and limits the amount of THC in a single package of marijuana food product to 50 mg. Additional materials including information on edibles must be distributed with each edible sale or displayed on posters in dispensaries.</td>
</tr>
</tbody>
</table>

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422 Id.
424 Id.
426 Id. at R. 333-007-0070.
427 Id. at R. 845-025-2860.
Quality control testing information must be maintained.\textsuperscript{428}

Edibles cannot be packaged in a way that appeals to children, and must be packaged in child-resistant packaging.\textsuperscript{429} The manufacture of edibles likely to appeal to children (e.g., candy) is prohibited;\textsuperscript{430} the manufacture of edibles modeled after non-cannabis products consumed by children are prohibited.\textsuperscript{431}

THC must be uniformly distributed throughout the edible product\textsuperscript{432} and inventory tracking from cultivation to sale is required.\textsuperscript{433}

Extracts may not be applied to commercially available candy or snack foods.\textsuperscript{434}

| Washington Liquor and Cannabis Board | WASH. ADMIN. CODE § 314-55 (2016) (including 314-55-105; 314-55-095) | Requires labeling of edible cannabis products. The label must state that cannabis has intoxicating effects.\textsuperscript{435} Limits the amount of THC that may be included in each individual edible serving to 10 mg, and limits the amount of THC in a single |

\textsuperscript{428} Id. at R. 845-025-3230 (12).
\textsuperscript{429} OR. ADMIN. R. 845-025-3220 (2017).
\textsuperscript{430} Id. at R. 845-025-7020.
\textsuperscript{431} Id. at R. 845-025-3220 (2).
\textsuperscript{432} Id. at R. 845-025-7580.
\textsuperscript{433} Id. at R. 845-025-7570.
\textsuperscript{434} Id. at R. 845-025-3220 (2)(b).
\textsuperscript{435} WASH. ADMIN. CODE § 314-55-105 (15)(j) (2016).
package of marijuana food product to 100 mg.\textsuperscript{436}

Additional materials including information on edibles must be distributed with each edible sale or displayed on posters in dispensaries. Materials must contain warnings about associated health risks, impaired judgment, delayed activation, pesticides, extraction methods, and keeping out of the reach of children.\textsuperscript{437}

Quality control testing information must be made available to the consumer.\textsuperscript{438}

Edibles cannot be packaged in a way that appeals to children, and must be packaged in child-resistant packaging.\textsuperscript{439} The manufacture of edibles likely to appeal to children (e.g., candy) is prohibited;\textsuperscript{440} the manufacture of edibles modeled after non-cannabis products consumed by children are prohibited.\textsuperscript{441}

THC must be uniformly distributed throughout the edible product\textsuperscript{442} and

\textsuperscript{436} Id. at § 314-55-095. 
\textsuperscript{437} See id. at § 314-55-105. 
\textsuperscript{438} Id. 
\textsuperscript{439} Id. at § 314-55-105. 
\textsuperscript{440} Id. at § 314-55-155. 
\textsuperscript{441} WASH. ADMIN. CODE § 314-55-155 (2016). 
\textsuperscript{442} Id. at § 314-55-077.
| Washington, D.C. | Not Applicable. | In 2014, voters approved by ballot Initiative 71 the legalization of marijuana possession, cultivation, and gifting of certain amounts of marijuana. Congress has refused to allow the District to institute a regulatory framework governing a marijuana market in which the drug can be sold by restricting the District’s funding. Because “gifting” is legal under Initiative 71, some businesses have been Not Applicable. |

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443 Id. at § 314-55-083.
445 Id.
V. RECOMMENDATIONS FOR THE FUTURE OF EDIBLES

A. Increased Study of the Edible Industry and Edibles’ Impact on Health Is Needed

Marijuana legalization is still fairly new, and there is a frightening lack of knowledge when it comes to the effect that legalizing edibles has had. Because the federal government still classifies marijuana as a Schedule I drug under the Controlled Substances Act, funding and availability of marijuana for such studies is difficult to obtain, and therefore high-quality, scientifically rigorous research that analyzes the benefits and risks of edibles is scant.447 Now that states are beginning to legalize marijuana, funding opportunities for such studies may be more easily attainable. Without question, further research needs to be conducted to truly understand the health risks surrounding edibles, to determine if they can be consumed safely, and to determine how they can be regulated to maximize the benefits associated with marijuana while minimizing the risks that are both marijuana-associated and edible-specific. Without more research in this area, the assumption that marijuana legalization has a positive net utility for society is unfounded, and worse, dangerous. Furthermore, research regarding whether edibles are safe to consume and in which way they can be most safely consumed is important in determining how regulations should be formulated to best reduce the associated risks. Studies that compare how effective the different state regulatory regimes are in reducing the risks of edibles would illuminate which types of regimes are working well and which states require a greater change to their edible regulations.448 However, these studies and research take time, and in the meantime steps must be taken today to reduce the risks

446 Id.
447 Barrus et al., supra note 288, at 3. See generally NASEM, supra note 8, at 432.
448 Justice Brandeis was famous for his comment that the states should be laboratories of experimentation—i.e., that their different experiences can inform national debate and future legislation and regulation. See New State Ice Co. v. Liebmann, 285 U.S. 262, 311 (1932).
associated with edible use and to protect vulnerable portions of the population from its potentially harmful health effects.

B. States Should Focus Greater Resources on Edible Education for Consumers and Schoolchildren

Despite the popularity of edibles in states that have legalized recreational marijuana, very little is actually known about its effects and risks. Minimal edible studies and research means that consumers lack information on how to safely use edibles. Consumers need to be educated about, and protected from, the unique risks associated with marijuana edibles, especially its delayed highs and accompanying risk of overdose and hospitalization. Given the nationwide trend towards legalization however, many novice consumers might think that marijuana use is perfectly safe, and that edibles are just as safe as smoking a joint. It is imperative that we engage in aggressive education to correct these falsehoods.

How can we do so? Risk education should take many forms. States should advertise in venues such as billboards, television, and radio. Within marijuana shops, signage should be required that relays the risks associated with edible consumption and the safest ways to consume edible marijuana. Furthermore, states should implement educational programs at the school-age level that are devoted to preventing adolescent misuse of edibles. Educational programs that explain the particular risk of edible marijuana are important, particularly because adolescent novices who try edible marijuana are at risk of ingesting too much. Now that marijuana is increasingly legal, education programs can give a more in-depth and informational approach to marijuana edibles and the dangers that they pose, which in turn will prepare adolescents for situations in which they will be presented with edibles or will buy edibles once they are of legal age.

C. Prominent Warning Labels on Marijuana Edibles, Though Important, Are Likely Not Effective Risk Reducers

Of course, edible marijuana products should also be prominently labeled with warnings to provide dosing and risk education to potential consumers, though we should not be too optimistic about this approach. Although research is minimal on how users respond to edible labels, other labels required by the FDA are not widely read or followed by consumers. According to a recent survey conducted by the FDA, only 50% of adults report actually reading food product labels when buying the product for the first time. The amount of

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449 Barrus et al., supra note 288, at ii.
450 See Mohney, supra note 375.
451 Id. at 9.
452 Id.
people who report reading the label is likely to be over-representative of those who actually do so.\textsuperscript{453} Prescription medication labels have also been identified as a source of misunderstanding among patients taking a large number of medications and those with lower literacy levels.\textsuperscript{454} Even when patients understand prescription medication labels, a majority cannot correctly demonstrate the proper way to use the medication.\textsuperscript{455} So we must not be sanguine about the educational effect of labeling laws alone.

D. State Regulations of Edibles Should Be Overhauled

The state-specific regulatory marijuana regime has created a disturbing lack of uniformity in edible regulation, and in turn makes controlling the harmful effects of edibles extremely difficult. This problem can most clearly be seen in the pattern of inaccuracies when it comes to dosage, labeling, and consistency of THC levels throughout edible products.\textsuperscript{456} These inaccuracy issues stem from the edible industry’s nonexistent standardization in product-preparation and quality control.\textsuperscript{457} Unlike alcohol and tobacco, which are subject to standardized federal regulation, marijuana is still illegal at the national level.\textsuperscript{458} Edibles are therefore not governed by federal quality control regulations, and the variance from state to state of regulations results in inconsistencies and unpredictability both between states and within states with less stringent edible regulations.\textsuperscript{459} Compounding this issue is the fact that many of those exposed to edibles are novices, children, and other vulnerable portions of the population who may be more susceptible to the negative effects that accompany inconsistencies in edible products.

1. No “Gummy Bear” Edibles: Pot Is Not Candy

In order to reduce edible-associated risks, certain universal regulations should be implemented in each state. First, edible regulations in all states that have legalized marijuana should institute a prohibition of any edibles that are modeled after non-cannabis products consumed by children, such as gummy bears, lollipops, and other candies. This requirement, present in Alaska, Nevada, Oregon, and Washington’s regulatory regime, should be implemented in any

\textsuperscript{453} Id. (citing Gill Cowburn & Lynn Stockley, \textit{Consumer Understanding and Use of Nutrition Labeling: A Systematic Review}, 8 PUB. HEALTH NUTRITION 21, 24 (2005)).

\textsuperscript{454} Id. (citing Terry C. Davis et al., \textit{Literacy and Misunderstanding Prescription Drug Labels}, 145 ANNALS INTERNAL MED. 887, 888 (2006)).

\textsuperscript{455} Id.

\textsuperscript{456} See generally Barrus et al., supra note 288 (discussing issues with dosage, labeling, and consistency of THC levels through edible products).

\textsuperscript{457} Id. at 8.

\textsuperscript{458} Id. at 8–9.

\textsuperscript{459} Id. at 8–9.
other states that have legalized recreational marijuana. Edibles in the form of children’s candies pose the same risks seen in Tide Pods and gummy vitamins. Children believe them to be candy because of their bright and appealing properties and will ingest them. Reducing the allure of edible marijuana to children is critical in preventing children from inadvertently ingesting marijuana. It is no different than the seminal “attractive nuisance” doctrine learned by every first-year student in law school.

2. Eliminate THC Labeling Inaccuracies

Second, much too frequently a variation exists between the amount of THC claimed on an edible label to the amount it actually contains. The finding that over 80% of California and Washington edibles had actual THC levels different than what was advertised on their package demonstrates the prevalence of this problem and should shock our consciences. Combined with the negative reactions that many people can experience when ingesting too much edible marijuana, inaccurate THC dosing in a single edible serving can have disastrous consequences. Regulatory agencies must find a way to lower the variances witnessed between labeled THC content and actual THC content, or else should put those nonconforming producers out of business. States should do this via regular, stringent testing of all lines of edible products being sold. Furthermore, the amount of variance allowed under the testing standards should be small—within 5% of the THC limit per serving.

3. Reduce the Amount of Permissible THC per Serving

Third, another way to lessen harm from inaccurate dosing within an edible serving size is to lower the amount of THC allowed in each serving. For instance, Oregon and Alaska limit the amount of THC in each serving to 5 mg, rather than the more common 10 mg limit among other states in which marijuana

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463 MacCoun & Mello, supra note 287, at 989.
464 See, e.g., Bennett v. Stanley, 748 N.E.2d 41, 47 (Ohio 2001) (finding that the attractive nuisance doctrine applies when a child wanders onto a neighbor’s property to look at a swimming pool and subsequently drowns).
465 Barrus et al., supra note 288, at 8 (citing Ryan Vandrey et al., Cannabinoid Dose and Label Accuracy in Edible Medical Cannabis Products, 313 JAMA 2491–93 (2015)).
is legal recreationally.\footnote{OR. ADMIN. R. 333-007-0210 (2017) (referencing THC concentration limits of edibles as stated in Table 1, available at http://www.oregon.gov/oha/PH/DISEASES\nCONDITIONS/CHRONICDISEASE/MEDICALMARIJUANAPROGRAM/Documents/rules/333-007-0210-Table-1-eff-05-31-17.pdf); ALASKA ADMIN. CODE tit. 3, § 306.560 (2016).} A reduction in 5 mg of THC per serving size would likely reduce some of the risk associated with edibles because it would allow novices to “up-titrate” their doses starting at a smaller dose,\footnote{Barrus et al., supra note 288, at 6 (“In order to minimize risk of accidental overdose, it is recommended that users of edibles gradually up-titrate their dose until they find an effective dose.”).} thereby reducing overdose situations.

4. Make Each Serving Size Consistent in Its Potency

Fourth, the amount of THC throughout a multiple-serving edible can vary significantly.\footnote{Id. at 5.} An edible candy bar containing multiple delineated edible servings can contain varying THC doses in each separate serving.\footnote{Id.} This problem is exacerbated by a lack of regulatory accountability for edible manufacturers. Some states’ threshold testing requirements only test to determine if the entirety of the edible (not each individual serving size) meets state requirements.\footnote{See, e.g., COLO. CODE REGS. § 212-2 R 712 (2017).} For instance, in Colorado 10 mg of THC is one serving size and 100 mg is the maximum amount of THC allowed in a single edible product.\footnote{Id. at § 212-2 R 604.} Under these regulations, a candy bar containing 100 mg of THC may be produced with demarcations along the bar to indicate each 10 mg serving size.\footnote{Id. at § 212-2 R 103 (Rule 103 (defining a “multiple-serving edible retail marijuana product”)).} But because THC levels may not be consistent throughout the bar, one demarcated serving may contain less than 10 mg, and another demarcated serving may contain more.\footnote{Barrus et al., supra note 288, at 5.} Colorado’s threshold testing for THC content does not analyze whether 10 mg of THC is in each serving; rather it measures whether the entire bar contains equal to or less than 100 mg of THC.\footnote{COLO. CODE REGS. § 212-2 R 712(F)(4).} Colorado does test loosely for homogeneity in that the regulations state that a sample will fail the threshold test if “10% of the infused portion of the Retail Marijuana Product contains more than 20% of the total THC contained within the entire Retail Marijuana Product.”\footnote{Id.} This means as many as 20 mg of THC can be present in one serving and the edible product will still be considered homogenous. Given that studies have shown 1 mg of ingested THC can be as potent as 5.7 mg of THC in smoked marijuana, doubling the potential THC in a serving size that

\footnote{466}
was already 10 mg (potentially as potent as 57 mg of THC in smoked marijuana) could result in a potency level akin to 114 mg of THC from smokable marijuana.\textsuperscript{476} The disturbing result is that an individual attempting to consume only one serving may inadvertently consume much more THC than intended. States should institute more stringent guidelines on testing both the level of THC present in the entire edible product and the amount of THC in each serving, and should reduce the level of variation that is allowed between serving sizes to less than that allowed in Colorado.

5. Reduce Total THC Allowed per Product

Fifth, the amount of THC allowed in a total edible package should be lower than 100 mg, which is the typical amount allowed in most states.\textsuperscript{477} Alaska and Oregon both limit the amount of THC allowed in a total package of edibles to 50 mg.\textsuperscript{478} Other states should follow suit and lower the amount of THC that is allowed in an edible package. This would prevent consumers from ingesting a large amount of THC if they failed to understand or follow directions to consume only one serving size at a time. It would also prevent children who managed to get a hold of a package of edible marijuana from consuming a much larger amount of THC than they otherwise would. It is not difficult to imagine how a child or novice user at a party might reasonably consume an entire “candy” bar of marijuana, without realizing that they had actually ingested up to ten times a single dose.

6. Separate Wrappers for Separate Servings

Finally, states should require that individual servings be packaged separately from the rest of the servings in an edible product. For instance, if a package of edible marijuana contains candies with 100 mg of THC total, each 10 mg serving should be individually packaged to prevent a consumer from misunderstanding how much of the edible is equal to one serving. Because many consumers do not read the directions on labels, individually packaging each serving will better alert the consumer that they are ingesting one full serving size.\textsuperscript{479} This could also potentially help with the issue of non-homogenous THC content among the serving sizes because individual edibles are more easily tested for 10 mg of THC than products with multiple servings.

E. Short-Term Solutions in the Interim

Study and research of the effects of edibles on society will take money, hard work, and time. So too will the crafting of regulations that will appropriately

\textsuperscript{476} Barrus et al., \textit{supra} note 288, at 6 (citing \textit{ORENS ET AL.}, \textit{supra} note 348, at 7).
\textsuperscript{477} See \textit{supra} Part IV.E, Table 2.
\textsuperscript{478} See \textit{supra} Part IV.E, Table 2.
\textsuperscript{479} Barrus et al., \textit{supra} note 288, at 9.
remedy the dangers that edibles currently pose. In the meantime, we must recognize and address the reality that there is a statistically significant increase in marijuana-related poison control center calls and emergency room visits in states that have legalized marijuana.480 Increases in children with marijuana overdose symptoms are increasingly being seen in emergency rooms, and horrifically negative reactions to edibles are still occurring.481 Although risk of marijuana edible overdoses cannot be lowered to zero, the benefit of a more discreet form of marijuana ingestion may not outweigh the negative effects that many are facing after consuming edibles. Until more is known on the health effects of edibles and the impact that they have on society, and until more effective and consistent regulation can be instituted, state-based restrictions on edibles may be necessary. Such measures would unquestionably reduce health risks to children, pot-tourists, novice users, and edible users in general.

VI. CONCLUSION

Recreational marijuana legalization has quickly expanded across America in the past five years from zero states in 2012 to seven states and Washington, D.C., today, and is likely only to increase in pace going forward. As marijuana use and popular opinion steadily increases in support, perceptions of risks surrounding the drug steadily fall. But we must be careful not to be overcome by a false sense of security that the wave of legalization has created. Because of marijuana’s historical criminalization, there is insufficient public research to determine if the benefits of recreational use outweigh its risks. This is particularly the case with respect to marijuana edibles, which are far more unpredictable and dangerous to vulnerable populations than smoked marijuana, though few casual observers realize this reality.

In order to minimize the risks of marijuana edibles and maximize the benefits, the effect of edibles on population health, and whether edibles can be sold and consumed safely, must be studied. Research is needed to determine the best methods of edible regulation to ensure consistent product quality and minimize dosage variances. States should also regulate edibles more tightly to reduce the risk of THC overdose in edible users and in children inadvertently exposed to edibles. In the meantime, state-implemented restrictions on edible marijuana products may be necessary to stem the tide of increasing calls to poison control centers and unfortunate visits to hospital emergency rooms.

480 Hesse, supra note 273.
481 See supra Part IV.B; see also NASEM, supra note 8, at 232–34.
The United States is in the middle of three profound energy revolutions—with booming production of renewable power, natural gas, and oil. The country is replacing coal power with renewable and natural gas power, reducing pollution while saving consumers money. And it has dramatically cut its oil imports while becoming, for the first time in half a century, an important oil exporter. The United States is on the cusp of an energy transformation that will provide immense economic and environmental benefits.

This new energy economy will require massive investment in energy transport—especially power lines to bring wind and solar power to market and gas pipelines to back up these renewable sources. But increased interest from overlapping jurisdictions in energy transport approvals has resulted in delays and uncertainty that make private companies wary of long-term capital investments in new energy facilities. The drive for more careful and holistic environmental assessments of new energy facilities has also repeatedly delayed new infrastructure. And land-owners and property rights groups are increasingly asking the courts to curtail the use of eminent domain by pipeline and power-line companies.

This Article develops a unified scholarly and policy approach to these high-profile threats to energy transport investment. Although most often discussed in the context of controversial oil pipelines, these threats are actually a far greater danger to investment in cleaner power sources like wind, gas, and solar. At this pivotal moment, this Article describes how reforming energy infrastructure reviews can lower the cost of investment in a new energy economy while accommodating increased public interest in pipelines and power-lines. It proposes legislation to ensure a comprehensive, thorough, and unified approval process for energy transport projects.
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I. INTRODUCTION

The United States is in the middle of three profound energy revolutions. First, the falling cost of wind and solar power have made these sources the cheapest options in many parts of the country. Second, directional drilling and hydraulic fracturing—or “fracking”—has unlocked new reserves of low-cost, clean-burning natural gas from shale formations, and this gas is now powering new gas power plants that can easily back-up intermittent sources like wind and solar power. Third, fracking has also dramatically increased production of oil,
making the United States the world’s biggest petroleum producer and, for the first time in decades, an important oil exporter.

Each of these three revolutions is creating a pressing need for long-distance energy transport, and every new project costs billions of dollars. Wind power is cheapest in the prairie states and needs long-distance power lines to carry it to the urban centers that need power in the Southeast and West Coast. Natural gas is expensive to transport because it is a gas: it must either be sent by air-tight steel pipelines buried in the ground or be sent to massive facilities that can cool it until it becomes a liquid and loaded onto specialized tankers for shipment by sea. Oil is the easiest to transport of these three commodities because it is a liquid, so it can be moved by pipeline, barge, or rail—but even an interstate oil pipeline costs billions of dollars.

Energy transport policy is undergoing similar upheavals. Increased public interest in climate, infrastructure, and energy issues has put increasing pressure on the established system for approving energy transport projects. The federal government has, at times, pushed for a larger role in considering proposals for oil pipelines and power transmission, which traditionally have been assessed by the states. Some states have pushed for a role in regulating interstate natural gas pipelines, which are traditionally under federal regulation. Native American groups have pushed for a larger role in approving infrastructure that could impact their historical homelands—which go beyond reservation lands to cover nearly all of the United States. Land owners have asked state and federal courts to limit the use of eminent domain for pipelines and power lines. And climate activists increasingly demand that governments and courts impose expanded environmental reviews and new substantive standards on energy transport projects to ensure they do not endanger the globe.

These simultaneous energy market and energy policy revolutions are on a collision course: just as U.S. energy markets are demanding massive new investments in power and fuel transport, changing U.S. energy policy is making investors wary. Multi-billion-dollar investments in power lines, pipelines, and liquefied natural gas facilities will only pay off over decades. Even the work necessary to submit an application for energy transport—entering transport contracts, securing easements, applying for government approvals, and purchasing equipment and materials—often costs billions of dollars. The larger

1 See Notice of Intent to Submit a Claim to Arbitration Under Chapter 11 of the North American Free Trade Agreement, TransCanada Corp. v. United States, at 1–2, 27 (2016) (requesting more than $15 billion in damages and noting that the company had already spent billions of dollars because “before construction can begin, it is necessary, for example, to secure thousands of land easements, purchase equipment and hundreds of miles of pipe, and enter into long-term contracts with shippers to transport their oil” and that transport companies cannot “wait for the issuance of a permit to begin this long lead time work because, under State Department rules, if construction of a pipeline does not begin within five years after a permit is issued, the permit expires”); Licia Corbella, Editorial: Death of Petronas LNG Project a Wake-up Call for Canada, CALGARY HERALD (July 27, 2017), http://calgaryherald.com/business/energy/editorial-death-of-petronas-lng-project-a-wake-up-call-for-canada [https://perma.cc/5DWM-PLKV] (noting that cancelled liquefied natural
the risk that a project will not be approved, or that policies will artificially lower its profits in coming years, the more money investors must be paid to compensate for this uncertainty. Consumers ultimately pay these higher costs. They pay a larger risk premium to investors willing to build energy transport. Or, if investors shy away from these investments, consumers forgo the benefits of cheaper oil, gas, and renewable power that they would otherwise receive.

This Article seeks to avoid a collision of these energy market and energy policy upheavals, advocating principles that can accommodate increased interest in energy policy while, at the same time, providing increased certainty to energy transport investors. Uniquely, it addresses energy transport as a whole—it shows how power-lines, pipelines, and other energy transport methods are similarly impacted by cross-cutting questions of federalism, eminent domain, and environmental assessment. In braiding together strands in the existing energy law literature, it demonstrates the necessity of a broader perspective. For example, climate campaigners often take a “kitchen sink” approach to pipeline litigation: arguing for any procedural or substantive rule that can stop new fossil fuel infrastructure. This Article’s comprehensive approach shows how new procedures developed in these pipeline battles will also slow the new power transmission that is necessary to transition the United States to a low carbon economy. By revealing the internal architecture of energy transport law, this article serves as a blueprint for all parties interested in changing the U.S. energy system, demonstrating which supporting policies may be safely removed, and which cannot be altered without damage to the rest of the system.

Part II explains how booming production of U.S. renewable power, natural gas, and oil is creating a pressing need for more power lines and pipelines. Part III documents how procedures for approving energy transport infrastructure are changing as a result of pressure from the federal government, states, groups, and land owners. It shows how these procedures are common to pipelines, power lines, and other methods of energy transport—showing how pressures on one type of transport inevitably affect other modes of transport. It concludes by showing why climate campaigners would be better served by pursuing substantive regulations that would surgically target fossil fuels rather than imposing new energy transport procedures that will have collateral impacts on renewable power transmission. In doing so, it explores the complex distinctions between substantive, cross-cutting, and procedural energy transport laws, showing which laws should be targeted by those who want to transform the U.S. energy system.

Part IV explains how these changing procedures are increasing uncertainty for energy transport investors, raising prices for energy consumers, and endangering U.S. efforts to create a new energy economy. This Part also explains how this uncertainty is particularly deadly to efforts to lower U.S. greenhouse gas emissions because high-carbon sources like oil may be able to get by using makeshift transport methods such as rail, road, and water transport, whereas renewable power absolutely must have long-term transport infrastructure. A central irony of energy systems is that our dirtiest sources, coal and oil, are easiest to transport, and our cleanest sources, gas and renewables, are most dependent on expensive long-term infrastructure. Thus, a myopic focus on oil pipelines can be dangerous: the oil industry will be fine whether or not new energy transport is built but the renewable industry is almost entirely dependent on this infrastructure.

With the growing problem defined, Part V advocates four principles that can help accommodate increased interest in energy transport while, at the same time, increasing certainty for energy investors. It labels the first principle “wide participation, one decision-maker,” recommending that states go further to ensure that federal interests are represented in state approval procedures and vice versa, but counseling against a dual-approval process that would increase uncertainty by allowing re-litigation of issues already decided in one forum. The second principle is that energy transport approval processes should not change mid-stream after an application is made. The third principle is that applications for energy transport facilities should be subject to timelines that could motivate reasonably prompt actions from decision-makers. The fourth principle is that the federal government should use its expertise to perform more general policy studies of U.S. energy markets, producing studies on the environmental impacts of different fuels and the compatibility of increased infrastructure with energy and climate goals; these studies could inform individual permit decisions from state and federal decision-makers. Part VI concludes the Article.

II. THREE ENERGY MARKET REVOLUTIONS: RENEWABLE POWER, NATURAL GAS, AND OIL

The United States has always been an energy superpower: through the first half of the twentieth century it was responsible for over half of the world’s oil production, powering the Allies through the two World Wars. Although the United States became a net energy importer in 1953, it remained among the

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world’s top three oil producers along with the U.S.S.R. and Saudi Arabia. But in recent years, U.S. innovation has moved it to the forefront of energy production across multiple categories: it is now the world’s largest producer of wind power, petroleum (oil and other liquids), and natural gas. Cheaper renewable power and shale oil and gas have transformed U.S. energy markets and are creating a pressing need for new energy transport.

A. The Renewable Revolution

In the last ten years, the U.S. power sector has been transformed by the falling cost of renewable power sources like solar and wind. Wind and solar power, supported by state policies and federal tax credits, now produce electricity at costs that are competitive with conventional sources of power.


5 Press Release, Am. Wind Energy Ass’n, U.S. Number One in the World in Wind Energy Production (Feb. 29, 2016), http://www.awea.org/MediaCenter/pressrelease.aspx?ItemNumber=8463 ([https://perma.cc/T7SW-DCGR]) (“Wind produced over 190 million megawatt-hours (MWh) in the U.S. last year . . . . China is close behind the U.S. at 185.1 million MWh and followed by third-place Germany at 84.6 MWh. Although China has nearly double the installed wind power capacity as the U.S., strong wind resources and production-based U.S. policy have helped build some of the most productive wind farms in the world.”).

6 Linda Doman, United States Remains the World’s Top Producer of Petroleum and Natural Gas Hydrocarbons, U.S. ENERGY INFO. ADMIN.: TODAY IN ENERGY (June 7, 2017), https://www.eia.gov/todayinenergy/detail.php?id=31532 ([https://perma.cc/8J4E-JSXG]) (noting that although Russia and Saudi Arabia sometimes surpass U.S crude oil production, the U.S. has a clear lead in “petroleum” production, which accounts for production of lease condensate as well as crude oil).

7 Id.
Even without any subsidies, wind power is now on average the cheapest source of new power across a windy triangle of the United States extending from North Dakota to Illinois to the Texas panhandle. In the meantime, there are large desert areas in California, Arizona, and Nevada where solar is the cheapest power source. As a result, most investment in new capacity for power production has been in renewable sources like wind and solar power.

This good news raises a question: if a zero-emission source of electricity, with no fuel costs, is the cheapest source of power in wide swaths of the country, why not simply transition to an all-renewable economy? There are two fundamental difficulties. First, the regions where renewable power and solar power are the cheapest options tend to be the least populated portions of the United States: wind is strongest on the lone prairie and sun is strongest in areas that are literally desert. If solar and wind are going to power the U.S. grid, it will take a massive build-out of power transmission to bring that power to the urban centers where power is actually consumed. And that is exactly what

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8 EIA OUTLOOK 2017, supra note 3, at 86; U.S. ENERGY INFO. ADMIN., LEVELIZED COST AND LEVELIZED AVOIDED COST OF NEW GENERATION RESOURCES IN THE ANNUAL ENERGY OUTLOOK 2017 1 (2017), https://www.eia.gov/outlooks/aeo/pdf/electricity_generation.pdf [https://perma.cc/GEQ9-8CG7] [hereinafter EIA LEVELIZED 2017] (“For technologies such as solar and wind generation that have no fuel costs and relatively small variable O&M costs, LCOE changes in rough proportion to the estimated capital cost of generation capacity.”). There are, however, important caveats. Id. at 3 (noting, for example, that it “includes the impacts of the Clean Power Plan (CPP), state-level renewable electricity requirements as of November 2016, and an extension and phase-out of federal tax credits for renewable generation”).


10 Id. at 17.

11 EIA OUTLOOK 2017, supra note 3, at 85.


13 This may lead to a further energy transport revolution in which direct current (DC) transmission lines are used rather than traditional alternating current (AC) lines because DC transmission is more efficient for long-distance one-way electricity transport. Alexandra B. Klass, Takings and Transmission, 91 N.C. L. REV. 1079, 1111 & n.196 (2013) (“Today, new, high-voltage DC (“HVDC”) lines are often proposed as the most efficient and economical method of transporting wind power long distances.”).
utilities are planning: they believe they will smash investment records by investing over $22 billion dollars in power transport in 2017.14

Second, the power grid must constantly balance the power provided to the grid with the power demanded by consumers—every light switched on, every phone plugged in, every cycle of the dishwasher.15 If either too much or too little power is supplied to the grid, electrical devices will fail in homes and workplaces everywhere.16 Grid managers are accustomed to avoiding such problems by ordering more or less power from power plants across the grid to manage fluctuations in demand.17 This challenge becomes more difficult when using power supplies that also fluctuate uncontrollably, and the wind and sun only provide power when the wind is blowing or the sun is shining.

There are several ways to integrate more cheap and clean renewable power into the grid. The most plausible options will require more capital investment in energy transmission and each of these options will have to be pursued simultaneously if the United States wants a timely transition toward renewable sources. First, long-range inter-regional transmission can help smooth local fluctuations in renewable power—when it is cloudy and still in one region, it may be sunny and windy in another region that could be connected by transmission.18 Second, renewable sources can be paired with natural gas power plants that can easily ramp up and down to ensure that power supply matches demand, but that will require a huge build-out in natural gas pipelines.19

Third, renewable sources can be paired with facilities that can store power. At the moment, 98% of these facilities use what is known as “pumped hydro,” where excess electricity can be used to pump water from a lower reservoir to a higher reservoir and then can be released back to the lower reservoir to create

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15 See EIA LEVELIZED 2017, supra note 8, at 2 (“Since load must be balanced on a continuous basis, units whose output can be varied to follow demand (dispatchable technologies) generally have more value to a system than less flexible units (non-dispatchable technologies), or those whose operation is tied to the availability of an intermittent resource.”).

16 See id.


electricity when it is needed. But these pumped hydro facilities are also limited to certain locations: they are most economical where there is suitable terrain, limited evaporation and wildlife, and ideally, pre-existing hydropower or, at least, reservoirs. As a result, these facilities are, if anything, more geographically constrained than solar and wind power. And transitioning to a low carbon economy will require massive investments in new storage facilities and transmission from storage locations to the urban grids that demand power. To support a move to pure renewable power, studies suggest that the United States would need over 2,500 Gigawatts of power storage, more than twice the country’s current generation capacity. Currently the United States has 22 Gigawatts of power storage capacity—less than 1% of what is needed. No one has yet estimated the massive scale of transmission required to connect that much pumped hydro, dispersed across the country, to power grids that need electricity storage.

The power industry already attracts more capital investment than any other U.S. industry. Just to maintain the current level of service, it will need another

20 John Roach, For Storing Electricity, Utilities Are Turning to Pumped Hydro, YALE ENV’T 360 (Nov. 24, 2015), http://e360.yale.edu/features/for_storing_electricity_utilities_are_turning_to_pumped_hydro [https://perma.cc/822F-HYZR] (“[P]umped storage hydropower is still the only one [method of power storage] that is mature, reliable, proven, and commercially available . . . ”). The next biggest sources of power storage are compressed air energy storage, where air is pumped underground and then released when power is needed, and thermal storage, where excess electricity is used to produce heat or cold that can be stored in insulation and used when necessary. IMRE GYUK ET AL., U.S. DEP’T OF ENERGY, GRID ENERGY STORAGE 11 (2013), https://energy.gov/sites/prod/files/2014/09/f18/Grid%20Energy%20Storage%20December%202013.pdf [https://perma.cc/Q4JA-TB35]. Battery storage is a distant fourth. Id.


22 See id.


24 Christopher T. M. Clack et al., Evaluation of a Proposal for Reliable Low-Cost Grid Power with 100% Wind, Water, and Solar, 114 PROCEEDINGS NAT’L ACADEM. SCI. 6722, 6724 (2017), http://www.pnas.org/content/114/26/6722.full.pdf [https://perma.cc/4ATZ-6YGS] (noting that a study suggesting that the United States could rely on 100% renewable power “assumes a total of 2,604 GW of storage charging capacity, more than double the entire current capacity of all power plants in the United States”).

25 EIA, Pumped Storage, supra note 21.

trillion dollars of investment.\textsuperscript{27} Transitioning to a low-carbon economy will require even more investment to transmit power from dispersed renewable resources, integrate power storage, and provide natural gas transport and storage to back-up these variable sources of power.

B. The Natural Gas Revolution

In the past decade, directional drilling and hydraulic fracturing have transformed global natural gas markets. Fracking has unlocked increased production in formations like the Marcellus Shale, which is centered in Pennsylvania, and the Barnett Shale in Texas.\textsuperscript{28} And wells in formations that are generally known for oil production, such as the Bakken Shale in North Dakota and the Eagle Ford in Texas, are also producing more gas along with the oil extracted, inevitably increasing U.S. gas production.\textsuperscript{29}

Increased production of natural gas has crashed natural gas prices across much of North America: prices for producers fell more than 80\% from July 2008 to May 2012.\textsuperscript{30} Natural gas prices are especially subject to price swings because it is so expensive to transport a gas.\textsuperscript{31} Solids like coal can be transported in almost any container—even an open railroad car. Liquids like oil can also be transported in many vessels, including trucks, rails, barges, and tankers. But gas plant built today may be operating 60 to 70 years from now. It is also a big-ticket business—in fact, it is the most capital-intensive major industry in the United States. Fully 10\% of all capital investment in the United States is embedded in the power plants, transmission lines, substations, poles, and wires that altogether make up the power infrastructure.”).

\textsuperscript{27} Alexandra B. Klass & Jim Rossi, Revitalizing Dormant Commerce Clause Review for Interstate Coordination, 100 MINN. L. REV. 129, 140–41 (2015) (“The U.S. electric grid constitutes an $876 billion asset managed by over 3,000 utilities serving nearly 300 million customers.”). \textsuperscript{id} at 142 (“[I]n order to maintain even current levels of grid reliability, the electric industry must make . . . investments in transmission and distribution alone of nearly $900 billion.”).


\textsuperscript{29} See Coleman, Importing, supra note 28, at 1366–67.

\textsuperscript{30} See id. at 1364; U.S. Natural Gas Wellhead Price, U.S. ENERGY INFO. ADMIN. (Dec. 12, 2018), http://www.eia.gov/dnav/ng/hist/n9190us3m.htm [https://perma.cc/F3PX-CBML].

\textsuperscript{31} See James W. Coleman, The Shale ‘Revolution’ Is About Gas Prices & Oil Production, ENERGY CENT. (July 17, 2014), http://theenergycollective.com/energylawprof/432466/shale-revolution-about-gas-prices-oil-production [https://perma.cc/VAR3-EUTA] [hereinafter Coleman, Shale] (“Increased production of natural gas has had a dramatic effect on natural gas prices because natural gas is hard to transport. If you can’t send natural gas by an existing pipeline to an existing market, your next best option may be to cool it into a liquid at −162 °C, load the liquid onto a giant, insulated, quarter-billion dollar vessel and ship it across the ocean, where it can be regasified and burned.”).
can only be transported with expensive air-tight, and sometimes refrigerated vessels.\textsuperscript{32} So if coal or oil is more expensive in one region than another, companies can simply ship these fuels to the place where it is worth more until prices equalize.\textsuperscript{33} On the other hand, when there is a local increase in gas production, it must all be used locally even if there is little need to burn more gas in the immediate area until transport can be built to carry it to markets where gas is desperately needed.\textsuperscript{34} This is why natural gas prices around the world can vary by orders of magnitude, whereas the price of oil, which is cheaper to transport, differs only by percentage points across the globe.\textsuperscript{35}

As a result, fracking and new gas production have opened up wide natural gas price differentials around the world. Even markets in close proximity can have very different gas prices if there is not enough transport capacity to serve the demand in the high cost market: for example, while Pennsylvania and Texas have the cheapest natural gas in the world, nearby markets in Massachusetts and Mexico at times pay the world’s highest prices for natural gas.\textsuperscript{36}

\begin{itemize}
\item \textsuperscript{32}Mark P. Gergen, \textit{The Use of Open Terms in Contract}, 92 COLUM. L. REV. 997, 1018 n.68 (1992) (discussing economic peril for gas producers “where gas found cannot be sold currently because a pipeline is unavailable and the gas cannot otherwise be marketed”);
\item Jacqueline Lang Weaver, \textit{Implied Covenants in Oil and Gas Law Under Federal Energy Price Regulation}, 34 VAND. L. REV. 1473, 1518 n.169 (1981) (“Gas is not easily stored above ground and can be transported only by pipeline. Moreover, gas pipelines require large capital investments and can be justified only if the pipeline owner has secure sources of supply under long-term gas purchase contracts.”);
\item Nancy J. Forbis, Note, \textit{The Shut-In Royalty Clause: Balancing the Interests of Lessors and Lessees}, 67 TEX. L. REV. 1129, 1131 (1989) (“Natural gas is difficult, if not impossible, to store outside a reservoir, and thus producers must either transport gas to a pipeline as it is produced or retain it at the wellhead until they can locate a willing purchaser.”).
\item \textsuperscript{33}See, e.g., Coleman, \textit{Shale}, supra note 31.
\item \textsuperscript{34}Id.
\item \textsuperscript{35}Id. Renewable energy, of course, faces the same dilemma. Someone is always willing to pay for electricity somewhere, but it is often too expensive to transport electricity from wind-abundant regions to places where it is needed. So wind and solar farms often receive very little for their electricity or even have to pay other parties to take it. Avery Thompson, \textit{It’s So Windy in Britain That the Price of Electricity Went Negative}, POPULAR MECHS. (June 8, 2017), https://www.popularmechanics.com/science/energy/a26827/britain-price-of-electricity-negative/ [https://perma.cc/CV7T-JNZD]; Cassie Werber, \textit{California Is Getting So Much Power from Solar That Wholesale Electricity Prices Are Turning Negative}, QUARTZ (Apr. 8, 2017), https://qz.com/953614/california-produced-so-much-power-from-solar-energy-this-spring-that-wholesale-electricity-prices-turned-negative/ [https://perma.cc/6RY3-NDZJ]. There are signs that the same dynamic will gradually impact more and more regions as they add renewable power to the grid. A Regional First: New Englanders Used Less Grid Electricity Midday Than While They Were Sleeping on April 21, ISO NEW ENGLAND: ISO NEWSWIRE (May 3, 2018), http://isonewswire.com/updates/2018/5/3/a-regional-first-new-englishers-used-less-grid-electricity-m.html [https://perma.cc/H9SE-GY5S].
\item \textsuperscript{36}EIA Staff, \textit{December Natural Gas Prices Spike in Boston}, U.S. ENERGY INFO. ADMIN. (Dec. 6, 2013), http://www.eia.gov/todayinenergy/detail.cfm?id=14071 [https://perma.cc/Y9T4-VGBZ]; Adebola S. Kasumu et al., \textit{Country-Level Life Cycle...
Interstate natural gas pipelines must be designed to avoid gas leakage, and liquefaction facilities must cool natural gas most of the way to absolute zero until the gas turns into a liquid that can be transported on quarter-billion dollar refrigerated ships.39

Apart from the economic imperative to bring new U.S. gas production to the markets where it is needed, increased natural gas transport has also been a central part of U.S. environmental and geopolitical strategy.40 Compared to other fossil fuels like oil and coal, gas burns extremely cleanly, which is why it can even be burned inside a home.41 So liquefied natural gas exports could help urban areas phase out dirtier fuels like heating oil, and help developing countries address their air pollution problems by closing coal plants.42 Natural gas can also complement intermittent sources like solar and wind power because, unlike other power sources, it can ramp up to meet demand when those sources do not provide enough power.43 Finally, better natural gas transport would mitigate one
negative side effect of the U.S. oil boom—oil from shale formations often is accompanied by gas, and if there is no market for that gas, it is simply burned off (known as “flaring”), wasting the fuel and emitting greenhouse gases.44

C. The Oil Revolution

Directional drilling and hydraulic fracturing have also transformed U.S. oil production. U.S. oil production nearly doubled in seven years from under 5 million barrels per day in 2008, to nearly 10 million barrels per day in 2015.45 And, after a short downturn in 2016, the oil boom is back stronger than ever. The United States is now projected to surpass its previous record oil production, set in 1970, and is already producing more than 10 million barrels per day.46

The geographical distribution of North American oil production has also shifted dramatically.47 Fracking has created three super-fields, each producing over 1 million barrels of crude oil per day. The Permian Basin in western Texas and southeastern New Mexico was the first to reach 1 million barrels in 2012 and has been rising steadily since that time, recently reaching 2.5 million barrels per day.48 The Eagle Ford shale in southern Texas was next, hitting 1 million barrels per day in 2013.49 The Bakken shale also reached that benchmark in

Shellenberger, Yes, Solar and Wind Really Do Increase Electricity Prices -- And for Inherently Physical Reasons, FORBES (Apr. 25, 2018), https://www.forbes.com/sites/michaelshellenberger/2018/04/25/yes-solar-and-wind-really-do-increase-electricity-prices-and-for-inherently-physical-reasons/#1e5d2fd17e84 [https://perma.cc/JQ8A-5WWQ]. By contrast, a natural gas plant will gladly turn the grid over to renewable sources at somewhat higher prices, because the gas plant can ramp down almost costlessly and will save money on the natural gas it would otherwise need to purchase to serve demand. Id.


2013. As recently as 2010 oil production in North Dakota had been negligible; now it is the second-biggest oil producer.

The pace of this development is astonishing. After just a few years of widespread fracking, each of these fields is now producing more oil than is produced in all the fields of oil powers like Libya. And Texas’s traditional reputation as an oil capital may obscure the scale of the revolution that has occurred there: in just four years it went from just over 1 million barrels per day of production to over 3.5 million barrels per day. After more than fifty years of development, oil superpowers like Kuwait and Nigeria produce 2.5 million barrels per day. Texas added 2.5 million barrels a day on top of its existing production in less than fifty months. It now produces more oil than Kuwait and Libya combined.

Canada has also contributed to the explosion of onshore oil production in North America. As recently as 2000, the country produced less than 2 million barrels per day of oil. But expanding production in Alberta’s oil sands, as well

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51 James Coleman (@energylawprof), Crude Oil Production by State, TWITTER (Mar. 29, 2018, 8:16 AM), https://twitter.com/EnergyLawProf/status/979376653573947392 [https://perma.cc/EXV3-UWR7] [hereinafter Crude Oil Production by State]; see also BAKKEN PRODUCTIVITY REPORT, supra note 50 (providing more detailed data).


54 U.S. ENERGY INFO. ADMIN., TEXAS FIELD PRODUCTION OF CRUDE OIL, https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=dnav/pet/hist/LeafHandler.ashx&&s=mcrfptx1&f=a [https://perma.cc/MBQ7-KLGK] [hereinafter TEXAS FIELD PRODUCTION OF CRUDE OIL]; see Crude Oil Production by State, supra note 51 (comparing Texas production with that in other states).

55 Compare Crude Oil Production by State, supra note 51 (Texas produces over 4,000,000 barrels per day), with CRUDE OIL PRODUCTION, KUWAIT, ANNUAL, supra note 53 (producing approximately 2,750,000 barrels per day), and U.S. ENERGY INFO. ADMIN., CRUDE OIL PRODUCTION, LIBYA, ANNUAL, https://www.eia.gov/opendata/qb.php?category=1039874&sdid=STEO.COPR_LY.A [https://perma.cc/M223-XJDC] (producing approximately 897,000 barrels per day).

as fracking in Alberta and Saskatchewan, have doubled Canadian production, which now stands at 4 million barrels per day, not including offshore production in Eastern Canada.57

This onshore oil boom has scrambled oil transport markets, which for decades were designed to carry oil into the center of North America. Historically the best price for crude was obtained at refineries in the U.S. Midwest near Chicago.58 And refineries in Texas took in oil from overseas to slake the thirst of fuel markets in the South and Southeast.59 Now a flood of oil must travel the other way, from Alberta, North Dakota, and Texas to parts of the country, and parts of the world, that have not been part of the fracking boom.60

This new oil geography has led to a boom in pipeline proposals designed to take oil from the center of the continent to the coasts, which is where most U.S. refineries are located.61 While infamous pipelines like Keystone XL and Dakota Access attracted controversy, numerous other pipelines and pipeline expansions were approved and built, bringing oil south toward the coast.62 But these proposals have not been able to keep up with the flood of crude: large volumes


59 See Leach, Shifting Flow, supra note 58; Leach, Explaining Canada’s Hurry, supra note 58.

60 See Leach, Explaining Canada’s Hurry, supra note 58.


of oil are now traveling by rail as well.\textsuperscript{63} Transporting this oil by pipeline would be safer than rail, which can lead to explosions when trains derail.\textsuperscript{64}

\section*{III. Energy Policy Revolutions: Changing Procedures for Approving Energy Transport Projects}

Recent years have seen major upheavals in the process for approving all forms of energy transport. This has been driven by four important forces. First, as energy issues have grown more contentious, the federal government has pushed for an increased role in considering proposed interstate oil pipelines and power transmission, which have traditionally been approved by the states. Second, on the flip side, some states have asserted a right to block federally-approved interstate gas pipelines. Third, environmental groups have increasingly asked governments and courts to impose expanded consultation requirements and environmental reviews on energy transport projects. Fourth, land owners have asked federal and state governments to limit eminent domain for power-lines and pipelines.

These four trends have come together most prominently in opposition to oil pipeline proposals such as Keystone XL and the Dakota Access Pipeline. But even if these moves were developed as a legal strategy to stop fossil fuels\textsuperscript{65} (or

\textsuperscript{63}Indeed, the ease of transporting oil by other means is one reason that production has increased so dramatically—when local production of oil rises dramatically, it can just be shipped abroad to places still in need of oil. James Coleman, \textit{The Shale ‘Revolution’ Is About Gas Prices and Oil Production}, \textit{Energy Collective} (July 17, 2014), http://theenergycollective.com/energylawprof/432466/shale-revolution-about-gas-prices-oil-production [https://perma.cc/VAR3-EUTA]. Prices will not fall dramatically until world demand is saturated. \textit{Id.} In contrast, because natural gas is so hard to transport, local booms in natural gas production often have a drastic impact on local gas prices. \textit{Id.}


even make cleaner fuels look better by comparison), they will have a serious impact on all energy transport projects if they are successful. Federalism, environmental assessment, and the rights of indigenous peoples and land owners all present cross-cutting issues that are equally applicable to power and fuel transport. And there will always be challengers who object to new infrastructure because of impacts on local communities, disagreements about the best future for the electricity grid, and the environmental impact of energy transport. This section demonstrates how these issues cut across modes of energy transport, posing the greatest risk to cleaner sources of energy such as renewable power.

A. Federal Government’s Expanded Role in Interstate Oil and Power Transmission

Approval of interstate powerlines and oil pipelines has historically been left to the states crossed by these energy projects. 66 That is, if a company wants to build a powerline or pipeline from Kansas to Texas, it must get the approval of Kansas, Texas, and Oklahoma, which lies between the two states.

In theory, the federal government also has some authority over these pipelines because they inevitably cross “navigable waters,” which include navigable waters such as rivers as well as some wetlands and other aquatic features that are not, in fact, navigable. 67 The federal government must grant Clean Water Act Section 404 permits for these crossings. 68 But, in practice, the federal government has left review of these projects to the states, pre-authorizing water crossings by pipelines and power-lines. 69 In 2012, it reissued

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66 Klass & Meinhardt, supra note 44, at 982–88, 1027–53 (noting varied approaches to oil pipeline siting in different states and collecting state statutes). One prominent exception is energy transport projects that, like Keystone XL, cross an international border—those have historically required a presidential permit under Executive Orders 11423 (1968) and 13337 (2004). Sierra Club v. U.S. Army Corps of Eng’rs, 990 F. Supp. 2d 9, 12–13, 17, 26 n.13 (D.D.C. 2013) (denying motion for preliminary injunction against domestic crude oil pipeline because it, unlike Keystone XL is “an entirely domestic pipeline”).

67 Rapanos v. United States, 547 U.S. 715, 732, 759 (2006) (ruling by a four-Justice plurality that this term only includes “relatively permanent” bodies of water, concurrence from Justice Kennedy says this term, instead, refers to waters or wetlands with a “significant nexus” with navigable waters); Solid Waste Agency of N. Cook Cty. v. U.S. Army Corps of Eng’rs, 531 U.S. 159, 167 (2001); United States v. Riverside Bayview Homes, Inc., 474 U.S. 121, 133 (1985) (finding the statute also covers wetlands adjacent to navigable waters).

68 See 33 U.S.C. § 1341(a) (2012), Riverside, 474 U.S. at 123. The Congress could also pass new laws regulating pipelines and power-lines under its constitutional authority “[t]o regulate Commerce with foreign Nations, and among the several States, and with the Indian Tribes” under the U.S. Constitution’s Commerce Clause. U.S. Const. art. I, § 8, cl. 3. Although this power is not unlimited, and may not extend to all water bodies, it certainly extends to water crossings. See Solid Waste, 531 U.S. at 172–74 (reading “navigable waters” in the Clean Water Act not to apply to isolated bodies of water to avoid “significant constitutional questions” about whether Congress could regulate such bodies of water).

a nationwide general permit that allows energy infrastructure to be built without individualized environmental review. So in practice the federal government has left review of interstate pipelines and powerlines to the states that these pipelines cross.

This equilibrium was upset when the U.S. government declared that it would do a full review of the controversial Dakota Access Pipeline, which already had approvals from the states that it would cross: North Dakota, South Dakota, Iowa, and Illinois. In contrast, to the usual expedited process, the pipeline underwent an in-depth environmental assessment and consultation process, consuming more than a year and 1,200 pages, which ultimately determined that the pipeline would have “no significant impact” on environmental or cultural resources. This decision meant, however, that the pipeline would not have to undergo a full environmental impact statement process under the National Environmental Policy Act (NEPA), which now average over five years to complete.

Nevertheless, in the waning days of the Obama Administration, the Army Corps of Engineers announced it would do a full environmental impact statement for the pipeline, announcing that the federal government would take a wider role in approving interstate energy infrastructure as part of its...
responsibility to Indian tribes. This shift was particularly dramatic because the federal government still insisted the pipeline would have “no significant impact” on the environment.

This new policy was reversed by the incoming Administration and is now embroiled in court disputes. The district court reviewing the Army Corp’s

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75 Dep’t of Justice, Joint Statement from the Department of Justice, the Department of the Army and the Department of the Interior Regarding Standing Rock Sioux Tribe v. U.S. Army Corps of Engineers (Sept. 9, 2016), https://www.justice.gov/opa/pr/joint-statement-department-justice-department-army-and-department-interior-regarding-standing [https://perma.cc/26GW-MZXK] (“Furthermore this case has highlighted the need for a serious discussion on whether there should be nationwide reform with respect to considering tribes’ views on these types of infrastructure projects.”); Updates and Frequently Asked Questions: The Standing Rock Sioux Tribe’s Litigation on the Dakota Access Pipeline, EarthJustice (Nov. 1, 2018), http://earthjustice.org/features/faq-standing-rock-litigation [https://perma.cc/V4QT-3HKC] (interpreting the government’s joint statement as “call[ing] for a national review of the government’s approach to Tribal consultation for major fossil fuel projects”). Just before the end of the Obama Administration, in January 2017, the three departments issued a report on their review of consultation with tribes on infrastructure decisions. See Dep’t of Justice, Dep’t of the Army & Dep’t of the Interior, Improving Tribal Consultation and Tribal Involvement in Federal Infrastructure Decisions (2017) https://www.bia.gov/sites/bia.gov/files/assets/as-ia/pdf/idc2-060030.pdf [https://perma.cc/HE8X-YDDQ]. The tribes’ recommendations focused mostly on oil pipelines rather than infrastructure in general. See id. at 15, 52, 65 (“Clarify the need to conduct an EIS for crude oil pipeline construction and operation. . . . Tribes noted that the most problematic projects reviewed under the NHPA involve extractive industries (such as oil, natural gas and mining). . . . Tribes similarly opposed the use of Nationwide Permits to authorize major infrastructure projects (particularly oil pipelines), which Tribes did not believe sufficiently safeguarded treaty rights.”). The departments, however, did not distinguish between different kinds of infrastructure projects. See id. at 16–24.

76 Standing Rock Sioux Tribe v. U.S. Army Corps of Eng’rs, 205 F. Supp. 3d 4, 24 (D.D.C. 2016); see also Memorandum from Jo-Ellen Darcy, supra note 72, at 1, 4 (“On July 25, 2016, the U.S. Army Corps of Engineers (Corps) granted a permission to applicant Dakota Access, L.L.C., under Section 14 of the Rivers and Harbors Act of 1899, 33 U.S.C. § 408 (Section 408 permission), for a proposed crossing of Lake Oahe, a Corps project on the Missouri River. . . . The Section 408 permission was accompanied by an Environmental Assessment, as contemplated under the National Environmental Policy Act, 42 U.S.C. § 4321–4335, and its implementing regulations. . . . The Environmental Assessment included a finding that granting the Section 408 permission for the proposed crossing of Lake Oahe did not constitute a major Federal action that would have significant environmental impacts. . . . [T]his decision does not alter the Army’s position that the Corps’ prior reviews and actions have comported with legal requirements.”); Ellen M. Gilmer, Obama Admin Denies Final Easement for Pipeline, E&E News (Dec. 4, 2016), https://www.eenews.net/stories/1060046601/ [https://perma.cc/F267-8HYW] (noting some denounced the decision as political and urged then-President-elect Trump to reverse it upon assuming office).

77 Exhibit 1: Easement for Fuel Carrying Pipeline Right-Of-Way Located on Lake Oahe Project, Morton and Emmons Counties, North Dakota, Standing Rock Sioux Tribe v. U.S. Army Corps of Eng’rs, 282 F. Supp. 3d 91 (D.D.C. 2017) (No. 1-16-ev-1534-JEB). This reversal from the Army Corps was made in response to direction from the new Administration. See Memorandum from President Donald J. Trump to the Sec’y of State, the
decision ultimately determined that the lengthy environmental assessment process had failed to adequately consider the possibility of oil spills and the potential impact of the project on cultural resources. It remains to be seen whether the courts or future administrations will continue to expand the federal role in interstate pipeline approvals.

At the same time that the federal government was seeking to layer federal review on top of state reviews of interstate oil pipelines, it was seeking to remove state review of certain power-line projects. Given the abundance of wind power in the plains states, and the dearth of renewable power in the populous U.S. Southeast, a company, Clean Line Energy Partners, proposed a new power-line from Oklahoma, across Arkansas, to Tennessee. Arkansas, however, saw little benefit in a new power-line crossing the state to help power producers and consumers on either side, and rejected the power line. At this point, two federal agencies stepped in—the Department of Energy and the Southwestern Power Authority—and partnered with Clean Line Energy Partners, preempting Arkansas’s rejection of the power-line. This move by the federal government to alter the balance of power in energy federalism was also challenged in court, but has since been abandoned.


Standing Rock Sioux v. U.S. Army Corps of Eng’rs, 255 F. Supp. 3d 101, 147 (D.D.C. 2017); see also Ellen M. Gilmer, Pipeline’s Fate Uncertain After Big Legal Victory for Tribes, E&E NEWS (June 15, 2017), https://www.eenews.net/stories/1060056071 [https://perma.cc/J4U6-B5PM] (discussing the decision, the pipeline’s uncertain future, and how a “decision to shut off a pipeline for inadequate environmental review would be unprecedented”).

There are some signs that courts may be willing to overturn the general federal policy of minimal review for oil and power transport projects. A federal court in Louisiana recently held that the Army Corps’s finding of no significant impact for an oil pipeline was invalid, although the decision was subsequently enjoined by the Fifth Circuit Court of Appeals. See Ellen M. Gilmer, Court Lifts Freeze on Bayou Bridge Project, E&E NEWS (Mar. 16, 2018), https://www.eenews.net/energywire/2018/03/16/stories/1060076547 [https://perma.cc/P7GK-NWUJ]. This could be seen as part of the general trend since the New Deal of moving more areas of American law from state responsibility into the federal domain. See LAWRENCE M. FRIEDMAN & GRANT M. HAYDEN, AMERICAN LAW: AN INTRODUCTION 136–38 (3d ed. 2017).

Complaint for Declaratory and Injunctive Relief at 1, Downwind v. U.S. Dept. of Energy, No. 3:16-cv-00207-JLH (E.D. Ark. filed Aug. 15, 2016) (challenging the Department of Energy’s decision to approve the construction and operation of an electronic transmission line on due process, statutory authority, sufficient rationale, and improper use of eminent domain); Tom Kleckner, Arkansas Landowners Seek to Stop Plains & Eastern Clean Line Project, RTO INSIDER (Aug. 18, 2016), https://www.rtoinsider.com/arkansas-
B. State Government’s Expanded Role in Interstate Natural Gas Pipelines

Natural gas pipelines are approved by the federal government, through the Federal Energy Regulatory Commission, and thus states have traditionally not had a significant role in regulating these projects. But here too the balance of power in energy federalism is under attack as states assert a right to block federally-approved projects. Any significant construction project inevitably requires numerous state and local construction permits: permits to bring in heavy equipment, permits to cross streams, permits to close roads for construction. Historically, a federal permit was generally enough to ensure that these permits were granted but first Connecticut and now the State of New York have decided that they have authority under the U.S. Clean Water Act Section 401 to deny a state Water Quality Certification to pipelines approved by the federal government.

In 2016, New York denied a Water Quality Certification to the Constitution Pipeline, which was designed to transport natural gas from shale fields in Pennsylvania to consumers in New York, and had been approved by the federal government in 2014. In doing so, New York was following the example of Connecticut, which in 2006 denied a water quality certification to the federally-approved Islander East pipeline. New York argued that pipeline construction would endanger New York’s water supplies—a contention not supported by the Federal Energy Regulatory Commission. Pipeline backers quickly filed suit, alleging that the state could not deny water quality permits to a federally

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81 See Natural Gas Act of 1938, 15 U.S.C. §§ 717c, 717f(c)–(h).
82 See Islander E. Pipeline Co. v. Conn. Dep’t of Envtl. Prot., 482 F.3d 79, 79 (2d Cir. 2006). Note that these permits are granted under the federal Clean Water Act, so they are not simply preempted by the federal approval.
84 Islander, 482 F.3d at 79; Islander E. Pipeline Co. v. McCarthy, 525 F.3d 141, 141 (2d Cir. 2008).
85 Letter from John Ferguson to Lynda Schubring, supra note 83, at 14.
approved pipeline. The Second Circuit rejected this lawsuit, holding that New York had acted reasonably. The court, however, stated that the company could file suit in the D.C. Circuit Court of Appeals if it believed that New York had waived its authority to deny the pipeline by taking so long to deny the certificate.

Emboldened by its victory in the Second Circuit, in 2017 the state denied a Water Quality Certification to the Valley Lateral Pipeline proposal, an eight-mile long pipeline also designed to transport natural gas from Pennsylvania to New York. This short interstate pipeline had been approved by FERC in 2016. This time, New York did not rely on water quality arguments—instead it premised its decision on the argument that FERC had not done enough to assess how the pipeline would lead to more combustion of natural gas from users at the end of the pipeline. This time, however, FERC acted, ruling that New York had taken too long to issue this denial and had thus waived its authority to deny the pipeline a Water Quality Certification. Barring intervention from Congress, the result of lawsuits filed in both these cases will likely determine the balance of power in natural gas transport federalism.

C. The Push for Expanded Environmental Reviews for Energy Transport Projects

In June 2013, President Obama announced a new standard for the Keystone XL pipeline, which had been proposed in 2008 to carry oil from Alberta to the United States: he would only approve the project if it would not increase oil

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88 Constitution Pipeline Co., 868 F.3d at 91.
89 Id. at 103.
91 Order Denying Motion to Dismiss and Issuing Certificate, 157 FERC ¶ 61,096 (2016).
92 Letter from Thomas Berkman to Georgia Carter & John Zimmer, supra note 90, at 2.
production (and thus greenhouse gas emissions) in Canada.94 Ultimately, the U.S. State Department, which reviewed the international project, determined that the pipeline probably would not increase oil production in Canada, but it rejected the pipeline anyway in November 2015 because, it said, the pipeline would be “perceived” to increase greenhouse gas emissions.95 Environmental groups’ success in holding up the Keystone XL project for almost a decade has led to wider efforts to establish a “climate test” for energy transport projects that would: (a) quantify upstream and downstream emissions aided by pipelines and power transmission and (b) reject projects that would significantly increase those emissions.96

Environmental groups are also pushing the federal government to expand environmental reviews of new gas transport—both liquefied natural gas facilities and interstate pipelines—to consider how those transport facilities will encourage natural gas production and consumption.97 The U.S. government has thus far generally declined to consider how new pipelines and liquefied natural gas facilities will affect natural gas production and consumption.98 The Federal Energy Regulatory Commission (FERC) has approved eleven of fourteen proposed liquefaction facilities and 154 pipeline applications since 2009.99 Yet

94 James W. Coleman, Beyond the Pipeline Wars: Reforming Environmental Assessment of Energy Transport Infrastructure, 2018 UTAH L. REV. 119, 122 (2018) [hereinafter Coleman, Beyond].
95 Id.
96 Id. at 123–34.
99 The Department of Energy has approved eighteen of these projects and is reviewing thirty-eight more. U.S. DEP’T OF ENERGY, SUMMARY OF LNG EXPORT APPLICATIONS (Mar. 2016) http://energy.gov/sites/prod/files/2016/03/f30/Summary%20of%20LNG%20Export
FERC has resisted calls to consider the environmental impact of increased natural gas production enabled by these new transport facilities.\footnote{See, e.g., Sierra Club v. FERC, 827 F.3d 59, 62 (D.C. Cir. 2016); Sierra Club v. FERC, 827 F.3d 36, 40 (D.C. Cir. 2016); Michael Burger & Jessica Wentz, \textit{Downstream and Upstream Greenhouse Gas Emissions: The Proper Scope of NEPA Review}, 41 H \textsc{Arv. Envtl. L. Rev.} 109, 137 (2017) ("FERC has consistently maintained that it has no obligation to consider greenhouse emissions or any other environmental effects associated with upstream and downstream activities in the natural gas production and supply chain."). In one older case, FERC did consider the downstream impact of increased natural gas use, concluding that it could be controlled by ensuring transport of low sulfur natural gas for combustion. \textit{S. Coast Air Quality Mgmt. Dist. v. FERC}, 621 F.3d 1085, 1089–90 (9th Cir. 2010).} Under the Obama administration, this led to increasingly high profile interagency conflicts with the Environmental Protection Agency, which then believed that FERC should provide full reviews of the upstream and downstream impacts of natural gas projects.\footnote{U.S. Envtl. Protection Agency, Letter on Final Environmental Impact Statement for Columbia Gas Transmission, LLC—Leach Xpress Project, and Columbia Gulf Transmission LLC—Ryan Xpress Expansion Project to U.S. Federal Energy Regulatory Commission (Oct. 11, 2016) [on file with the \textit{Ohio State Law Journal}] (stating that FERC’s environmental review “perpetuates the significant omission” by not considering downstream impact and so “[w]e request . . . a headquarters level meeting with us to seek a definitive resolution to this matter before you [approve the pipelines] and so that you do not continue to take this approach in additional NEPA documents”); U.S. Envtl. Protection Agency, Letter on Comments on the Draft Guidance Manual for Environmental Report Preparation for Applications Under the Natural Gas Act to U.S. Federal Energy Regulatory Commission (Jan. 19, 2016) [on file with the \textit{Ohio State Law Journal}] (stating that FERC’s environmental reviews of liquefied natural gas terminals must add assessment of “emissions associated with the production, transport, and combustion of the natural gas”). FERC’s position has generally been supported by the other infrastructure and production approving agencies, such as the Army Corps of Engineers and the Bureau of Ocean and Energy Management. \textit{Bureau of Ocean & Energy Mgmt., Outer Continental Shelf Oil & Gas Leasing Program: 2012-2017, Final Programmatic Environmental Impact Statement} 8–37 (July 2012) (rejecting consideration of upstream and downstream impacts for oil leases).} And in two recent cases, the D.C. Circuit reached opposite decisions on whether FERC must consider the downstream impacts of approving natural gas pipelines or liquefied natural gas facilities.\footnote{Sierra Club v. U.S. Dep’t of Energy, 867 F.3d 189, 202 (D.C. Cir. 2017); Sierra Club v. FERC, 867 F.3d 1357, 1374 (D.C. Cir. 2017).}

It remains to be seen whether environmental groups will have more luck with the courts, but on February 3, 2017, an outgoing commissioner of FERC, Norman Bay, effectively endorsed these outside arguments for wider environmental assessments.\footnote{Order Granting Abandonment and Issuing Certificates, 158 FERC ¶ 61,145 (2017).} This argument came in a separate statement to an otherwise uncontroversial pipeline approval.\footnote{\textit{Id.}} Commissioner Bay continued to insist that NEPA does not require FERC to assess upstream and downstream emissions from gas pipelines, noting that “FERC has no authority
to regulate the production of natural gas [because] in general, that authority resides with the states." Nevertheless, “in light of the heightened public interest and in the interests of good government,” Commissioner Bay said FERC should begin studying the impacts of increased upstream emissions and the downstream impact of natural gas.

D. Objections to Eminent Domain for Energy Transport

A new front has opened in the energy transport battles, with several lawsuits alleging that private companies should not be allowed to use eminent domain to acquire easements for their projects. Eminent domain allows purchase of easements from landowners at fair market value if a deal cannot be reached by negotiation. It is particularly crucial for linear infrastructure such as roads, pipelines, and power-lines because, otherwise, each landowner along the proposed route can, in theory, hold out for a higher price to try to capture the entire economic value of the project.

These unresolved lawsuits have been filed in multiple federal and state courts and allege that, under state and federal constitutions, energy transport companies may not use eminent domain. They rely on multiple theories. Some argue that private companies may not use eminent domain without a particularly strong government showing of why those companies are operating in the public interest. Some argue that foreign corporations should not be allowed to use eminent domain. Some scholars argue that the federal

105 Id.
106 Id. These arguments have been echoed more recently by commissioner Richard Glick, who believes that FERC is required to consider these upstream and downstream greenhouse gas emissions. Order Granting Authorizations Under Sections 3 and 7 of the Natural Gas Act, 166 FERC ¶ 61,144 (2019).
109 Id. at 1710 (noting that pipelines are among the “Quintessential Public Projects” because “often there may be only one feasible route” and “persons owning land along the designated path are tempted to hold out for a high price in excess of the land’s opportunity cost”).
111 Berkley Complaint, supra note 107, at 24.
112 Urban Complaint, supra note 107, at 38.
government simply was never intended to have the power of eminent domain.\textsuperscript{113} And some suggest that the case could be a vehicle for overturning the Supreme Court’s controversial decision authorizing eminent domain on behalf of private companies in \textit{Kelo v. City of New London}.\textsuperscript{114}

If successful, these lawsuits would force energy transport companies to try to somehow piece together continuous easement routes from willing landowners—any route could be foiled by a single hold out landowner.\textsuperscript{115} Thus, they pose an existential threat to pipelines and power-lines.\textsuperscript{116}

\textbf{E. Cross-Cutting Energy Transport Law & Markets Require Simultaneous Focus on Both Pipelines and Power-Lines}

The highest profile energy transport battles have been for oil pipelines—particularly the Keystone XL and Dakota Access Pipelines—and, to a lesser extent, natural gas pipelines, such as the Constitution Pipeline.\textsuperscript{117} Environmental advocates looking to stop pipelines have advocated for each of the changes suggested above: overlapping federal and state reviews, expanded environmental assessments, and restricted use of eminent domain.\textsuperscript{118} But focusing too intently on oil pipelines can obscure the ways that these changes to the approval process will also affect the other energy transport projects that the United States needs to move toward a cleaner energy transport system.\textsuperscript{119}

First, each of these procedures may have a serious impact on approving new power transmission. Second, aligning energy transport procedures could enable a transition to cleaner energy because the current system is stacked in favor of fossil fuel transport.

Each of the new hurdles advocated for oil pipelines poses a serious risk of tripping up power-line projects as well. For example, a new federal commitment


\textsuperscript{114} Kelo v. City of New London, 545 U.S. 469 (2005); Ellen M. Gilmer, \textit{Burgeoning Legal Movement Pits Landowners Against Pipelines} \textit{E&E News} (Sept. 13, 2017), https://www.eenews.net/stories/1060060443 [https://perma.cc/9EJE-SHZH] (“It’s possible that they might rethink parts of \textit{Kelo} or maybe even overrule it.” (quoting Professor Ilya Somin)).


\textsuperscript{118} See supra Parts III.B–D.

\textsuperscript{119} And, of course, policymakers should be wary of adopting procedural suggestions from groups whose substantive goals are to prevent any future approvals. Similarly, it would be a mistake to let anti-wind power groups set the procedure for approval of wind turbines.
to do full environmental and cultural review of interstate energy transport projects, like the Dakota Access pipeline, would also require federal review of interstate power transmission projects. So power-lines and oil pipelines would both be subjected to two levels of review, requiring approvals from all state regulators as well as the federal government. And decisions to limit the use of eminent domain by private companies would impact power transmission as well. In fact, the impact would likely be more severe because landowners have traditionally been warier of granting easements for power lines than pipelines, because pipelines, once buried in the ground, are invisible.120

Similarly, if upstream and downstream reviews gain traction in the courts, it may increase uncertainty for power-line proposals as well. Of course, power-lines for renewable power transmission have many beneficial downstream impacts, such as reducing emissions from fossil fuel plants.121 Indeed, FERC has mandated that when states make transmission decisions they must consider how their decisions will impact the ability of neighboring states to meet their renewable targets.122

But there is no reason to think that electric transmission will be uniquely immune from the uncertainties and delay caused by expanded and uncertain environmental assessments. First of all, power transmission has historically attracted more opposition than oil and gas pipelines because transmission is above the ground, leaving a permanent eyesore.123 Second, the renewable projects themselves often attract local opposition driven by the effects of large solar and wind facilities on sensitive species, local land-use, and aesthetic

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120 Klass & Meinhardt, supra note 44, at 949.
121 Coleman, Importing, supra note 28, at 1378 (“For example, a transmission line from in-state windmills to out-of-state consumers could also provide those consumers with cleaner air if it displaced local coal power.”) (omitting internal references). And FERC has told states it must consider these benefits in setting transmission policy. Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities, 136 FERC ¶ 61,051; see Uma Outka, Environmental Law and Fossil Fuels: Barriers to Renewable Energy, 65 VAND. L. REV. 1679, 1692 n.45 (2012); Amy L. Stein, The Tipping Point of Federalism, 45 CONN. L. REV. 217, 245–46 (2012) (exploring disparity between electricity generation siting, which nominally remains in state control, and siting regimes governing electricity and natural gas transmission).
122 Coleman, Importing, supra note 28, at 1363.
123 Lita Furby et al., Public Perceptions of Electric Power Transmission Lines, 8 J. ENVTL. PSYCH. 19, 20 (1988) (“Transmission lines currently represent a problem area in the electric power system: they require considerable land for their corridors, and the use of that land for transmission lines may conflict with other land use practices or plans; they cause noise . . . they are perceived to cause health problems and safety risks for both animals and humans. As a result, high-voltage transmission line have recently met a very significant amount of public opposition . . . Opposition to transmission line siting and construction has sometimes caused enormous costs to the utilities, through long delays in gaining regulatory approval, litigation fees, and occasionally even vandalism.”).
values.124 These opponents of wind and solar projects will use the same tactics employed in pipeline debates: even a project that has received site approvals will never be built if it cannot connect to centers of demand. With an expanded environmental impact assessment, the transmission approval process will provide another opportunity to re-litigate familiar disputes that wind turbines endanger bird populations and damage scenic vistas or that solar farms have impacts on water use, land use, and endangered species.

Transmission opponents can and will add arguments that all the downstream economic activity that is served by electricity has negative impacts on the environment or that the power transmission, which is open to all users, will be diverted to serve fossil fuel power plants.125 And the arguments for considering upstream and downstream consequences of electricity transmission are, if anything, more reasonable than the same case for oil pipelines: oil can go by rail, ship, or pipeline, but electric power can only go by transmission lines. Thus, renewable power is, if anything, more vulnerable than oil pipelines to delay-by-environmental-review tactics. And so it has proved. When investors proposed the “Northern Pass” power line to take hydropower from Canada to Massachusetts, opponents objected that helping Canadian hydropower endangered fish populations in Canada.126 This strategy was ultimately successful when New Hampshire rejected the power-line in February 2018.127

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125 Adam Orford, Power to the People: Primer on NEPA and Transmission Lines, 29 NAT. GAS & ELECTRICITY 16, 21 (2013) (“Perhaps most commonly, today’s transmission opponents may argue that the agency should review and disclose the impacts of induced energy generation as an ‘indirect effect.’ This might include greenhouse gas emissions if the line is expected to induce, for example, new fossil generation . . . .”).


Similarly, eminent domain arguments against oil pipelines are being used effectively against power lines for renewables as well.\textsuperscript{128} Resisting eminent domain was another key strategy of the successful opposition to the Northern Pass power-line.\textsuperscript{129} And in Missouri, opponents have been able to repeatedly delay construction of a power-line designed to carry wind-energy to the Midwest.\textsuperscript{130} Thus, while oil pipelines grab the national headlines, power-lines across the country are being held up using the same legal arguments.

Finally, focusing on energy transport as a whole, aligning energy transport procedures could be a very effective means of encouraging a transition to a cleaner energy system because the combination of market realities and current procedures favor fossil fuels. The irony of focusing on oil pipeline transport is that it is the least important link in the energy transport chain: whether or not oil pipelines are built, oil will typically get to market because oil can be easily moved by rail, barge, or truck. Natural gas and electricity, by contrast, can only be moved with large-scale projects, such as pipelines, liquefaction facilities, and power lines.\textsuperscript{131} So if new procedures raise the cost of power lines and gas pipelines, that will raise the cost of moving to a system that relies more on gas and renewable power and less on easily transportable commodities such as oil and coal.

Furthermore, as between natural gas and power, current procedures are more favorable to gas transport because, New York notwithstanding, interstate gas pipelines generally only need a single federal permit.\textsuperscript{132} By contrast, interstate power lines must receive a permit from each state they cross. Utilities must often consider whether to burn more natural gas near its source and transmit power where it is needed or, in the alternative, to transport the natural gas to where power is needed and burn it locally. Under the current divided regulatory system, it is easier to get approval for an interstate gas pipeline than an interstate power line, so utilities tend to transport the gas. But to move to a renewable energy future, it would make more sense to build an interstate power line that could be used to transport power from all sources: not just gas power plants, but also new wind turbines and solar panels. Thus, our divided system for approving energy transport actively pushes companies into environmentally counter-productive investments. Proponents of a cleaner energy system have


\textsuperscript{130}Dundon, supra note 128.

\textsuperscript{131}Dweck et al., supra note 39, at 473; Klass & Meinhardt, supra note 44, at 949.

more to gain from considering energy transport methods together and aligning them, rather than by attacking the system piece-meal.

IV. HOW POLICY UNCERTAINTY IMPACTS INVESTMENT IN ENERGY TRANSPORT

Investors in energy transport projects demand a rate of return that compensates them for both the cost of the project and the danger that the project will be delayed or canceled.133 As uncertainty increases due to expanded reviews of these projects, investors will charge more to transport fuel and electricity. Thus, energy consumers and producers will end up paying the costs imposed by expanded reviews.134 And each of these trends is exacerbated in restructured or “deregulated” markets where investors have no guarantee of getting their money back.135

Given their regulatory complexity, companies developing interstate energy projects already demand higher rates of return than they would receive for a typical intrastate project.136 As states and the federal government add further overlapping reviews, as environmental assessments are expanded, and as more landowners challenge the use of eminent domain for energy transport projects, investors will demand even higher rate of returns.

Higher rates of return will raise the cost consumers pay to achieve the promise of an energy transition enabled by affordable new production of wind and gas power.137 One consistent theme of literature on the cost of transitioning

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134 This is another way that media focus on individual pipeline controversies sometimes miss the tensions driving energy policy. In the moment of transition, expanding review often has the most tangible effect on the energy company whose project is delayed. Yet after reviews have been expanded that is simply one more cost that energy companies will build into the structure of their project.
135 Jay Apt et al., Promoting Low-Carbon Electricity Production, 23 ISSUES SCI. & TECH. 37, 40 (2007) (“Profits are based on a set rate of return on capital, so more investment means more profit. When the PUC approves such investments, utilities find that they can borrow capital at reasonable rates, since the lenders correctly perceive that they face low risk because the rate of return is guaranteed and the utility faces no competition within its service territory. On the other hand, investors lending funds to competitive power producers face uncertain returns and so lend at much higher rates. Not surprisingly, the majority of utilities contemplating investments in large low-carbon plants are in regulated states, where they are attempting to secure access to capital by partnering with their public utility commissions to build such facilities.”).
to these power sources is that it would be minimized by creating regulatory certainty.\textsuperscript{138}

Apart from making energy transport more expensive, on the margin, expanded reviews will also make some energy transport projects not worth pursuing. This too has costs. There are the economic costs to consumers who are unable to purchase cheaper power and fuel and to the producers who cannot serve them. But there are other costs.

There are environmental costs: unable to access cheaper and cleaner sources like wind power and natural gas, power producers are stuck with older, dirtier sources like oil and coal. For example, there are not enough gas pipelines to New England to serve all of its heating and power needs in severe cold weather.\textsuperscript{139} Although Pennsylvania is flooded with some of the cheapest gas in the world, New England’s inadequate pipeline access meant it had the most expensive natural gas in the world during the December 2017 cold snap.\textsuperscript{140} As a result, power producers switched to the very dirtiest sources of power, coal and oil, leaving New England with high power prices and polluted air.\textsuperscript{141}

And there are costs for our nation’s energy security as well. In late January 2018, New England was forced to import liquefied natural gas from Russia to

\textsuperscript{138} OECD, OECD BUSINESS AND FINANCE OUTLOOK 2016 144 (2016) [http://dx.doi.org/10.1787/9789264257573-en [https://perma.cc/6BWP-MESS] (“Future regulatory uncertainty makes it difficult for investors to formulate risk and return expectations, causing hesitation and preventing capital inflows.”). Id. at 149 (noting that key cost drivers include “The level of uncertainty, especially within broader enabling conditions, and attractiveness of domestic policy frameworks: projects may face significant speculative risks that are difficult for the private sector to quantify and mitigate, linked notably to unstable and unpredictable legal and regulatory frameworks, high political risk and construction risk.”); Frank Maarten Jan Venmans, The Effect of Allocation Above Emissions and Price Uncertainty on Abatement Investments Under the EU ETS, 126 J. CLEANER PRODUCTION 595, 595 (2016) (“[H]igh levels of uncertainty, creating a risk of offshoring even when companies innovate, creates an option value to postpone abatement investments.”); Apt et al., supra note135, at 39 (“[T]he timing and stringency of pollution constraints remain uncertain. In this climate, companies will likely continue to build conventional high-carbon-emissions plants, because they are cheaper. Indeed, uncertainty may encourage utilities to rush now to build conventional plants in the hope that they will be grandfathered under any new regulations, which would increase total costs by imposing more stringent emission constraints for plants built later.”). See generally Peter S. Reinelt & David W. Keith, Carbon Capture Retrofits and the Cost of Regulatory Uncertainty, 28 ENERGY J. 101, 118 (2007) (modeling indicates that regulatory uncertainty may increase the cost of transitioning to cleaner energy sources by as much as 61%); William Blyth et al., Investment Risks Under Uncertain Climate Change Policy, 35 ENERGY POL’Y 5766, 5766 (2007).


\textsuperscript{140} Id.

\textsuperscript{141} Id.
supplement its poor pipeline access. The gas came from a company sanctioned by the U.S. Treasury Department but was available for use in the United States because it had been first purchased by French intermediaries. Thus, while U.S. producers were forced to sell their natural gas at the mid-continent’s bargain prices, sanctioned Russian companies received a premium price from gas-starved New England consumers.

V. PRINCIPLES TO ENABLE THE ENERGY FUTURE

To attract investment in a new energy economy, the United States will need procedures that can accommodate increased interest in energy transport decisions while, at the same time, providing certainty to energy transport investors. This section suggests four reforms that could accomplish these twin goals. First, energy transport approvals should invite wider consultation with affected parties while, at the same time, ultimately placing decision-making authority in one level of government. Second, if approval processes are to be reformed, that reform should generally be prospective only, not impacting projects already in the review pipeline. Third, further deadlines for environmental reviews and approvals should be used to motivate prompt action from agency decision-makers. Fourth, judicial review of projects under the National Environmental Policy Act should be streamlined and subject to time limits that address the worst delays. Fifth, the government should sponsor more studies of key nationwide issues—such as the environmental impact of particular fuels or the long-term effects of increased fossil fuel infrastructure—that otherwise may derail individual approval processes.

A. Wide Consultation, One Decision-Maker

Governments should make increased provision for wide participation in approvals of energy infrastructure, but energy transport projects should only require approval from federal regulators or state regulators—not both. Whichever regulators are chosen to make this final decision should facilitate input from all levels of government. Stakeholder interest in the global energy industry, both within and beyond their jurisdiction, is appropriate because carbon emissions from the energy industry affect all parts of the globe. Consumer interest in energy supply chains is here to stay.

At the same time, ultimate decision-making authority on energy projects should, to the extent possible, be centralized. It is natural that stakeholders who

143 Id.
do not get their way at one level of government should seek to re-litigate the issue at another level. But overlapping decision-makers is a recipe for uncertainty. And there is no reason to think that subjecting each proposed project to multiple veto gates would improve overall economic and environmental results.\textsuperscript{145} Multiple veto gates just mean more opportunities to kill proposed investments—and that is true whether those investments are in oil, gas, or renewable power transport.

Congress should pass legislation to give the Federal Energy Regulatory Commission authority to approve all modes of interstate energy transport: both power-lines and pipelines, whether they are transporting oil, gas, or power. In effect, this would expand the system that is currently in place for natural gas pipelines to oil pipelines and power lines. At the same time, Congress should explicitly give FERC authority, in consultation with the Environmental Protection Agency, to grant any permits or pre-empt any state or local laws, as necessary, to complete construction of these federally-approved interstate projects. There is no need to transfer all permit granting authority to the federal agency—instead, FERC could merely step in when a necessary water quality certification or other permit is unreasonably denied or delayed.\textsuperscript{146}

Canada’s traditional system of energy regulation may be a helpful model here. Canada has traditionally left regulation of energy production (and, to an extent, local pollution) to each province’s sole authority, which is similar to the traditional approach in the United States.\textsuperscript{147} But interprovincial energy transport issues, by contrast, are for the Canadian federal government to decide; provinces have input through the principle of cooperative federalism,\textsuperscript{148} but cannot veto—or even “frustrate” interprovincial projects.\textsuperscript{149} Although this system is being seriously stressed by Canadian oil pipeline politics today, this overall system allows for wide participation in energy decision-making but ensures that each issue is ultimately decided by a single responsible government.\textsuperscript{150}

Current controversies in Canada also provide examples of how the federal government can ensure that subnational governments grant the necessary permits for nation-wide infrastructure—avoiding the New York Constitution


\textsuperscript{146} See, e.g., Piedmont Envtl. Council v. FERC, 558 F.3d 304, 320 (4th Cir. 2009).

\textsuperscript{147} See Fenner L. Stewart, How to Deal with a Fickle Friend? Alberta’s Troubles with the Doctrine of Federal Paramountcy, in 2017 Annual Review of Insolvency Law 163, 165 (Janis P. Sarra & Barbara Romaine eds., 2018) [hereinafter Stewart, How].


\textsuperscript{150} Stewart, How, supra note 147, at 164.
Pipeline scenario. In 2016, Kinder Morgan won federal approval to expand its Trans Mountain pipeline, which runs West from oil fields in the province of Alberta across the province of British Columbia to the port of Vancouver. The pipeline, however, is quite controversial in British Columbia. In fact, British Columbia’s ruling coalition is formed by two parties who joined forces in the province’s legislative assembly based on an agreement to “[i]mmediately employ every tool available to the new government to stop the [federally-approved] expansion of the Kinder Morgan pipeline.” In practice, this has meant that the provincial government and local governments have slow-walked and denied permits to Kinder Morgan as it attempts to complete expansion of the pipeline.

In response, the federal government has developed an expedited procedure for excusing compliance with provincial and local ordinances that hold up pipeline construction. It has already employed this authority to invalidate various local roadblocks for the Trans Mountain pipeline such as plan approvals and tree cutting permits that Kinder Morgan had sought to complete its construction.

Every national project requires numerous local permits: permits to cross local water bodies, permits to shut down roads to bring in heavy equipment, permits to deviate from local zoning requirements, permits for noisy equipment. Groups that are unhappy with national approvals of national infrastructure can use each of these permitting decisions as veto gates to frustrate national policies. Congress should give sufficient authority to FERC to ensure that national policy is implemented.
If, alternatively, the federal government chooses to maintain the current division between federal approval of natural gas pipelines and state-by-state approval of oil pipelines and power lines, it should assure that only one level of review is required: either federal or state. Thus, on one hand, federal reviews of interstate natural gas pipelines should be supplemented with federal authority to waive state requirements holding up those pipelines. And on the other hand, the federal government should refrain from imposing environmental reviews on power lines and oil pipelines, which are reviewed by the states.

B. Changes to Approval Process Should Be Prospective Only

To the extent possible, changes to the rules of environmental review and the standards for approval should be implemented only prospectively, so that the goalposts are not moved half-way through the review process. This would allow continued improvement in environmental assessment while providing a measure of certainty to investors in interstate energy transport.160

For example, scientists continue to improve techniques for assessing the “life cycle” impacts of energy production; these assessments show the net impact of a fuel over its full cycle from production to transport to consumption.161 These techniques can be helpful to answer general questions about fuel such as: When you consider the land used by corn, does ethanol really cause less greenhouse gas emissions than gasoline? Or when you consider the power plants that provide electricity, do electric cars cause less greenhouse gas emissions than gasoline vehicles?162

These techniques, however, do not yet provide resolution to determine whether a single energy transport project will raise or lower global greenhouse gas emissions163 (and may never be able to provide this resolution). Governments should continue attempting to improve this method of environmental assessment but should not impose it as part of existing reviews. Developing experimental methods of study within an environmental review process simply imposes too much delay and uncertainty on the environmental review process.

Judicial review of environmental reviews have a natural tendency to change the rules midstream because judicial review is inherently backward-looking. When a judge holds that a long-standing environmental review practice does not

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160 In fact, this change would remove one current disincentive for improving environmental review procedures: reformers would no longer have to worry about sending current projects back to square one. See Nathan Cortez, Regulating Disruptive Innovation, 29 BERKELEY TECH. L.J. 175, 201–06 (2014) (evaluating the importance of timing when considering regulatory decisions and interventions).


162 See Coleman & Jordaan, supra note 19, at 2.

163 Coleman, Beyond, supra note 94, at 142–45.
comply with the National Environmental Policy Act, she holds that review invalid. She cannot make her ruling prospective only. This makes the National Environmental Policy Act a particularly dangerous tool to energy transport investors who would like to be able to rely on a federal approval once it is given. This problem is particularly vexing because NEPA does not include a statute of limitations; NEPA actions are only limited by the Administrative Procedure Act’s six-year statute of limitations. In theory then, a power line or pipeline that received approval and was built in 2018 could lose its authorization to operate due to a suit filed in 2024 (and potentially resolved years later).

Thus, aggressive judicial expansion of environmental reviews is a unique danger to energy transport investment. To combat this, reviewing courts should take two steps. First, courts should be wary of reading new procedural requirements into environmental reviews. Time and time again, the Supreme Court has unanimously reversed lower courts that demanded expanded environmental reviews. In fact, the Supreme Court has never held that a NEPA review was insufficient. The average NEPA review now takes five years to complete and even a finding of no significant impact—a finding that a full NEPA review is not necessary—can cover 1,200 pages. Any court can find imperfect reasoning in such a gargantuan document, but courts must give more weight to both the imperative of speeding reviews and the consistent

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164 Harper v. Va. Dep’t of Taxation, 509 U.S. 86, 96 (1993) (“[A] rule of federal law, once announced and applied to the parties in controversy, must be given full retroactive effect by all courts adjudicating federal law.”). For the split rationale that the Court used to reach this conclusion, see James B. Beam Distilling Co. v. Georgia, 501 U.S. 529, 535 (1991) (Souter, J., opinion of the court) (judicial decisions are “overwhelmingly” “fully retroactive, applying both to parties before the court and to all other by and against whom claims may be pressed, consistent with res judicata and procedural barriers such as statute of limitations”); id. at 546–47 (White, J., concurring) (arguing that judicial rulings may sometimes be prospective because judges sometimes “make” law); id. at 549 (Scalia, J., concurring) (“[J]udges in a real sense ‘make’ law. But they make it as judges make it, which is to say as though they were ‘finding’ it—discerning what the law is, rather than decreeing what it is today changed to, or what it will tomorrow be.”) (emphasis omitted).

165 Sierra Club v. Slater, 120 F.3d 623, 631 (6th Cir. 1997).

166 If the government believed it was prejudiced by the delay, it could attempt to argue that the decision was protected by the doctrine of laches. See id. at 631. Of course, the government defending the permitting decision could be an entirely different government than the one that made the initial decision, and might have an entirely different energy policy.

167 Richard Lazarus, The National Environmental Policy Act in the U.S. Supreme Court: A Reappraisal and a Peek Behind the Curtains, 100 GEO. L.J. 1507, 1507 (2012) (“The Supreme Court has decided seventeen cases arising under the National Environmental Policy Act (NEPA) and the government has not only won every case, but won almost all of them unanimously.”).

168 Id.

169 See, e.g., U.S. ARMY CORPS OF ENG’RS, supra note 73.
guidance of the Supreme Court that NEPA does not impose any procedures beyond those “stated in the plain language of the Act.”

Second, although courts cannot make their civil rulings prospective-only, they can limit the practical impact of striking down an environmental review by allowing the project proponent to continue building and operating its facility while the federal agency supplements its environmental review. The energy company building a power line or pipeline should be allowed to take the risk that the federal agency might change its views after completing the supplemental review ordered by the court. In most cases, by the time a court rules that the government should have considered a question more carefully, the government will already have asserted that it would have reached the same decision in any event. Thus, in the run of the mill case, the government’s supplemental court-ordered environmental review is exceedingly unlikely to change its ultimate decision on an energy transport project. To avoid needless delay, project proponents should be allowed to continue building their project at their own risk.

Finally, if courts do not moderate their demands for ever-lengthier environmental reviews, Congress should step in to restore a balance between making reviews more predictable and timelier while maintaining their rigor. An amendment to NEPA would be an imprecise tool for accomplishing this balance, but if necessary, Congress could raise the bar for winning a preliminary injunction under NEPA or codify further deference to agency decisions. As explained below, a more radical step would simply immunize from review any project that had languished in the approval process for more than six years.

C. Deadlines for Environmental Reviews

Congress should mandate, and federal agencies should implement, faster deadlines for environmental reviews of energy transport projects. The average federal environmental impact statement currently takes five years to prepare. These delays make it impossible for U.S. companies to respond nimbly to the

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173 See infra notes 175–177.
shifting geography of energy supply and demand.\textsuperscript{174} And they are not necessary to protect the environment; Canada, a nation that is arguably on the cutting edge of environmental assessment practice, has recently proposed expanding the scope of its environmental reviews and completing them in a maximum of 300 days—less than a year.\textsuperscript{175} There is simply no reason that a careful environmental review should take half a decade to complete.

The NEPA environmental impact statement process has always been slow and is getting slower. A ten-year 2008 study found that the average NEPA review took 3.4 years and that this average time period was growing over time.\textsuperscript{176} A 2015 Department of Energy study found that the average NEPA review took over 4 years,\textsuperscript{177} and a 2016 review by the National Association of Environmental Professionals found that the average review took 5.1 years to complete.\textsuperscript{178} Some reviews last much more than a decade.\textsuperscript{179}

These timelines slow U.S. companies trying to keep pace with changes in the geography of energy supply and demand. Consider how energy markets can change in four years:

- In 2008, the U.S. Energy Information Administration projected that the United States would have 30 Gigawatts of wind power generation by 2015 and just 140 Megawatts of solar photovoltaic power.\textsuperscript{180}

- In 2012, the United States already had installed over 39 Gigawatts of wind power and 380 Megawatts of solar photovoltaic and was

\textsuperscript{174} See infra footnotes 179–185 and accompanying text.

\textsuperscript{175} A Proposed New Impact Assessment System, GOV’T OF CAN. (Dec. 5, 2018), https://www.canada.ca/en/services/environment/conservation/assessments/environmental-reviews/environmental-assessment-processes.html [https://perma.cc/VJH8-LJF8] (describing proposal). The very largest projects would be allowed double the time, 1.6 years, which is still less than a third of the average time for a U.S. review. See infra notes 175–177.


\textsuperscript{179} deWitt & deWitt, supra note 176, at 165.

projected to have 54 Gigawatts of wind power and 2,000 Megawatts of solar photovoltaic power installed by 2015.181

- In 2008, the United States, faced with high natural gas prices, was building multi-billion-dollar terminals to import liquefied natural gas from countries across the world.182

- In 2012, the United States, benefiting from massive new production of natural gas was looking forward to years of low prices and a future as a liquefied natural gas exporter.183

- In 2010, U.S. oil production had fallen for four decades and stood at 5.5 million barrels per day of oil.184 Meanwhile, the country imported 9.4 million barrels of petroleum products per day.185

- By 2014, U.S. oil production had spiked to 8.8 million barrels per day and net imports had fallen to 5.1 million barrels per day.186

The need to shorten the absurd time frames now required to complete environmental reviews is one of the few areas of bipartisan agreement in investment and infrastructure policies.187 Several initiatives have been taken to

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182 EIA OUTLOOK 2008, supra note 180, at 46–49.
183 EIA OUTLOOK 2012, supra note 181, at 91–94.
186 U.S. Crude Oil Production, supra note 184; U.S. Net Imports, supra note 185; see also Crude Oil Production by State, supra note 51. In the same year, petroleum product exports from the United States reached 4.2 million barrels per day. U.S. Exports of Crude Oil and Petroleum Products, U.S. ENERGY INFO. ADMIN., https://www.eia.gov/dnav/pet/hist /LeafHandler.ashx?n=PET&s=MTTEXUS1&f=M [https://perma.cc/36AH-K5WC]. By 2017, it reached 6.3 million barrels per day. Id.
187 President Obama’s regulatory czar recently highlighted the absurdity of the current burdensome environmental review process. Cass R. Sunstein, Trump Did Something Good This Week, BLOOMBERG NEWS ENTER. (Aug 17, 2017) https://www.bloomberg.com/view/articles/2017-08-17/trump-did-something-good-this-week [on file with the Ohio State Law Journal] (“The status quo is not great. It’s ridiculous. If the permitting bureaucracy were a supervillain, it would be the Blob. It can take several years, and millions of dollars, to obtain environmental clearance for construction permits, even if the goal is to develop green infrastructure and to improve the environment.”) These reviews take more than three years on average and may last decades. deWitt & deWitt, supra note 176, at 164 (“The time to
try to shorten these reviews. But these initiatives have not been sufficient—reviews still get longer every year.

Congress could go further and impose deadlines on environmental reviews. In other areas, agencies have been able to implement timelines for drug approvals. Two keys to this have been industry funding and agreed timelines for review. And the experience of countries like Canada suggests that much shorter deadlines—less than a year in all but the most complex cases—are workable for environmental reviews. At a minimum, Congress should mandate that all environmental reviews be completed in less than two years and give responsible agencies financial incentives to meet these deadlines.

The most frequent criticism of such efforts is that they will lead to rushed environmental reviews that are even more vulnerable to being invalidated by the courts. But this criticism is misplaced and likely mistaken. It is misplaced because if compliant environmental review under the National Environmental Policy Act unavoidably requires five years then the Act, or its interpretation, must be changed. And it is likely mistaken because if all reviews are accomplished in a timelier fashion, it would likely change expectations of what is feasible in a review: it is doubtful whether judges will expect agencies to complete five years of work in two years.

prepare an EIS ranged from 51 days to 6,708 days (18.4 years). The average time for all federal entities was 3.4 years. Average times differed significantly by year and by entity. The time for all entities to prepare their EISs increased during our study period by an average of 37 days per year.”). And these delays often are particularly burdensome for environmentally beneficial projects such as public transport. See, e.g., Friends of the Capital Crescent Trail v. Fed. Transp. Admin., 253 F. Supp. 3d 296, 298–99 (D.D.C.), rev’d, 877 F.3d 1051, 1066 (D.C. Cir. 2017) (enjoining construction of the purple line mass transit system in Maryland).


See supra notes 176–178.


191 Temple, supra note 190, at 1880–81.

192 GOV’T OF CAN., supra note 175.

D. Speeding Judicial Review Under the National Environmental Policy Act

Even when environmental reviews have been concluded, investors cannot count on completing their project—they can get caught in years of litigation over the adequacy of this review. Every year, about 100 projects are challenged under the National Environmental Policy Act, and more than half of these claims are filed in district courts within the U.S. Court of Appeals for the Ninth Circuit. Investors must count on the government to defend their permit, particularly in the Ninth Circuit where project proponents have often not even been allowed to help the government defend their permit in court.

Plaintiffs challenging these environmental reviews enjoy average-to-above-average success rates, and even if a company’s permit survives district court review, it can be invalidated in the Court of Appeals. In theory, the government could appeal a loss to the Supreme Court, but the Court has only taken seventeen NEPA cases in the half century that the law has operated. Each time the Supreme Court has taken a case, the government has won; indeed almost all of these decisions have been unanimous and several rebuked the lower courts for requiring too much of government environmental reviews.

But government agencies cannot count on the Supreme Court to rein in the lower courts—the Supreme Court simply takes too few cases. So if the government wants to ensure that its environmental reviews will stand—that its half decade of environmental analysis is not struck down—it may gild the lily, doing more and more review to avoid a loss in court. And investors look at this process and see they will have to wait over five years for their review and, even when that is done, may be stuck in years of further litigation.

To streamline these reviews, Congress should take two steps. First, NEPA challenges to FERC approvals of natural gas projects already receive expedited review starting in the Courts of Appeals: either the D.C. Circuit or the Circuit where the company’s headquarters is located. All energy projects, including

195 Churchill Cty. v. Babbitt, 150 F.3d 1072, 1082–83 (9th Cir. 1998), *amended by* 158 F.3d 491 (9th Cir. 1998).
196 *Churchill*, 150 F.3d at 1082–83.
198 *Id.* at 248.
199 *Id.* at 231.
200 See Adelman & Glicksman, *supra* note 194, at 38 (noting that 25% of district court cases under NEPA last from 3.25–10 years).
solar farms on federal land, and power-lines to support those projects, should receive expedited review in the D.C. Circuit.202

Second, when a company is forced to wait an unreasonable length of time for a permit, that permit should eventually be immunized from invalidation under NEPA. After all, if a government issues an environmental impact statement and permit six years after a project is proposed, what is the benefit of allowing judicial review of that environmental impact statement? The environmental review took six years. If a court believes that is still not enough review, what more would it like: twelve years of review?

And if the government’s review is still truly inadequate after six years, why should the private company building the project be punished further? If the government had wanted to, it could have denied the permit at any time in the preceding six years. If it remained committed to the project through multiple administrations and successive congresses, what practical purpose is achieved by further delay?

If NEPA review was precluded after some interval—whether six years, eight years, or ten—the government would still have an incentive to issue timely reviews.203 Project proponents do not want to wait six years for a permit—they would like their reviews and permitting completed within one or two years. But a time limit would solve the worst cases of delay and address investors’ worst fears.


203 Of course, if an energy transport company fails to give the federal government key information that it needs to make a decision in a timely fashion, the federal government should be allowed to delay the decision further.
E. Wider Study of Cross-Cutting Issues

There are some cross-cutting issues that tend to arise in multiple individual permitting decisions. For instance: What is the impact of wind power on avian populations? What is the life-cycle impact of natural gas or oil produced by fracking? What level of natural gas infrastructure would be compatible with meeting U.S. climate goals? These are important questions that cannot be fully resolved in individual permitting decisions. The federal government should invest in studies that carefully address these questions on a nationwide level and are designed to be used in individual permitting decisions.

For instance, if an agency like FERC did a careful study of what level of fossil fuel pipeline infrastructure build-out would likely be built if the country adopted an optimal carbon tax, or if the nation met its current greenhouse gas reduction goals, that study could be a relevant consideration in pipeline and transmission approvals. Giving due credit to the distributed knowledge reflected by markets, if the pipeline build out was faster than anticipated, that could signal either (1) that the previous studies, like so many energy studies, had failed to predict market developments, (2) that new pipelines should not be approved, or (3) that the country was not willing to abide by the strict limits reflected in theoretical commitments to price carbon or reduce emissions.

Thus, these studies, unlike assessments of individual infrastructure, would be able to provide useful information because they would take advantage of existing life-cycle analyses’ focus on large scale markets where more information may be a public good because of its wide benefits, rather than the project-level decisions that are better studied by individual companies with money on the line. Again, these studies would likely not be a determinative factor in any review: inconsistencies between the study and infrastructure investment would be more likely to result from the study’s necessary generality

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204 See generally Scott Shane, Prior Knowledge and the Discovery of Entrepreneurial Opportunities, 11 ORG. SCI. 44869 (2000) (arguing that “opportunity discovery is a function of the distribution of information in society”).

205 There is little reason, however, to think that pipeline companies regularly build projects that would not have been viable in a world where carbon was priced. After all, fossil fuel companies are more likely than any broad category of industry to make decisions based on the assumption that carbon will be priced in the future. See Feike Sijbesma, Running the Race Together, 2017-2018 CARBON PRICING LEADERSHIP COALITION REPORT 6 (2018), https://www.carbonpricingleadership.org/carbon-pricing-leadership-report [https://perma.cc/CN5V-A83P]; EXXONMOBIL, ENERGY & CARBON—MANAGING THE RISKS 17 (2009), https://cdn.exxonmobil.com/~media/global/files/energy-and-environment/report---energy-and-carbon---managing-the-risks.pdf [https://perma.cc/7SKT-7R9R] (planning for carbon prices ranging from $20/ton to above $40/ton); Letter to Shareholders, ROYAL DUTCH SHELL 2 (May 16, 2014), https://www.shell.com/investors/environmental-social-and-governance/sri-news-presentations-and-annual-briefings/_jcr_content/par/tabbedcontent/tab_667142067/textimage_1262076677.stream/1519763050501/9fac753c6798b2e3b7e123534a1c27c97ab400ca35647b4271b2ed5342be6e3/sri-web-response-climate-change-may14.pdf [https://perma.cc/V582-DYTN].
and forward looking nature. But, over time, they could be calibrated to improve the country’s energy transport infrastructure forecasting.206

VI. CONCLUSION

For a century the United States has relied on two principle sources of energy: coal for electricity and oil for transport. Coal and oil are cheap and easy to transport, crisscrossing the country every day by rail, barge, pipeline, truck, and tanker. But they come at an environmental cost: burning these fossil fuels pollutes the air that we breathe and warms the globe.

The United States now has a golden opportunity to transition to cleaner sources of energy, with more and more transportation powered by electricity, and more electricity powered by natural gas and renewables. And new technology has suddenly made these energy sources even cheaper than other fuels in much of the country.

But there is a catch: gas and power are much, much more expensive to transport to energy users across the United States. Without massive new investments in energy transport, these resources will largely go to waste. And, at the same moment, energy transport infrastructure has grown more controversial due to a complex mix of environmental concerns, state and federal jockeying for power, and landowner concerns.

Congress and the courts must provide energy transport investors with a stable, predictable, and timely process to build the pipelines and power-lines that can build a cleaner energy future. By working together investors and policymakers can ensure that the United States reaps the full environmental, economic, and security benefits of its new energy boom.

206 Thus far, the United States has made little systematic effort to identify these issues or produce studies designed to enable individual permitting decisions. For example, in its recent guidance on considering greenhouse gas emissions in National Environmental Policy Act decisions the U.S. Council on Environmental Quality suggested reliance on the Department of Energy’s study of the climate impact of liquefied natural gas exports. COUNCIL ON ENVT'L QUALITY, FINAL GUIDANCE FOR FEDERAL DEPARTMENTS AND AGENCIES ON CONSIDERATION OF GREENHOUSE GAS EMISSIONS AND THE EFFECTS OF CLIMATE CHANGE IN NATIONAL ENVIRONMENTAL POLICY ACT REVIEWS 16 (Aug. 1, 2016), https://energy.gov/sites/prod/files/2016/08/f33/nepa_final_ghg_guidance.pdf [https://perma.cc/74LY-Q4QT]. But that study only compared gas exports to other fossil fuels such as coal. U.S. DEP’T OF ENERGY, NAT’L ENERGY TECH. LAB. (NETL), LIFE CYCLE GREENHOUSE GAS PERSPECTIVE ON EXPORTING LIQUEFIED NATURAL GAS FROM UNITED STATES 18 (May 2014).
ABCs and CBD: Why Children with Treatment-Resistant Conditions Should Be Able to Take Physician-Recommended Medical Marijuana at School

KATHERINE BERGER*

At the end of 2018, thirty-three states and the District of Columbia, Puerto Rico, and Guam had implemented comprehensive public medical marijuana programs. Along with adults, these programs provide access to children with qualifying illnesses to certain forms of the drug. But, due in part to fear of prosecution by the federal government, which still considers marijuana to be an illegal substance, most school districts do not allow the drug on school property. This forces some students to choose between missing school to take a medication they are legally allowed to take at home—jeopardizing their education—or forgoing a dose until the eight-hour school day is over—jeopardizing their health.

Many have written about children and medical marijuana, but most have focused on child custody issues when a parent uses the drug. Few have explored the hardships faced by children who rely on daily doses of physician-recommended medical marijuana. This Note identifies these problems and argues that lawmakers should close this regulatory gap by developing laws or guidance to insulate schools from harsh consequences and ensure students are not prevented from receiving the valuable education to which they are entitled. Anecdotal and empirical evidence is increasingly supportive of the benefits of medical marijuana use by some children. This Note contends that a coordinated effort by many actors, including all branches of federal, state, and local governments as well as school districts, is necessary to ensure that these benefits are truly attained.

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    A. Federal Prohibition ....................................................322
For much of her life, Genny Barbour missed two and a half hours of school each day. The New Jersey teenager suffers from severe epilepsy and autism, conditions that together cause frequent, debilitating seizures that leave her with the “mentality of a 2-year-old.” After trying routine methods to help their daughter, like prescription medications and even brain surgery, Roger and Lora Barbour discovered medical marijuana. Now, by taking three or four doses of...
physician-recommended marijuana oil a day, Genny has a seizure only once every few days, if that.⁴

However, because federal law considered marijuana a Schedule I controlled substance, criminalizing possession and use,⁵ Genny’s special education school, the LARC School within the Maple Shade School District, would not allow her to take her doses on school property.⁶ Instead, they proposed that Genny’s parents pick her up each day at lunchtime, take her at least 1,000 feet off campus, administer her dose, and return her to school.⁷ As this would disrupt Genny’s routine⁸ and create safety issues,⁹ her parents refused, and Genny could only attend school for half a day.¹⁰ Unlike her peers, who could go to the nurse for daily amounts of powerful medicines like Ritalin,¹¹ Genny was forced to go home. Because of federal and state drug laws, she was being deprived of valuable learning time and convenience.¹²

Genny’s parents took their struggles to court.¹³ In December 2014, they sued Maple Shade School District and LARC School for refusing to administer the oil to Genny at lunchtime on campus.¹⁴ New Jersey had enacted a medical marijuana program in 2010 under the Compassionate Use Medical Marijuana Program.¹⁵

⁴ Susan K. Livio, Fight Isn’t Over for N.J. Teen Who Won Right to Consume Medical Marijuana at School, NJ.COM (June 27, 2016), http://www.nj.com/politics/index.ssf/2016/06/7_months_ago_this_teen_won_the_right_to_use_edible.html [https://perma.cc/DQT9-VX3V] [hereinafter Livio, Fight Isn’t Over].


⁷ Id. This accommodation would satisfy the state-mandated Drug-Free School Zone law that prohibits distribution, dispensing, and possession of controlled substances on or within 1,000 feet of school property or buses. Drug-Free School Zones, N.J. STAT.ANN. § 2C:35–7(a) (West 2010).


⁹ First Denial, G.B. v. Maple Shade, supra note 6, at *2 (“[The accommodation] also creates a safety issue because G.B. would be required to walk off campus and at least 1,000 feet away from school on a busy roadway on a daily basis.”).


¹² First Denial, G.B. v. Maple Shade, supra note 6, at *2.

¹³ See Livio, Fight Isn’t Over, supra note 4.

¹⁴ First Denial, G.B. v. Maple Shade, supra note 6, at *1. Before filing this first request for emergency relief, the Barbours filed a request for a due process hearing with the New Jersey Department of Education, who ruled against them, seeking continued implementation of Genny’s Individualized Education Plan (IEP) without marijuana administration. Id.
Act (CUMMA).15 The court, after considering the conflict between CUMMA, the Controlled Substances Act, and the drug-free school zone acts, ruled in favor of the school district.16 The court recognized the harm that could befall the school district for allowing “the administration of a controlled dangerous substance on school grounds . . . .”17 After an unsuccessful appeal of this holding,18 the Barbours filed another emergency relief petition in September 2015, this time requesting the school district to allow Lora, rather than the school nurse, to administer the drug; the court again denied their petition.19

Prompted in part by the Barbours’ fight,20 New Jersey amended its medical marijuana program in November 2015 to require public and nonpublic schools to develop and adopt policies permitting administration of medical marijuana to qualifying patients.21 The law enables designated caregivers to administer physician-recommended medical marijuana to children on school grounds.22 Shortly after the passage of the law, LARC became the first school in the nation to permit legally-recommended medical marijuana on campus.23

Genny is only one of thousands of students suffering from severe conditions who find relief with forms of medical marijuana.24 As of November 2018, thirty-three states and the District of Columbia, Puerto Rico, and Guam allowed for comprehensive public medical marijuana and cannabis programs.25

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16 First Denial, G.B. v. Maple Shade, supra note 6, at *4–5.
17 Id. at *4. The court also held that, federal law aside, school administrators did not qualify as caregivers authorized to administer marijuana under CUMMA. Id.
19 Denying Emergent Relief, OAL DKT No. EDS 13087–15, at *1, *4 (2015), 2015 WL 9254133 (N.J.Admin.) [hereinafter Second Denial, G.B. v. Maple Shade]. In so holding, the court dispelled the implication from January that a registered caregiver could administer the drug, instead focusing on the conflicts between CUMMA and state and federal drug laws. See generally id.
21 Pub. L. 2015, § 158 (amending N.J. STAT. ANN. § 24:6I-1). The amendment also applies to facilities providing services to persons with developmental disabilities. Id.
22 Id.; see also Administering Medical Marijuana to Authorized Students in DCF Regional Schools, N.J. DEP’T OF CHILDREN & FAMILIES POLICY MANUAL OFFICE OF EDUC. (June 20, 2017), https://www.state.nj.us/dcf/policy_manuals/OOE-I-A-1-57.pdf [https://perma.cc/7QG3-AEQM].
23 Livio, 1st in Nation, supra note 20.
24 See infra Part II.B.2.
Additionally, thirteen states allowed use of “low THC, high cannabidiol (CBD)” products for medical reasons in limited situations, and all allowed such use by minors.\(^{26}\) Many of these schemes were passed with the purpose of ensuring access for children suffering from severe conditions such as cancer or epilepsy.\(^{27}\) Despite this, as of November 2018, New Jersey is one of only seven states, along with Maine, Florida, Colorado, Illinois, Washington, and Delaware, that allow students to use medicinal marijuana in school, the place at which they spend on average forty hours a week.\(^{28}\) This is mainly because of a fear of noncompliance with federal law, as marijuana is still considered an illegal controlled substance.\(^{29}\) As a result, most of these children are forced to take other measures to receive treatment, including leaving school property, sometimes by as much as a mile, in inclement weather, to take medication that they are legally allowed to take at home.\(^{30}\) Others, like Genny, would be negatively impacted by the interruption of the school day created by having a caregiver give them their dose.\(^{31}\) So, despite LARC’s progressive adoption of a medical marijuana policy, Genny often continued to attend half-days, missing educational opportunities because of her condition.\(^{32}\)


\(^{29}\) Livio, Mother Can’t Bring Medical Marijuana, supra note 1.

\(^{30}\) See infra notes and text in Part IV.A.

\(^{31}\) Whittaker, supra note 2. According to Roger Barbour, “Lora is still bringing Genny home at noon, because the school has no plan for us to give Genny the medicine . . . .” Id.

\(^{32}\) Id.
It is important to emphasize at the outset that this Note is not arguing for the legalization or decriminalization of all forms of marijuana.\(^{33}\) Additionally, this Note is not encouraging the distribution to or use by minors of marijuana for recreational purposes.\(^ {34}\) Rather, this Note adamantly insists that the only appropriate use of medical marijuana by minors is in the narrow context of a recommendation and supervision by a certified physician. With these assumptions in mind, the goal of this Note is to advocate for the recognition by schools and governments of some minor students with certain severe conditions who have been legally prescribed medical marijuana. These students should be able to take their doses at school so they are not prevented from receiving an adequate, constitutionally protected education.

Overall, despite the stated aim to make medical marijuana safe and accessible for those in need, state efforts have fallen short for certain children, turning a drug policy issue into a medical and educational rights issue.\(^ {35}\) To both shed light on and attempt to solve these problems, Part II of this Note will provide important background on the use and effectiveness of marijuana as a medicinal substance. Evidence demonstrates the potential benefits of low THC, high CBD forms of cannabis oil on conditions such as epilepsy, autism, and cancer in children.\(^ {36}\) Next, Part III will discuss the federal prohibition on marijuana, state legislation efforts despite this prohibition, and the federal response to this state activity. Importantly, sick children drive much of the state-level legislation.\(^ {37}\) Part IV will discuss how there is a distinct gap in many state statutes relating to marijuana administration in school, despite such laws being enacted with these children in mind.\(^ {38}\) It will describe the hardships parents and children face in trying to access the medication they desperately need. These problems are in turn implicating broader statutory and constitutional principles, including a child’s right to an education. Medical marijuana is an abstract and quickly developing area of law, and Part V of this Note will propose steps that federal and state actors should pursue while they are waiting for the law to settle, including amending their laws to provide exceptions for students with certain conditions. If society is genuinely committed to giving children the medicine they need, federal and state officials should act to make schools feel insulated

\(^{33}\) Legalization means that if law enforcement catches an individual in possession or use of marijuana, he or she cannot be prosecuted under state law. Medicolegal Aspects of Marijuana: Washington Edition 7 (Linda M. Callahan & Jay M. Tiftickjian eds., 2016).

\(^{34}\) Decriminalization means that people who use marijuana can be punished under state law, but only by some means other than prison time. Id. at 8.

\(^{35}\) See infra Parts III, IV.

\(^{36}\) See infra Part II.

\(^{37}\) See infra Part III.

\(^{38}\) See infra Part IV.
from prosecution so they may implement policies to ensure students can exercise their valuable rights to learn and grow.

II. MARIJUANA AS MEDICINE

Marijuana, a drug made from the crushed leaves and flower buds of the *Cannabis sativa* plant, has been utilized medicinally by the human population for thousands of years.39 First cultivated in China,40 marijuana spread as trade flourished, eventually reaching the new world, where physicians utilized it as a cure for migraines, insomnia, and other conditions.41 Today, much empirical and anecdotal evidence demonstrates the continued medical viability of certain strains of marijuana.42

A. Marijuana’s Chemical Makeup

The active ingredients within the cannabis plant are hundreds of compounds called cannabinoids.43 Different cannabinoids can affect the body in different ways.44 For lawmakers and physicians alike, the conversation about the effects of medical marijuana revolves around two main cannabinoids: tetrahydrocannabinol (THC) and cannabidiol (CBD).45 While THC is primarily responsible for marijuana’s well-known psychoactive effects,46 CBD does not

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39 NANCY E. MARION, THE MEDICAL MARIJUANA MAZE: POLICY AND POLITICS 4 (2014). The term marijuana is occasionally broadened to include hemp, which encompasses the fibers from the plant stalks used to make ropes, canvas, and paper. See RUDOLPH J. GERBER, LEGALIZING MARIJUANA: DRUG POLICY REFORM AND PROHIBITION POLITICS 2 (2004). Hemp is not the subject of this Note.

40 MARK K. OSBECK & HOWARD BROMBERG, MARIJUANA LAW IN A NUTSHELL 19 (2017); MARION, supra note 39, at 4.

41 GERBER, supra note 39, at 2.

42 See, e.g., Kerstin Iffland & Franjo Grotenhermen, An Update on Safety and Side Effects of Cannabidiol: A Review of Clinical Data and Relevant Animal Studies, NCBI (June 1, 2017), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5569602/ [https://perma.cc/A5BA-GSCS] (“In general, the often described favorable safety profile of CBD in humans was confirmed and extended by the reviewed research.”).


44 Thompson, supra note 43.

45 Id.

46 OSBECK & BROMBERG, supra note 40, at 18. These effects can include impacts on memory, concentration, and coordination; dry mouth; increased or decreased appetite, and
cause the same “high.” Instead, CBD binds to receptors in the brain and throughout the body, interacting with the body’s immune and anti-inflammatory functions.

Based on this, advocates argue that high-CBD, low-THC strains of marijuana can have positive therapeutic results in a variety of illnesses and conditions without giving the patient an undesired mental effect. Among other things, such strains have been used for pain relief, antiemesis, and appetite stimulation in AIDS and cancer patients. In children, high-CBD low-THC marijuana products are especially used to combat severe forms of epilepsy, cancer, and autism. Medical marijuana can be administered by smoking, vaporizing, incorporation into foods or liquids, or extraction into solvents and taken through tinctures.

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49 When Weed Is the Cure: A Doctor’s Case for Medical Marijuana, supra note 48. Since it is almost impossible to isolate CBD, high-CBD, low-THC strains of marijuana have been developed to reduce unwanted mental results while still achieving maximum medicinal value. Id.


52 MEDICOLEGAL ASPECTS OF MARIJUANA: WASHINGTON EDITION, supra note 33, at 10–11. Medical marijuana is most often officially recommended in edible or oil form. See IOM Report, supra note 43, at ix–x.
B. Evidentiary Support of Marijuana’s Positive Medicinal Properties

Because marijuana in most forms is federally illegal, little accountable, large-scale research exists documenting medical marijuana’s possible uses and effects. However, the studies that do exist show a nuanced picture. Additionally, the momentum of the marijuana movement in the past decade has contributed to an increase in empirical studies on the drug’s effectiveness and it is expected that more work will continue to be done. Finally, and perhaps most persuasively, anecdotal evidence from parents and children with severe disorders who have found relief with CBD and low-THC marijuana products is plentiful and powerful.

1. Empirical Studies

Several comprehensive studies have been conducted relating to the potential benefits of medical marijuana. One of the first was released in 1999 by the Institute of Medicine (IOM). Among other things, the IOM concluded that “[t]he accumulated data indicate a potential therapeutic value for cannabinoid drugs, particularly for symptoms such as pain relief, control of nausea and vomiting, and appetite stimulation.” Thus, the report validated the idea that marijuana could be a successful therapy for certain conditions. The report also recommended further research to determine the possible health benefits and risks of cannabinoids.

More reports and studies have been conducted as the marijuana movement has gained traction. Among the most recent reports is one issued by the National Academies of Sciences, Engineering, and Medicine (NASEM), which constituted a comprehensive review of “existing evidence regarding the health effects...of cannabis and cannabinoids use.” The NASEM Report, like the IOM Report before it, found that cannabinoids represented an effective therapeutic treatment method for adults with specific symptoms suffering from

53 See infra Part III.
54 See Wells, supra note 47.
55 See id.
57 See, e.g., infra Part II.B.2.
58 IOM Report, supra note 43, at i. Notably, the marijuana plant contains THC, which is “the primary psychoactive ingredient in marijuana,” whereas cannabinoids generally are the “group of compounds related to THC,” which can be isolated and synthesized. Id. at 2.
59 See id. at 3.
60 Id. at 3–8.
a narrow range of diseases, but also that more research was needed to definitively validate the findings.62

These reports were directed toward adults, but studies with children in mind have also been conducted.63 For example, a 2015 study by leading physicians including Orrin Devinsky, M.D., director of the NYU Comprehensive Epilepsy Center, aimed to “establish whether addition of cannabidiol to existing antiepileptic regimens would be safe, tolerated, and efficacious in children and young adults with treatment-resistant epilepsy.”64 The results of the study indicated that there was an average reduction in monthly motor seizures of 36.5%.65 Based on these findings, Devinsky and colleagues concluded “that cannabidiol might reduce seizure frequency and might have an adequate safety profile in children and young adults with highly treatment-resistant epilepsy.”66 Observational reports at hospitals and other healthcare facilities also support the anti-seizure effect of CBD in teenagers.67 For instance, a retrospective chart review of children receiving oral cannabis extract at a Colorado epilepsy center found reduced seizure frequency in up to 57% of patients as well as improved behavior/alertness (33%), language (11%), and motor skills (11%).68

Along with this completed research, there are currently several studies in progress.69 Although there is no indication that these studies will stop any time soon, several factors are not helping the quest to pin down the potential for medical marijuana, the most significant of which is federal agencies. Along with the restrictions created by the illegal status of the drug,70 the DEA’s tight control...
of the cultivation of marijuana for research purposes has left many aspects of the substance untestable. Obtaining agency approval for marijuana-related studies is a necessary and complex process. Furthermore, these agencies are often more willing to support studies focusing on drug abuse rather than benefits. But, on a positive note, in 2017, the National Institutes of Health (NIH) gave $140 million for cannabinoid research, including $15 million on CBD. The FDA also loosened restrictions on CBD research in 2015. Overall, although more research certainly needs to be conducted as to the specific effects of marijuana on children, there are increasing amounts of empirical data that demonstrate the bright potential for medical marijuana and CBD in the treatment of serious childhood conditions.

2. Anecdotal Evidence

Along with empirical evidence, anecdotal evidence provides strong support for the use of medical marijuana in certain children. “About 100,000 U.S. children have intractable epilepsy—a treatment-resistant category of the disease characterized by uncontrolled seizures . . . .” Several hundred others with conditions such as autism and cancer are also on state medical marijuana lists.

research, and industrial purposes, and prevents these substances from being diverted for illegal purposes. See infra III.A.

71 NIDA’s Role in Providing Marijuana for Research, supra note 54; see also Controlled Substances Act, 21 U.S.C. § 823(a)-(b) (2012).

72 Because of this, the DEA has only issued one license for research-marijuana cultivation since the CSA was enacted, held by The University of Mississippi since 2016. NIDA’s Role in Providing Marijuana for Research, supra note 56; see also Frequently Asked Questions, U. MISS. SCH. PHARMACY, https://pharmacy.olemiss.edu/marijuana/ [https://perma.cc/V72E-K89Q].

73 Depending on the source of funding, researchers are required to obtain approval from as many as four separate agency bodies: DEA, FDA, NIH, and NIDA (a subdivision of the NIH). NIDA’s Role in Providing Marijuana for Research, supra note 56. See generally BRIAN T. YEH, THE CONTROLLED SUBSTANCES ACT: REGULATORY REQUIREMENTS (2012), https://fas.org/sgp/crs/misc/RL34635.pdf [https://perma.cc/RAP7-A2BL] (elaborating on the CSA and its regulations that establish a framework through which those who wish to handle controlled substances, including doctors, hospitals, pharmacies, and scientific researchers, must register).

74 Wells, supra note 47 (“A lot of the studies that NIDA has supported look at the downsides. Studies about the benefits are rarer . . . .”).


76 Id.

77 See Pickert, supra note 51.

78 Qualifying Conditions for a Medical Marijuana Card by State, LEAFLY, https://www.leafly.com/news/health/qualifying-conditions-for-medical-marijuana-by-state [https://perma.cc/CME9-BSVU]. According to the Colorado Department of Public Health and Environment, at the end of 2012, there were only thirty-seven children under the age of eighteen on the state’s medical marijuana registry. See COLO. DEP’T OF PUB. HEALTH &
A company that sells a popular CBD oil has a waiting list of more than 12,000 families. These children and their families have seen encouraging results from medical marijuana, and their stories have impacted legislators and courts to push for the lifting of barriers in their way.

One of the first publicized experiences was that of Colorado toddler Charlotte Figi. Charlotte was diagnosed with Dravet syndrome, a form of intractable epilepsy characterized by clusters of severe seizures, at two years old. Despite being on seven drugs, including heavy-duty, addictive substances like barbiturates, Charlotte continued to have seizures and began to decline quickly. At one point, the hospital told her parents that there was nothing they could do. Around that time, Charlotte’s parents discovered online reports of the positive effects of medical marijuana and, with no other option, tried it. After her mother put a dose of CBD oil in her feeding tube, Charlotte did not have a seizure for seven days. Now a grade-schooler, Charlotte is largely seizure-free and is a “fashionista” in the making.

ENV’T, MEDICAL MARIJUANA REGISTRY PROGRAM UPDATE (2012). However, that number quickly jumped, reaching as high as 471 in February 2015. See COLO. DEP’T OF PUB. HEALTH & ENV’T, MEDICAL MARIJUANA REGISTRY PROGRAM UPDATE (2015). At the end of 2017, there were 304 children, still a massive increase from five years earlier. See COLO. DEP’T OF PUB. HEALTH & ENV’T, MEDICAL MARIJUANA REGISTRY PROGRAM UPDATE (2017).

Pickert, supra note 51.


Young, supra note 28.


Id. Eventually, Charlotte lost the ability to walk, talk, and eat and was having an average of 300 grand mal seizures a week; her heart stopped several times. Id.

As a result, Charlotte was placed into hospice at the age of five. Sarah Cody, Parents Continue Fight to Legalize Marijuana Oil in CT to Treat Seizures, HARTFORD COURANT (Jan. 18, 2016), https://www.courant.com/ctnow/hc-mommy-minute-0118-20160114-story.html [https://perma.cc/HA35-5JWS].

Young, supra note 82. Prior to the discovery of medical marijuana, Charlotte had been placed on several medications and a special diet. Id. The family had even seriously considered an experimental anti-seizure drug being used on dogs. Id. According to a doctor who worked with the family, “[Charlotte’s] been close to death so many times...[w]hen you put the potential risks of the cannabis in context like that, it’s a very easy decision.” Id. Another doctor said, “[T]hey had exhausted all of her treatment options...[e]verything had been tried—except cannabis.” Id.

Id. When Charlotte’s parents ran out of oil, they turned to a Colorado company that had just manufactured a new high-CBD, low THC strain of cannabis oil. Id. The “miracle” oil is now called Charlotte’s Web, in honor of Charlotte’s recovery. See Josh Stanley, The Surprising Story of Medical Marijuana and Pediatric Epilepsy, SINGJU POST (Sept. 12, 2014), https://singjupost.com/josh-stanley-the-surprising-story-of-medical-marijuana-and-pediatric-epilepsy-transcript/?singlepage=1 [https://perma.cc/5KXL-MNJZ].

Raise the Realm Day 5: Charlotte-Epilepsy, REALM CARING, https://www.theroc.us/
Charlotte’s story inspired families across the country.88 In Virginia, fourteen-year-old Haley Smith was having around 1,000 seizures a year, and her epilepsy drugs were doing more harm than good.89 Haley’s parents, desperate for a remedy that worked without harsh side effects, started her on a CBD oil like Charlotte’s Web.90 After eighteen months on the oil, Haley was experiencing a 45% reduction in seizures and was making “tremendous” cognitive gains.91

In Illinois, eleven-year-old Ashley Surin was diagnosed as a toddler with acute lymphoblastic leukemia; treatment sent her cancer into remission but also triggered debilitating seizures.92 Although prescription medications helped, they left her with memory loss and mood swings while still not stopping the seizures.93 Ashley’s parents were open to anything and were optimistic when their doctor recommended medical marijuana.94 She used a medical marijuana patch as well as CBD oil, and her seizures all but stopped.95

These experiences are some of many, and collectively this empirical and anecdotal evidence demonstrates that an increasing number of children have found relief with medical marijuana.96 Their families see CBD and medical
marijuana as their last resort; they have become “medical refugees – leaving their homes to chase the uncertain prospect that medical cannabis may save their children’s lives.”97 Although it is true that more scientific studies are needed, it cannot be denied that medical marijuana has proven an effective choice for some children with severe, treatment-resistant conditions.

III. FEDERAL AND STATE MEDICAL MARIJUANA ACTIVITY

The possession and use of medical marijuana remains a complicated phenomenon in the legal context because a clear conflict exists between state and federal law. With the advent of state medical marijuana programs that are actively inconsistent with federal controlled substances law,98 the impetus has been placed on the federal government to respond. Currently, federal officials have taken a hands-off approach, and this further supports the proposition that the creation of a safe zone from federal prosecution for schools allowing medical marijuana on campus is a workable course of action.99

A. Federal Prohibition

Marijuana production, distribution, possession, and use was confirmed illegal under federal law in 1970 when Congress passed the Controlled Substances Act (CSA).100 Through the CSA, Congress created a system of five drug classifications called “schedules” establishing varying degrees of control over different substances.101 Marijuana has always been located under Schedule I.102 Drugs placed under this schedule level are those that have been deemed by...
Congress as (1) having “a high potential for abuse”; (2) having “no currently accepted medical use in treatment in the United States”; and (3) lacking “accepted safety for use . . . under medical supervision.”

The DEA has continuously upheld this strict scheduling of marijuana, despite several petitions by federal and state government officials. In 2016, in response to such petitions and after consideration of an FDA recommendation that marijuana “be maintained in Schedule I of the CSA,” the DEA announced that it would not be rescheduling marijuana any time soon. The only exception to this stance occurred in September 2018, when the DEA moved to reschedule a specific, FDA-approved form of CBD called Epidiolex.

As of right now, any other CBD product other than Epidiolex remains a Schedule I controlled substance, DEA spokesperson Rusty Payne said at the time. ‘So it’s still illegal under federal law.’


21 U.S.C. § 812(b)(1). Also included in Schedule I are most opiates, including heroin, and most hallucinogens, including LSD and peyote. Id. § 812(c)(10). For a complete listing of Schedule I substances, see 21 C.F.R. § 1308.11(d)(31) (2018).


Letter from Chuck Rosenberg, Acting Adm’r, U.S. Dep’t of Justice, Drug Enf’t Admin., to the Honorable Gina M. Raimondo, Governor of Rhode Island, the Honorable Jay R. Inslee, Governor of Washington, and Bryan A. Krumm (Aug. 11, 2016), https://www.dea.gov/sites/default/files/divisions/hq/2016/Letter081116.pdf [https://perma.cc/G6AV-6RDX]. The DEA’s decision was based mainly on the lack of medical marijuana research. Id.


See Hodes, supra note 107.
Additionally, in December 2018, President Trump signed into law the Agricultural Improvement Act of 2018 (otherwise known as the 2018 Farm Bill) containing a provision that amends the CSA to exclude hemp, a species of cannabis from which CBD can be extracted. Historically, hemp has not been used as a drug—the legalized form has less than 0.3% of THC and instead is used for industrial products like paper, cardboard, carpets, clothes, and rope. Importantly, the Farm Bill does not legalize marijuana for recreational or medical uses; rather, it only allows for the sale of hemp-derived products, including some CBD products, that comply with state and federal regulatory programs. The law also does not alter the FDA’s authority over hemp products or the DEA’s stance on CBD. It is true that the Farm Bill removes hemp-derived products from Schedule I status under the CSA, but the law does not legalize CBD generally, and its overall effects on the medical marijuana market are still unclear.

B. State Medical Marijuana Programs and the Children Behind Them

Even though medical marijuana remains federally illegal, some states have passed laws permitting citizens to use, possess, or grow marijuana for medicinal purposes, including CBD, without fear of punishment. As of November 2018, thirty-three states, along with the District of Columbia, Puerto Rico, and Guam, have general medicinal marijuana programs, and thirteen states have specific

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112 See CBD Regulatory Implications, supra note 110.
113 The Farm Bill shifts the regulatory and enforcement burden for FDA-regulated hemp products from the DEA to the FDA. Id. The FDA “has consistently taken the position that CBD, whether derived from hemp or marijuana, is prohibited from use as an ingredient in food and dietary supplements.” Id.; see also supra note 108 and accompanying text.
115 See MARION, supra note 39, at 41. A few states have also legalized marijuana for recreational purposes. See State Medical Marijuana Laws, supra note 25. This is not the subject of this Note.
laws relating to CBD. Notably, and especially in the case of CBD legislation and regulations, the driving forces behind the passage and implementation of state medical marijuana programs seem to be the drug’s beneficial health effects, including those for children with serious medical conditions like epilepsy and cancer. With these children in mind, many legislators actively supported such state programs against the federal government and the CSA.

Regarding general forms of medical marijuana, California became the first state to legalize medical cannabis in 1996. The program had three purposes: (1) “[t]o ensure that seriously ill Californians have the right to obtain and use marijuana for medical purposes”; (2) to ensure patients, physicians, and caregivers are not subject to criminal penalties; and (3) to encourage the federal government and other states to “implement a plan to provide for the safe and affordable distribution of marijuana to all patients in medical need.” In other words, patient benefit was the primacy goal of this legislation. California’s actions sparked a trend; just in the past three years, ten states, along with Guam and Puerto Rico, have passed medical marijuana legislation. Important aspects of these programs include the amount of marijuana a patient may possess, the physician recommendation system, the specific conditions that marijuana can be used to treat, and rules for cultivators, processors, and distributors.

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116 See State Medical Marijuana Laws, supra note 25. In general, these statutes remove criminal penalties from patients for use medical cannabis in accordance with the program rules. See MARION, supra note 39, at 41.


118 See id.


121 See CAULKINS ET AL., supra note 43, at 200–01.

122 See sources cited supra note 25. On an international level, the United States can also take note from other countries embracing cannabis research to combat medical conditions. See, e.g., BUREAU VOOR MEDICINALE CANNABIS, https://www.cannabisbureau.nl/ [https://perma.cc/J8UM-96FN] (Office for Medicinal Cannabis, the Netherlands); MEDICAL CANNABIS UNIT, https://www.health.gov.il/English/MinistryUnits/Pages/UnitsList.aspx [https://perma.cc/5FD8-6QDC] (Israeli division for regulation of medical marijuana).

123 Because of conflict with federal law, physicians are prohibited from prescribing medical marijuana. See CAULKINS ET AL., supra note 43, at 209 (explaining that doctors cannot write prescriptions for medical marijuana because “prescriptions apply only to FDA-approved medications”). To circumvent this, states allow physicians to “recommend” medical marijuana to patients or to parents of minors, which constitutes a certification that a patient has a qualifying condition and could benefit from medical cannabis. See Conant v. Walters, 309 F.3d 629, 630 (9th Cir. 2002).

124 In most states, these include cancer, Crohn’s disease, epilepsy, chronic pain, PTSD, multiple sclerosis, inflammatory diseases, and AIDS/HIV, among others. See MARION, supra note 39, at 9–14.

125 See id. at 41–42; see, e.g., OHIO REV. CODE ANN. § 3796 (West Supp. 2018).
This momentum is not showing any signs of slowing down, and the main goal of these programs is to provide access to seriously ill individuals to medical marijuana. Although most legislators are concerned with adults, the raised awareness of children with severe conditions has led lawmakers to take them into account in supporting general medical marijuana programs. For example, in urging his fellow lawmakers to support Ohio’s Medical Marijuana Program, H.B. 523, Representative Dan Ramos referenced the impact of hearing the stories of “little children, some which have seizure disorders” and how the medical marijuana program could help them. Other legislators in Virginia expressed similar sentiments. Perhaps most persuasive is Connecticut’s recent expansion of its medical marijuana program. In May 2016, Governor Dannel Malloy signed into law additions to the state’s legislation that would extend the program to minors with certain medical conditions to use marijuana for palliative purposes.

Along with general medical marijuana programs, CBD-specific regulations demonstrate how the focus of such laws is to provide access to severely ill patients, specifically children. Many of the laws are named after children and explicitly reference debilitating epilepsy conditions or cancer. Most convincing are the statements made by officials who were part of the enactment of these laws. After signing SB 1030, which allows the use of non-smoked CBD by certain patients with cancer, chronic seizures, or muscle spasms, into

126 On November 6, 2018, voters in two more states—Missouri and Utah—approved the creation and implementation of comprehensive medical marijuana programs. Schnell, supra note 25.
127 See CBD Laws, supra note 26.
132 These laws explicitly allow for the use of low THC/high CBD forms of marijuana, usually in oil form, by qualifying children and adults. See CBD Laws, supra note 26.
133 Examples include Carly’s Law (Alabama); Haleigh’s Hope Act (Georgia); Harper Grace’s Law (Mississippi); Julian’s Law (South Carolina); and Charlee’s Law (Utah). Id.; see also SB 181, 148th Gen. Assemb. (Del. 2015-2016), Vol. 80 Del. Laws Ch. 422 (2015-2016) (Rylie’s Law).
law, Florida Governor Rick Scott stated, “As a father and grandfather, you never want to see kids suffer. The approval of [CBD oil] will ensure that children in Florida who suffer from seizures and other debilitating illnesses will have the medication needed to improve their quality of life.”135 Similarly, Mississippi Governor Phil Bryant released a statement shortly after signing Harper Grace’s Law in which he said, “The bill I signed into law today will help children who suffer from severe seizure disorders.”136 Finally, Oklahoma Governor Mary Fallin stated after signing the state’s CBD bill into law that “[i]his bill will help get sick children potentially life-changing medicine.”137 Thus, state actors have recognized that marijuana is an effective form of medicine and that medical marijuana programs were intended to benefit such children.138

C. The Federal Response—Administration and Policies

As more states begin to implement both recreational and medicinal marijuana statutory schemes, attention has shifted to the federal government and how it will handle such disregard of federal law. During the Obama Administration, sources of guidance139 along with a Congressional spending rider140 led to the implication that the federal government would not intervene in the states so long as federal enforcement priorities are maintained.141 However, this leniency has come into question under the Trump Administration.142 Despite this uncertainty, marijuana reform has become a matter of when, not if, and it is unlikely that the momentum will be halted.143 This only strengthens the argument for children to benefit from the system at school.

1. Legislative Branch Actions

Congress has expressed its intent to take a hands-off approach regarding state medical marijuana programs.144 Along with consistent bills by lawmakers

135 Id.
137 Id. Leaders from Georgia, Iowa, Texas, Virginia, and Wisconsin also made similar statements when enacting their CBD laws. Id.
138 See Ogden Memo, supra note 99.
139 See infra Part III.C.2.
140 See infra Part III.C.1.
142 See id.
143 See id.
to reschedule marijuana\textsuperscript{145} and the removal from Schedule I of the CSA of hemp-derived products in 2018,\textsuperscript{146} Congress has reduced the DEA’s budget in relation to marijuana enforcement with respect to funding for the DEA’s cannabis eradication program.\textsuperscript{147} The Rohrabacher-Blumenauer (formerly Rohrabacher-Farr) Budget Amendment effectively defunds the DOJ from acting against marijuana activity that otherwise complies with state medical legalization.\textsuperscript{148}

Although this amendment does not change the legal status of cannabis and must be renewed each fiscal year to remain in effect,\textsuperscript{149} it represents the first time there has been any “softening” on the part of the federal government toward medical marijuana policy.\textsuperscript{150} Congress continues to renew the rider, most recently on March 23, 2018 as part of a $1.3 trillion federal spending bill.\textsuperscript{151} The Ninth Circuit has confirmed that this rider prohibits federal prosecution of individuals acting in compliance of state laws.\textsuperscript{152}

2. Executive Branch Actions

Following state implementation of medical cannabis programs, the DOJ\textsuperscript{153} has issued memos and other sources of guidance that instruct federal prosecutors...
on how to proceed. While these memoranda serve as guidance and cannot provide binding assurance of federal non-action, they speak to a strategy of nonintervention. The first of these was a memo issued by Deputy Attorney General David Ogden in 2009 under the Obama Administration. The Ogden Memo, while emphasizing a continued commitment to enforcement of the CSA throughout the country, recognized the simultaneous commitment to the preservation of prosecutorial resources.

Perhaps most importantly, the Ogden Memo confirmed that the DOJ did not view prosecution of legally compliant medical marijuana patients as an effective use of resources:

For example, prosecution of individuals with cancer or other serious illnesses who use marijuana as part of a recommended treatment regimen consistent with applicable state law, or those caregivers in clear and unambiguous compliance with existing state law who provide such individuals with marijuana, is unlikely to be an efficient use of limited federal resources.

In its entirety, the Ogden Memo encouraged focus on certain enforcement priorities while leaving local enforcement matters to the states. Although the Ogden Memo in no way altered the DOJ’s ability to enforce federal law through prosecution and in no way legalized marijuana, it provided a powerful source of guidance that in turn disincentivized federal prosecutors from disrupting legal state cannabis activity. Further, in 2013, Deputy Attorney General James M. Cole issued a memo like the Ogden Memo but with necessary updates. However, with the change in presidential administrations in 2016, this federal hands-off approach was called into question. President Trump has


154 See e.g., Ogden Memo, supra note 99.
156 See Ogden Memo, supra note 99.
157 Id.
158 Id.
159 Id.
160 Id.
161 Much in the same vein as the Ogden Memo, the DOJ continued to issue periodical memos that emphasized state independence. See, e.g., Memorandum from Dep’y Attorney General James M. Cole to U.S. Attorneys (June 29, 2011) (on file with U.S Dept. of Justice).
162 Memorandum from Dep’y Attorney General James M. Cole to All U.S. Attorneys (Aug. 29, 2013) (on file with U.S. Dept. of Justice) [hereinafter Cole Memo].
recognized the potential positive health effects of medical marijuana and repeatedly stated during his campaign that he would respect state activity relating to marijuana under a states’ rights approach. He also signaled his tepid support of medical marijuana by signing the 2018 Farm Bill. But former Attorney General Jeff Sessions did not create any confusion as to his viewpoint of marijuana, actively criticizing its use and disapproving of state legalization efforts.

Thus, it is fitting that, in January 2018, former AG Sessions issued a memo rescinding the previous guidance in the Ogden and Cole Memos. Citing the CSA, AG Sessions emphasized that “marijuana is a dangerous drug and…marijuana activity is a serious crime.” In effect, AG Sessions’ Memo is a reminder of federal supremacy and the ability of prosecutors to prosecute. However, according to President Trump’s press secretary, the DOJ move “simply gives prosecutors the tools to take on large-scale distributors and enforce federal law. The president’s position hasn’t changed . . . .” This statement is in line with the hands-off approach advocated within the Cole and Ogden Memos, and overall the federal government has generally not intervened in state medical marijuana programs.

164 See Interview on The O’Reilly Factor, supra note 163. (“[B]y the way—medical marijuana, medical? I’m in favor of it a hundred percent . . . I know people that have serious problems and they did that they really [sic]—it really does help them.”).

165 See supra notes 109–114 and accompanying text.

166 In the past, Attorney General Sessions has said that “[g]ood people don’t smoke marijuana” and that “[w]e need grown-ups in charge in Washington to say marijuana is not the kind of thing that ought to be legalized . . . that it is, in fact, a very real danger.” See Tom Huddleston, Jr., What Jeff Sessions Said About Marijuana in His Attorney General Hearing, FORTUNE (Jan. 10, 2017), http://fortune.com/2017/01/10/jeff-sessions-marijuana-confirmation-hearing/ [https://perma.cc/Y53E-SRAS]. Sessions has gone as far as to create a task force to investigate the growing marijuana presence with the goal of cracking down on such use. See Julia Manchester, Federal Task Force Reportedly Recommends More Marijuana Study, No Crackdown, THE HILL (Aug. 4, 2017), http://thehill.com/homenews/administration/345413-justice-dept-task-force-on-marijuana-recommends-more-study-no [https://perma.cc/7BQ3-K9E8]. However, the task force recommended more study of marijuana rather than a crackdown. See id. Further, AG Sessions was removed from office on November 7, 2018. See Peter Baker et al., Jeff Sessions Is Forced Out as Attorney General as Trump Installs Loyalist, N.Y. TIMES (Nov. 7, 2018), https://www.nytimes.com/2018/11/07/us/politics/sessions-resigns.html [on file with Ohio State Law Journal]. It is unclear how the new Attorney General will treat medical marijuana.

167 See Memorandum from Attorney General Jefferson B. Sessions, III to All U.S. Attorneys (Jan. 4, 2018) (on file with U.S. Dept. of Justice). AG Sessions called the previous guidance “unnecessary” considering the DOJ’s “well-established general principles” of prosecutorial discretion. Id.

168 See id.

169 See id.

3. Judicial Branch Actions

In the context of medical marijuana, the Supreme Court and lower federal courts have helped to define the laws regarding the drug and patient rights. Although the Supreme Court has continued to recognize the illegality of marijuana and its cultivation, even for medicinal purposes within legal state programs, the ruling of lower federal courts imply that the drug is becoming more accepted throughout the country as time passes.

The Supreme Court has consistently held that the medical necessity defense could not be allowed in federal courts to create an exception to the illegality of medical marijuana distribution. In other words, the Court upheld the supremacy of federal law in the face of state activity. However, some lower federal and state courts have taken somewhat different directions in this area than the Supreme Court. For example, in Conant v. Walters, a physician who treated patients with AIDS and HIV, argued that the First Amendment protected him from federal attempts to prevent him from discussing or recommending medical marijuana. The Ninth Circuit ultimately held in 2002 that the federal government could not revoke the licenses of physicians who recommended medical marijuana to patients, with one concurring judge emphasizing the burgeoning potential for medical marijuana as a form of treatment for certain conditions. As can be seen from these and other cases, though the federal judicial branch has mostly confirmed the power of the CSA, the recognition by lower courts that physicians can recommend medical marijuana to patients indicates the momentum that the medical marijuana movement has made.

Overall, despite the federal prohibition on use and/or possession of marijuana in any form, several states have nevertheless crafted and implemented medical marijuana programs in recognition of its medical benefits for hundreds of citizens, including certain children. In response, much of the federal government has taken a hands-off approach, focusing instead on larger priorities rather than committing resources to such individuals who are following their

172 See, e.g., Conant v. Walters, 309 F.3d 629 (9th Cir. 2002).
173 See, e.g., Gonzales v. Raich, 545 U.S. 1, 2 (2005) (in which the Court relied on the CSA to strike a state law exempting patients and caregivers who possessed or grew medical marijuana from criminal prosecution); Oakland Cannabis Buyer’s Coop., 532 U.S. at 490 (in which federal officials in California sought to close the Oakland Cannabis Buyer’s Cooperative and other medical marijuana distributors who were openly operating after the state implemented a medical marijuana program).
174 Conant, 309 F.3d at 630.
175 See id. at 643 (Kozinski, J., concurring). State courts have also been unwilling to accept the federal-state conflict as an excuse for restrictive actions relating to marijuana. See MARION, supra note 39, at 147 (describing a case from San Diego County in which the state court of appeals rejected the argument that the county was not required to provide medical marijuana identification cards to patients “since the federal ban on marijuana trumps state law”).
176 See, e.g., Conant, 309 F.3d at 629.
IV. PROBLEMS AND IMPLICATIONS

It has been established through empirical and anecdotal evidence that CBD oil and other low THC/high CBD forms of marijuana can have positive and, in some cases, life-changing effects for children and young adults with debilitating conditions like aggressive cancer and treatment-resistant epilepsy. It has also been established that the federal government has taken actions to show its intention to take a hands-off approach in terms of those legally complying with their state’s medical marijuana program. Despite these things, only seven states—New Jersey, Maine, Delaware, Illinois, Florida, Washington, and Colorado—allow students to use medicinal marijuana in school, the place at which they spend on average forty hours a week. As a result, children and families who rely on medical marijuana are forced to take other measures to receive treatment. In many cases, the fact that these children are unable to receive the education to which they are entitled could be a constitutional and statutory violation.

A. Hardships Faced by Child Medical Marijuana Patients

Students who are unable to take their doses of medical marijuana on school property face adversity solely because of their uncontrollable medical condition. Unlike their peers, who are often allowed to take powerful medications like Ritalin at school, administered by a school nurse, students who rely on medical marijuana are deprived of their doses on campus in most states’ rules and regulations. With this context in mind, school districts should begin to address the needs of students who benefit from medical marijuana.

177 See, e.g., Ogden Memo, supra note 99.
178 See supra Part II.B.1, II.B.2.
179 See supra Part III.
181 See Livio, Fight Isn’t Over, supra note 4.
182 See id.
states.\textsuperscript{184} For students like Genny Barbour who require multiple doses of medical marijuana oil or patches each day, staying at school for eight straight hours without taking their medicine is not an option.\textsuperscript{185} Despite the beneficial results that medical marijuana has produced in children with treatment-resistant conditions, they cannot bring onto school property the medication that they can legally take at home.\textsuperscript{186}

In coping with this problem, some parents have chosen to time the marijuana doses so that they do not interfere with school.\textsuperscript{187} However, staggering and consistently changing doses can have potentially dangerous side effects.\textsuperscript{188} Furthermore, especially in children with autism, changes in routines can lead to dramatic negative behaviors.\textsuperscript{189}

To avoid this situation, some parents have been forced to go to their child’s school and give them their dose.\textsuperscript{190} However, federal and state safe and drug-free schools acts (as well as state marijuana programs that do not make an exception for students) do not allow controlled substances within a certain distance of schools (usually 1,000 feet).\textsuperscript{191} Therefore, parents and their children are forced to leave school property, sometimes by as much as a mile,\textsuperscript{192} in

\textsuperscript{184}See Livio, \textit{Fight Isn’t Over}, supra note 4.
\textsuperscript{185}See id.
\textsuperscript{186}See \textit{State Medical Marijuana Laws}, supra note 25.
\textsuperscript{187}This was the approach taken by Genny’s parents. See Livio, \textit{Fight Isn’t Over}, supra note 4. In Genny’s case, to ensure she gets at least half a day of school, her parents began giving her three larger doses a day rather than four small ones—however, this is only a “temporary” fix, and it negatively impacts Genny’s sleep patterns. Id.
\textsuperscript{188}See \textit{Guide to Using Medical Cannabis}, AMERICANS FOR SAFE ACCESS, http://www.safeaccessnow.org/using_medical_cannabis [https://perma.cc/7MUK-483P] (describing how differing and/or excessive dosages can be uncomfortable and can produce different subjective effects).
\textsuperscript{189}See \textit{Obsessions, Repetitive Behavior and Routines}, supra note 8.
\textsuperscript{190}This was the accommodation proposed in Genny’s case. First Denial, G.B. v. Maple Shade, supra note 6, at 3.
\textsuperscript{192}See Porter, supra note 191 (outlining state drug-free school zone acts and the distance from schools parents would need to be to administer medical marijuana).
inclement weather. Besides being hugely disruptive for students and inconvenient for parents who have to leave work in the middle of the day, it is an impossible route for certain children who cannot handle the transition from home to school. Thus, for these children, the only option is to attend school part time, if at all. This results in the missing of valuable educational time and opportunities. Even in Washington, New Jersey, Illinois, Maine, and Delaware, some students still face challenges in receiving their medical marijuana dose. Because under these laws school nurses are not allowed to administer the drug, students for whom a parent or caregiver’s administration of the dose would be too disruptive are forced to take alternative, burdensome measures. As can be seen from these experiences, students who benefit from medical marijuana face unduly burdensome challenges in receiving their doses at school.

B. Constitutional and Statutory Implications

These extraordinary measures that parents and students must take to ensure receipt of their legally recommended medicine have constitutional and statutory implications on the right to education and on disability discrimination. In this context, because many students are being forced to miss school because their school districts, understandably fearful of federal prosecution, do not permit them to take their necessary medicine on campus, the right to medication is in direct conflict with the right to an education.

A child’s right to and receipt of an education is vital to a free society. The Supreme Court has emphasized this principle in cases such as Plyler v. Doe, in which it struck down a state statute and a municipal attempt that denied funding

193 Seven-year-old River Barclay from Washington and her father John go through this struggle every school day. See Matt Markovich, Father’s Push to Give Daughter Medical Marijuana at School May Prompt Change in State Law, KOMO NEWS (Jan. 12, 2017), http://komonews.com/news/local/fathers-push-to-give-daughter-medical-marijuana-at-school-may-prompt-change-in-state-law [https://perma.cc/YU9Z-3P57]. CBD has greatly improved River’s seizure condition, but she must have a dose at noon every day to stay seizure free. Id. Thus, “at lunch break, John picks up his daughter when it’s cold, takes her home for lunch, and gives her dosage.” Id.

194 In Genny’s case, she continued to attend school only part-time because “[t]he school has no plan . . . to control her behavior when Lora then has to leave her there.” Whittaker, supra note 2.

195 Id.

196 See, e.g., Livio, Mother Can’t Bring Medical Marijuana, supra note 1; Markovich, supra note 192.

197 See, e.g., ME. REV. STAT. ANN. 22 § 2426 (creating an exception to administering medical marijuana on campuses in Maine, but only extending the exception to parents and caregivers); 2015 N.J. Law 1173 (amending § 24:6I-1) (requiring parents, guardians, or primary caregivers, not school nurses, to be authorized to assist the student with the medical use of medical marijuana); First Denial, G.B. v. Maple Shade, supra note 6, at 6 (holding that school officials are not considered caregivers under CUMMA).

198 See, e.g., Livio, Mother Can’t Bring Medical Marijuana, supra note 1.
for education to illegal alien children.\textsuperscript{199} Within its decision, the Court discussed the value of education, observing that the deprivation of education would likely contribute to illiteracy, unemployment, and crime.\textsuperscript{200} According to the Court, “[p]ublic education has a pivotal role in maintaining the fabric of our society and in sustaining our political and cultural heritage; the deprivation of education takes an inestimable toll on the social, economic, intellectual, and psychological wellbeing of the individual, and poses an obstacle to individual achievement.”\textsuperscript{201} Therefore, it could be argued that keeping children from school because of their medicinal needs goes against established precedent on the value of education.\textsuperscript{202}

The results of a ban on medical marijuana on school campuses also impact non-discrimination statutes like the Individuals with Disabilities Education Act (IDEA). Under the IDEA, a spending statute passed by Congress in 1999, every child is entitled to a Free Appropriate Public Education (FAPE).\textsuperscript{203} The IDEA requires that states, in exchange for funding to do so, ensure that there is an appropriate level of medical support to allow students with disabilities to attend school.\textsuperscript{204} If an education alternative is necessary, it must be the least restrictive option (i.e., schools cannot force children to be homeschooled to avoid providing an education).\textsuperscript{205} There are two important aspects to emphasize: First, the IDEA applies to every child, no matter the severity of disability.\textsuperscript{206} Second, if a child is considered disabled under the IDEA, the question is not if they are entitled to medical support but what type.\textsuperscript{207} In accordance with the IDEA, school districts must do whatever is necessary to ensure that a disabled child can attend school each day.\textsuperscript{208}

\textsuperscript{200} See id. at 230.
\textsuperscript{201} Id. at 203.
\textsuperscript{202} The Supreme Court has consistently recognized the value of education. See, e.g., Wisconsin v. Yoder, 406 U.S. 205, 221 (1972) (“[E]ducation prepares individuals to be self-reliant and self-sufficient participants in society.”); Abbington Sch. Dist. v. Schempp, 374 U.S. 203, 230 (1963) (Brennan, J., concurring) (describing public school as “a most vital civic institution for the preservation of a democratic system of government”); Brown v. Bd. of Ed., 347 U.S. 483, 493 (1954) (“[E]ducation is the very foundation of good citizenship. Today it is a principle instrument in awakening the child to cultural values, in preparing him for later professional training, and in helping him to adjust normally to his environment. In these days, it is doubtful that any child may reasonably be expected to succeed in life if he is denied the opportunity of an education.”); Meyer v. Nebraska, 262 U.S. 390, 400 (1923) (“American people have always regarded education and [the] acquisition of knowledge as matters of supreme importance.”).
\textsuperscript{203} Individuals with Disabilities Education Act, 20 U.S.C. § 1400(d) (2012).
\textsuperscript{204} Id. § 1401(26)(A).
\textsuperscript{205} Id. § 1411(F).
\textsuperscript{206} Id. § 1400(a).
\textsuperscript{207} Id.
\textsuperscript{208} Id. § 1401(26)(A). While school districts do not have to provide the type of service that the parents choose or the type that is most effective, simply allowing children to miss valid educational time should not be considered a reasonable accommodation.
In this instance, children who have conditions so severe and so treatment-resistant that they can find relief only with medical marijuana may be deprived of a fair and appropriate public education. Some children cannot be in school safely for the required number of hours without receiving a dosage of their marijuana oil.209 Although the IDEA enables children with disorders such as ADHD to create Individualized Education Plans (IEPs) that specifically allow for them to go to the nurse for doses of powerful medications such as Ritalin, there is no such accommodation for medical marijuana as of yet because of its status under the CSA. Yet these two statutes, IDEA and CSA, conflict with each other. In this situation, the application of the CSA has resulted in children like Genny not being able to attend school to which they are entitled under the IDEA. Congress was entitled to pass both pieces of legislation, but the passage of the IDEA did not consider the implications of the CSA.210 But, in determining which statute prevails, it is important to note the constitutional nature of the right to attend school—as education has clear constitutional overtones, Congress cannot take steps to thwart that right.211 In this case, this provides support for the limited exception to the CSA to allow medical marijuana on school property for certain children under certain conditions.

Children with intractable conditions who find relief with medical marijuana face extreme hardships when they attempt to obtain the education that they are legally required and constitutionally entitled to receive. Because of federal and state laws that create understandable hesitation in school districts to allow marijuana on school property, many children have been partially or completely unable to receive educational accommodations. This virtually unrecognized gap in the law has in turn wrongfully implicated the statutory and constitutional rights of children with these illnesses. On a basic level, these students simply want to take their medication, and the law is keeping them from doing so at school.

V. THE NECESSARY CREATION OF A SAFE SPACE FOR SCHOOLS

The key to solving these problems lies in the encouragement of action by all levels of government that results in the creation of a safe space for school districts under certain terms. But because marijuana in all forms remains federally prohibited under the CSA, many state and school actors continue to be understandably hesitant to facilitate its medicinal use by children on school property.

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209 See supra Part IV.A.
210 Under IDEA, if a student “knowingly possesses, uses, or sells illegal drugs, or sells a controlled substance at school . . . or at a school function,” he or she may be placed in an interim alternate educational setting for up to 45 school days. See MITCHELL L. YELL, THE LAW AND SPECIAL EDUCATION 346 (3d ed., 2006). Accordingly, IDEA does not contemplate the use of medical marijuana, a controlled substance, in the school environment.
211 As per judicial review, if Congress passes unconstitutional laws, they must be struck. Marbury v. Madison, 5 U.S. 137, 138 (1803). In this narrow instance, the CSA could be seen as unconstitutional.
property. Since Congress is as of now disinclined to move from prohibition by rescheduling marijuana or removing it from the CSA’s purview all together, it would be disingenuous to say achieving access for these children is anything other than an uphill battle.\textsuperscript{212} However, this battle has already begun; actions have already been taken to enable access to certain medical marijuana products by certain individuals.\textsuperscript{213} Physicians and lawmakers alike recognize that children with treatment-resistant conditions can benefit from high CBD, low THC medical marijuana.\textsuperscript{214} These children are sympathetic marijuana users, and they should not be forced to choose between their right to an education and their health (and, in some instances, their lives). Broadening the scope of these measures already in place at the federal, state, and local levels and implementing new policies would show school districts that, although the current political climate makes decriminalization of marijuana at the federal level implausible, they remain free to ensure that certain children in their jurisdictions receive the life-changing treatments they need without fear of prosecution or rescission of funds. It is a large move to reschedule marijuana,\textsuperscript{215} but, because of the increasing amount and functionality of state medical marijuana programs, it would not be a seismic change to allow children to receive at school the medicine that they are already legally able to receive at home.

A. Federal Government

Even in the shadow of federal prohibition, the momentum of marijuana reform and the medical marijuana industry in the past decade has been incredible.\textsuperscript{216} In other words, federal prohibition has clearly not stopped states

\textsuperscript{212} Although federal drug policy is only a small focus of this Note, the Author emphasizes that rescheduling marijuana and removing it from the Schedule I designation would be a step in the right direction.

\textsuperscript{213} Action has already occurred in the form of congressional spending limits, memos from executive agencies, CBD-specific bills, and statewide medical marijuana programs, some of which include laws explicitly allowing use of medical marijuana at schools. See supra Part III.

\textsuperscript{214} See supra Part II.

\textsuperscript{215} Despite recognition by lawmakers and physicians, including former U.S. Surgeon General Vivek Murthy, that marijuana can be helpful for some medical conditions, congressional action or administrative action are the only ways by which rescheduling can occur. See John Hudak & Grace Wallack, How to Reschedule Marijuana, and Why It’s Unlikely Anytime Soon, BROOKINGS (Feb. 13, 2015), https://www.brookings.edu/blog/fixedgov/2015/02/13/how-to-reschedule-marijuana-and-why-its-unlikely-anytime-soon/ [https://perma.cc/SHZ8-U895]. The exact process for rescheduling marijuana is beyond the scope of this Note.

\textsuperscript{216} Twenty-three of the thirty-three states that have implemented medical marijuana programs, as well as Guam, Puerto Rico, and the District of Columbia, have done so in the past ten years. See State Medical Marijuana Laws, supra note 25. Marijuana (both recreational and medicinal) is also one of the fastest growing industries in the world. See Debra Borchardt, Marijuana Sales Totaled $6.7 Billion in 2016, FORBES (Jan 3., 2017), https://www.forbes.com/sites/debraborchardt/2017/01/03/marijuana-sales-totaled-6-7-
nor certain federal actors from striving toward their goal of making medical marijuana more accessible to those who could benefit from it, including children. To ensure that such children truly benefit from medical marijuana, the federal government should take action that assures school districts that they will be safe from prosecution or other criminal intervention if they allow medical marijuana on school grounds. Although there seems to be no sign of marijuana rescheduling soon, there are several steps that each branch of the federal government can take to demonstrate their commitment to the educational and medical rights of certain children.

1. Legislative Branch Actions

Congress is often deemed the first branch or the people’s branch of government, and, especially considering that fact that popular opinion is embracing medical marijuana more as time goes on, any solution should begin (but certainly not end) there. First, members of Congress have already acted to decriminalize or reschedule medical marijuana. This practice should continue, and other members should provide their support for such legislation. Members could also introduce specific legislation that exempts

billion-in-2016/#3ef86c2375e3 [https://perma.cc/PEF2-MDNU]. At the end of 2016, 21% of the total U.S. population lived in legal adult use markets, and Colorado, Washington, and Oregon saw their sales increase 62% through September of 2016 over 2015. Id. According to an analyst at ArkView Market Research, a prominent market research group focused on cannabis, “[t]he only consumer industry categories I’ve seen reach $5 billion in annual spending and then post anything like 25% compound annual growth in the next five years are cable television (19%) in the 1990’s and the broadband internet (29%) in the 2000’s.” Id.

217 See Hughes, supra note 141.
218 See supra text and accompanying notes, Part III.A.
221 One of the first bills proposed to move cannabis from Schedule I to Schedule II was introduced in 1981; legislation attempts to change marijuana’s status occur perennially. See Hudak & Wallack, supra note 215. In 2011, a bill was introduced to remove marijuana from the schedules entirely but died in committee. Id. One of the more recent attempts was the Regulate Marijuana Like Alcohol Act, which states “[T]he Attorney General shall . . . issue a final order that removes marijuana in any form from all schedules under [the CSA].” H.R. 1841, 115th Cong. (as introduced, Mar. 30, 2017).
222 As a side note, marijuana’s status as a Schedule I controlled substance under the CSA represents not only a failure to take seriously its valid medical uses but also an unnecessarily strict response in including it with powerful hallucinogens and opioids. See Overdose Death Rates, NAT. INST. ON DRUG ABUSE (Aug. 2018), https://www.drugabuse.gov/related-topics/trends-statistics/overdose-death-rates [https://perma.cc/NVC2-6YLT] (documenting heroin overdose rates and showing that “[f]rom 2002 to 2017 there was a 7.6-fold increase
such children from the regulatory scheme or, more generally, continue to push the legalization of CBD sparked by the 2018 Farm Bill’s acceptance of hemp. Congressional amendments to the Safe and Drug-Free School provisions effectively placing marijuana in the same category as aspirin or Ritalin for school purposes would essentially get rid of a major source of conflict from the schools’ perspectives. Enactment of such amendments would constitute a powerful signal to school districts that they will not be penalized for allowing their students to take their medication.

In this same vein, the second path Congress could take to aid in the creation of a safe space for schools would be the passage of a resolution. A joint resolution with the effect of a real bill or, more realistically, a simple resolution needing only approval from one house would allow legislators the chance to clearly articulate that the goal of medical marijuana and CBD programs is to facilitate the drug’s use by seriously ill children. Through a resolution, members of Congress could provide official recognition that one of the problems with federal prohibition is that it prevents children in states where medical marijuana is legal from having access to it at school because school districts are understandably worried. Congress utilizes resolutions frequently—a resolution such as this would make children, parents, and school districts feel more at ease.

Finally, spending riders like the Rohrabacher-Blumenauer Amendment have proven powerful tools to partially insulate from prosecution state and school officials who are concerned about federal funding and acts like the Safe and Drug-Free Schools Act. Such spending riders should be made more

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224 See Andrea Ford, A Brief History of Congressional Resolutions, TIME (Jan. 6, 2009), http://content.time.com/time/politics/article/0,8599,1869854,00.html at https://perma.cc/65UX-33BJ. A joint resolution (except that proposing a constitutional amendment) requires approval of both chambers and is submitted to the President for signature into law. Bills and Resolutions, U.S. SENATE, https://www.senate.gov/legislative/bills.htm [https://perma.cc/FK5X-U94U]. A simple resolution is used to express nonbinding positions of a single chamber. Id.

225 For example, the 110th Congress introduced 3,000 resolutions and passed 1,000. Ford, supra note 224.

226 See Jacob Sullum, Even Without the Rider That Protects Medical Marijuana, a Pot Crackdown Is Unlikely, REASON (Dec. 18, 2017), http://reason.com/blog/2017/12/18/even-without-the-rider-that-protects-med [https://perma.cc/9H84-Q5YQ] ("The medical marijuana amendment, which was first enacted in December 2014 and has been renewed each year since then, has proven a significant barrier to DOJ harassment of patients and

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in the total number of deaths"); cf. DRUG ENF’T ADMIN., DRUGS OF ABUSE 75 (2017), available [https://perma.cc/L97K-F4T4] (“No death from overdose of marijuana has been reported.”).
robust in general but could also include explicit language about children with treatment-resistant conditions—knowing that the DOJ does not have funding to prosecute would certainly provide some sense of security for many school districts. Collectively, there are many actions that Congress could and should take to protect the medical and educational rights of certain children.

2. Executive Branch Actions

Within the Executive Branch, the most important actors who could affect the most nationwide change regarding this issue are the president, the Department of Education (DOE), and the DOJ. Although President Trump is unlikely to make any statements concerning medical marijuana beyond the states’ rights approach taken during his campaign, Betsy DeVos, DOE Secretary under the Trump Administration, is in the best position to ensure that schools in particular feel safe about letting their students take medical marijuana on campus. Recently, Secretary DeVos began an effort to reform how the federal government advises college and universities about handling sexual misconduct. The stated goal of her efforts is to guarantee that institutions receiving federal funding “must ensure that no student suffers a deprivation of her or his access to educational opportunities on the basis of sex.” Regardless of the public debate surrounding Secretary DeVos’s efforts, the purpose behind them—confirmation of a right to education for all—seems to directly apply to children’s use of medical marijuana at school.

There is much that Secretary DeVos and the DOE could do to ensure that no student suffers a deprivation of his or her access to educational opportunities based on health. The issuance of a formal policy or statement directed at school districts that assured that the DOE would not impose consequences on a school district for looking out for its students, especially its sick children, would give such districts a powerful ally. Since many school districts already engage in the administration of medication to students, including intense drugs such as Ritalin, addressing CBD oil would not require a reinvention of the wheel.

providers . . . Sessions himself concedes that the rider ties his hands.’). Since it is unlikely that medical marijuana for children at schools would pass as its own bill at this point, a spending rider included in a larger bill would have a similar effect without the inherent, though understandable, controversy.

227 See Savage & Healy, supra note 170.
228 The Secretary of Education “is responsible for the overall direction, supervision, and coordination of all activities of the Department” and advises the president on policies, activities, and programs related to education. Principal Office Functional Statements, U.S. DEP’T OF EDUC., https://www2.ed.gov/about/offices/list/om/fs_po/osods/intro.html [https://perma.cc/3R6D-Q5UL]. Betsy DeVos has not made public her opinion on medical marijuana.
230 Id.
Another approach that these federal actors, especially the DOJ, could take to ensure that schools feel safe from prosecution while they allow their students to take their legally recommended medical marijuana doses on school property is to explicitly designate schools as a medical marijuana “safe zone.” A similar model has already been utilized in the immigration context. The US Immigration and Customs Enforcement (ICE) has officially designated “Sensitive Locations,” which are places where enforcement actions such as arrests are not to occur at or be focused on. Places designated as sensitive locations under the ICE program include places of public demonstration (such as rallies or parades), religious or civil ceremonies or observances, medical treatment and healthcare facilities, and, most important to this analogy, schools, including daycares, pre-schools, and secondary and post-secondary schools, as well as places of education-related activities and the bus stop. ICE is not supposed to enforce unless (1) exigent circumstances exist; (2) other law enforcement actions have led officers to a sensitive location; or (3) prior approval is obtained. The main goal of the policy is to ensure that people seeking to participate in activities or utilize vitally important services are free to do so, without fear or hesitation. Although enforcement actions may occur at sensitive locations in limited circumstances, ICE emphasizes that such actions will be “generally avoided.”

The prosecutorial discretion inherent in the immigration context makes it a helpful point of comparison for medical marijuana enforcement policies. The sheer number of individuals seeking entry and facing deportation means that ICE must prioritize. See generally U.S. DEP’T OF JUSTICE, OFFICE OF PLANNING, ANALYSIS, & TECH., FY 2012 STATISTICAL YEARBOOK B2 (2013), available at https://cis.org/sites/default/files/2018-03/EOR2012.pdf [https://perma.cc/KZ2L-8JMA] (indicating that in 2012 Immigration Courts received 410,753 cases and processed 382,675). Just as the DOJ advocated for discretion in the Ogden and Cole Memos, ICE Director John Morton published a memo acknowledging ICE’s "limited resources to remove those illegally in the United States" and thus prioritizing enforcement based on important public policies such as national security. Memorandum from ICE Dir. John Morton (June 17, 2011), https://www.ice.gov/doclib/secure-communities/pdf/prosecutorial-discretion-memo.pdf [https://perma.cc/DPN5-9ANE].


ICE FAQ, supra note 232.

Id.

Id.

Id.

This model can be directly applied to this medical marijuana issue. Schools (including school buses and school-sponsored events) could be expressly designated sensitive locations at which prosecution for medical marijuana usage should not occur unless exigent circumstances exist. In other words, the guidance from the Ogden and Cole Memos should be codified in the form of a formal policy instructing agents to engage only in urgent circumstances. In so doing, the Executive Branch would be recognizing that prosecution of these individuals for the use of state legal, physician recommended medical marijuana is not an effective use of resources. This, along with other actions, would help states and schools feel more comfortable in the implementation of policies allowing for medical marijuana on campus.

3. Judicial Branch Actions

Although the Tenth Amendment relegates education as a state power with limited federal intervention, the federal courts have recently been the sites of lawsuits regarding use of medical marijuana by children with treatment-resistant conditions. Because federal courts can make individual rulings for individual children and create valuable precedent in this area, their future holdings could insulate school districts and further send the message of safety.

There have been two recent suits in federal courts across the country. First was that of twelve-year-old Alexis Bortell, who, along with her father and other plaintiffs including former NFL player Marvin Washington, filed suit in the Southern District of New York against AG Jeff Sessions, the DOJ, and the DEA, arguing that the CSA is unconstitutional as it relates to marijuana. Alexis, suffering from extreme seizures due to epilepsy, was facing brain surgery when she found that medical marijuana oil brought relief. She moved from Texas to Colorado to have access to the oil but is now unable to leave the state because Texas does not recognize the legality of medical marijuana. According to the

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238 For example, if students were distributing their CBD oil to other students, prosecution may be appropriate. See Cole Memo, supra note 162; Ogden Memo, supra note 99.


242 Id.
suit, “[t]his lawsuit stands to benefit tens of millions of Americans who require, but are unable to safely obtain, Cannabis for the treatment of their illnesses, diseases and medical conditions.” Although the district court dismissed the case in February 2018, the court expressed sympathy to plaintiffs’ assertions that marijuana has medical uses. Alexis and the other plaintiffs have since filed an appeal.

Some states away in Illinois, eleven-year-old Ashley Surin and her parents successfully sued their Chicago school district and the state of Illinois in the District Court for the Northern District of Illinois for the right to use medical marijuana at school. Ashley argued that the school’s ban on the drug is unconstitutional because it denies the right to due process and violates the Individuals with Disabilities Education Act (IDEA) and the Americans with Disabilities Act (ADA). The federal judge allowed the school district to administer the medical marijuana, and the suit led to the passage of Ashley’s Law that allows Illinois children to take medical marijuana at school.

These children, along with others, took their medical marijuana battles to federal court, and while in some cases the courts did not hold for them, the

243 See Nestel, supra note 240.
244 Washington v. Sessions, No. 17 CIV. 5625 (AKH), 2018 WL 1114758, at *1–10 (S.D.N.Y. Feb. 26, 2018). According to the opinion, “[t]he Second Circuit has already determined that Congress had a rational basis to classify marijuana as a Schedule I drug, and any constitutional rigidity is overcome by granting the Attorney General, through a designated agent, the authority to reclassify a drug according to the evidence before it... There can be no complaint of constitutional error when such a process is designed to provide a safety valve of this kind.” Id. at *6 (citations omitted).
245 Id. At one point, Judge Hellerstein said to the five plaintiffs’ lawyer, “[y]our clients are living proof of the medical effectiveness of marijuana.” Molly Crane-Newman and Victoria Bekiempis, Judge Declares Marijuana Saves Lives After Hearing from Users Who Want Its Schedule I Status Tossed, DAILY NEWS (Feb. 14, 2018), http://www.nydailynews.com/new-york/manhattan-federal-judge-declares-marijuana-saves-lives-article-1.3821123 [https://perma.cc/3DB4-342K]. The judge also remarked, “How could anyone say your clients’ lives have not been saved by marijuana... You can’t.” Id. at *6.
250 See Thanks to Ashley’s Law, supra note 247.
simple process of bringing the suit produced compromises from other entities, including the passage of laws in their favor. There will almost surely be more cases like those of Alexis and Ashley filed in federal court over time. These cases represent the chance for federal district and circuit courts to emphasize that children should not be denied their rights to education and healthcare because they rely on legally recommended medical marijuana in accordance with their state’s program.

Overall, the federal government has many options they can take to create a haven for school districts with respect to medical marijuana usage in states that already allow legal recommendations of the drug. Rather than hiding behind the CSA and its treatment of marijuana as a Schedule I substance, the federal government should be working to break down barriers that stand in the way of these children.

B. State Governments

States that have established or are in the process of establishing medical marijuana programs have already taken important steps in facilitating access by certain children to certain forms of medical marijuana. However, because most of these states do not have laws on the books that provide school districts with legal support to allow these children to take their medication on school property, a gap has formed between the programs and the children for which they were created. These states thus have a responsibility to ensure their programs are accomplishing their purposes. Several solutions at the state level exist, including the passing of laws allowing such conduct as well as the creation by state courts of influential precedents.

First, laws and policies that would solve this problem would enable students to take their legal, physician recommended medical marijuana doses during the school day on school grounds, and if possible without requiring their parent or caregiver to administer them. Importantly, the foundation for these policies is that taking CBD in a controlled medical setting is vastly different from simply experimenting with dosing and CBD strains. Nothing in this Part suggests

251 All currently implemented state medical marijuana programs allow for the use of the drug by minors through a registered adult parent or caregiver. See supra Part III.B.
252 See supra note 180 and accompanying text.
253 Moreover, under Section 1412 of IDEA, state departments of education are responsible for ensuring that all children with disabilities receive a FAPE through school district supervision. Individuals with Disabilities Education Act, 20 U.S.C. § 1412 (2012).
254 This is the important foundation of the argument that marijuana should be considered a valid form of medication. One of the touchstones of modern medicine is that it can be “administered in controlled doses” with a “delivery system [that] provides predictable dose over defined period of time.” AM. SOC’Y OF ADDICTION MED., THE ROLE OF THE PHYSICIAN IN “MEDICAL” MARIJUANA (2010), available at https://www.asam.org/docs/public-policy-statements/1role_of_phys_in_med_mj_9-10.pdf?sfvrsn=0 [https://perma.cc/DU7S-ES95]. The American Society of Addiction Medicine has argued that “the therapeutic potentials of
that children should have unfettered access to any form of marijuana at any time. As discussed above, children and families to whom these laws and policies would apply possess legal recommendations by a certified physician. Furthermore, these recommendations would be in accordance with state law and address conditions provided for in the legislative materials.

State laws like those in Maine\(^{255}\) come close to achieving the principle that children should have a right to take medication they are legally recommended or can legally obtain without having to disrupt their school day or not attend school at all. In 2015, Maine lawmakers enacted provisions that effectively closed the gap in its medical marijuana program that excluded marijuana administration at school. First, under Maine law, a child who holds a written certification for the medical use of Maine’s medical marijuana program\(^{256}\) “may not be denied eligibility to attend school solely because the child requires medical marijuana in a non-smokeable form as a reasonable accommodation necessary for the child to attend school.”\(^{257}\) Second, lawmakers created an exception to the requirement under the medical marijuana program that marijuana not be possessed or used in a school bus or on school grounds.\(^{258}\) The exception reads:

1-A. School exceptions. Notwithstanding subsection 1, paragraph B, a primary caregiver designated pursuant to section 2423-A, subsection 1, paragraph E may possess and administer marijuana in a non-smokeable form in a school bus and on the grounds of the preschool or primary or secondary school in which a minor qualifying patient is enrolled only if:

A. A medical provider has provided the minor qualifying patient with a current written certification for the medical use of marijuana under this chapter; and

B. Possession of marijuana in a non-smokeable form is for the purpose of administering marijuana in a non-smokeable form to the minor qualifying patient.\(^{259}\)

specific chemicals found in marijuana” should be prescribed “by nontoxic routes of administration in controlled doses just all [sic] other medicines are in the U.S.” Id.


\(^{256}\) Maine Medical Use of Marijuana, ME. STAT. tit. 22, § 2423-B (Supp. 2017).

\(^{257}\) ME. STAT. tit. 20-A, § 6306 (Supp. 2017).


\(^{259}\) Id. at sub-§1-A. Importantly, a student with a severe, treatment-resistant condition inspired Maine lawmakers to enact this provision. Cyndimae Meehan had Dravet syndrome, and she and her mother became strong advocates for consistent legal access to medical cannabis in both Maine and Connecticut. See Gillian Graham, Young Fighter for Sick Children’s Access to Medical Marijuana Dies, PRESS HERALD (Mar. 15, 2016),
Laws such as these should be used as a model that all states with established or upcoming medical marijuana programs should pass.260 There are several successful parts of these provisions that other states should utilize as a guide for ensuring their medical marijuana programs achieve their stated ends. First, they allow for the administration of marijuana on the grounds of schools and on the school bus.261 Second, the provisions maintain the requirement of a legal physician recommendation.262 Third, they limit the administration to nonsmokeable forms of marijuana, which is in line with most medical research that notes the consequences of smoking.263 Finally, they include different levels of schooling, ensuring access for students regardless of age.264 Utilizing Maine’s law as a model, as well as those of New Jersey, Illinois, Colorado, and others, states with medical marijuana programs should amend their schemes to fill this obvious gap.

However, while every state with a medical marijuana program should include provisions such as Maine’s, there is still room to improve such laws. The main problem is that under most laws, only registered caregivers, such as parents or guardians, can administer the recommended marijuana dose.265 This means school nurses cannot give students their medication,266 placing the burden on parents and creating insurmountable disruptions for students. Besides changing the laws,267 there are a few potential solutions, the simplest of which could be providing parents or caregivers with a liability waiver to protect nurses from liability. Another option would be to require the registration of nurses at schools with children recommended marijuana in accordance with the state

260 States that do not have medical marijuana programs are beyond the scope of this note, though the author would encourage such states to take all measures necessary to ensure that children with treatment-resistant conditions have access to medical marijuana if needed, whether that means implementing a medical marijuana program or taking more limited steps with these children in mind.


262 See id.

263 See IOM Report, supra note 43, at ix–x. According to the report, “the future of cannabinoid drugs lies not in smoked marijuana but in chemically defined drugs that act on the cannabinoid systems that are a natural component of human physiology.” Id. at ix.


program. This lack of registration was one of the reasons Genny Barbour was originally denied the right to take her dose at school.\textsuperscript{268} Most if not all state marijuana programs require physicians to register with the state health department;\textsuperscript{269} asking school nurses to do so would not be much of an imposition. These procedures could have the effect of lowering liability for school nurses and their districts in turn, at least under state law.

Because students should not have to leave school property to take their medical marijuana doses, and because administration of these doses in school by school officials is the option that is most protective of educational opportunities, school nurses are essential to any solution. School nurses are the health leaders in school settings, and their goal is the promotion of “current evidence-based practices so students requiring medication during the school day can safely have their needs met and remain in school ready to learn.”\textsuperscript{270} They are responsible for developing policies and procedures relating to medication administration.\textsuperscript{271}

A second solution at the state level involves the court system. State court judges have ruled to allow individual students to take medical marijuana at school.\textsuperscript{272} In addition, states pay attention to each other, especially in the context of judicial precedents.\textsuperscript{273} Thus, if litigation using precedents that further the goal of allowing children with treatment-resistant conditions to take their medical marijuana on school property is encouraged, the issue will spread with positive effect. An example of such precedents is \textit{Willis v. Winters} out of Oregon.\textsuperscript{274}

\begin{footnotesize}
\begin{enumerate}
\item[271] \textit{Id.}
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does not preempt the state’s concealed handgun licensing statute and, therefore, Oregon sheriffs must issue (or renew) the requested licenses.”275 The court noted that it was the job of the Oregon state sheriffs to enforce state law rather than overly concern themselves with federal law.276 Precedents like this demonstrate that some state courts are distinctly committed to giving effect to state law without regard to actors who ask about federal law.277 If litigation utilizing such precedents is encouraged, enough court rulings may add up that it is not a state-by-state solution but rather an indicator of national change.278

Actions like these would fill the gaps that exist in state marijuana schemes and subsequent school district policies and uphold the medical access and education rights of students who suffer from debilitating conditions like epilepsy, cancer, and autism while still protecting school districts and states as much as possible from liability. Since so many states still are developing their legislation on medical marijuana, this area is consequently abstract, but this is not an excuse to deny students their education.

Under these models, there have not been any prosecutions; in fact, all that is known for sure under this model is that children are able to take their medicine and go to school. While this solution will not completely cure the fear, it will provide a practical outcome for students that do require medical cannabis.

VI. CONCLUSION

Even in the shadow of federal prohibition, the momentum of marijuana reform and industrial development in the past decade has been powerful. Because of the legalization of medical marijuana in the form of low THC, high CBD oils and edibles, children with severe, intractable, treatment-resistant conditions like autism, epilepsy, and cancer have found relief and, for some, a second chance at life. However, due to fear of federal prosecution under the CSA and safe and drug-free schools acts or the rescinding of federal funding,

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275 Id. at 1060.
276 See id. at 1068 (“The sheriffs in this case are not excused from their duty under ORS 166.291(1) to issue CHLs to qualified applicants, without regard to the applicant’s use of medical marijuana, on the ground that issuance of CHLs to medical marijuana users would violate a federal prohibition on making false statements about the lawfulness of transferring firearms to such persons.”).
277 See id. at 1066 (reasoning that “[i]t is well established that the federal government lacks constitutional authority to commandeer the policy-making or enforcement apparatus of the states by requiring them to enact or enforce a federal regulatory program” and citing cases such as Printz v. United States, 521 U.S. 898, 925–31 (1997)).
278 Courts have become increasingly active in instructing state governments to reconsider their marijuana schemes. For example, in late 2017, a New Jersey appeals court “told the Christie administration it must reconsider its classification of marijuana because its medical health benefits are ‘abundantly and glaringly apparent now.’” Kevin C. Shelly, New Jersey Ordered to Reconsider Legal Classification of Marijuana, PHILLY VOICE (Nov. 1, 2017), https://www.phillyvoice.com/new-jersey-ordered-reconsider-legal-classification-marijuana/ [https://perma.cc/KBE3-VMV6].
most school districts do not allow these children to take their doses on school property. This has resulted in such children being forced to leave school to take their much-needed medication and missing valuable educational opportunities, even though they are entitled to a free and fair public education. This problem represents a gap in state medical marijuana schemes that target the population for which such schemes were created in the first place.

At its most basic level, this issue is about enabling children to take the medication they need. While the federal and state governments have already taken some action demonstrating their willingness to support these children, more needs to be done to address this problem. Short of legislative reform, officials at the state and federal levels can take measures to insulate schools and children from prosecution, thus creating a safe space that allows school districts to feel more comfortable. This is a treatment that is working, there are plenty of students who could benefit, and they are the most sympathetic users who are also entitled to a public education. Therefore, a national effort utilizing all levels of government is necessary to ensure that this vital gap within the evolving medical marijuana scheme is filled.
# Police Training and Autism Spectrum Disorder: Providing a Reasonable Accommodation Under the ADA

RACHEL SHONEBARGER*

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"Including individuals with disabilities among people who count in composing 'We the People,' Congress understood . . . would sometimes require not blindfolded equality, but responsiveness to difference; not indifference, but accommodation."[1]

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## I. INTRODUCTION

The Americans with Disabilities Act (ADA) protects individuals with disabilities from being discriminated against in numerous facets of their lives, including in education, employment, and public accommodations.[2] The ADA broadly prohibits discrimination in these numerous areas to allow persons with disabilities to fully participate in all aspects of society.[3] Title II of the ADA

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specifically protects disabled individuals from discrimination in services, programs, and activities provided by state and local governments.\textsuperscript{4} Law enforcement is a service provided by local governments and thus, the police must comply with Title II of the ADA.\textsuperscript{5} In order to comply with the ADA, police departments cannot discriminate against those with a qualifying disability or deny them services.\textsuperscript{6} The ADA defines disability as “a physical or mental impairment that substantially limits one or more life activities of such individual.”\textsuperscript{7} The phrase “substantially limits” is not a demanding standard.\textsuperscript{8} Most individuals with Autism Spectrum Disorder (ASD) have a disability under the ADA because ASD substantially limits one or more life activities of those individuals.\textsuperscript{9} For example, as will be discussed in Part II, ASD substantially affects one’s ability to care for oneself, communicate, learn, and perform manual tasks, which are all major life activities delineated in the

\textsuperscript{4} Title II applies to public entities, which are defined as “any State or local government; any department, agency, special purpose district, or other instrumentality of a State or States or local government; and the National Railroad Passenger Corporation, and any commuter authority.” 42 U.S.C. §§ 12131(1)(A)–(C); see also 28 C.F.R. § 35.102 (2008) (providing that the ADA applies to “all services, program, and activities provided or made available by public entities”).

\textsuperscript{5} See Gorman v. Bartch, 152 F.3d 907, 912 (8th Cir. 1998) (concluding that the ADA’s definition of public entity includes local police departments); see also Pa. Dep’t of Corr. v. Yeskey, 524 U.S. 206, 209 (1998) (stating that Title II “plainly covers state institutions without any exception”).

\textsuperscript{6} 42 U.S.C. § 12132 (“[N]o qualified individual with a disability shall, by reason of such disability, be excluded from participation in or be denied the benefits of the services, programs, or activities of a public entity, or be subjected to discrimination by any such entity.”). While the terms services, programs, or activities are not defined in the statute, the regulations accompanying the ADA provide that Title II’s coverage is comparable to Section 504 of the Rehabilitation Act of 1973 in that Title II “applies to anything a public entity does.” 28 C.F.R. pt. 35 app. B (2016) (Guidance on ADA Regulation on Nondiscrimination on the Basis of Disability in State and Local Government Services). Similarly, the term benefit is not defined in the statute, but has also been interpreted broadly. See Yeskey, 524 U.S. at 210 (stating that services provided to inmates theoretically benefit them and can therefore be treated as benefits).

\textsuperscript{7} 42 U.S.C. § 12102(1)(A). Paragraphs (B) and (C) also include within the definition of disability “a record of such an impairment; or being regarded as having such an impairment.” Id. §§ 12102(1)(B)–(C).


\textsuperscript{9} The ADA provides that “major life activities include, but are not limited to, caring for oneself, performing manual tasks, seeing, hearing, eating, sleeping, walking, standing, lifting, bending, speaking, breathing, learning, reading, concentrating, thinking, communicating, and working.” 42 U.S.C. § 12102(2)(A).
ADA. But what is required of officers when they encounter individuals with autism? Even though the ADA covers those with ASD and law enforcement must comply with Title II, the answer is not yet clear. The answer of what is required of officers is not clear because the circuit courts have taken differing approaches and the Supreme Court has declined to decide the issue. Police encounters with individuals who have ASD, in which officers fail to take into account the individual’s disability, tend to escalate and have dramatic consequences in part because of the officers’ misunderstanding about their disability.

Given the often-dramatic results of police encounters with autistic people, this Note will provide an analysis of what constitutes a reasonable accommodation under the ADA for those with ASD. This is especially important because those with ASD typically cannot request a reasonable accommodation for themselves and police may be unaware of their disability. This Note posits that the reasonable accommodation for those with autism needs to occur before the encounter itself given the disability’s unique qualities. ASD is essentially an invisible disability that results in communication difficulties and thus, necessitates police training on how to interact with autistic individuals in order for Title II of the ADA to truly serve its purpose.

10 See id.; infra Part II.A.
11 Some courts have held that Title II does not apply to the arrests of those with mental disabilities, essentially providing an instance in which police action is free from the requirements of the ADA. See Bates ex rel. Johns v. Chesterfield Cty., 216 F.3d 367, 372–73 (4th Cir. 2000) (holding that police did not violate Title II of the ADA when interacting with autistic individual). Other courts have held that arrests are not beyond the scope of Title II but are merely one factor in determining whether the officer’s actions in a given situation were permissible. See Gohier v. Enright, 186 F.3d 1216, 1221 (10th Cir. 1999) (“[A] broad rule categorically excluding arrests from the scope of Title II . . . is not the law.”).
12 City & Cty. of S.F. v. Sheehan, 135 S. Ct. 1765, 1773 (2015) (declining to decide whether a police interaction with a mentally disabled person violated Title II of the ADA). “Whether [Title II] applies to arrests is an important question that would benefit from briefing and an adversary presentation.” Id. In Sheehan, however, all parties argued, or at least accepted, that Title II applies to arrests. Id. “No one argues the contrary view. As a result, we do not think that it would be prudent to decide the question in this case.” Id.
15 See infra Parts II.A–B, III.
16 See infra Parts II.A, V.
Part II provides background knowledge regarding ASD, its prevalence and symptoms, why these individuals are more likely to have police encounters than the population at large, and how the symptoms of ASD can affect encounters with police. Part III delves further into the ADA’s requirements and previous case law regarding police interactions with disabled persons in which the various circuits have reached distinct conclusions. Part IV explains why the current interpretations are insufficient to adequately protect those with ASD given that officers have been held to have not violated Title II of the ADA if they were unaware of the disability. Part V lays out how police training regarding ASD, its symptoms, and altering police tactics when interacting with those with ASD is a reasonable accommodation which needs to be provided to those with ASD to best further the ADA’s purpose.

II. BACKGROUND INFORMATION REGARDING ASD

Autism Spectrum Disorder has a wide-range of symptoms. Of significance, the number of individuals diagnosed with ASD has increased over recent years. Given the increase of the number of people with autism, police are more likely to have an encounter with someone who has ASD during their careers. Many of the symptoms of ASD can affect how these individuals interact with the police. This Part of the Note will address these issues in turn: the symptoms of ASD and how those symptoms can affect an encounter with police.

A. ASD Symptoms and Prevalence

Autism Spectrum Disorder, as its name suggests, consists of a wide-ranging group of developmental disorders. In 2013, the American Psychiatric Association merged what had previously been four distinct diagnoses into one umbrella diagnosis of ASD. These diagnoses that came under the umbrella of ASD are autistic disorder, childhood disintegrative disorder, pervasive developmental disorder-not otherwise specified (PDD-NOS), and Asperger syndrome. The exact cause of ASD is not known, but current research has linked autism to biological and neurological differences in the brain. Moreover, research has also found a link between certain genetic vulnerabilities and the possibility of a diagnosis of autism with regards to environmental factors.

19 Id. at 53.
20 Resources – About Autism, AUTISM SOC’Y ME., http://www.asmonline.org/resources/about-autism.aspx [https://perma.cc/MX55-DNXR] (noting that these brain abnormalities can be seen in both Magnetic Resonance Imaging (MRI) and Positron Emission Tomography (PET) scans).
is currently being studied.\textsuperscript{21} ASD is a cognitive impairment, not a mental illness.\textsuperscript{22} Thus, there is no cure for ASD.\textsuperscript{23}

Because ASD is a spectrum, symptoms and their severity among individuals with ASD can vary; however, people with ASD generally have these broad characteristics:

(1) Ongoing social problems that include difficulty communicating and interacting with others; (2) Repetitive behaviors as well as limited interests or activities; (3) Symptoms that typically are recognized in the first two years of life; and (4) Symptoms that hurt the individual’s ability to function socially, in school or work, or other areas of life.\textsuperscript{24}

More specifically, regarding problems with social communication and interaction, symptoms of ASD may include: making little or inconsistent eye contact, having difficulty with the back and forth of conversations, repeating what others say instead of using their own words (echolalia), having an unusual tone of voice, and responding slowly or not at all to someone calling their name.\textsuperscript{25} In fact, it is estimated that approximately 30\% of individuals with ASD are nonverbal.\textsuperscript{26}

In addition, with regards to repetitive behaviors, those with ASD tend to repeat certain behaviors or have unusual behaviors.\textsuperscript{27} One aspect of this phenomena is called “stimming,” which is short for self-stimulatory behavior.\textsuperscript{28} Stimming occurs when an individual with ASD repeatedly does some movement or activity to provide him or herself a sensory input, essentially to

\begin{itemize}
  \item \textsuperscript{21} Stephanie Blenner et al., \textit{Diagnosis and Management of Autism in Childhood}, 343 BRITISH MED. J. 894, 894–95 (2011). Findings demonstrate that children with a sibling with autism are themselves more likely to be diagnosed with autism. \textit{Id.} at 894.
  \item \textsuperscript{22} AUTISM SOC’Y ME., supra note 20. The fact that the American Psychiatric Association studies ASD does not make autism a mental illness. \textit{See} AM. PSYCHIATRIC ASS’N, supra note 18, at 31–32.
  \item \textsuperscript{23} AUTISM SOC’Y ME., supra note 20. While ASD is not curable, with intervention, many of the behaviors of ASD can be positively changed over time. \textit{Id.; see} NAT’L INST. MENTAL HEALTH, supra note 17 (stating that certain treatments and therapies can help those with ASD cope with its difficulties and “make the most of their strengths”).
  \item \textsuperscript{24} NAT’L INST. MENTAL HEALTH, supra note 17.
  \item \textsuperscript{25} \textit{Id.}; Fredda Brown et al., \textit{Characteristics of Children with Autism}, PBS, http://www.pbs.org/parents/inclusivecommunities/autism2.html \texttt{[https://perma.cc/7Z89-F2C7]}. Brown’s article also lists other symptoms of ASD, such as being uninterested in sharing experiences and showing interest in very few objects. However, because these symptoms are less relevant during a police encounter, they will not be stressed in this Note.
  \item \textsuperscript{26} Lisa Jo Rudy, \textit{An Overview of Nonverbal Autism}, VERYWELL HEALTH, https://www.verywell.com/what-is-nonverbal-autism-260032 \texttt{[https://perma.cc/MH34-YHZT]} (last updated Oct. 24, 2018) (explaining that, while nonverbal autism is not a diagnosis, this percentage of individuals “use no spoken language or only a few words”).
  \item \textsuperscript{27} NAT’L INST. MENTAL HEALTH, supra note 17.
\end{itemize}
calm him or herself down.29 Stimming can take many forms, including repeating sounds or words, rocking or swinging, and licking or chewing on items that are not edible.30

Other symptoms of ASD can also affect the individual’s ability to function. One such symptom is a sensitivity to certain stimuli.31 This inability, or diminished ability, to integrate certain sensory input results in those with ASD being very sensitive to light and noise.32 Sensory dysfunction also results in a sensitivity to touch, causing many individuals with ASD to dislike being touched.33 One’s ability to process sensory inputs can additionally affect motor skills, balance, and coordination.34

The Center for Disease Control and Prevention estimates that one in fifty-nine children in the United States have autism.35 This number has increased significantly since 2000, when the prevalence of autism in the United States was one in 150 children.36 As the number of those diagnosed with ASD rise, and these individuals age into adolescence and adulthood, the chances that police will encounter someone with ASD do as well. These encounters are likely to be affected by the manifestation of the symptoms of ASD.

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29 See id.
30 Id.
31 See Cindy Hatch-Rasmussen, Sensory Integration, AUTISM RES. INST., https://www.autism.com/symptoms_sensory_overview [https://perma.cc/JLC7-WTJA] (describing that individuals with autism may have a “dysfunctional sensory system”).
32 NAT’L INST. MENTAL HEALTH, supra note 17.
33 Difficulties with Physical Contact, AUTISM HELP, https://www.autismhelp.info/early-years/early-years-sensory [https://perma.cc/W3ER-V67Q] (“Children with autism can have an unusual response to being touched, especially if physical contact is unexpected. Adults with autism have described how a light touch or brush from another person can cause discomfort or pain.”). This sensitivity occurs because of a problem with sensory integration affecting the body’s tactile system. Hatch-Rasmussen, supra note 31. Dysfunction in the tactile system can even result in those with ASD to refuse to eat certain ‘textured’ food or be sensitive to wearing certain types of clothing. Id.
34 Hatch-Rasmussen, supra note 31 (noting that a dysfunction of the proprioceptive system can result in the lack of a “subconscious awareness of body position”); see also Morena Mari et al., The Reach-to-Grasp Movement in Children with Autism Spectrum Disorder, 358 PHIL. TRANSACTIONS: BIOLOGICAL SCI. 393, 393 (2003) (describing that those with ASD tend to be clumsy and have poor balance as well as poor coordination). Moreover, persons with ASD tend to have unusual gait patterns, meaning that when they walk they have poorly coordinated limbs movements and shortened steps. Id.
36 CTRS. FOR DISEASE CONTROL & PREVENTION, supra note 35.
B. Effects on Police Interaction

There are two key ways in which the symptoms of ASD can affect, or even create, encounters with the police: police misperceive the effects of an individual’s disability as criminal activity and autistic individuals effectuate crimes as a result of their disability. First, certain ASD symptoms can be interpreted as criminal behavior by police officers, such as stimming. For example, a fourteen-year-old autistic boy was pinned to the ground by a police officer because the boy was stimming: rigidly and repeatedly raising a piece of yarn to his nose and smelling it. The officer, trained in drug recognition, interpreted the boy’s conduct as a sign of drug intoxication although the individual was not under the influence of drugs. In fact, only 20% of patrol responses involving individuals with ASD are related to criminal activity.

On the other hand, individuals with ASD also commit crimes due to their disability, which can result in interactions with the police. For example, those with ASD are more likely to wander off, both as children and adults. And since these individuals tend to be unaware of social norms, they are more likely to trespass on the property of others. Moreover, when an individual with ASD has a sensory overload, he or she may have a meltdown or a violent outburst. This could lead the individual to assault a caretaker or a family member.

37 See generally Adle v. Me. State Police Dep’t, 279 F. Supp. 3d 337 (D. Me. 2017) (identifying cases in which the police have mistakingly see the effects of an individual’s disability as criminal activity and consequently made arrests).

38 See Buchanan v. Maine, 417 F. Supp. 2d 45, 73 (D. Me. 2006). In Buchanan, a schizophrenic individual stabbed a police officer. Id. at 52–53.

39 See AMBITIOUS ABOUT AUTISM, supra note 28.

40 Silberman, supra note 13.

41 Id.


43 See Beth Arky, Autism Plus Wandering, CHILD MIND INST., https://childmind.org/article/autism-plus-wandering/ [https://perma.cc/GYP4-6PXS] (providing that those with ASD have an impaired sense of danger, which can lead to wandering or elopement). In a survey of more than 800 parents who have children with autism, “roughly 50 percent of children between the ages of 4 and 10 with an ASD [diagnosis] wander at some point, four times more than their unaffected siblings.” Id.

44 See id. (stating that some of the reasons that individuals with ASD wander are to head to a favorite place, like a park, and to pursue a special topic of interest, like a child who loves trains heading for the train tracks); see, e.g., Bates ex rel. Johns v. Chesterfield Cty., 216 F.3d 367, 369 (4th Cir. 2000) (detailing that an autistic individual who had wandered off entered onto private property).


46 See infra note 53 and accompanying text.
As a result, individuals with ASD are seven times more likely to have police encounters than their neurologically typical counterparts. In addition to an increased likelihood of having encounters with police, the encounters themselves are impacted by the symptoms of ASD in various ways. For example, an individual with ASD may not respond, or have a delayed response, to a question posed by law enforcement or an individual may answer the question, “have you been drinking?” literally and subsequently answer yes, despite not having had anything alcoholic to drink.

Furthermore, characteristics of ASD, coupled with typical police procedure, can cause these encounters to escalate. For example, on the one hand, officers can interpret the lack of eye contact or the lack of an answer as a sign of guilt, resulting in the officer raising their voice, shining a light in the subject’s face, or touching the subject. On the other hand, those with ASD may not follow instructions and, due to the fact that they are sensitive to light, sound, and touch, may react negatively, or even violently, to these tactics. Unfortunately, this combination has led to extreme, and even deadly, consequences.

According to a news report, nearly 50% of the people who die

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48 See NAT’L INST. MENTAL HEALTH, supra note 17; Brown et al., supra note 25 (describing that those with ASD have trouble maintaining back-and-forth conversations and sometimes do not respond or are delayed in doing so).


51 AUTISM HELP, supra note 33.

52 Id. It is important to keep in mind that even light touching can be painful for someone with ASD. Id.

53 E.g., Matt McCall, Family, Activists Protest 5 Years After Autistic Teen’s Death in Calumet City, CHI. TRIB. (Feb. 1, 2017), http://www.chicagotribune.com/suburbs/daily-southtown/news/ct-sta-stephon-watts-anniversary-st-0201-20170201-story.html [https://perma.cc/5LHF-NBPX]. Stephon Watts, a fifteen-year-old autistic boy, was shot and killed by police after his father called the non-emergency line. Id. The family states that officers knew that their son had autism as they had been to the home on numerous occasions.
at the hands of police have some kind of disability.\textsuperscript{54} What is key information regarding a situation with someone with ASD is that, “the more force a police officer applies to gain control over the situation, the more dangerous and out of control the situation likely becomes.”\textsuperscript{55} As a result, there currently exists a situation in which officers, based on their training, attempt to gain control of a situation by using force, and in which autistic individuals, based on their disability, react negatively and even violently to the police tactics used in these encounters.

III. REQUIREMENTS OF THE ADA AND RELEVANT CASE LAW

Based on the requirements of the ADA, most individuals with ASD have a qualifying disability because ASD substantially limits one or more of their life activities,\textsuperscript{56} such as their ability to speak, learn, and communicate.\textsuperscript{57} Because these individuals have a qualifying disability, they are covered by the ADA.\textsuperscript{58} Accordingly, local governments, including police departments, are required to comply with Title II of the ADA and cannot discriminate against individuals or deny them benefits because of their disability, and may be required to provide reasonable accommodations to said individuals.\textsuperscript{59}

\textit{Id.} According to police, officers shot Stephon Watts after he refused to drop a knife and lunged at an officer. \textit{Id.} The family maintains that Stephon was holding a butter knife. \textit{Id.} 


\textsuperscript{55} Elizabeth Hervey Osborn, \textit{What Happened to “Paul’s Law”?: Insights on Advocating for Better Training and Better Outcomes in Encounters Between Law Enforcement and Persons with Autism Spectrum Disorders}, 79 U. COLO. L. REV. 333, 344 (2008). Police officers shot and killed a fifteen-year-old boy with cognitive disabilities and a seizure disorder who was holding a knife. \textit{Id.} at 337. Officers had been called to the boy’s home by a family member. \textit{Id.} at 335. While on the phone with 911, the family member attempted to explain the boy’s condition to the first responder, who responded that they did not “need the story.” \textit{Id.}

\textsuperscript{56} 42 U.S.C. § 12102(1)(A) (1990) (defining disability as “a physical or mental impairment that substantially limits one or more life activities of such individual”).

\textsuperscript{57} \textit{Id.} § 12102(2)(A); see supra notes 23–31 and accompanying text. A substantial effect on any one of these life activities would be sufficient to demonstrate that the person had a disability for purposes of the ADA. 42 U.S.C. §§ 12102(1)–(2). In addition, the regulations accompanying the ADA specifically list autism as a qualifying disability because it “substantially limits brain function” and may also substantially limit major life activities other than those explicitly identified. 29 C.F.R. § 1630.2(j)(3)(iii) (2013).

\textsuperscript{58} 42 U.S.C. §§ 12102(1)–(2).

\textsuperscript{59} See Estate of Saylor v. Regal Cinemas, Inc., No. WMN-13-3089, 2016 WL 4721254, at *16 (D. Md. Sept. 9, 2016). “[T]he Act in no way limits the terms ‘services, programs, or activities,’ and appears to include all core functions of government. Among the most basic of these functions is the lawful exercise of police powers, including the appropriate use of force by government officials acting under color of law.” Schorr v. Borough of Lemoyne, 243 F. Supp. 2d 232, 235 (M.D. Pa. 2003), \textit{abrogated by} Harberle v. Troxell, 885 F.3d 170
While those with ASD are covered by the ADA, the courts have not been uniform in their decisions as to what the ADA requires in the context of a police encounter. Per Title II, “no qualified individual with a disability shall, by reason of such disability, be excluded from participation in or be denied the benefits of the services, programs, or activities of a public entity, or be subjected to discrimination by any such entity.”

Title II’s prohibition of discrimination begs the question of precisely what benefit a person with ASD is being denied or what discrimination a person with ASD is being subjected to as a result of a police encounter. Courts have held that Title II applies in several instances regarding police encounters. First, claims can arise as a “wrongful arrest,” where the officer makes an arrest based on the disability and its manifestations, and not for criminal activity. Second, Title II claims can also arise under a reasonable accommodation theory, when the officer makes a lawful arrest but fails to accommodate for the person’s disability during the investigation or arrest. Moreover, it is important to note that individuals on the autism spectrum can be the focus of police investigations and encounters without being a suspect or subject to arrest.


One such example in terms of ASD would be when an officer arrests an autistic person for driving under the influence when he/she fails a field sobriety test even though the individual has not consumed any alcohol. Those with ASD may fail these tests due to their autism because they have problems with balance and coordination. See Mari et al., supra note 34, at 393. Thus, if an officer makes an arrest in such a case, the officer has arrested the person because of their disability, and not due to any criminal activity. For a similar example, see Jackson v. Inhabitants of Town of Sanford, No. 94-12-P-H, 1994 WL 589617, at *1, *6 (D. Me. Sept. 13, 1994), in which officers arrested a man for drunk driving because of his slurred speech. It turned out that the man was sober; his slurred speech was due to a previous stroke.

See Estate of Saylor, 2016 WL 4721254, at *1 (recounting a Title II claim that came about when a man with Down syndrome attempted to watch another movie at a theater without paying for another ticket). One such example would be if officers arrested someone who is paralyzed and then failed to provide a wheelchair restraint in the vehicle during transport, resulting in injuries. See Gorman v. Bartch, 152 F.3d 907, 909–12 (8th Cir. 1998). Instances involving ASD and a failure to provide a reasonable accommodation will be the focus of the subsequent parts of this Note.

Individuals with ASD commonly wander and therefore, family members or caretakers may contact police to report the individual missing. Arsky, supra note 43 (noting that 32% of parents had called police because their child had been “missing long enough to cause significant safety concerns”). In fact, a lieutenant in Maryland stated that the most incidents regarding ASD seen by police there involved “nonverbal kids who have wandered away from home.” Tim Prudente, Police Training Expands for Encounters with People Who Have Developmental Disabilities, BALT. SUN (Jan. 17, 2016), http://www.baltimoresun.com/news/maryland/howard/bs-md-autism-police-training-20160117-story.html
However, the courts have not reached a consensus that, even if Title II of the ADA is implicated or applicable, when it is violated. Some circuits have held that Title II includes an exigent circumstances exception, absolving public entities of the obligation to provide a reasonable accommodation in these situations. Other circuits have not interpreted the ADA to contain an exigent circumstances exception, but instead have held that the circumstances surrounding the encounter or arrest are but one factor in determining whether the police provided a reasonable accommodation to the suspect. Even when courts have determined that the ADA applies, courts have grappled with whether there has been a violation of the ADA as a result of the officers’ conduct.

One of the unique issues that ASD, along with other mental disabilities, presents is that the disability may not be readily discernable by someone unaware of its symptoms. This fact distinguishes ASD from numerous physical disabilities, in that one may be unaware that an individual is autistic upon seeing the individual or having a short interaction with him or her. For example, if someone is blind, others may be able to tell by the fact that the person uses a walking stick or has a seeing-eye dog. Similarly, one may be able to deduce that another is paralyzed by the individual’s use of a wheelchair. With ASD, however, we may not know that someone has a disability because of its

Moreover, those with ASD are more likely to be victims of crime and may come into contact with police as a result. See C.S. Allely et al., Violence Is Rare in Autism: When It Does Occur, Is It Sometimes Extreme?, 151 J. PSYCHOL. 49, 50 (2017).

See Waller ex rel. Estate of Hunt v. City of Danville, 556 F.3d 171, 174–75 (4th Cir. 2009) (noting that some courts have incorporated an exigent circumstances exception into Title II); Hainze v. Richards, 207 F.3d 795, 801 (5th Cir. 2000) (“Title II does not apply to an officer’s on-the-street responses to reported disturbances or other similar incidents, whether or not those calls involve subjects with mental disabilities, prior to the officer’s securing the scene and ensuring that there is no threat to human life.”).

See Bircoll v. Miami-Dade Cty., 480 F.3d 1072, 1085 (11th Cir. 2007) (holding that the exigent circumstances surrounding an arrest “go more to the reasonableness of the requested ADA modification than whether the ADA applies in the first instance”); Gohier v. Enright, 186 F.3d 1216, 1221 (10th Cir. 1999) (“[A] broad rule categorically excluding arrests from the scope of Title II . . . is not the law.”).

Estate of Saylor, 2016 WL 4721254, at *16–17 (holding that a lack of police training did not violate the ADA because there was not an obvious need for training regarding mental disabilities).

This lack of awareness can prevent individuals from bringing a claim that they were discriminated against because of their disability. See Garner v. City of Ozark, No. 1:13–CV–90–WKW, 2015 WL 728680, at *10 (M.D. Ala. Feb. 19, 2015) (determining that officers did not violate the ADA during their encounter with an autistic person because they were not aware of the individual’s disability).

“invisible” nature. ASD, along with other mental disabilities, arguably cannot be readily seen, especially if a person is unaware of what the symptoms are. This fact can prove problematic for Title II claims.

The existing case law regarding interpretations of Title II of the ADA for those with mental disabilities has been problematic. However, those with visible, mental disabilities have fared somewhat better in the court system. For example, the family of Robert Saylor brought suit after he died during an encounter with police. Saylor, a twenty-six-year-old man with Down syndrome, came into contact with police as he was sitting in a movie theater without having paid to see the movie a second time. Saylor had gone to see the movie with his caretaker, who was pulling the car up to the front of the theater. The caretaker approached an employee at the theater and explained that Saylor had Down syndrome and to please let her handle the situation to get Saylor to leave, as his mother was on her way to the theater. However, security was called and a sergeant entered the theater where he found Saylor “sitting quietly in his seat.” After talking with Saylor, officers then forcibly removed Saylor from his seat, during which time everyone involved fell to the ground. Due to Saylor’s size, officers used three sets of handcuffs to handcuff him. As soon as he was handcuffed, Saylor stopped breathing. Saylor was taken to a hospital where he was pronounced dead.

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70 *Estate of Saylor*, 2016 WL 4721245, at *1.
71 *Id.*
72 *Id.* at *2.
73 *Id.* at *3.
74 *Id.*
75 *Id.* at *4.
77 *Id.*
78 *Id.* The cause of death was asphyxia. *Id.*
Saylor’s family brought claims for violation of Title II of the ADA.\textsuperscript{79} One such claim was for failure to train, which the court dismissed.\textsuperscript{80} The other was for a failure to accommodate Saylor’s disability.\textsuperscript{81} While the State moved to dismiss this claim, the court denied the State’s motion because Saylor’s caretaker had requested that the officers wait for a few minutes until the mother arrived.\textsuperscript{82} This could have been a reasonable accommodation even though the State asserted that it could not have left Saylor in the theater because he “could become violent.”\textsuperscript{83}

While the court’s refusal to grant the defendant’s motion to dismiss regarding a Title II claim for a failure to provide a reasonable accommodation is promising, there are likely to be other challenges when these claims are brought by individuals with ASD or their families. First, Saylor was “readily recognizable as someone with [a] disability.”\textsuperscript{84} It likely will not be readily recognizable that someone with ASD has said disability if the officer is wholly unaware of the symptoms because ASD is not readily discernible by merely looking at someone.\textsuperscript{85} Second, Saylor’s caretaker made a request for an accommodation: that officers wait a few minutes so she and the mother could resolve the situation.\textsuperscript{86} In another case, however, there may not be a parent or caretaker around to make a specific request to police and, given the

\textsuperscript{79} Id. at *16. Saylor’s family brought numerous other claims, such as gross negligence and excessive force claims. \textit{Id.} at *1. The family brought a civil suit after criminal charges were not brought against the officers involved in the incident. Theresa Vargas, \textit{Grand Jury Rejects Criminal Charges in Death of Robert Saylor, Man with Down Syndrome}, WASH. POST (Mar. 22, 2013), https://www.washingtonpost.com/local/no-criminal-charges-in-death-of-robert-saylor-frederick-man-with-down-syndrome/2013/03/22/3a723b6c-932f-11e2-8ea1-956c94b6b5b9_story.html?utm_term=.061c4a781f78 [https://perma.cc/T7EL-Q4PJ]. “In order to establish a claim under Title II [of the ADA], Plaintiffs must prove that: 1) [the plaintiff] was disabled, 2) [they] were otherwise qualified to receive the benefits of such [public] service, program, or activity, and 3) [they] were excluded from participation in or denied benefits . . . or otherwise discriminated against, on the basis of their disability.” \textit{Estate of Saylor}, 2016 WL 4721245, at *16 (citing Constantine v. Rectors & Visitors of George Mason Univ., 411 F.3d 474, 498 (4th Cir. 2005)).

\textsuperscript{80} \textit{Estate of Saylor}, 2016 WL 4721245, at *16–18. For more information on failure to train claims, see \textit{infra} Part V.A. The case does state that the police department had a manual with guidelines for dealing with those with mental disabilities. \textit{Estate of Saylor}, 2016 WL 4721245, at *4. The manual stated that officers should avoid “forcing discussion,” “touching the person (unless essential to safety),” and “crowding the person.” \textit{Id.} The only mandated in-service training for this department was on sexual assault. \textit{Id.} The manual does not appear to have been followed during the encounter with Saylor. \textit{See id.} at *3–4 (noting that officers attempted to obligate a conversation with them, touched Saylor, and had multiple deputies surrounding him).

\textsuperscript{81} \textit{Estate of Saylor}, 2016 WL 4721245, at *18.

\textsuperscript{82} \textit{Id.} at *18–20.

\textsuperscript{83} \textit{Id.} at *19.

\textsuperscript{84} \textit{Id.} at *2 (providing that Saylor had “the physical and facial features common to individuals with Down Syndrome”).

\textsuperscript{85} \textit{See supra} notes 68–69 and accompanying text.

\textsuperscript{86} \textit{Estate of Saylor}, 2016 WL 4721245, at *18.
communication difficulties that those with ASD experience, it is highly probable that they cannot make such a request for themselves.87

These concerns played out in Garner v. City of Ozark.88 In the case, a mother brought suit on behalf of her son with ASD, Wynter Stokes, who is completely nonverbal.89 The suit stemmed from an encounter between Stokes and police, in which Stokes was substantially injured when an officer commanded his canine to attack Stokes multiple times.90 Stokes had wandered off from home without his mother’s knowledge and wound up at a private residence.91 The homeowner notified the police that someone was in her yard and “would not acknowledge her when spoken to or asked to leave.”92 Officers then arrived at the residence.93 An officer located Stokes and confronted him; Stokes then tried to flee.94 The officer stated that he then grabbed Stokes’ shirt and asked for his name, to which Stokes tried to pull away and the officer grabbed his arm.95 According to the officer, the boy then grabbed the officer’s neck and the two struggled.96 The boy then fled and the officer released his canine, who took Stokes down.97

Stokes’ mother then brought claims for violation of Title II of the ADA, arguing that the City failed to train its officers and failed to provide a reasonable accommodation.98 With regards to providing a reasonable accommodation, the court stated that “the defendant’s duty to provide a reasonable accommodation is not triggered until the plaintiff makes a ‘specific demand’ for an accommodation.”99 Obviously, such a requirement could not be satisfied by Stokes, who is nonverbal.100 Thus, the plaintiff argued that the City should have

87 See supra notes 24–26 and accompanying text detailing the symptoms of ASD.
89 Id. at *1.
90 Id. at *2 n.1.
91 Id. at *2.
92 Id.
93 Id. The homeowner’s spouse reported to an officer that the suspicious person had been on his porch and was unarmed. Id. at *2. Moreover, according to the complaint, the spouse informed an officer that the person was “different” and “possibly autistic.” Id. The court stated that there was no evidence that the officer who actually confronted Stokes was aware of these statements. Id.
95 Id.
96 Id.
97 Id. The officer “represents that he had no knowledge of [Stokes’] autism until after [Stokes] was in police custody.” Id. at *3. Moreover, the criminal charges against Stokes were subsequently dropped. Id.
98 Id. at *9. The Plaintiff also brought a § 1983 claim for excessive force and state law claims for assault and battery. Id. at *3.
99 Id. at *9 (citing Gaston v. Bellingrath Gardens & Homes, Inc., 167 F.3d 1361, 1363 (11th Cir. 1999)).
100 Garner, 2015 WL 728680, at *9. “The City contends that [Stokes] could not have requested any sort of ADA accommodation.” Id.
trained its officers to recognize autism and accommodated individuals in accordance with that training.\textsuperscript{101} The court, however, granted defendants’ motion for summary judgment on the issue because one of the elements of an ADA claim was missing: that Stokes had been discriminated against because of his disability and denied an accommodation as a result.\textsuperscript{102} “[Stokes’] reported misconduct and flight—not his autism—was the reason [the officer] used his canine to repeatedly seize [Stokes].”\textsuperscript{103}

Another court similarly granted summary judgment for defendants in regards to a Title II claim involving ASD.\textsuperscript{104} Bates, a teenager with ASD, appears to have wandered off one evening, arriving at someone’s home approximately two miles from Bates’ home.\textsuperscript{105} Bates wandered up the driveway, into the homeowner’s open garage, and up to a cage containing kittens.\textsuperscript{106} The homeowner attempted to ascertain where the boy was from but he did not reply and then ran off into a wooded area.\textsuperscript{107} The homeowner then called 911 and officers arrived shortly thereafter.\textsuperscript{108} An officer located Bates and asked him to come talk; Bates walked away.\textsuperscript{109} Bates then walked over to the officer’s motorcycle and sat sideways on it.\textsuperscript{110} The officer subsequently pushed Bates off the motorcycle.\textsuperscript{111} Next, an altercation ensued between the two individuals.\textsuperscript{112} Backup arrived on scene and the officers were eventually able to cuff Bates.\textsuperscript{113} Bates’ parents eventually arrived and informed officers that their son was autistic.\textsuperscript{114} Officers would not let them approach their son at first.\textsuperscript{115} Bates’ mother retrieved his medication and Bates calmed down.\textsuperscript{116}

\begin{footnotes}
\textsuperscript{101} Id. at *9.
\textsuperscript{102} Id. at *10. In making this determination, the court also looked to “additional persuasive authority not cited by [d]efendants.” Id. The court notes that other district courts have reached similar conclusions when the officer did not know of the disability. See, e.g., Bridges v. City of Americus, No. 1:09–CV–56 WLS, 2014 WL 1315339, at *11 (M.D. Ga. Mar. 31, 2014); Redding v. Chesnut, No. 5:06–CV–321 (CDL), 2008 WL 4831741, at *8 (M.D. Ga. Nov. 3, 2008).
\textsuperscript{103} Garner, 2015 WL 728680, at *10.
\textsuperscript{104} Bates ex rel. Johns v. Chesterfield Cty., 216 F.3d 367, 368 (4th Cir. 2000).
\textsuperscript{105} Id. at 369.
\textsuperscript{106} Id.
\textsuperscript{107} Id.
\textsuperscript{108} Id. A witness told the officer, “I don’t know if this boy is on drugs or drunk but he is acting weird or crazy and just went running through the woods.” Id.
\textsuperscript{109} Id.
\textsuperscript{110} Bates ex rel. Johns, 216 F.3d at 369.
\textsuperscript{111} Id.
\textsuperscript{112} Id. Bates pushed the officer and ran away. Id. The officer caught up with Bates and tried to grab him. Id. Bates then spit on the officer who responded by grabbing Bates by the throat and wrestling him to the ground. Id.
\textsuperscript{113} Id. at 369–70.
\textsuperscript{114} Id. at 370.
\textsuperscript{115} Id.
\textsuperscript{116} Bates ex rel. Johns, 216 F.3d at 370.
\end{footnotes}
Bates was charged as a juvenile for assaulting the officer. Bates then filed a civil suit for violation of the ADA. The ADA claim was not given much consideration by the court. In fact, the court did not “undertake an independent ADA inquiry” because their Fourth Amendment scrutiny had already addressed that the officers acted reasonably. 

"[T]he arrest of Bates [was] not by reason of Bates’ disability, but because of Bates’ objectively verifiable misconduct."

Such decisions leave the applicability of Title II of the ADA to police encounters in a state of uncertainty. The Supreme Court has declined to resolve this uncertainty. But, perhaps the fact that both parties in City and County of San Francisco v. Sheehan accepted before the Supreme Court that Title II of the ADA applies to arrests demonstrates that opinions are changing regarding police conduct during encounters with those with mental disabilities. For example, the ADA has applied in other contexts to those with ASD, such as in the employment context and in the school environment.

In the employment context, for example, an employer need not know the precise diagnosis of an employee to be liable for discrimination on the basis of that disability; the employer’s perception is sufficient. In Glaser v. Gap Inc., an employee suffered an adverse employment action, but was not diagnosed with ASD until after commencement of the lawsuit. This fact did not bar the employee’s claim that he was discriminated against because of his disability. Moreover, in the education environment, the court denied defendants’ motion for summary judgment regarding a Title II claim. A student may have been subjected to intentional discrimination because of his autism, namely that the

117 Id.
118 Id. Bates also brought claims that officers violated his Fourth Amendment right to be free from unreasonable search and seizure. Id.
119 See id. at 372–73. Bates argued that officers should have taken his disability into account when interacting with him and that if officers had, he would not have been detained or arrested. Id. at 373.
120 Id. “[W]e have concluded that under all the circumstances the officers’ actions were objectively reasonable.” Id.
121 Id. (assaulting the officer).
122 City & Cty. of S.F. v. Sheehan, 135 S. Ct. 1765, 1772–73 (2015) (stating that the City of San Francisco had changed its argument from what had been argued below and the Court wanted adverse points of view before deciding the issue).
123 See id.
125 See 42 U.S.C. § 12102(1)(C) (1990); 29 C.F.R. 1630.2(g)(3),(p) (2013); see also Brady, 531 F.3d at134–35 (noting that if an employer had reason to believe that an employee had a disability, the employer had an obligation to offer a reasonable accommodation even if one was not requested).
126 Glaser v. Gap Inc., 994 F. Supp. 2d 569, 576–77 (S.D.N.Y 2014) (stating that other employees and supervisors had observed that the employee in question was “different”).
127 Id. at 578.
student was placed in seclusion due to manifestations of the symptoms of ASD.\footnote{Miller, 159 F. Supp. 3d at 1249–50 (stating that the fact that the student with autism had been disruptive and aggressive did not necessarily signify that he was not discriminated against because of his disability).}

IV. INSUFFICIENCY OF ADA INTERPRETATION INVOLVING POLICE ENCOUNTERS

The current interpretations of the ADA regarding police encounters are insufficient to accurately address the issue of those with autism. Given the symptoms of autism,\footnote{See supra notes 24–26 and accompanying text.} most autistic individuals cannot request a reasonable accommodation, as is normally required by the ADA.\footnote{See supra notes 25–26 (describing the communication difficulties that those with ASD have, including a large portion of individuals who are nonverbal).} Moreover, individuals with ASD are more likely than others to have encounters with police for two main reasons: police can misperceive the effects of an individual’s disability as criminal activity and autistic individuals can effectuate crimes as a result of their disability.\footnote{Brown., supra note 47 (stating the increased likelihood of police encounters); see Adle v. Me. State Police Dept., 279 F. Supp. 3d 337 (D. Me. 2017) (describing instances where officers mistook manifestations of a disability as criminal acts); Buchanan v. Maine, 417 F. Supp. 2d 45, 73 (D. Me. 2006) (detailing a crime committed by a mentally disabled individual).} However, given the “invisibility” of the disability, officers may be unaware that the person with whom they are dealing is autistic.\footnote{See Pacer Center, supra note 68.}

As a result, officers can take symptoms of autism as disrespectful or signs of guilt, such as failing to answer a question or make eye contact.\footnote{Gammie&chia & Johnson, supra note 50.} This can lead to an escalation of the situation because many individuals with autism respond negatively to loud noises, bright lights, and to being touched, all things that may be involved in a police encounter.\footnote{NAT’L INST. MENTAL HEALTH, supra note 17 (detailing these sensitivities).} Consequently, individuals on the autism spectrum can respond violently to such actions, resulting in the police responding violently as well.\footnote{See, e.g., Bates ex rel. Johns v. Chesterfield Cty., 216 F.3d 367, 370 (4th Cir. 2000) (explaining how an individual with ASD responded violently to being touched by an officer, to which the officer also responded with violence).} Subsequent lawsuits claiming violations of Title II of the ADA have generally not been successful\footnote{See supra Part III (describing instances in which individuals with ASD brought claims and they were decided on summary judgment).} because various courts have found that the plaintiffs had not been discriminated against “because of [their] disability” given that officers were unaware that the suspect was autistic at the
time. This is precisely the problem: dealing with this specific disability at the moment of a police encounter is simply too late. Additionally, there is a split among the circuits as to whether Title II is even applicable to arrests.

Interpreted in this fashion, the ADA’s promise of preventing discrimination against disabled individuals in numerous facets of their lives, rings hollow when these individuals come into contact with the police. If police conduct is excused because of exigent circumstances, or if officers can simply assert that they were unaware that someone had ASD, then some of the protections that Title II is supposed to provide are essentially eliminated.

There is almost a perverse incentive to turn a blind eye and remain unaware of how to detect if someone has autism because then officers have no duty to provide a reasonable accommodation. It leads to a self-fulfilling, cyclical problem. Such a reality would leave those with ASD, and likely numerous other individuals with mental disabilities, in the same place they were before the passage of the ADA regarding police encounters. If the ADA’s promise of preventing discrimination against disabled individuals in services provided by local governments through their policing is to mean anything, it must require the police to do something.

V. POLICE TRAINING AND IMPLEMENTATION AS A REASONABLE ACCOMMODATION

Given the invisibility of autism, especially to one not aware of its symptoms, and the divergence of the courts on what the ADA requires when police encounter a disabled individual, officers and autistic individuals will likely continue to have highly contentious encounters. This can have serious consequences for both parties. In addition, given that individuals with ASD are seven times more likely to have encounters with the police than the public at large, coupled with the prevalence of ASD in the United States, it is highly likely that most police officers will encounter someone with ASD at
some point in their career. Thus, and specifically in jurisdictions where the court has held that there is an exigency exception to Title II of the ADA, officers and police departments will not be held to have violated Title II of the ADA. As a result, there likely will not be any incentives for officers to learn the symptoms of ASD and how to best respond during an encounter with an autistic individual.

Therefore, there needs to be mandated training before officers go out in the field in order for Title II to truly serve its purpose and prevent public entities from discriminating against those with disabilities. A failure to require training is incompatible with the purposes of the ADA. In its findings, Congress stated that it recognized “that physical and mental disabilities in no way diminish a person’s right to fully participate in all aspects of society, but that people with physical or mental disabilities are frequently precluded from doing so because of prejudice, antiquated attitudes, or the failure to remove societal and institutional barriers.” 144 Congress continued, stating that “the Nation’s proper goals regarding individuals with disabilities are to assure equality of opportunity, full participation, independent living, and economic self-sufficiency for such individuals.” 145

When looking to these congressional findings concerning the ADA, Congress was clear that those with qualifying disabilities should be free from discrimination in essentially all facets of their lives and that the federal government would provide a remedy if such discrimination did indeed occur. These individuals should have the ability to “fully participate in all aspects of society.” 146 In order to attain full participation, those with ASD, as well as their caretakers, need to feel confident that in the public sphere, they will not be the target of police attention because of some of the symptoms of their disability nor will they not be accommodated if arrested for criminal activity. Similarly, to feel comfortable participating in society on a broader level, those with ASD, their families, and their caretakers need assurances that when someone with ASD leaves their home one morning, that it will not be the last time they do so if they react negatively during a police encounter.

Antiquated ideas of what it means to have a disability need to change, and proper training can help effectuate that change. Congress found that we need to remove antiquated ideas and prejudices about disabilities, and that was one of its purposes behind passing the ADA. 147 One such antiquated idea about disabilities relates directly to ASD, specifically that disabilities are visible to others and if they are not, that they somehow do not exist. 148 Many people have heard of a related example involving handicapped stickers. A person with a

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145 Id. § 12101(a)(7).
146 Id. § 12101(a)(2).
147 Id. § 12101(a)(1).
148 See Pacer Center, supra note 68 (describing an instance in which a mother, with her autistic son, began to board a plane early due to the boy’s disability and another passenger commented that they should not be boarding “because there isn’t a thing wrong with that child”).
handicapped sticker parks their vehicle in the designated spot and walks into a store. If that person looks “normal,” they are instantly judged by others who assert they are not disabled and are simply being “lazy.” This is an antiquated idea and a prejudice that must be changed concerning those with disabilities, especially our assumption that, if we cannot readily perceive the disability, that the person is not disabled. Along similar lines, an antiquated idea that came up during several occasions in the case law was that the officer assumed the autistic individual in question was on drugs.\textsuperscript{149} An argument could be made that, as a society, we tend to draw the conclusion that someone who acts “odd,” “erratic” or in a way we cannot understand, is on drugs. But as statistics regarding ASD demonstrate, this is a largely antiquated perception.\textsuperscript{150} Therefore, there needs to be police training on ASD to truly accommodate these individuals during police encounters.

A. Using Other Federal Claims to Address Police-Produced Harms Will Not Prevent Those Harms from Occurring

Police training as a reasonable accommodation under Title II of the ADA provides an appropriate remedy to the current situation. However, it should be noted that the ADA is not the sole federal statute under which one could bring a claim after an adverse police encounter.\textsuperscript{151} Depending on the circumstances of the police encounter, someone with ASD could bring a claim under 42 U.S.C. § 1983.\textsuperscript{152} In fact, a failure to train claim has been recognized as a basis for liability under § 1983.\textsuperscript{153} On the surface, it appears to be an ideal match for those with ASD seeking to bring claims after negative encounters with police who have not been trained about the symptoms of autism or have not been trained on how to comply with the ADA.

Bringing a § 1983 claim for failure to train, however, is not as clear-cut as its name appears. First, some courts have stated that a failure to train officers on

\textsuperscript{149} See, e.g., Silberman, supra note 13.

\textsuperscript{150} See Brown, supra note 47 (“Because individuals with Autism often display many of the behaviors described above, people commonly mistake them for (a) someone under the influence of alcohol or drugs, (b) someone acting ‘suspiciously’, or (c) someone who is being evasive or deceitful.”).


\textsuperscript{152} 42 U.S.C. § 1983 provides that “[e]very person who, under color of any statute . . . or usage, of any State . . . subjects, or causes to be subjected, any citizen of the United States or other person within the jurisdiction thereof to the deprivation of any rights, privileges, or immunities secured by the Constitution and laws, shall be liable . . . .”

\textsuperscript{153} City of Canton v. Harris, 489 U.S. 378, 387 (1989) (“[T]here are limited circumstances in which an allegation of a ‘failure to train’ can be the basis for liability under § 1983.”).
how to comply with the ADA is not a form of intentional discrimination.\footnote{Everson v. Leis, 412 F. App'x 771, 780 n.3 (6th Cir. 2011).} Second, the elements a plaintiff must prove are stringent.\footnote{Bd. of Cty. Comm’rs v. Brown, 520 U.S. 397, 410 (1997) (addressing the “stringent standard of fault”).} For example, some circuits require that plaintiffs prove three things: “(1) the training or supervision was inadequate for the tasks performed; (2) the inadequacy was the result of the municipality’s deliberate indifference; and (3) the inadequacy was closely related to or actually caused the injury.”\footnote{Becker v. Bd. of Trs. Clearcreek Twp., No. 3:05cv00360, 2008 WL 4449375, at *11, *34 (S.D. Ohio Sept. 30, 2008) (granting defendants’ motion for summary judgment because the plaintiff did not produce evidence regarding any policy that inadequately trained employees in disregard of a known or obvious risk) (quoting Ellis \textit{ex rel.} Pendergrass v. Cleveland Mun. Sch. Dist., 455 F.3d 690, 700 (6th Cir. 2006)).} While a plaintiff can likely satisfy the first element, establishing the second element of deliberate indifference creates a significant hurdle.\footnote{See Brown, 520 U.S. at 410.}

To satisfy this element, a plaintiff must generally show prior instances of the conduct demonstrating that the municipality “ignored a history of abuse and was clearly on notice that the training in this particular area was deficient and likely to cause injury.”\footnote{Miller v. Sanilac Cty., 606 F.3d 240, 255 (6th Cir. 2010) (quoting Fisher v. Harden, 398 F.3d 837, 849 (6th Cir. 2005)).} Thus, if this is the first time such an incident against someone with ASD has occurred, the plaintiff is without a remedy under a § 1983 action. Furthermore, even if a history of violations can be shown, liability only arises upon a showing of the defendant’s personal participation in the incident, reducing the ability to hold supervisors accountable.\footnote{See Taylor v. List, 880 F.2d 1040, 1045 (9th Cir. 1989); Miller v. Monroe Sch. Dist., 159 F. Supp. 3d 1238, 1247–48 (W.D. Wash. 2016) (granting defendants’ motion for summary judgment regarding a count in plaintiff’s complaint attempting to hold school board members responsible for the actions taken by employees in the school).} Even if implicated, defendants tend to assert that they are entitled to qualified immunity against a § 1983 claim.\footnote{Miller, 159 F. Supp. 3d at 1247–48 (asserting that defendants are entitled to qualified immunity).} Qualified immunity bars liability if the government official’s conduct “does not violate clearly established statutory or constitutional rights of which a reasonable person would have known.”\footnote{Harlow v. Fitzgerald, 457 U.S. 800, 818 (1982); see Monell v. Dep’t of Soc. Servs., 436 U.S. 658, 694 (1978) (stating that municipalities are not vicariously liable merely because they employ someone who has committed a constitutional violation).}

Therefore, while a failure to train claim under § 1983 may seem like a possible avenue to confront and resolve the negative encounters of those with ASD and police, such a claim is likely to fail. Moreover, focusing on the ADA is more appropriate because the statute’s entire focus is on individuals with qualifying disabilities, which is truly what is at issue here.
B. State and Locality Action

Some jurisdictions have chosen to implement police training on autism after violent encounters between police and autistic individuals made headlines. In Miami, Florida, officers responded to a report that there was a suicidal man with a gun. It turns out that the individual suffered from severe autism and was holding a toy truck; the man had wandered from his care facility and his caretaker was trying to get the man to return to the facility. Police arrived and the caretaker informed officers that the man was autistic. However, officers then shot the caretaker, whose hands were in the air. The incident was caught on video, sparking outrage. In fact, the officer was charged with attempted manslaughter and the autistic man’s family brought a civil suit against the City of North Miami. As a result, the Florida legislature took action, unanimously passing a bill mandating that Florida police officers participate in autism training to better understand its symptoms and how to react in encounters with autistic individuals. This marked a significant change in Florida, which did not offer any specific post-basic training on ASD, let alone mandate such training. This training was set to go into effect on October 1, 2017 and the Autism Society of Florida helped to develop the curriculum.

On a similar note, although to a different extent, Maryland implemented mandatory police training because a local man died after an encounter with

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163 Silva, supra note 14.
164 Id.
165 See id.
166 Id.
169 See, e.g., FLA. H.R. STAFF ANALYSIS, supra note 168, at 1.
The training requirement, mandated by the Maryland General Assembly, came three years after a man with Down syndrome was involved in an altercation with police after he attempted to watch, for a second time, a movie at the theater without paying. After public outcry, Maryland recruits will now be required to complete the four-hour training on “intellectual and developmental disabilities.” Unlike the Florida training, the training mandated in Maryland is not focused specifically on ASD. Moreover, it will now be a requirement for recruits, and not additional, supplemental training as in Florida.

While not many states have passed legislation to mandate state-wide training, numerous trainings, especially by advocacy groups, have taken place at the local level. For example, Carolyn Gutowski, an attorney in Columbus, Ohio, along with the Delaware County Sheriff’s Officer Chief Deputy Jon Scowden, provide autism trainings to officers throughout central Ohio. Gutowski notes that, while there is no training requirement in Ohio, a number of central Ohio agencies, including Westerville, Perry Township, Genoa

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171 Prudente, supra note 63 (explaining that the training came about after outrage over Saylor’s death at the hands of police in a movie theater). For more discussion on Saylor and the civil suit brought by his family, see supra Part III.


175 Prudente, supra note 63.

176 Compare Wolf, supra note 168 (discussing the passage of a law requiring “autism awareness training”), with Dishneau, supra note 172 (referring to a broader program for the “mentally ill”).

177 Wolf, supra note 168; Dishneau, supra note 172 (noting that the training will be used during in-service trainings for veteran officers as well).


179 Interview with Carolyn E. Gutowski, Attorney, in Columbus, Ohio (Mar. 2, 2018) [hereinafter Gutowski Interview]. Both individuals who lead the trainings have children with ASD. Id.
Township, and Shawnee Hills have almost all their officers complete this training. 180

While steps have been taken to assure that police officers are aware of ASD and its symptoms, until there is a federal standard, these efforts will likely be insufficient to ensure that those with ASD are provided reasonable accommodations throughout the country. 181 Taking into account that the Supreme Court declined to clarify the ADA’s requirements with regards to police encounters with disabled individuals, 182 the circuits will likely continue to have differing interpretations of what the ADA requires in this context. Therefore, legislative action is likely the best way to ensure police training on autism and that autistic people are provided a reasonable accommodation when they come into contact with the police. Such legislation should conform with the purpose of the ADA, will likely result in fewer injuries to autistic persons and officers as well as less tense situations, and upon implementation, likely result in fewer lawsuits. Therefore, this is the correct level at which to take action when it is taken into account that most individuals with ASD cannot request a reasonable accommodation for themselves.

C. Implementation and Content of Police Training

In order for the ADA to truly have meaning, Title II requires police training regarding ASD as a reasonable accommodation. 183 The question then becomes how such training will be implemented, what exactly its contents will be, and what impact it will have, both on officers and on individuals with ASD.

This training would need to consist of three key components: (1) the symptoms of ASD, (2) how to recognize them during an encounter, and (3) tactics to prevent an encounter from escalating to ensure that the encounter is productive. When Gutowski begins a training, before addressing the training’s core components, she uses the first few minutes to establish credibility with the officers; she provides an overview of both instructors’ backgrounds. 184 Both instructors have children with ASD, but are also familiar with police work and its many challenges. 185 Thus, by providing this background information, officers may be more receptive to the training as well as the trainers. 186

180 Id.
181 Id. (noting that nationwide training will be necessary to solve the problem).
183 In fact, the regulations accompanying the ADA demonstrate that Congress envisioned officers providing those with qualifying individuals reasonable accommodations during their encounters with police. See 28 C.F.R. § 35.139(a) (2015) (exempting Title II coverage during an arrest only when someone “poses a direct threat to the . . . safety of others”); see also 28 C.F.R. § 35.104 (2018) (noting that the direct threat must be a “significant risk . . . that cannot be eliminated” by modifying the government activity).
184 Gutowski Interview, supra note 179.
185 Id.
186 See id. This aspect could be key in implementing training on the national level—involving people that are familiar not only with ASD but with police work as well to provide
and still before getting to the training’s core component, the training should address the question of why autism training. The reasons to be shared with officers are ASD’s prevalence and the increased likelihood that these individuals will have encounters with police because of “unusual” behavior. Moreover, Gutowski notes an interesting fact: “due to the huge increase in ASD diagnoses over the 1990s and early 2000s, we have an unprecedented number of young adults with ASD entering our society . . . there are few comprehensive programs to support adults with autism.” Thus, instrumental to the training is its framing, so that officers are aware of the role of ASD in our society and why it is important to be aware of its existence.

Regarding the first substantive component of the training, it is essential that officers be aware of certain symptoms of ASD. One background fact of ASD that officers should keep in mind is that ASD is a neurodevelopmental disorder, not a learned behavior. One of the symptoms imperative to understanding how ASD can affect police encounters is for officers to know that those with ASD have communication difficulties, and that a large portion of individuals with ASD are nonverbal. Moreover, the training needs to explain that those with ASD tend not to make eye contact and can have delayed responses to questions, even when providing their own name. Another key fact for officers

the trainings. Ideally this combination would encourage officers to be more receptive to the training.

187 Id. Gutowski and Snowden address why there is a specific training dealing solely with ASD, as opposed to developmental disabilities more generally, or mental illnesses, such as schizophrenia. Id.

188 It is estimated that one in fifty-nine children has ASD. Ctrs. for Disease Control & Prevention, supra note 35.

189 It is estimated that those with ASD are seven times more likely to have encounters with police than the public at large. Brown, supra note 47.

190 Gutowski Interview, supra note 179.

191 See, e.g., Fla. H.R. Staff Analysis, supra note 168, at 1 (stating that one component of the Florida training on ASD shall be “recognition of the symptoms and characteristics” of ASD).

192 See Autism Soc’y Me., supra note 20. The purpose of emphasizing this aspect of ASD is so that officers realize the brain of someone with ASD functions differently. Gutowski Interview, supra note 179. In this way, officers will appreciate that the behavior of someone with ASD is not learned and is not simply “bad behavior.” Id. Gutowski uses MRI images to further this point, so that officers have a visual representation of the difference, explaining that because of these differences, officers should not expect those with ASD to act as a neurotypical person would. Id. She provides an analogy in her trainings to try and solidify this idea: one would not get upset if a golf cart performed differently than a Ferrari because they are built differently. See id. The same concept is applicable here. Id.

193 See supra notes 24–26 and accompanying text.

194 Rudy, supra note 26 (estimating that around 30% of individuals with ASD are nonverbal).

195 Brown et al., supra note 33. This information is key so that officers do not assume that these actions are signs of guilt.
to be cognizant of is that people with ASD react negatively, and even violently, to being touched and also do not handle loud noises and lights well.\textsuperscript{196}

It is additionally important to note how some symptoms may manifest themselves. Individuals with ASD are known for wandering off.\textsuperscript{197} Furthermore, said individuals are likely to do repetitive movements or actions, stimming, which helps them to cope with sensory overloads.\textsuperscript{198} Individuals may also repeat words or sounds that do not make sense to someone unfamiliar with the person. Therefore, the first step of an officer is to recognize.\textsuperscript{199}

Once officers are able to recognize these behaviors, they then need to know how to best respond to someone with ASD: the second and third components of the training. First, regarding communication difficulties, it is key for the officer to slow down the interaction in every way.\textsuperscript{200} Officers should slow down their rate of speech and speak in short, literal sentences.\textsuperscript{201} Next, officers can employ what Gutowski and Snowden designate as “State then Wait” in their training.\textsuperscript{202} They instruct officers to wait up to fifteen seconds for a response and to repeat themselves if necessary.\textsuperscript{203} Slowing down and simplifying the communicative part of the interaction is key for those with ASD to process what is occurring.\textsuperscript{204} In addition to slowing down their own speech, officers should be aware that they may receive unusual answers to their questions.\textsuperscript{205} Thus, officers should be encouraged to ask open-ended questions to ensure they do not mistake certain responses for substantive information or admissions of guilt.

\textsuperscript{196} AUTISM HELP, supra note 33.

\textsuperscript{197} Arky, supra note 43. It is important for officers to be aware of this fact in part because they may receive calls of a missing person with ASD. See id. Many people with ASD are drawn to bodies of water and more likely to drown due to their inability to process danger adequately. Gutowski Interview, supra note 179.

\textsuperscript{198} AMBITIOUS ABOUT AUTISM, supra note 28. Learning about this symptom should help officers stop assuming that such movements are indicative of someone on drugs.

\textsuperscript{199} See Gutowski Interview, supra note 179. However, the goal of the training is not to develop officers who can diagnose people with ASD in an instant, but for officers to consider ASD as an alternative to what they may originally have perceived as criminal conduct. Id.

\textsuperscript{200} Id.

\textsuperscript{201} Officers should speak in literal sentences because those with ASD tend to interpret things literally. Stuart-Hamilton, supra note 49. As a result, if an officer were to say, “take a seat over there,” an individual with ASD may pick up the chair and walk away with it. Gutowski Interview, supra note 179.

\textsuperscript{202} Gutowski Interview, supra note 179.

\textsuperscript{203} Id.

\textsuperscript{204} See supra Part II.

\textsuperscript{205} Gutowski Interview, supra note 179. Gutowski introduces officers to the concepts of scripting and echolalia. Scripting refers to the process in which someone with ASD will repeat lines of dialogue or information that he/she heard on TV or read in a book. Id. Echolalia refers to the act of repeating either what the other person just said or a phrase heard at another time. Id. Gutowski provides an example in which an officer asks someone with ASD if she stole the bike; to which that person may respond, “steal the bike.” Id. The individual is merely repeating the question, but it may sound like an admission to having committed the act.
Second, regarding emotional responses of those with ASD, an officer should not assume that not responding to questioning or failing to maintain eye contact is a sign of guilt or noncompliance. This step will help the officer reframe the situation and hopefully allow the officer to not interpret an individual’s delayed response negatively. Moreover, during the interaction, officers are strongly recommended to maintain a hands-off approach to the extent possible. Given that those with ASD tend to respond negatively to being touched, an officer refraining from touching the individual will likely aid in the encounter remaining calm. On a similar note, officers should be trained to refrain from using bright lights if possible, given that those with ASD often have light sensitivities. Officers can also prevent the escalation of these encounters by not raising their voices and even something as simple as using only one officer to go up and knock on the door of a home when responding to a call, essentially lessening the sensory overload. However, because an encounter with police can be a sensory overload for someone with ASD, the individual may still react negatively or have a meltdown.

This, however, is not to say that police training will result in every encounter with an autistic person ending positively. It also does not mean that every act of violence against an autistic person by police constitutes a violation of Title II of the ADA. The realities are that the police sometimes need to make split-second decisions while performing their duties. But mandated training provides the best solution to address this ever-growing problem. Society generally views training as the best way to prepare officers to make these quick decisions on the job. In the past, topics have been added to police training programs as certain problems and issues grew in society. For example, as drug addiction grew, some departments began to train officers on drug identification. Similarly, as society became more concerned with sexual assault, officers were required to complete training on sexual assault. Arguably the same logic applies here, but training is additionally mandated by a broad statute designed to protect disabled individuals: the ADA.

Some may be hesitant regarding the feasibility of a large-scale training program, especially when taking into account the limited funds of public

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206 See supra notes 24–26 and accompanying text. Some individuals with ASD have a heightened fear response which commonly manifests itself in a lack of eye contact. Gutowski Interview, supra note 179.

207 Gutowski Interview, supra note 179.

208 Osborn, supra note 55, at 344 (noting that the more force an officer applies to gain control, the more out of control the situation likely becomes when it involves someone with ASD). It is recommended that officers leave some space between themselves and someone with ASD. Id.


210 See Gutowski Interview, supra note 179.

211 Silberman, supra note 13 (noting that an officer was trained on drug recognition).

entities. However, evidence from the analyses conducted in Florida regarding the implementation of their state-wide training on ASD help demonstrate that ASD training is not fiscally impractical. Judiciary committees within Florida’s legislature found that HB 39, which mandates ASD training, would have a fiscal impact of $10,548. In addition, the judiciary committee stated that this amount could be “absorbed within the existing resources of the [Florida Department of Law Enforcement].” Thus, training all Florida officers on ASD would not necessitate that more funds be appropriated to the Florida Department of Law Enforcement. In addition, an argument exists that mandating this training could actually save cities and municipalities money because the training would ideally lead to fewer lawsuits, thus saving entities the money previously spent on defending against these claims.

VI. CONCLUSION

This Note posited that Title II of the ADA mandates police training on ASD as a reasonable accommodation for individuals with ASD during their encounters with police. ASD has become increasingly prevalent in the United States. In addition to its increasing prevalence, individuals with ASD are more likely to come into contact with police than the public at large. This increased likelihood of a police encounter is caused in part by officers misinterpreting symptoms of ASD as criminal activity and because those with ASD effectuate crimes due to their disability.

ASD is considered an invisible disability, meaning it is not readily visible to someone unaware of its symptoms. While ASD is a spectrum, there are broad characteristics that those with ASD possess, many of which can affect encounters with police. These symptoms include communication problems: having difficulties with the back-and-forth of conversations, not responding when spoken to, and not making eye contact. In addition, those with ASD are sensitive to light, sound, and touch and may have meltdowns or respond violently when experiencing a sensory overload. To cope with sensory overloads, individuals with ASD tend to engage in stimming or distance themselves from an overwhelming situation. These symptoms can result in the escalation of a police encounter, especially when coupled with current police tactics.

When encounters do escalate, the circuits have split on when Title II of the ADA applies and when it is violated. Title II applies to all public entities, including police departments. Title II prohibits public entities from discriminating against individuals on account of their disability and requires that those with disabilities be provided reasonable accommodations. However, some circuits have stated that Title II does not apply to arrests during police

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213 H.R. STAFF ANALYSIS, supra note 168, at 1.
214 Id.
encounters because of an exigent circumstances exception. Other circuits, however, have found that Title II is applicable to on-the-street encounters and that the arrest is merely one factor in determining if an officer’s conduct is reasonable. Nevertheless, numerous courts have declined to recognize violations of Title II when the officer did not know that the individual had ASD or when the individual did not request an accommodation. The Supreme Court has not resolved this split.

Current interpretations are insufficient to adequately protect those with ASD during a police encounter because, so long as officers assert that they are unaware of the disability, they are found to not have violated the ADA. This could create a perverse incentive and run afoul to the purpose of the ADA: protecting disabled individuals in all facets of their lives and doing away with antiquated ideas regarding disabilities.

Thus, the reasonable accommodation for those with ASD needs to occur beforehand because individuals with ASD cannot normally request an accommodation. This reasonable accommodation is mandated training on ASD—given the symptoms and previous case law, this is the appropriate stage in which to take action. If not, this problem could become even more pervasive with time. States such as Florida have already taken steps in this direction, mandating training on ASD after a highly publicized encounter sparked outrage. The training needs to have a few main components: training officers on the symptoms of ASD and training officers on how to respond and alter their tactics. Such training will likely absolve some of the escalations and misunderstandings that occur during these interactions. While training does not guarantee results, it is likely the best, and more economical path, to ensure that the promises of Title II of the ADA do not ring hollow when those with ASD come into contact with police.