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CONTROLLING UNDERAGE ACCESS TO LEGAL CANNABIS

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ABSTRACT

Most proposals for legalizing cannabis production and sale ban sales to minors. But such bans are not self-executing. There is at least the risk—if not the overwhelming probability—that legal availability for adults will change price and availability for minors in a way that will increase the prevalence of underage use. This is especially problematic with respect to use by younger adolescents and to heavy use. It might be possible, with vigorous enforcement, to reduce the impact of legalization on use by minors, but the costs and unwanted side effects of such efforts may make them, on balance, inadvisable. The example of alcohol shows that it is possible to make it difficult for minors to buy directly from licensed stores and that doing so reduces alcohol consumption and alcohol-related harms in the target population. But strong efforts to prevent minors from buying cannabis illegally from adults, who in turn buy it from licensed stores, may not be advisable. With minors now accounting for approximately 25 percent of the volume in the cannabis markets, giving strictly illicit producers and vendors a firmer grip on the underage market would undermine the goal of reducing illicit-market harms, including violence, the need for enforcement, and the supply of products of uncertain potency, perhaps containing harmful contaminants. If this is so, then the harms associated with increased juvenile use are not entirely separable from the decision to make cannabis lawfully available to adults.

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INTRODUCTION

As states, led by Colorado and Washington and now joined by Alaska and Oregon, begin to legalize commercial production and sale of cannabis, one concern is the risk of increasing use among minors. In the Department of Justice guidance on prosecution of state-legal cannabis-related activity, controlling access to minors is listed among the eight federal priorities.

Most legalization proposals—including those passed in Colorado and Washington—prohibit sales to purchasers under twenty-one, matching the rule about alcohol in all fifty states. But making a rule does not ensure that the rule will produce its desired results. Legally produced cannabis will still reach minors, either because minors succeed in purchasing directly from licensed outlets or because adult buyers illegally give or resell what they have legally purchased.

The appropriate policy response is not obvious. If efforts to limit access are inevitably flawed, how vigorously should they be pursued? Should efforts focus only on suppressing store purchase or extend to include “gray markets”—meaning the diversion of product that would be legal for adults? These tensions also exist with alcohol and tobacco, but cannabis is different inasmuch as there already exists a large illicit supply system able and willing to deliver cannabis

products to minors. Suppressing gray-market access could inadvertently bolster that purely illicit market, undercutting two prime goals of cannabis legalization: reducing illicit activity and reducing cannabis-related arrests.

This Article identifies three policy alternatives and contrasts their pros and cons. An “aggressive” approach seeks to suppress cannabis supply through all channels, even if in vain. A “permissive” approach grudgingly tolerates gray market access as preferable to black market supply. A “long game” approach begins permissively, waiting until the illicit market shrinks to some target level from which it might not easily rebound, and then imposes “aggressive” controls on all channels.

I. BACKGROUND

Cannabis legalization appears increasingly to be a question of when and how, not whether. Washington and Colorado became the first jurisdictions to legalize commercial production, distribution, and sale of large-scale quantities for nonmedical use in 2012¹; Uruguay did so in 2013²; Alaska and Oregon followed suit in 2014³; and other states and nations are likely to follow.⁴ Just more than half of Americans (51%) support legalizing cannabis use.⁵

Designing legal cannabis regimes requires policymakers to weigh competing goals, project the effectiveness and unintended consequences of tactical choices, and perhaps consider some unorthodox strategies. Here we consider one such unorthodoxy: the possibility that legal-cannabis regimes should *not* try very hard to prevent youth from obtaining cannabis from cannabis stores, at least indirectly. That stands in complete contrast to all the received wisdom from the alcohol and tobacco literatures, but we argue that such a seemingly

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1. Maia Szalavitz, *Two U.S. States Become First to Legalize Marijuana*, TIME (Nov. 7, 2012), <http://healthland.time.com/2012/11/07/two-u-s-states-become-first-to-legalize-marijuana/>.
 2. Daniel Cancel, *Uruguay Becomes World’s First Nation to Legalize Marijuana*, BLOOMBERG (Dec. 11, 2013), <http://www.bloomberg.com/news/articles/2013-12-11/uruguay-becomes-world-s-first-nation-to-legalize-marijuana-trade>.
 3. Josh Barro, *D.C., Oregon and Alaska Vote to Legalize Marijuana*, N.Y. TIMES (Nov. 3, 2014), <http://www.nytimes.com/2014/11/04/upshot/marijuana-on-the-ballot-in-florida-alaska-oregon-and-dc.html?abt=0002&abg=1>.
 4. Washington, D.C. legalized possession and home-growing in 2014, but that is an entirely different matter than legalizing a for-profit industry, which is what raises much greater concerns with youth access.
 5. Lydia Saad, *Majority Continues to Support Pot Legalization in U.S.*, GALLUP (Nov. 6, 2014), <http://www.gallup.com/poll/179195/majority-continues-support-pot-legalization.aspx>.

perverse strategy may make a certain pragmatic sense, at least in the short to medium run.

II. HARMS AND POLICIES

In drug policy discussions it is often useful to distinguish among alternative means of reducing total drug-related harm: prevalence reduction, quantity reduction, and harm (or harmfulness) reduction.⁶ If the only goal were to minimize youth use, it might be advisable to restrict all kinds of access to the maximum extent possible. However, even if one could somehow prevent twenty-one-year-olds from making proxy buys on behalf of their under-twenty-year-old friends, many of those under-twenty-year-olds might simply continue their current practice of buying on the black market.

Black markets generate substantial harms above and beyond mere provision of the substance. Those harms include crime, violence, and corruption, but also a potentially more dangerous product, since black-market cannabis is not quality-tested or labeled for potency. So cannabis control policy faces a dilemma: minimizing the number of underage cannabis users might not minimize total harm once one factors in the harms of the black market.

State and federal policies stress the importance of preventing increases in underage access. Their manifestations thus far focus on deterring state-licensed stores from selling to underage users, by way of frequent inspections and available sanctions. But these policies are not fully fleshed out and are likely to be guided also by competing goals, such as avoiding youth criminalization and reducing black market activity. (One of many unresolved questions with cannabis policy is how to define an “underage cannabis user.” Our usage of “underage” will follow Washington’s and Colorado’s law, since we suspect that their decision to make twenty-one the minimum legal age may be emulated in future legislation.)

III. OUTLINE

The basic goals and frameworks of state-level cannabis control policy are outlined in Part IV.

It is another question entirely to ask whether any given strategy will be successful in furthering its stated goals. That depends on how users respond to prohibition tactics and also how producers and distributors in the black and gray markets respond to enforcement pressure and to changing economic tides. For instance, if one method

6. See Robert J. MacCoun, *Toward a Psychology of Harm Reduction*, 53 AM. PSYCHOLOGIST 1199 (1988) (discussing the different “overlapping drug control strategies” of prevalence reduction, quantity reduction, and harm reduction).

of underage access is blocked, will that lower youth use of cannabis, or will youth simply access via other channels? Will the answer for today be the same as for ten years from now, when the legal cannabis economy is better established? Part V considers these dynamics.

These issues are not unique to cannabis. Though cannabis has frequently been compared with alcohol—as in the tagline of Colorado’s Amendment Sixty-Four, “The Regulate Marijuana Like Alcohol Act”—in some respects a better comparison may be with tobacco. Cannabis currently supports a thriving black market; alcohol does not. Indeed, there remains considerable black market activity even in the two states that have already established legal markets. The mere act of legalization does not necessarily lead all criminals who had been supplying that drug to retire immediately.

Tobacco is an intermediate case, with little to no black market but a substantial “gray market,” meaning illegal distribution and sale of product that is legally produced. Gray-market activity helps youth evade age prohibitions and all users evade taxes. Furthermore, there is the very real possibility that today’s tobacco companies may move into the marijuana product space after national legalization.⁷ Part VI reviews evidence on the effectiveness of retail enforcement intended to control youth access to alcohol and tobacco. Part VII applies these lessons to cannabis control in Washington and Colorado, showing where control efforts might be better or worse advantaged.

A reasonable policy response would consider all these competing goals and form hypotheses about the intended and unintended effects from different tactics. Part VIII proceeds accordingly. First, it identifies two dichotomous policy responses: an “aggressive” approach that attempts to combat all channels of cannabis access simultaneously and a “permissive” approach that tolerates some gray market access but maintains a strict prohibition on black-market sale. Later, we introduce another variant: a “patient” approach, which begins as permissive but later imposes aggressive-style controls.

IV. STATE AND FEDERAL POLICIES TO LIMIT UNDERAGE USE

Even if one believes legalization can outperform prohibition, it still has disadvantages. So legalization schemes should be designed in ways that reduce those potential drawbacks—perhaps the most important of which is increased use, abuse, and dependence.

7. Rachel Ann Barry, Heikki Hiilamo & Stanton A. Glantz, *Waiting for the Opportune Moment: The Tobacco Industry and Marijuana Legalization*, 92 MILBANK Q. 207, 226–27 (2014). Since the 1970s, tobacco companies have expressed some interest in the cannabis industry, sometimes as a potential rival and sometimes as a potential industry which to enter. *Id.*

Use has been rising in the U.S. as policies have eased over the nearly twenty years since California first legalized medical cannabis in 1996. “There are about seven times more heavy users now than there were in 1992.”⁸ Just over the past decade, the number of past-year and past-month users has increased by nearly 50 percent, and total annual use days doubled, since the number of people using daily or near-daily has increased even faster than has overall prevalence.⁹ Harms are also up; the number of emergency department visits in which cannabis was mentioned increased by 70 percent between 2004 and 2011, approaching half a million per year.¹⁰

Underage use has also increased, although not as sharply:¹¹ 21.2% of high school seniors reported past-month use in 2014, up from historic lows of 18.3% in 2006 and an even lower 11.9% in 1992, but lower than the 25.2% mark in 2012 and 2013.¹² Consumption by individuals under twenty-one accounts for between one-fifth and one-third of U.S. cannabis consumption.¹³

What can be done about that? One well-accepted strategy for reducing underage alcohol and tobacco use is limiting underage access, and the same would be expected to apply to cannabis.¹⁴ Monitoring the Future data show that among tenth graders, two-thirds report that cannabis is “very easy” or “fairly easy” to get—similar to the

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8. Mark A.R. Kleiman, *The Other Way to Legalize Marijuana*, SLATE (Nov. 4, 2014, 1:29 PM), http://www.slate.com/articles/news_and_politics/politics/2014/11/d_c_marijuana_legalization_initiative_71_is_going_to_pass_and_could_show.html.
 9. RAND CORP., WHAT AMERICA’S USERS SPEND ON ILLEGAL DRUGS: 2000–2010, at 47–51 (2014).
 10. OFFICE OF NAT’L DRUG CONTROL POLICY, NATIONAL DRUG CONTROL STRATEGY: DATA SUPPLEMENT 2013, at 58 (2013).
 11. Youth use has increased substantially among both youth who smoke cigarettes and those who do not, but there has been a sharp decline in tobacco smoking among youth, so the aggregate prevalence of marijuana use among all youth has not risen nearly so rapidly.
 12. Press Release, University of Michigan News Service, Use of Alcohol, Cigarettes, and a Number of Illicit Drugs Declines Among U.S. Teens tbl.3 (Dec. 16, 2014) [hereinafter Teen Use Press Release], http://www.monitoringthefuture.org/pressreleases/14drugpr_complete.pdf.
 13. See SUBSTANCE ABUSE & MENTAL HEALTH SERVS. ADMIN., RESULTS FROM THE 2013 NATIONAL SURVEY ON DRUG USE AND HEALTH: SUMMARY OF NATIONAL FINDINGS (2013) [hereinafter SAMHSA], <http://www.icpsr.umich.edu/icpsrweb/SAMHDA/sda> (authors’ calculations).
 14. Rosalie Liccardo Pacula et al., *Developing Public Health Regulations for Marijuana: Lessons from Alcohol and Tobacco*, 104 AM. J. PUB. HEALTH 1021, 1022 (2014). A regulatory approach to cannabis can learn from previous approaches to alcohol and tobacco, including taking as a goal the reduction of youth access.

corresponding proportions for cigarettes (69%) and alcohol (75%) and dramatically higher than for “hard drugs” like cocaine (16%), heroin (11%), and methamphetamine (10%).¹⁵

On paper, Washington and Colorado have responded vigorously. Their laws have embraced a number of public health regulations intended to limit underage use of alcohol and tobacco: a twenty-one-year minimum age to purchase; bans against cannabis vendors selling non-cannabis products; bans on underage entry to cannabis stores; restricting availability of retail licenses; bans against retail stores within 1,000 feet of schools, parks, or other public places; and restrictions on advertising, particularly if targeting youth.

The federal government has likewise made its priorities clear. In August 2013 it signaled willingness to allow states to proceed with regulated cannabis markets but threatened to enforce the federal drug laws against cannabis distribution unless states meet eight guidelines concerning public health and safety, including “[p]reventing the distribution of marijuana to minors.”¹⁶

Whether in anticipation of or simply in common purpose with this federal position, Washington and Colorado have been vocal about plans to prevent youth from purchasing from cannabis stores. A pillar of their strategy is to enforce underage purchasing laws by using minors in “controlled buys” of cannabis, as illustrated by statements from Colorado Department of Revenue official: “This is going to be a big focus of our field enforcement going forward”¹⁷; and from the Washington Liquor Control Board’s enforcement chief: “Of course the feds are looking at a tightly regulated market around youth access, and I think this shows we’re being responsible.”¹⁸

Presumably, policymakers in Washington and Colorado are also considering methods to prevent the gray market diversion of cannabis, perhaps by enforcing laws prohibiting underage possession, use, and purchase (“PUP”) or arresting and/or shaming consenting adults from state-licensed cannabis to underage users. That stance has not

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15. Teen Use Press Release, *supra* note 12, at tbl.3.
 16. Memorandum from James M. Cole, Deputy Att’y Gen., to All U.S. Attorneys, Guidance Regarding Marijuana Enforcement 1 (Aug. 29, 2013), available at http://www.justice.gov/iso/opa/resources/3052013829132756857467.pdf?utm_source=publish2&utm_medium=referral&utm_campaign=www.kpbs.org.
 17. Fred Dreier, *Underage Recreational Cannabis Sales Targeted in “Secret Shopper” Program*, MARIJUANA BUSINESS DAILY (Mar. 5, 2014), <http://mmjbusinessdaily.com/colorado-gov-rolls-out-secret-shopper-program/>.
 18. Bob Young, *Underage Enforcers Will Try to Sting New Pot Stores*, SEATTLE TIMES (Nov. 29, 2013), http://seattletimes.com/html/localnews/2022364828_potstings.xml.html.

yet been taken—at least not publicly—but remains available and might be adopted in the future.

A. Other Goals

Yet, underage use is not the only concern relevant to cannabis legalization; nor is it necessarily the most important. On this point, states, the federal government, and the public agree. This has been manifested in legal documents. The texts of Initiative 502, Amendment Sixty-Four, and Department of Justice enforcement priorities mention a number of other issues such as state and local tax revenue; removing cannabis distribution from the hands of criminal organizations; individual freedom; and the efficient use of law enforcement resources. Below we considered three goals relevant to different policy responses, which may at times compete with the goal of reducing underage use.

B. Avoiding the Criminalization of Youth and Adults

The policing of cannabis production and distribution generates significant, though often exaggerated, tolls in arrests and incarceration. Several tens of thousands of people are currently incarcerated for cannabis distribution, and roughly 100,000 are arrested annually.¹⁹ If, after legalization, a black market persists to serve underage users, some amount of this enforcement and associated costs will also likely continue.

Yet, even if arrests for production and distribution went to zero, the total number of cannabis arrests could still increase. The great majority of cannabis arrests are for possession rather than for drug sale or manufacture. Some types of possession or use remain illegal (e.g., use in public, possession in excess of allowed quantities) and so will continue to send adults to jail. Enforcement of rules and regulations can be a non-negligible source of criminalization: every year in the United States, nearly 700,000 more arrests are made for alcohol violations than for drug law violations of all kinds (not just cannabis).²⁰

Youth arrests are of special interest. Arrest for possession by those under twenty-one will presumably continue and, if prohibitions

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19. JONATHAN P. CAULKINS ET AL., MARIJUANA LEGALIZATION: WHAT EVERYONE NEEDS TO KNOW 47–50 (2012). “About 40,000 state and federal prison inmates have a current conviction involving cannabis; perhaps half of those are in prison on cannabis offenses only.” *Id.* at 50.
20. See FED. BUREAU OF INVESTIGATION, CRIME IN THE UNITED STATES 2012, at tbl.29, <http://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s./2012/crime-in-the-u.s.-2012/tables/29tabledatadecpdf>. The FBI reports that in 2012 there were an estimated 1,552,432 arrests for (non-alcohol-related) “drug abuse violations,” compared with 1,282,957 for (alcohol-related) “driving under the influence,” 441,532 for “liquor laws,” and 511,271 for “drunkenness.” *Id.*

are aggressively enforced, even increase. That pattern has already been demonstrated by the experience with alcohol: increases in the alcohol minimum age from eighteen to twenty-one have been associated with increased rates of arrest in that age range.²¹ In states with laws against possession, use, and purchase, either pertaining to alcohol or to tobacco, arrests and prosecutions are disproportionately focused on minors rather than adults or retailers.²²

C. Eliminating Black Markets and Improving Public Safety

So long as they are operating, illicit cannabis markets fund criminal organizations. They even create opportunities and incentives for violence, albeit to a much lesser extent than do the markets for cocaine, heroin, and methamphetamine.²³ Still, a study published by the RAND Corporation estimated that the cannabis trade delivered \$1.5 billion in revenues to Mexican drug trafficking organizations, accounting for 15–26 percent of their drug-related revenues.²⁴ While some black market cannabis is grown domestically, historically much has been imported from Mexico. One of the principle appeals of legalization is the potential to undermine these black markets. Yet, were the approximately one-fifth to one-quarter of demand that comes from underage users still met with black market supplies, that would diminish this important potential benefit of legalization. Likewise, any

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21. Mark Wolfson & Mary Hourigan, *Unintended Consequences and Professional Ethics: Criminalization of Alcohol and Tobacco Use by Youth and Young Adults*, 92 ADDICTION 1159, 1161 (1997).
 22. See Alexander C. Wagenaar & Mark Wolfson, *Enforcement of the Legal Minimum Drinking Age in the United States*, 15 J. PUB. HEALTH POL'Y 37, 45 (1994) (noting that based on detailed data for Oregon, Kentucky, Michigan, and Montana, for every 1,000 arrests of a minor for underage possession of alcohol, there were only 88 adults over the age of twenty-one arrested and 130 retailers sanctioned or warned for supplying alcohol to underage users); see also Jean L. Forster et al., *Survey of City Ordinances and Local Enforcement Regarding Commercial Availability of Tobacco to Minors in Minnesota, United States*, 5 TOBACCO CONTROL 46, 49–50 (1996) (showing that “more than 90% of cities reported some action to enforce the law against tobacco purchase, possession, or use by minors . . . This is especially noteworthy compared to 25% of cities that reported some enforcement action against merchants for selling tobacco to minors, and less than 10% where penalties were applied”).
 23. See Jonathan P. Caulkins & Peter Reuter, *Towards a Harm-Reduction Approach to Enforcement*, 8 SAFER COMMUNITIES 9, 15–16 (2009) (discussing the differences in risks of harm in various forms of drug dealing).
 24. BEAU KILMER ET AL., REDUCING DRUG TRAFFICKING REVENUES AND VIOLENCE IN MEXICO: WOULD LEGALIZING MARIJUANA IN CALIFORNIA HELP? 3 (2010).

effort that quickens the demise of black market activity in turn reduces these dangers.

D. Introducing Cannabis Public Health Regulations

There is considerable speculation about the safety of legal cannabis relative to black market cannabis. On the one hand, all cannabis is a dependence-inducing intoxicant, regardless of whether it is sold through state-regulated stores or the black market. On the other hand, those states with legal cannabis require it be tested and labeled for product potency (i.e., percentage of THC, CBD, and other active ingredients) and purity (e.g., absence of mold, mites, pesticides). Further, in its nonherbal forms it must be packaged to clearly demarcate each standard 10mg THC serving size and instruct users on safe use. Assuming that cannabis stores resemble existing medical dispensaries, their inventory will feature edibles and concentrates, which, though they reduce damage to the lungs, can vary wildly in their quality and potency.²⁵ Conceptually, it might help to think of the relative health benefits of legal cannabis in terms of upper and lower bounds. The lower bound may actually be negative, if one believes non-herbal cannabis to be especially dangerous and testing and packaging regulations to be ineffective at reducing those risks. The upper bound is certainly much lower than for a drug such as heroin, which in its controlled form reduces risk of lethal overdose, though may still be substantial (particularly if one believes that potency labeling can shift popular taste toward less-potent varieties). To the extent that cannabis continues to be purchased through black markets rather than gray or white markets, these potential health benefits (or arguably potential costs) are left on the table.

V. METHODS OF UNDERAGE ACCESS AND
FORECASTS FOR PARALLEL MARKETS

To make cannabis control policy, it is not enough for policymakers to choose with goals to prioritize and which to let slide. They must question whether a policy is likely to achieve its stated goal; further, will there be important secondary outcomes? Ultimately the answers will come down to circumstantial details, including how underage users respond to prohibition tactics and how methods of cannabis supply respond to changing demand and economic factors.

Precisely *how* youth access cannabis can be viewed along several dimensions: origin of supply, relationship with the immediate

25. Annie Lowrey, *Now 20% More Heady*, N.Y. TIMES MAG., May 18, 2014, at 16. Among Colorado medical dispensaries, many cannabis products are not tested for potency and, even then, are not often done so accurately.

provider, and nature of the transaction. The National Survey on Drug Use and Health (“NSDUH”) asks users how they most recently acquired cannabis. Among past-month users under age twenty-one, nearly all (88%) accessed from friends or family and many of them for free (44%). Only 10 percent reported purchasing from a stranger.²⁶ (This general pattern is not new.²⁷)

Here, the origin of supply is almost entirely from cannabis black markets; only a tiny, but increasing, fraction of cannabis users report buying from a medical dispensary or growing their own. Cannabis black markets are of enormous scale, having recently displaced cocaine as the largest illegal drug market in the United States and are estimated to serve eighteen to twenty-five million past-month users with revenues of \$30–60 billion.²⁸ Underage users are not only welcome into that market—with Monitoring the Future data showing that two-thirds of tenth graders reporting that cannabis is “very easy” or “fairly easy” to get—²⁹but underage users are also a significant portion of the entire market, as consumption by individuals under twenty-one accounts for slightly less than one-quarter of U.S. cannabis consumption.³⁰

This might change under legalization, since it opens a new and legal source of supply.³¹ Adults purchasing from those sources are taking part in what might be called the “white market.” But many other adults do not. Others may continue to take to black markets to purchase cannabis that has been produced wholly outside these new legal frameworks. Though underage users are prohibited by law from the new market, still some will gain access via the “gray market,” in which adults buy legally from stores and then resell or give the drug away to youth and young adults who are under twenty-one. This occurs today with alcohol and tobacco, and so underage drinking and smoking continues even without relying on black market supply. The

26. See SAMHSA, *supra* note 13 (authors’ calculations).

27. See Jonathan P. Caulkins & Rosalie Liccardo Pacula, *Marijuana Markets: Inferences from Reports by the Household Population*, 36 J. DRUG ISSUES 173, 178 tbl.2 (2006) (showing that in the 2001 survey most respondents acquired their marijuana from friends or relatives).

28. RAND CORP., *supra* note 9, at 4. The upper bound for an estimate of retail expenditures on marijuana surpassed that of cocaine in 2009.

29. Teen Use Press Release, *supra* note 12, at tbl.13.

30. See SAMHSA, *supra* note 10 (authors’ calculations).

31. At present, sources of supply that are legal with respect to Colorado and Washington law remain completely illegal with respect to federal law, but we are writing in anticipation of a time when either federal cannabis prohibition has been repealed or the Obama Administration’s current policy of nonenforcement within states that have legalized has been formalized in some manner.

gray market functions well enough that there is little scope for purely illegal moonshining and even less for covert tobacco farming. (Home-growing cannabis is much more practical than home-growing tobacco.)

Yet, the opening stages of cannabis legalization will play out with an active black market, which might shrink in the coming years but probably will not vanish, at least until legalization is national. For instance, much of the cannabis produced illegally in Washington was exported to other states even before legalization;³² legalizing supply within Washington does nothing to reduce that demand. In a competition between the established black market and the emerging licit markets, the black market has the advantages of starting out with all the customers and also cost-savings in the form of evading state-imposed taxes on cannabis production and sale (roughly 38% in Washington and 25% in Colorado).

In the long run, these tables will probably turn, given the advantages of a well-capitalized and licit industry. Iowa farmers and convenience store chains are massively more efficient at producing and distributing consumer goods than are criminals: a RAND study estimates that fully commercialized firms could provide cannabis at less than one-fifth current prices, excluding taxes.³³ However, that transition may take years to complete. In the meantime, black markets offer a fallback option for youth and young adults rejected from state-licensed stores.

So the near future for legal cannabis states will feature large but waning black markets alongside small but growing gray markets. Already, gray markets have emerged in medical cannabis states. Nearly three-quarters of adolescents in substance abuse treatment in the Denver area reported using someone else's medical cannabis.³⁴ And despite the roll-out of cannabis stores in Washington and Colorado, signs indicate the black market remains strong, or at least has not disappeared overnight.

Neither gray nor black markets are easily eliminated by enforcement policies, although they may be weakened. Gray markets

32. See JONATHAN P. CAULKINS ET AL., HOW MUCH REVENUE COULD THE CANNABIS TAX GENERATE, UNDER DIFFERENT SCENARIOS? 25 (2013) (noting that marijuana exports could comprise a large percentage of Washington's marijuana revenues).

33. See BEAU KILMER ET AL., ALTERED STATE? ASSESSING HOW MARIJUANA LEGALIZATION IN CALIFORNIA COULD INFLUENCE MARIJUANA CONSUMPTION AND PUBLIC BUDGETS 18–21 (2010) (estimating future prices for marijuana based on increased efficiencies and lowered costs of production if marijuana were legalized).

34. Stacy Salomonsen-Sautel et al., *Medical Marijuana Use Among Adolescents in Substance Abuse Treatment*, 51 J. AM. ACAD. CHILD & ADOLESCENT PSYCHIATRY 694, 697 (2012).

are fueled by a profit opportunity that enforcement cannot easily remove: after legalization, cannabis will remain difficult to acquire by users under twenty-one years old but easy to acquire by adults who can simply buy from state-licensed stores. So “proxy buyers” can make a quick profit by arbitraging cannabis to the prohibited demographic. Indeed, this activity is so easy for tobacco and alcohol today that many proxy buyers do not even charge for the service. Law enforcement efforts can make that more difficult, and so harder to make a profit doing it, but cannot resolve the underlying imbalance in supply and demand.

So making the right decisions about enforcement policy hinges on anticipating dynamics of gray and black market activity. The stronger these markets, the easier for youth to circumvent restrictions against store access via access through social networks. How these gray markets will play out in states after legalizing cannabis is still unclear and is the central question addressed here.

VI. LESSONS FROM ALCOHOL AND TOBACCO

The approach taken by Washington and Colorado thus far is reminiscent of efforts with tobacco and alcohol, which proved to be largely successful. Key to their announced efforts is a focus on deterring vendors from selling to underage users, by way of frequent inspections and available sanctions. That focus was not stressed in alcohol or tobacco control until the 1980s and 1990s, for instance, with the Synar Amendment as pertaining to tobacco control.³⁵ These policies appeared to have substantial effects, even though compliance is far from perfect, as the following decades saw steadily declining rates of underage access to alcohol and tobacco.

However, correlation is not causation, and what worked for tobacco might not work for cannabis. Working from the literature on alcohol and tobacco control, we will identify lessons concerning (1) attempts to control store purchase and (2) alternate modes of access; (3) the costs of enforcement; and (4) the “push-down pop-up” dynamic across different modes of access.

We focus primarily on tobacco rather than alcohol. One reason is the similarities between cannabis and tobacco. Tobacco is lightweight, portable, and smokeable, and it supports significant gray- and black-market activity. Alcohol’s lower value-to-weight ratio makes it more difficult to covertly transport and sell. Others might object that alcohol is a better comparator because it has a minimum purchase age of twenty-one years old and has already undergone a change from full prohibition to full legalization. Thus, occasionally comparisons with alcohol will also be helpful.

35. ADAMHA Reorganization Act, Pub. L. No. 102-321, § 1926, 106 Stat. 323, 394-95 (1992).

A. Controlling Store Access

Policies against underage store purchases can be effective only when enforced. A 1992 Department of Health and Human Services, Office of the Inspector General report found that even though forty-seven states had enacted laws against underage purchase of tobacco, only two states had backed those laws with substantial enforcement.³⁶ Shortly afterward, Congress passed the Synar Amendment to the Alcohol, Drug Abuse and Mental Health Administration Reorganization Act, which requires (and monitors) state enforcement of tobacco laws, including undercover buys against vendors.³⁷ This yielded impressive results. Nationwide retailer violation rates as measured from undercover buys dropped from 40.1% in the first year of reporting (1997) to 25.4% in 1998, and since 2006 they have remained between 8.5% and 10.9%.³⁸ The same trend is apparent in youth self-reports of cigarette availability, although not as strongly. Monitoring the Future asked students, “How difficult do you think it would be for you to get cigarettes, if you wanted some?” The percentage of tenth graders answering “fairly easy” or “very easy” peaked at 91 percent in 1996, dropped to 87 percent by 2000, and since has continued to steadily drop through to 69 percent in 2014.³⁹

Though these gains are real, there are some caveats. Lancaster and Stead argue that vendor compliance rates might not materially affect underage access to store purchase until they’re pushed above 80 percent, since youth can do a number of things that inspectors cannot, including using fake IDs, visiting multiple stores, establishing familiarity with vendors, and targeting those stores with reputations for not checking ID.⁴⁰ Moreover, youth often resell or share what they acquire to their friends, and so a small number of noncompliant stores can supply a large number of underage users.

So some youth will feel these effects more than others. Older youth and more frequent users are more likely to access tobacco via store purchase—an act that younger users generally find more diffi-

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36. DEP’T OF HEALTH & HUMAN SERVS., YOUTH ACCESS TO TOBACCO 5 (1992) (“Florida and Vermont are the only States enforcing their laws statewide.”).
 37. ADAMHA Reorganization Act § 1926 (setting state requirements and penalties for failing to meet those requirements).
 38. SUBSTANCE ABUSE & MENTAL HEALTH SERVS. ADMIN., FFY 2013 ANNUAL SYNAR REPORTS: TOBACCO SALES TO YOUTH 2 fig.1 (2013).
 39. Teen Use Press Release, *supra* note 12, at tbl.13.
 40. Lindsay F. Stead & Tim Lancaster, *A Systematic Review of Interventions for Preventing Tobacco Sales to Minors*, 9 TOBACCO CONTROL 169, 175 (2000).

cult to get away with and less frequent users might find unnecessary.⁴¹ Indeed, one study associated increased enforcement with the prevalence of fewer frequent users.⁴² Perhaps counterintuitively, it is not older but younger youth who have displayed stronger reductions in use,⁴³ perhaps as a function of younger youth having to rely on older youth to procure tobacco for them. Thus, even if enforcement policies do not prevent youth tobacco initiation, they may still delay initiation⁴⁴ or limit youth from intensifying their habit.

B. Controlling Other Forms of Access

By most measures, social sources are a bigger provider of alcohol and tobacco to youth than store access is. A “social source” is an umbrella term that includes many other more specific methods, including adult supply from home, proxy buyers, and peer-to-peer exchange. The NSDUH household survey illustrates the prevalence of these methods, asking past-month cigarette smokers which sources they had used in the past thirty days. In 2003, the most recent year the question was asked, the most common response was to have “bummed” cigarettes from friends (60%), followed by purchasing from a store (53.3%) and purchasing from a friend, family member, or classmate (30.5%).⁴⁵ Alcohol access also shows high rates of noncommercial exchange but lower rates of store purchase. According to NSDUH, past-month under-twenty-one alcohol users were most likely to have acquired their most recent drink by receiving it for free (71.8%) and somewhat likely to have purchased from friends or a stranger (19.6%) but much less likely to have purchased from a store (6.4%).⁴⁶

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41. Jean L. Forster et al., *The Effects of Community Policies to Reduce Youth Access to Tobacco*, 88 AM. J. PUB. HEALTH 1193, 1196–97 (1998).
 42. K. Michael Cummings et al., *Is the Prevalence of Youth Smoking Affected by Efforts to Increase Retailer Compliance with a Minor’s Access Law?*, 5 NICOTINE & TOBACCO RES. 465, 469 (2003).
 43. David G. Altman et al., *The Relationship Between Tobacco Access and Use Among Adolescents: A Four Community Study*, 48 SOC. SCI. & MED. 759, 772 (1999).
 44. See Douglas Tutt et al., *Restricting the Retail Supply of Tobacco to Minors*, 30 J. PUB. HEALTH POL’Y 68, 77 (2009) (suggesting this trend can be found in studies of the effects of increased enforcement on age-restricted tobacco sales in parts of Australia and New Zealand).
 45. Jessica Guilfoyle, *Where Do Youth Smokers Get Their Cigarettes?*, CAMPAIGN FOR TOBACCO-FREE KIDS (June 15, 2012), <http://www.slocounty.ca.gov/Assets/PH/TCP/WhereDoYouthGetTheirCigarettes2012.pdf>.
 46. SAMHSA, *supra* note 13 (authors’ calculations). Alcohol drinkers are asked specifically about how they acquired their *most recent* acquisition. Answers to this question are mutually exclusive and so are not directly comparable to the question on cigarette acquisition.

Let's be specific about how this access occurs. Conceptually, there are two different ways for users to purchase from a third party or "proxy buyer": (1) by seeking out a specific person known to resell alcohol or (2) by waiting outside an alcohol store and soliciting incoming shoppers, a method known as "shoulder tapping." The NSDUH does not distinguish between these two methods, but a study of Minnesota youth found that one in three tobacco seekers regularly shoulder tapped, more than twice as many reporting direct purchase.⁴⁷ A study with alcohol found success rates of 8 percent when soliciting the first adult to enter the store and 19 percent when targeting males appearing to be between twenty-one and thirty years old.⁴⁸

Now that we have covered the methods by which underage users obtain alcohol and tobacco, we naturally should ask, "How and to what extent can policy limit those behaviors?" PUP laws—laws against underage possession, use, and purchase—attempt to do just that but are not unambiguously effective. Some studies have found a statistical correlation between PUP laws and tobacco use⁴⁹ but not others.⁵⁰

However, if PUP laws are indeed effective in reducing underage access, it is through one of two causal pathways: (1) changing social norms to make access and use less attractive to youth and (2) imposing a threat of criminal risk sufficient to deter youth from attempting access. The first proposition is also unclear. Some argue that prohibitory laws have a declarative effect that changes social norms to make tobacco use less attractive. Others fear that such laws

47. Patricia A. Harrison et al., *The Relative Importance of Social Versus Commercial Sources in Youth Access to Tobacco, Alcohol, and Other Drugs*, 31 PREVENTIVE MED. 39, 43 (2000).

48. Traci L. Toomey et al., *Propensity for Obtaining Alcohol Through Shoulder Tapping*, 31 ALCOHOLISM: CLINICAL & EXPERIMENTAL RES. 1218, 1220 (2007).

49. See William C. Livingood et al., *Impact Study of Tobacco Possession Law Enforcement in Florida*, 28 HEALTH EDUC. & BEHAV. 733, 743 (2001) (finding lower use of tobacco with higher levels of control and enforcement); see also Leonard A. Jason et al., *Effects of Youth Tobacco Access and Possession Policy Interventions on Heavy Adolescent Smokers*, 6 INT'L J. ENVTL. RES. & PUB. HEALTH 1, 6 (2009) ("These studies support the efficacy of combined approaches involving efforts to both reduce youth access to tobacco as well as provide consequences for adolescent use of tobacco. This current research suggests that the enforcement of PUP laws does impact youth who smoke 20 or more cigarettes daily.").

50. See, e.g., N.H. Gottlieb et al., *Minors' Tobacco Possession Law Violation and Intentions to Smoke: Implications for Tobacco Control*, 13 TOBACCO CONTROL 237, 240, 243 (2004) (finding that threat of citation for possession of cigarettes had no statistically significant impact on youth smoking rates).

brand drug use as a “forbidden fruit,” making it more attractive to youth seeking rebellion.

On the second point, of deterring youth via criminal risk, we have grounds for skepticism. Deterrence comes in two types: general deterrence intends to reduce the unwanted activity among the public at large; specific deterrence refers to behavior change among individuals caught and punished for committing the unwanted activity. Some have found evidence for a specific deterrent.⁵¹ Yet, in the case of alcohol and tobacco, there are very many users seeking the drug but so few are ever caught and punished for it. This limits the effect of a specific deterrent and makes a general deterrent both more important and more difficult to impose: when levels of an unwanted activity are high, the enforcement required to effect a general deterrent often exceeds the resources available to law enforcement.⁵² Indeed, Wakefield and Giovino were unable to find any jurisdictions implementing PUP laws that caught enough violators as to do so.⁵³ For instance, California’s Alcohol Beverage Control made roughly 430 arrests in shoulder-tapping stings in 2013, which might represent a 0.5% chance of detection.⁵⁴

Interactive dynamics between law-breakers and law-enforcers makes a general deterrent even more difficult. Law-breakers respond to the threat of detection by making deals out of sight of police and only with people they already trust; so even if police succeed in

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51. See, e.g., Leonard A. Jason et al., *Do Fines for Violating Possession-Use-Purchase Laws Reduce Youth Tobacco Use?*, 37 J. DRUG EDUC. 393, 397–98 (2007) (analyzing the effects of fines as a deterrent).
 52. See Mark A.R. Kleiman, *Enforcement Swamping: A Positive-Feedback Mechanism in Rates of Illicit Activity*, 17 MATHEMATICAL & COMPUTER MODELLING 65, 70 (1993) (finding that adjudication and nonpecuniary penalties often carry a high cost and that ticketing enforcement regimes are zero sum games for municipalities).
 53. M. Wakefield & G. Giovino, *Teen Penalties for Tobacco Possession, Use, and Purchase: Evidence and Issues*, TOBACCO CONTROL, June 2003 (Supplement 1), at i6, i11.
 54. According to the 2011–2012 NSDUH, 185,000 respondents under twenty-one years old in California reported acquiring their last alcoholic beverage by giving money to some unrelated person twenty-one years or older and having them make the purchase on their behalf. If we were to make the assumptions (1) conservatively, that each respondent acquired only once per year this way; (2) that all such purchases were of the “shoulder-tapping” variety (i.e., solicited outside the store); (3) that each buyer made only one purchase; and (4) that 2011 and 2012 had the same number of arrests as in 2013, then each buyer would face a 0.46% chance of arrest. SUBSTANCE ABUSE & MENTAL HEALTH SERVS. ADMIN., RESULTS FROM THE 2012 NATIONAL SURVEY ON DRUG USE AND HEALTH: SUMMARY OF NATIONAL FINDINGS (2012) (authors’ calculations).

scaring people from giving alcohol or tobacco to a minor in public, they might still feel comfortable doing so at home.

Further, when sellers are profit-motivated, they are harder to deter. Profit-motivated sellers may choose to tolerate significant risk so long as the activity remains profitable on balance.⁵⁵ Moreover, removing (via incarceration or deterrent) one specific individual distributor becomes less valuable, since doing so to some extent opens up a market niche for another distributor.

C. Interactions Between Store and Social Sources

How do these two types of access relate? In some sense, they are complements: easy access to cannabis encourages more youth to use, some of whom will themselves become cannabis sellers. Because cannabis is usually sold within someone's own social network, and social networks are usually within the same age group, preventing one youth from purchasing from a store might have the downstream effect of blocking one method of supply to his friends.

In another sense, they are substitutes: when store access is cut off, underage users turn to these other sources instead. A young user might have a friend willing to share or sell; but if that is too hard, older actors may step up to the role of distributor. Marsh et al. argue that reductions in store access can drive up the price of informally traded product, thereby increasing profits and attracting more distributors.⁵⁶

Since both arguments proceed logically from sound premises, resolving that contradiction is an empirical question: "effective enforcement against store purchase causes some youth to direct their efforts to social access instead; does the increase in social access outweigh the decrease in store access?" On this experts are not in agreement. Some would answer yes,⁵⁷ others no,⁵⁸ and still others are

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55. See Peter Reuter & Mark A.R. Kleiman, *Risks and Prices: An Economic Analysis of Drug Enforcement*, 7 *CRIME & JUST.* 289, 302–03 (1986) (discussing the different types of risk calculations involved in the illicit drug trade).
56. Louise Marsh et al., "When You're Desperate You'll Ask Anybody": *Young People's Social Sources of Tobacco*, 37 *AUSTL. & N.Z. J. PUB. HEALTH* 155, 159 (2013).
57. See, e.g., Caroline M. Fichtenberg & Stanton A. Glantz, *Youth Access Interventions Do Not Affect Youth Smoking*, 109 *PEDIATRICS* 1088, 1091 (2002) (finding no benefit to "[y]outh access interventions" in reducing prevalence of teen tobacco use); see also P.M. Ling et al., *It Is Time to Abandon Youth Access Programmes*, 11 *TOBACCO CONTROL* 3, 3 (2002) (discussing how youth access programs "do not affect teen smoking prevalence").
58. See, e.g., J.R. DiFranza, Letter, *Is It Time to Abandon Youth Access Programmes?*, 11 *TOBACCO CONTROL* 282, 282 (2002) (discussing flaws

agnostic.⁵⁹ Nor is there consensus on the subtly different question, “Does decreased retail availability actually lead to decreased underage use?” This has been the subject of econometric analyses, again with some finding significant statistical associations⁶⁰ but others finding no relationship whatsoever.⁶¹

Given the disagreement among experts with regard to alcohol and tobacco, it seems impossible to estimate with any precision the net effects of store enforcement on cannabis. One might suspect that it has some effect (i.e., that alternative sources do not substitute completely), but the magnitude of that effect may or may not be significant. Some policies (like PUP laws) might help tip the scales toward a net reduction in use, but a decision maker concerned with both health and criminal outcomes may find the cost in excess of the returns.

VII. IMPLICATIONS FOR WASHINGTON’S AND COLORADO’S ABILITY TO CONTROL CANNABIS SUPPLY TO UNDERAGE USERS

Comparisons between cannabis and tobacco or alcohol have their uses and limits. Some of the issues at hand are fundamental and non-specific to any given substance, such as how youth seek and find prohibited substances, and how vendors respond to the threat of

in P.M. Ling et al.’s methodology that renders the study scientifically invalid).

59. See, e.g., Paula M. Lantz et al., *Investing in Youth Tobacco Control: A Review of Smoking Prevention and Control Strategies*, 9 TOBACCO CONTROL 47, 60 (2000) (noting that prior antismoking programs directed at adolescents “have had mixed results” and “that no one approach is likely to reverse that finding”).
60. See, e.g., Joseph R. DiFranza et al., *Enforcement of Underage Sales Laws as a Predictor of Daily Smoking Among Adolescents: A National Study*, 9 BMC PUB. HEALTH 107 (2009) (finding that increasing merchant compliance with the law decreases youth smoking rates); C. Dent & A. Biglan, *Relation Between Access to Tobacco and Adolescent Smoking*, 13 TOBACCO CONTROL 334 (2005); Leonard A. Jason, Steven B. Pokorny & Michael E. Schoeny, *Evaluating the Effects of Enforcements and Fines on Youth Smoking*, 13 CRITICAL PUB. HEALTH 33 (2003); Steven B. Pokorny, Leonard A. Jason & Michael E. Schoeny, *The Relation of Retail Tobacco Availability on Initiation and Continued Smoking*, 32 J. CLINICAL CHILD ADOLESCENT PSYCHOL. 193 (2003).
61. See, e.g., Carey Conley Thomson et al., *Effect of Local Youth-Access Regulations on Progression to Established Smoking Among Youths in Massachusetts*, 16 TOBACCO CONTROL 119, 123–25 (2007) (finding “no significant association between . . . regulations and adolescents’ initiation of smoking”); see also Fichtenberg & Glantz, *supra* note 57, at 1091 (finding no benefit to “[y]outh access interventions”).

sanctions. But the comparison is not perfect. Applying these lessons to cannabis control requires considering these differences.

A. Controlling Store Purchase Will Be Easier Under New Regulations

Both Colorado and Washington have many fewer licensed vendors for cannabis—capped at 334 in Washington⁶² and approximately 306 and growing in Colorado⁶³—than for alcohol or tobacco, whose licensees number in the thousands. That might be important. Lantz et al. have identified the most effective retail enforcement programs as those that confront a smaller pool of vendors, with penalties that gradually increase with each offense.⁶⁴ Lancaster and Stead believe that density of vendors matters, since densely located vendors allow youth to select from a wider number of retailers.⁶⁵

For cannabis, license penalties for selling to minors begin more severe and more quickly escalate to license revocation. In Washington, license revocation becomes available after five underage tobacco sales⁶⁶ or four alcohol sales⁶⁷ in a two-year period, compared with only three cannabis sales in a three-year period.⁶⁸ In Colorado, the maximum penalty facing vendors making underage tobacco sales is a \$15,000 fine,⁶⁹ while four underage alcohol sales in a two-year period can merit license revocation⁷⁰; underage cannabis sale can return a fine up to \$100,000 or license revocation according to discretion of the State Licensing Authority.⁷¹

Also, because cannabis stores are not allowed to sell anything besides cannabis, underage users are not even allowed to enter, constructing a first-line defense against the opportunity for illegal

62. *FAQs on I-502*, WASH. ST. LIQUOR CONTROL BOARD (last visited Jan. 22, 2015), http://www.liq.wa.gov/marijuana/faqs_i-502 (“334 retail licenses will be issued. The number of retail locations was determined using a formula that distributes the number of locations proportionate to the most populous cities within each county.”).

63. *MED Licensed Retail Marijuana Stores as of December 1, 2014*, COLO. DEP’T REVENUE ENFORCEMENT DIVISION (Dec. 1, 2014), <https://www.colorado.gov/pacific/sites/default/files/Stores.pdf> (listing 306 licensed retail marijuana stores).

64. Lantz et al., *supra* note 59, at 58.

65. Stead & Lancaster, *supra* note 40, at 175.

66. WASH. ADMIN. CODE § 314-55-525 (2013).

67. WASH. ADMIN. CODE § 314-29-020 (2009).

68. WASH. REV. CODE § 70.155.100 (2006).

69. COLO. REV. STAT. § 18-13-12 (2011).

70. COLO. CODE REGS. § 203-2-47-604 (2015).

71. COLO. REV. STAT. § 18-13-12 (2011); COLO. CODE REGS. § 212-2 (2013).

purchase. Preventing youth from buying from cannabis stores may be more like preventing them from buying a drink at a bar than buying a can of beer at a convenience store.

B. Controlling Cannabis Resale Is Especially Difficult

Cannabis gray markets might be difficult to control for the same reasons that have helped its black markets thrive despite law enforcement pressure: low-level distribution is moderately profitable, operationally simple, and carries relatively low criminal risk.

Cannabis is compact, especially compared with alcohol but even compared with tobacco. A Ziploc sandwich bag can easily hold one ounce of mid-grade cannabis, which might sell for approximately \$250 and represent fifty to seventy joints.⁷² One-eighth of that might last several weeks for a frequent user, whereas the same volume of cigarettes would last just a few days. Moreover, the few transactions necessary to provide for underage users are difficult to detect, as most youth acquire their cannabis from friends or relatives, as with tobacco.

A significant number of users old enough to buy state-licensed cannabis already partake in resale. NSDUH data reveal that younger users are much more likely to have sold some of their most recent purchase: the rate for users under eighteen (10.8%) is nearly twice that for users between twenty-one and twenty-five (6.3%), which is in turn twice that for users thirty-five or older (1.9%). The under-twenty-one prohibition makes nearly half (40%) of these resellers ineligible as proxy buyers but still leaves 587,000 over-twenty-one users who resold in 2013.⁷³

One might theorize that as long as there remains a price differential between cannabis on store shelves and on street corners, those users with low incomes and who are already buying cannabis anyway might be willing to arbitrage prices by selling to friends or friends-of-friends. NSDUH responses show nearly 1.4 million past-month cannabis users aged twenty-one to twenty-five with incomes under \$20,000, and another 1.3 million with incomes between \$20,000 and \$50,000.⁷⁴

72. *Data for the Price of Weed in United States*, PRICE OF WEED, <http://www.priceofweed.com/prices/United-States.html> (last visited Feb. 19, 2015). The authors' calculations are based on the PriceOfWeed.com price index, which lists an ounce of medium quality cannabis at \$257.68. Mid-grade cannabis is estimated by the author to have 10% THC. Washington and Colorado establish servings sizes of 10mg THC.

73. SAMHSA, *supra* note 13 (authors' calculations).

74. *Id.*

VIII. COMPARISON OF POLICIES/SCENARIOS

Before reviewing policy alternatives, it is useful to first identify some hypothetical policy outcomes, comparing them in terms of desirability and plausibility. The table below charts different end-game scenarios for states with legalized cannabis. The columns represent the volume or ease of access via three different illegal channels: gray markets, black markets, and underage purchase from legal stores. Each row represents a scenario.

As a foil, the table includes two rows for tobacco, distinguishing the situation before versus after passage of the Synar Amendment. The Synar Amendment sharply cut underage youth's direct access to tobacco (from "substantial" to "minimal") thanks to states increasing enforcement of laws against sale to minors, but it had no meaningful effect on indirect access via the gray market. (It also had no effect on black market access, which was effectively nil for tobacco both before and after the Synar Amendment.)

We similarly chart hypothetical scenarios in cannabis control. Each trades off between access to gray and black markets and hence also between qualitatively different types of societal harms (i.e., underage cannabis use versus black market activity). None of these scenarios can be said to be objectively better than the others, except for the post-legalization "impossible ideal," which is included just to illustrate the best possible scenario: minimal access through every illegal channel.

Table 1: Ease of Access Under Specific Enforcement Regimes

	Direct (Underage) Access to Legal Stores	Indirect Access to Legal Product via Gray Market Diversion	Black Market Access
Tobacco			
Pre-Synar	Substantial	Substantial	N/A
Post-Synar	Minimal	Substantial	N/A
Cannabis			
Impossible Ideal	Minimal	Minimal	Minimal
Pre-legalization	N/A	Modest in some medical states (WA, CA, OR, CO)	Substantial
Option 1: “Aggressive” Enforcement	Minimal	Minimal	Substantial
Option 2: “Permissive” Enforcement	Minimal	Substantial	Substantial initially; falling as the black market is driven out of business

The “Pre-legalization” scenario reflects the situation before legalization (and before de facto quasi-legalization via very permissive medical marijuana regimes). Access was dominated by black markets; underage access via stores was nil because there were no state-licensed stores. “Option 1” and “Option 2” demonstrate the two principle possible outcomes of cannabis legalization. Option 1 typifies an “aggressive” enforcement approach, which attempts to limit all channels of underage access. Option 2 demonstrates a “permissive” approach, grudgingly tolerating leakage from cannabis stores and so putting greater pressure on cannabis from black markets.

So, were we to choose between those two, how would we pick?

Option 2 allows equal or greater levels of cannabis access at first, but its outcomes improve over time as underage users migrate from

black market supply to diverted state-licensed supply. Black market volumes retreat, as do associated criminal revenues, acts of illegal production and trafficking, and related arrests. Things also change from the prospective of the potential user. An eighteen-year-old might still easily find a sibling or classmate willing to resell him store-bought cannabis, but instead of receiving the usual Ziploc baggie, he or she will be buying cannabis that is tested and labeled for potency.

Option 1 is more ambitious. It attempts to accomplish with cannabis what we failed to do with alcohol or tobacco. Success seems especially unlikely given the increasingly tolerant attitudes toward cannabis use. A heavy majority (69%) of Americans believe that cannabis is less harmful to a person's health than alcohol.⁷⁵ Further, cannabis came dead last (8%) in a nationwide poll that asked Americans which was the most harmful substance between cannabis, tobacco (49%), alcohol (24%), and even sugar (15%).⁷⁶ If controlling cannabis gray markets depends on public attitudes being hostile to cannabis use, we would be off to a bad start.

Even if gray markets could be stamped out, there is the disadvantage of fortifying black markets. Unless there is a big drop-off in under-twenty-one cannabis use—a reversal from the recent upward trend—Option 1 would lock into place the nearly one-quarter of today's current black market that services that demographic, representing roughly \$6–10 billion in illegal revenues. That also helps black markets service the remaining (adult) demand for black market cannabis (e.g., by undercutting legal prices if taxes are high enough).

So, given a simple choice between Options 1 and 2, even a moderate concern for illicit markets suggests choosing Option 2. What makes that choice even more clear is that Option 2 is also more realistic.

One might then ask what tactics would compose “permissive” enforcement? Operationally, authorities should continue to combat underage store purchase yet refrain from tackling gray market diversion. Law enforcement should vigorously investigate stores that sell to underage users but not the parent suspected of passing along cannabis to their nineteen-year-old, or the college student with the several-ounce-per-week purchasing habit obviously too large for personal consumption. A strategy that maintains these priorities in the long term might be dubbed “permissive.”

75. Seth Motel, *Six Facts About Marijuana*, PEW RES. CENTER (Nov. 5 2014), <http://www.pewresearch.org/fact-tank/2014/11/05/6-facts-about-marijuana/>.

76. Beth Reinhard, *WSJ Poll: Candy Is Dandy but Pot Is Less Harmful* WALL ST. J. (March 12, 2014, 6:07 AM), <http://blogs.wsj.com/washwire/2014/03/12/wsj-poll-cand-is-dandy-but-pot-is-less-harmful/tab/print/?mg=blogs-wsj&url=http%253A%252F%252Fblogs.wsj.com%252E%80%A6>.

Yet, we need not permanently confine ourselves to such modest aims. In the long run, if and when gray markets have largely taken the place of black markets as the primary supply to youth and young adults, targeting gray market supply might be more attractive. Fewer underage black market buyers has wide-reaching implications: for those continuing to sell illicit cannabis, smaller economies of scale and so higher costs of producing and distribution cannabis; for street-level cannabis retailers, fewer with reliable contacts to illicit producers; and for end customers, a growing preference for state-licensed cannabis due to falling prices and perhaps even social norms increasingly hostile to buying illicit cannabis. So, an alternative approach would respond to these changing circumstances by ramping up controls against gray market diversion. We might call that the “patient” approach.

Then, should policy be permissive of gray markets or merely patient? The patient approach is superior if everything went as planned, but in practice it carries additional risk. It might backfire if policymakers were too early in imposing controls on gray market supply, perhaps due to political pressures, or overestimating the damage to black market production and distribution rings, or underestimating their ability to bounce back to larger scales of business. In either case, policymakers need not decide now. So long as one is committed to the opening steps common to both approaches, and is satisfied in making at least a short-run concession to gray market access, decisions about what to do in the long run could be saved for the long run.

CONCLUSION

As cannabis legalization is adopted state-by-state, it creates competing harms and benefits. On the one hand, there is concern that easier access to cannabis could increase use by youth and young adults; on the other hand, reducing illicit market share and minimizing cannabis-related arrests and incarcerations are also worthwhile goals. Nor is this simply a state-federal conflict, as both sets of sometimes competing goals are simultaneously adopted in the letter of both state legalization bills and federal enforcement guidelines.

Laws in Colorado and Washington clearly prohibit cannabis sales to users under twenty-one. But making a rule is not the same as enforcing it. Legally produced cannabis will still reach minors, either because minors succeed in purchasing directly from licensed retail outlets or because adult buyers illegally give or resell what they have legally purchased. That raises important questions: if efforts to limit access are inevitably flawed, how vigorously should they be pursued? Should efforts focus simultaneously on store purchase and gray and black markets; or, knowing that pushing down on one channel causes the other to pop up, should they pick just the most dangerous methods of access and focus on that?

Three alternate approaches can be identified, varying according to the style of enforcement applied to gray market access: one that is aggressive, one permissive, and one patient. We propose that the aggressive approach is unlikely to achieve its desired outcome—simultaneously shutting down both gray and black markets—and, furthermore, it may backfire. A permissive approach avoids inflaming the black market and avoids some of the harms associated with a vigorous law enforcement response. A patient approach offers all that and possibly more: by imposing controls on gray market access but only after the retreat of black market activity, it makes possible a long-run scenario with lower levels of access across all channels.

Of course, it is a difficult sell politically for authorities to systematically ignore gray market supply to youth. To the public, that may seem like a failure of imagination or political will. State authorities are unlikely to publicly acknowledge that they plan for licensed stores to provide cannabis for underage users, albeit indirectly; likewise, the federal government is probably loath to open loopholes in the enforcement guidelines set out in the later Cole Memo. A more plausible scenario is for governments to simply conceal the controversial details. This might be described as form of “don’t ask, don’t tell.” The federal government does not ask states if they are succeeding at controlling underage gray market access; in turn, states do not tell that they are not even trying. And in public statements, everyone could claim to be doing their best to stop underage cannabis access of all kinds.

Of course there can be no certainty about the predictions made above; underage consumers and legal, gray-market, and illegal cannabis vendors might not respond precisely as we imagine to various hypothetical situations. Still, it seems likely that there are trade-offs between efforts to stop underage purchase, to stop diversion from state-licensed stores, and to stop illicit production and sale. A corollary is that the goals of minimizing underage cannabis use and minimizing illicit market activity cannot be simultaneously pursued with maximal effectiveness for each. Perhaps the most reasonable policy response would be to settle these issues sequentially, first seeking reductions in black market activity while also preventing direct access by minors to licensed sales, and only later turning to focus on minimizing underage access to cannabis through the gray market.