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Issue Brief

New Drugs, Old Misery: The Challenge of Fentanyl, Meth, and Other Synthetic Drugs

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Introduction

If, in 2015, someone had told you that the number of overdose deaths caused solely by the two most historically lethal drugs—heroin and cocaine—would drop by more than half by 2021, you would likely have assumed that the overdose crisis in the U.S. was finally coming to an end. Instead, drug overdose deaths soared to more than 100,000 per year due to the rise of synthetic drugs, a truly disruptive innovation with which U.S. drug policy is only beginning to grapple.

To clarify the key term: synthetic drugs are substances that can be produced in a lab and are not from plant-derived components. In Canadian and U.S. illegal opioid markets, synthetic fentanyl and its analogues are outcompeting heroin, which is made from the poppy plant. These synthetics claimed the lives of more than 70,000 Americans in 2021 (out of 106,699 total drug-involved overdose deaths, or 66%), either by themselves or in combination with other drugs.[1] Methamphetamine, another synthetic, has attained a larger share of the stimulant market than cocaine, which is made from coca leaves.[2] The rapid expansion of synthetic tranquilizers—such as xylazine and benzodiazepines—has spread addiction and death, particularly when these drugs are used in combination with opioids. The U.S. is also facing a bevy of so-called new psychoactive substances (NPS), such as MDMA and mephedrone, that collectively attract more users than do older, "minor" drugs such as LSD, GHB, and PCP.

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Drug policy analysts, including the authors of this brief, are swamped with requests from desperate policymakers, clinicians, parents, and activists to find solutions to the problem of synthetic drugs. This brief comprises our answer. Unfortunately, it is not particularly upbeat. All four traditional pillars of drug policy—enforcement, treatment, harm reduction, and prevention—have limits, and there is no simple solution for the synthetic drug market. Nonetheless, the nation can do some things better and should stop doing other things that are harmful. Policymakers must:

- Maintain prohibition of the production and sale of synthetic drugs
- Expect law enforcement to shrink market-related harms, such as violence, but not necessarily to shrink the supply of the drugs themselves
- Keep expanding medication-assisted treatment and access to naloxone
- Embrace the shunning of illegal drugs as a cultural norm
- Be generous toward those who are struggling, including those suffering from drug addiction

Unfortunately, the widespread availability of potentially lethal temptations in the U.S. may be the new normal, and overdose deaths will continue to remain higher than historical norms. Such realism is depressing but honest, and honesty is the best foundation for policy.

Synthetics Are Different—and Difficult

Producing synthetic drugs is fast, inexpensive, and can be done almost anywhere. Dissemination via the internet of simpler "recipes," as well as the precursor chemical ingredients, allows almost anyone to learn how to produce them. That means that illegal supply chains can replace seized synthetic drugs more easily than they can replace drugs like heroin or cocaine. Likewise, trafficking organizations that are shut down can swiftly be replaced.

Producing heroin or cocaine requires farmland for opium poppies or coca plants, as well as peasant labor to tend the crops. Political upheaval, droughts, crop infestation, and eradication efforts are constant risks. Buffering against crop failures, seizures, or other disruptions requires maintaining inventories—which are vulnerable to raids by law enforcement or other criminals.

Synthetic drugs remove these costs from traffickers' ledgers. Nor do traffickers need to wait patiently through a crop's growing season: drugs can be synthesized at any time. That makes it harder for law enforcement to disrupt supply, although past restrictions on precursor chemicals have yielded some (temporary) successes, particularly for methamphetamine, until traffickers found alternate synthesis methods.[3]

The cost advantages of synthetic drugs for traffickers are most dramatic for fentanyl. At higher market levels, producing fentanyl is up to 100 times cheaper than heroin, per dose.[4] This economic logic is relentless.

Meth's price advantage is also considerable. It often retails for less than half as much as cocaine per unit weight (e.g., $100–$200 per ounce vs. almost $1,000 for cocaine in Los Angeles), and although dose sizes are similar, the meth high lasts longer.[5]

The resulting challenge to drug policy is fundamental, making this an appropriate time to rethink its four traditional pillars (enforcement, treatment, harm reduction, and prevention) as well as contemplate whether four is enough. But first, consider a more radical question: Would it be better simply to legalize production and sale of all these drugs?

Is Legalization a Quick Fix?

Ending prohibition would allow legal corporations to produce, promote, and sell so-called hard drugs, much as they increasingly do for once-illegal cannabis. Advocates of legalization—including former political leaders,[6] academics,[7] national columnists,[8] and *The Economist*[9]—correctly note that prohibitions require resources to enforce, and they almost invariably cause collateral damage. One could add that our laws and Americans themselves have become more libertarian and individualistic in other domains—for example, in sexual behavior and gambling—so why not also in the fentanyl market?

Like most simple solutions to complex problems, legalization's appeal fades upon serious reflection. First, cannabis policy liberalization has brought significant corruption[10] and declines of 90% or more in the price per unit of THC (the main ingredient producing the psychoactive effect of cannabis),[11] depending on the market and market level. Prices might fall further if marijuana is removed from the Controlled Substances Act, or even just put under "Schedule III,"[12] which is the U.S. Drug Enforcement Administration's category for drugs with moderate to low potential for dependence, including, for example, Tylenol with codeine. Reclassifying marijuana would free cannabis businesses from an obscure but costly tax rule known as 280E, which prevents them from deducting normal overhead expenses.[13] As with other commodities, lower prices spur greater consumption (more users and greater intensities of use).[14] That may or may not strike the reader as a serious concern for cannabis, but for fentanyl, heroin, meth, cocaine, and tranquilizers, more use would likely lead to greater addiction and more overdose deaths.

Also note that cannabis potency rose sharply with policy liberalization. The average THC potency of seized illegal cannabis did not exceed 5% before 2000,[15] but within a few years of legalization, state-licensed stores were selling flower products whose average labeled potency exceeded 20%, as well as new extract-based products whose average potency was close to 70%.[16] This contradicts the deceptively named "Iron Law of Prohibition," which posits, contrary to evidence, that prohibition always causes increased potency.[17]

Americans' faith that legal drug markets would be safe and well regulated was shattered by disastrous overprescription of the medical opioids that tripped off the current crisis. Most people dying of overdoses on illegal opioids today started their opioid misuse with prescription opioids, sometimes prescribed by their own doctor, sometimes "diverted" from others (for example, purchased from someone who "doctor-shopped" to obtain multiple prescriptions).[18] Advocates of legalization sometimes try to distinguish between a free market (depicted as irresponsible) and "regulated" supply. However, few consumer goods are regulated more thoroughly than prescription opioids, yet they led hundreds of thousands of people to addiction, death, or both.[19]

Furthermore, although cannabis legalization won politically with appeals to regulate it like alcohol, the track record of legal alcohol regulation is uninspiring. Alcohol causes more deaths[20] in the U.S. each year than all illegal drugs combined, and an oft-quoted study estimated that the annual costs of excessive alcohol use reached about $250 billion in 2010.[21]

Blue-sky pundits can design "ideal" legalization schemes; but in reality, regulators of legal drugs respond as much to industry lobbying as to public-health interests. For example, one study ranked raising alcohol taxes as the fifth most effective way to improve public health among 51 interventions.[22] Yet federal alcohol taxes have not been raised since 1991, even to adjust for inflation; and they were actually cut during Covid-19. Industry-friendly regulations with ensuing harms to public health and safety could follow policymakers' creation of an industry selling legal recreational methamphetamine or fentanyl. Americans struggle to maintain discipline when tempted by heavily marketed popcorn and potato chips, and some drugs are far more reinforcing than junk food—and far more dangerous.

So, fragile as they may be, the traditional pillars of law enforcement, treatment, harm reduction, and prevention are still better than the alternative. That said, they all need to be revised in response to the new threat posed by synthetic drugs.

First Pillar: Law Enforcement

Rejecting drug legalization does not imply a naïve faith in the powers of drug law enforcement, but a realistic assessment shows that law enforcement has much to offer.

Sometimes law enforcement achieves the ideal of curtailing availability. Fentanyl was first synthesized in 1959, and its economic edge over heroin was recognized by the 1970s.[23] But illegally manufactured fentanyl did not become a significant issue until around 2015, because several earlier outbreaks were swiftly curtailed by law enforcement.[24] Likewise, it took decades for methamphetamine to spread from the Southwest to the rest of the country;[25] appealing, cheap products with legal corporations behind them don't languish in regional pockets.

The delayed spread of fentanyl and methamphetamine should be credited to prohibition and enforcement. More than a generation of Americans passed through their prime drug-using years with illegal fentanyl essentially unavailable and methamphetamine geographically limited.

Unfortunately, once a drug market has become established, it is exceptionally difficult to uproot. The Communist Party in China all but eradicated opium addiction after 1949, and the Taliban has suppressed about 90% of Afghan opioid production, but the deprivation of civil liberties involved in such cases would be rightly intolerable to free societies.[26]

Often the best that law enforcement in a free society can do is to force traffickers to operate in inefficient ways. Historically, that translated into less drug use because prices were higher and access lower. Because synthetic drugs are so cheap to produce, law enforcement may now need to be content with relying relatively more on the latter.

There is value in keeping drugs hidden and separated from Madison Avenue marketing budgets and expertise, for the same reasons that lead some people who eat healthily at home to struggle with restraint at all-you-can-eat buffets. Put differently, law enforcement can help someone who wants to avoid a drug not to be tempted by it daily, but it generally cannot stop someone who is determined to obtain the drug from finding it.

Furthermore, lower prices are not necessarily exclusively harmful. Although they make drug use more appealing to people with limited income, including teenagers, lower prices may also mean less impoverishment of those who are already addicted and lower revenues per transaction for drug distributors.

Freeing law enforcement from unrealistic expectations—for example, that it seal the borders[27] or create drug-free zones[28]—permits it to back away from futile and unproductive gestures. There is no reason to give long prison sentences to retail sellers and other easily replaced functionaries who work for higher-level organizations. Nor should Americans rely on uncooperative foreign powers to shut down synthetic drug production that can be done in dozens of other places. Fentanyl is so potent that the total U.S. annual consumption is in the single-digit metric tons;[29] it could fit comfortably into any one of the 7 million trucks or cargo containers that cross the southern border each year.[30] One pure pound is enough to make 200,000 fentanyl-laced pills, which can simply be mailed to the U.S. from Mexico, China, or anywhere else.

A more productive path is for police to focus on ameliorating the harms of drug selling, just as public health can focus on reducing the harms from drug use. For example, close the open-air drug markets that are damaging neighborhoods in cities such as Boston, San Francisco, Seattle, Philadelphia, and Portland.[31] Forcing drug markets underground does not eliminate sales, but it limits the disorder, stress, and crime that open-air markets inflict on neighbors and communities. To paraphrase the CUNY criminologist David Kennedy: There are many neighborhoods in America that have drug use and drug selling but no open-air markets. They're called suburbs.[32] Freedom from being harassed or intimidated by flagrant retail drug sellers should be a right for all Americans, not just a privilege of the better-off.

Among the more successful approaches for dealing with flagrant street-corner drug markets were focused deterrence initiatives such as Operation Ceasefire[33] in Boston and the High Point (North Carolina)[34] strategy. Similar thinking can be applied at all market levels, by prioritizing the most destructive organizations (e.g., the most violent), tactics (e.g., smuggling by successfully corrupting border agents rather than stealth), and products (e.g., pills labeled as Adderall or Ativan that in fact contain fentanyl).[35] No drug dealers are saintly, but some are less bad than others, and almost all take notice when law enforcement makes public which types of offending will be prioritized. Putting the truly awful at a competitive disadvantage relative to the merely bad can be an important contribution. Of course, law enforcement today is not blind to these distinctions, but case prioritization and sentencing guidelines put too much emphasis on other factors, such as quantity possessed. Kingpins hire easily replaced underlings to physically transport their drugs, and it is those underlings who often get hit by quantity-based sentencing schemes.

Second Pillar: Drug Treatment

By virtue of being synthetic drugs, methamphetamine and fentanyl are somewhat similar in their production and market economics, but they differ significantly in their effects on users and their options for treatment.

Despite the National Institute on Drug Abuse and pharmaceutical companies having spent 40 years trying, there are no FDA-approved pharmacotherapies for treating addiction to stimulants like cocaine and methamphetamine. That is a problem because "talk therapy" alone is not very effective against powerfully addictive drugs.

By contrast, there are several FDA-approved medications for opioid-use disorder (OUD, the proper term for what used to be called opioid addiction). Medication-assisted treatment (MAT) for OUD is one of the best-researched and most cost-effective medical interventions around.[36] Stabilizing people on legally supplied, less dangerous, opioid agonists (like methadone) or partial agonists (like buprenorphine) can dramatically improve their lives. Other patients do well on an

opioid-blocking medication known as naltrexone, particularly in an injectable formulation that provides a month of protection. These medications should be covered by all private and public insurance plans and be available in all health-care and correctional settings.

But MAT is not a cure. Most people with OUD who are admitted to even high-quality treatment will relapse, perhaps many times, and every relapse carries the risk of fatal overdose. In fact, several long-term follow-up studies of people already in MAT have found that they have annual death rates five to 15 times higher than age-matched peers who did not have OUD.[37]

To understand that apparent contradiction, contrast medical treatment for broken arms and blindness. The health-care system can "fix" broken arms, leaving people, more or less, as good as new. By contrast, although we can do many things to improve the quality of life for people who have lost their sight, health care can rarely restore their vision.

OUD is not as difficult as blindness in this regard, but on a spectrum of challenging conditions, it is closer to blindness than to broken arms. Some people recover fully, but many do not; and even those who do eventually recover may first cycle in and out of treatment many times. The "treatment works" mantra is true for OUD, in the sense of clearly being better, on average, than no treatment, but it can create unrealistic expectations for policymakers and for the people directly affected by addiction.

Further, while it is hard to imagine anyone being ambivalent about giving up blindness, many people with active OUD are ambivalent about giving up illicit drug use. National survey data show that the primary reason people with substance-use disorder do not seek treatment is that they do not want it.[38] A recent illustration of this phenomenon was offered by San Francisco mayor London Breed. In July, she wrote on "X" that of the 115 people cited or arrested over a two-week period for public drug use under a new enforcement initiative, none accepted an offer of treatment.[39]

In the case of individuals who have been arrested for drug possession or other nonviolent offenses, policymakers can increase the demand for treatment by making it an alternative to incarceration. That concept has been implemented in a wide variety of successful programs, with drug courts that offer ongoing close supervision being perhaps the best known.[40]

There is some debate as to whether "coerced treatment" is ethical, but there should not be debate about whether it works. The largest long-term prospective study followed more than 2,000 patients over five years and found that outcomes and treatment satisfaction were similar between mandated and voluntary patients.[41] If the alternatives are voluntary or mandated treatment programs that work equally well, voluntary is better because freedom is desirable. But if the alternatives are mandated treatment or refusal to enter treatment, mandated treatment has advantages for the individual as well as for society.

Another approach is to incentivize (in voluntary treatment) or mandate (in criminal-justice settings) cessation of substance use, with compliance monitored via frequent testing, but to leave it up to the individual as to how he or she achieves abstinence. These approaches include contingency management, or essentially paying users for abstinence and other health behavior changes; so-called swift, certain, and fair[42] consequences for closely monitored use or nonuse (exemplified by South Dakota's 24/7 Sobriety initiative);[43] and programs for professionals like doctors,[44] airline pilots,[45] and flight attendants[46] that tie return to employment to maintaining abstinence. These approaches have been employed with all drugs, including alcohol and stimulants like methamphetamine, not just opioids, and many have a striking record of success. However, they do not enjoy the support among health professionals that pharmacotherapies do, perhaps partly because they sit uneasily with recognition of addiction as a chronic, relapsing illness and because they legitimate the role of law enforcement in responding to addiction.

Third Pillar: Harm Reduction

Harm reduction is traditionally a public-health activity focused on reducing the *riskiness* of drug use but not necessarily reducing the *amount* of drug use. In some locales, particularly cities on the Pacific coast, it is framed in more libertarian terms to mean supporting a person's unlimited right to use drugs regardless of consequences to others,[47] and to do so without facing stigma.[48]

Harm reduction has had big successes: syringe exchange, which has reduced the spread of HIV/AIDS[49] and other blood-borne diseases; and the overdose rescue drug naloxone, which has prevented countless opioid overdose deaths. Though less critical now that HIV/AIDS is treatable, syringe exchange programs—which exist in 43 states—deserve continued support.[50] Access to naloxone should be universal, and 33 states, governed by Republicans and Democrats, have issued so-called standing-order prescriptions for everyone, so that pharmacies can give the treatment to people who need it without delay.[51] It is also useful to position naloxone in high-risk settings (e.g., bars, public libraries, schools), much like fire extinguishers and automated external defibrillators (AED), two other products that no one hopes to need but everyone wants nearby when they are needed.

The public-health and libertarian strands of harm reduction come together on a large scale in some locales, including U.S. cities such as Portland and San Francisco, and, most notably, in the Canadian province of British Columbia. Harm reduction there includes other measures, such as drug-testing services[52] that help people who purchase illegal drugs know what they actually bought, and supervised consumption sites[53] that provide a secure facility where people can use drugs that they have purchased from dealers. It is not clear, though, that these other harm-reduction initiatives scale well enough to make an impact at the population level.

British Columbia has decriminalized all drugs and offers universal health care, including a clinic that provides on-site access to heroin.[54] During the pandemic, it expanded prescribed "safer supply" to allow participants to take home large quantities of legally supplied opioids to reduce dependence on the ("toxic") supply of illegal opioids.[55] Yet its 2021 annual overdose death rate (44 per 100,000)[56] exceeds that of the U.S. Deep South (37 per 100,000),[57] a region with an approach to addiction that is effectively the opposite from that of British Columbia.

Fourth Pillar: Prevention Through Programming and Culture

Ultimately, epidemics do not end by providing health services to the afflicted but with prevention of new cases. Prevention is the often-overlooked fourth pillar of drug policy, attracting minimal resources and prestige. Yet because it is cheap to implement at scale, it can have large population benefits, even when its effect on the average person is small.

Critics dismiss prevention because some well-known programs, such as D.A.R.E., fell short.[58] But the original D.A.R.E. is a 40-year-old program. It was developed when the DEC Rainbow 100, Apple Lisa, and ACT Apricot battled the IBM PC/XT for supremacy in personal computers. Prevention strategies have come a long way since then. Studies credit the national "truth" antitobacco campaign with preventing almost half a million adolescents from starting to smoke,[59] and programs such

as Communities That Care[60] and Big Brothers, Big Sisters[61] show benefits not only in reduced illicit drug use but also lower levels of smoking, alcohol use, and mental-health problems in teens. Such programs need to be stably funded in all schools.

Prevention isn't just for kids. There may also be a role for prevention-focused public-service campaigns that could, for example, tell parents to lock up or dispose of excess prescription opioids, or explain what naloxone is and how to get it. Another crucial potential target for education and campaigns is the health-care system, which distributes more addictive drugs than do illegal markets. Such drugs are critical for effective medicine but are also dangerous. Prudent prescribing practices are therefore a must.

Nor is prevention just about programs delivered by the government, which may have minor influence on human behavior relative to the role of culture, including the extent to which families, neighbors, and friends approve or disapprove of drug use. The baby-boom generation grew up hearing scare stories about marijuana. Partly because the marijuana of baby boomers' youth was far less potent than what is legally sold in stores today, that generation internalized the idea that conservative cautions about drug use are false and counterproductive.

But times have changed; today, one fentanyl-laced pill really can kill. It is both compassionate and rational to attempt to move U.S. culture to be *less* tolerant of illegal drug use. The facile argument against this is that nothing should be stigmatized. Maybe no *person* should be stigmatized, but some *behaviors* certainly merit disapproval—including drunk driving, wife beating, and buying and selling drugs on the street. Stigmatization of cigarette smoking is one of public health's great triumphs. If polite society treated illegal drugs with similar disdain, fewer people would die.

Beyond the Four Pillars

The four traditional pillars of drug policy are not all that affect drug trends and outcomes. Other factors complicate this picture by pushing or pulling propensity for drug use in different directions. For example, globalization facilitated international drug trafficking. The invention of pagers and cell phones helped diffuse the menace of traditional street-corner markets, by shifting retail transactions to being prearranged and covert. Cheap and effective birth control reduced family size, which may make it easier for adults to monitor children, including their drug use. Meanwhile, the development of the dark web, communication apps, and encryption methods makes it easier for drug users to evade detection.

Since the broader context affects drug use and drug problems, it follows that smart policymakers can reduce drug use and associated problems through avenues other than drug-specific policies. The same amount of addiction will likely produce less suffering in countries with generous policies for people who are homeless and less child abuse in countries with strong child-protective services. Changing Medicaid rules to maintain continuity of insurance and medication access when people are jailed, as California is doing and 14 other states are planning to do, can improve many health outcomes, including those related to addiction.[62] Reducing employers' legal liability after hiring people with a prior criminal record might reduce recidivism for people with all sorts of convictions, including drug convictions.[63]

Compassionate societies recognize that some people do not lead trouble-free, self-sufficient bourgeois lives. Addiction is not the only reason that happens, but one should expect more people to struggle in a future with greater access to cheap and potent synthetic drugs than would but for this new reality. Every additional temptation that trips up some of the fallible—i.e., human—among us can be seen as a reason to tip the balance of social policy toward being more generous and forgiving.

People who use drugs are not the only potential beneficiaries of such generosity. The U.S. has a "WEIRD" (Western, educated, industrialized, rich, and democratic) attitude toward drug-use problems. That mindset focuses interventions on the individuals with substance-use disorders. Much of the rest of the world sees the family, not the individual, as the fundamental unit of society and analysis. The perspective of addiction as a family problem, not just an individual one, resonates with many spouses, siblings, and children of people who struggle with addiction. The U.S. might take a page from that book by defining having a partner, child, or parent who struggles with addiction as its own recognized condition, with a diagnostic code triggering insurance reimbursement for medical benefits such as counseling and respite services.

Conclusion: A Better Tomorrow, or Just a Different One?

Even under the best drug policies, including the proposals in the foregoing discussion, this decade will see hundreds of thousands of overdose deaths and millions of cases of addiction to synthetic drugs. No plausible future is rosy or simple.

However, we have reasonable hope of reducing new cases of synthetic drug use, addiction, and overdose through better deployment of the four pillars, including better prevention efforts, both governmental and cultural. Likewise, law enforcement can reduce the harms of synthetic drugs and drug markets, even though it has less power to keep synthetic drugs expensive and inaccessible than it had over heroin and cocaine.

More generally, we should not underestimate society's ability to absorb shocks and move forward. The great Yale historian David Musto observed that America has suffered and survived many epidemics of drug use, dating back to opium and morphine addiction before and after the U.S. Civil War.[64] These epidemics were brought under control partly through public policy but also because society came to recognize the dangers, stigmatize those drugs, and avoid them.

Not so long ago, the pain that cocaine caused in the 1980s transformed its reputation from something fun to something risky enough to be shunned, and similar changes will occur with synthetic drugs. American society can delay such learning by pretending that synthetics are no different from the drugs that we are used to, that there is some quick fix to the lawlessness and reduced quality of life that drug commerce brings, or that stigmatizing a drug (as opposed to its consumers) must be avoided at all costs. Alternatively, society can accelerate the creation of social norms (akin to not drinking before noon) that provide guardrails to help people avoid making dangerous and frequently lethal decisions.

In the meantime, we can realistically ask law enforcement to suppress market-related harms and be generous in extending treatment and other social supports to those whose lives were ravaged as the American drug problem was transformed for the worse by synthetic drugs.

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Endnotes

1 National Institute on Drug Abuse, "Drug Overdose Death Rates," National Institutes of Health, June 30, 2023.

2 Josh Meyer, "Meth Is Cheaper, More Potent, and More Common than Ever," *VICE*, Nov. 13, 2019.

3 Dana Hunt, Sarah Kuck, and Linda Truitt, "Methamphetamine Use: Lessons Learned," U.S. Dept. of Justice, no. 209730 (February 2006); Sam Quinones, "'I Don't Know that I Would Even Call It Meth Anymore'," *The Atlantic*, Oct. 18, 2021.

4 Jonathan P. Caulkins, "Radical Technological Breakthroughs in Drugs and Drug Markets: The Cases of Cannabis and Fentanyl," *International Journal on Drug Policy* 94 (August 2021).

5 Lexis-Olivier Ray, "This Is How Much Street Drugs Cost in L.A. Right Now, According to LAPD's Drug Price List," *L.A. Taco*, Aug. 15, 2023.

6 Global Commission on Drug Policy, "Time to End Prohibition" (2021).

7 John Leland, "This Heroin-Using Professor Wants to Change How We Think About Drugs," *New York Times* (Apr. 10, 2021); Benjamin Wallace-Wells, "Is There a Case for Legalizing Heroin?" *The New Yorker*, Apr. 29, 2021.

8 Megan McArdle, "The Best Answer to the Overdose Crisis Might Surprise You," *Washington Post*, July 25, 2023.

9 "Joe Biden Is Too Timid. It Is Time to Legalise Cocaine," *The Economist*, Oct. 12, 2022.

10 Mona Zhang, "How State Marijuana Legalization Became a Boon for Corruption," *Politico*, Dec. 27, 2020.

11 Caulkins, "Radical Technological Breakthroughs in Drugs and Drug Markets."

12 Congressional Research Service, "Department of Health and Human Services Recommendation to Reschedule Marijuana: Implications for Federal Policy," CRS IN12240 (Sept. 13, 2023).

13 Joseph Henchman, "Marijuana Legalization and Taxes: The Impact of Section 280E," Tax Foundation Special Report no. 232 (Apr. 20, 2016).

14 Craig A. Gallet, "Can Price Get the Monkey Off Our Back? A Meta-Analysis of Illicit Drug Demand," *Health Economics* 23, no. 1 (January 2014): 55–68.

15 Mahmoud A. ElSohly et al, "Changes in Cannabis Potency over the Last 2 Decades (1995–2014): Analysis of Current Data in the United States," *Biological Psychiatry* 79, no. 7 (April 2016): 613–19.

16 Rosanna Smart et al., "Variation in Cannabis Potency and Prices in a Newly Legal Market: Evidence from 30 Million Cannabis Sales in Washington State," *Addiction* 112, no. 12 (December 2017): 2167–77.

17 Richard C. Cowan, "How Narcs Created Crack: A War Against Ourselves," *National Review* 38 (1987): 26–31.

18 Pradip K. Muhuri, Joseph C. Gfroerer, and M. Christine Davies, "Associations of Nonmedical Pain Reliever Use and Initiation of Heroin Use in the United States," *CBHSQ Data Review* (August 2013).

19 "Understanding the Epidemic," Centers for Disease Control and Prevention, Aug. 8, 2023.

20 "Alcohol-Related Emergencies and Deaths in the United States," National Institute on Alcohol Abuse and Alcoholism, 2023.

21 Jeffrey J. Sacks et al., "2010 National and State Costs of Excessive Alcohol Consumption," *American Journal of Preventive Medicine* 49, no. 5 (November 2015): e73–e79.

22 Nina van der Vliet et al., "Ranking Preventive Interventions from Different Policy Domains: What Are the Most Cost-Effective Ways to Improve Public Health?" *International Journal of Environmental Research and Public Health* 17, no. 6 (Mar. 24, 2020).

23 Drug Enforcement Administration, "Drug Fact Sheet: Fentanyl," Dept. of Justice, April 2020.

24 Bryce Pardo et al., "The Future of Fentanyl and Other Synthetic Opioids," RAND Corporation, RR-3117-RC (2019).

25 Hunt, Kuck, and Truitt, "Methamphetamine Use."

26 Paul Lowinger, "How China Solved the Drug Problem," *New York Times*, June 2, 1973; Vanda Felbab-Brown, "How the Taliban Suppressed Opium in Afghanistan—and Why There's Little to Celebrate," *Time*, July 17, 2023.

27 Nick Miroff, "U.S. Deploys Powerful Scanners at Border to Fight Fentanyl Smuggling," *Washington Post*, Mar. 9, 2023.

28 Nicole D. Porter and Tyler Clemons, "Drug-Free Zone Laws: An Overview of State Policies," The Sentencing Project Policy Brief (December 2013).

29 Beau Kilmer et al., "How Much Illegally Manufactured Fentanyl Could the U.S. Be Consuming?" *American Journal of Drug and Alcohol Abuse* 48, no. 4 (July 2022): 397–402.

30 U.S. Dept. of Transportation, Bureau of Transportation Statistics, "U.S.–Mexican Border Land-Freight Gateways: Number of Incoming Truck or Rail Container Crossings," June 20, 2023.

31 Charles Fain Lehman, "This Is Your City on Fentanyl," *City Journal*, Summer 2023.

32 David Kennedy, "Bright Ideas with David Kennedy," interview with Stephen Smith, *Bright Ideas*, Minnesota Public Radio, Oct. 25, 2011.

33 Anthony A. Braga and Glenn L. Pierce, "Disrupting Illegal Firearms Markets in Boston: The Effects of Operation Ceasefire on the Supply of New Handguns to Criminals," *Criminology & Public Policy* 4, no. 4 (November 2005): 717–48.

34 David M. Kennedy and Sue-Lin Wong, "The High Point Drug Market Intervention Strategy," National Network for Safe Communities (June 2012).

35 Jonathan Caulkins and Peter Reuter, "Towards a Harm-Reduction Approach to Enforcement," *Safer Communities* 8, no. 1 (2009): 9–23.

36 John Strang et al., "Drug Policy and the Public Good: Evidence for Effective Interventions," *Addiction* 379, no. 9810 (Jan. 7, 2012): 71–83.

37 Sarah Larney, Lucy Thi Tran, and Janni Leung, "All-Cause and Cause-Specific Mortality Among People Using Extramedical Opioids: A Systematic Review and Meta-analysis," *JAMA Psychiatry* 77, no. 5 (2020): 493–502.

38 HHS Press Office, "SAMHSA Announces National Survey on Drug Use and Health (NSDUH) Results Detailing Mental Illness and Substance Use Levels in 2021," U.S. Dept. of Health and Human Services, Jan. 4, 2023.

39 @LondonBreed, X post, July 13, 2023.

40 Matthew W. Logan and Nathan W. Link, "Taking Stock of Drug Courts: Do They Work?" *Victims and Offenders* 14, no. 3 (Apr. 4, 2019): 283–98.

41 John F. Kelly, John W. Finney, and Rudolf Moos, "Substance Use Disorder Patients Who Are Mandated to Treatment: Characteristics, Treatment Process, and 1- and 5-year Outcomes," *Journal of Substance Abuse Treatment* 28, no. 3 (April 2005): 213–23.

42 Bureau of Justice Assistance, "Swift, Certain, and Fair Supervision Program," U.S. Dept. of Justice, Feb. 26, 2018.

43 Beau Kilmer and Greg Midgette, "Criminal Deterrence: Evidence from an Individual-Level Analysis of 24/7 Sobriety," *Journal of Policy Analysis and Management* 39, no. 3 (Summer 2020): 801–34.

44 Gary D. Carr et al., "Physician Health Programs: The U.S. Model," in *Physician Mental Health and Well-Being: Research and Practice*, ed. Kirk J. Brower and Michelle B. Riba (Cham, Switzerland: Springer Cham, 2017).

45 "About HIMS," Human Intervention Motivational Study.

46 FADAP.org, https://www.fadap.org.

47 Drug User Liberation Front press releases, https://www.dulf.ca/doa.

48 @DrugPolicyorg, X post, Drug Policy Alliance, Oct. 4, 2023.

49 David R. Gibson, Neil M. Flynn, and Daniel Perales, "Effectiveness of Syringe Exchange Programs in Reducing HIV Risk Behavior and HIV Seroconversion Among Injecting Drug Users," *AIDS* 15, no. 11 (July 27, 2001): 1329–41.

50 "Sterile Syringe Exchange Programs," KFF State Health Facts Database, 2022.

51 "Naloxone Access: Summary of State Laws," Legislative Analysis and Public Policy Association (January 2023).

52 "Drug Checking," British Columbia Ministry of Mental Health and Addictions.

53 "Overdose Prevention," Government of British Columbia.

54 Andrea Woo, "In North American First, Vancouver Clinic Lets Patients Take Heroin Home," *Globe and Mail*, Sept. 14, 2021.

55 Ryan McNeil et al., "Implementation of Safe Supply Alternatives During Intersecting COVID-19 and Overdose Health Emergencies in British Columbia, Canada, 2021," *American Journal of Public Health* 112, no. 2 (2022): 151–58.

56 "Illicit Drug Toxicity Deaths in BC, January 1, 2016–December 31, 2022," British Columbia Coroners Service, Mar. 7, 2023.

57 "Opioid Overdose Death Rates and All Drug Overdose Death Rates per 100,000 Population (Age-Adjusted)," KFF State Health Facts Database, Apr. 19, 2022.

58 Greg Berman and Aubrey Fox, "Lessons from the Battle over D.A.R.E.," Center for Court Innovation, U.S. Dept. of Justice (2009).

59 Matthew C. Farrelly et al., "The Influence of the National Truth® Campaign on Smoking Initiation," *American Journal of Preventive Medicine* 36, no. 5 (May 2009): 379–84.

60 Center for Communities That Care, https://www.communitiesthatcare.net.

61 Jean Baldwin Grossman and Joseph P. Tierney, "Does Mentoring Work?: An Impact Study of the Big Brothers Big Sisters Program," *Evaluation Review* 22, no. 3 (1998): 403–26.

62 Sweta Haldar and Madeline Guth, "Section 1115 Waiver Watch: How California Will Expand Medicaid Pre-Release Services for Incarcerated Populations," KFF, Feb. 7, 2023.

63 Megan Denver, Garima Siwach, and Shawn D. Bushway, "A New Look at the Employment and Recidivism Relationship Through the Lens of a Criminal Background Check," *Criminology* 55, no. 1 (Jan. 30, 2017): 174–204.

64 David F. Musto, "A Brief History of American Drug Control," *OAH Magazine of History* 6, no. 2 (Fall 1991): 12–15.