# Reducing Research Harms: Analysis and Recommendations for Researching Schedule I Substances Under the HALT Fentanyl Act

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**Executive Summary:** Research on Schedule I substances in the United States remains heavily restricted by the regulatory structure imposed by the Controlled Substances Act (CSA). This regulatory system creates significant Research Harm, which can be defined as the restriction or deterrence of legitimate scientific inquiry arising from governmental actions, such as regulatory controls or criminal prohibitions that limit researchers' access to or use of substances for scientific investigation. The barriers identified in this policy brief, including lengthy Drug Enforcement Administration (DEA) registration timelines, inconsistent guidance, and confusion around policies, limit access to substances with emerging therapeutic potential such as psilocybin, MDMA, cannabis, and DOI. The 2025 HALT Fentanyl Act introduces important procedural improvements, such as expedited registration, shared institutional access, and limited allowances for synthesis, but leaves key issues in regulatory processes unresolved. To ensure scientific progress and protect public health, we recommend further reforms, including revising interpretations of medical utility,, conducting periodic evidence reviews, and establishing a specific scheduling framework that allows easy access to substances for research

## I. An introduction to the United States Controlled Substances Act

Drug policy in the United States (US) stems from various international and national policies throughout history that aim to regulate the use, distribution, import, and export of controlled substances (Gabay 2013). In the 1970 Controlled Substance Act (CSA), Congress recognized that access to controlled substances is necessary to maintain the health and welfare of the American

people (21 U.S.C. § 801(1)), and the CSA was never meant to limit the availability of controlled substances for legitimate medical and scientific purposes. However, over the last several decades, the CSA has increasingly constrained scientific and medical innovation, ultimately causing unintended harm.

In 1967, the US ratified the United Nations (UN) Single Convention on Narcotics of 1961, which set forth four schedules of drugs to be controlled. The Comprehensive Drug Abuse Prevention and Control Act of 1970 (CDAPCA; P.L. 91–513, 84 Stat. 1236, 21 U.S.C.) is a US federal statute enacted by the 91st US Congress (McAllister 2004). The CDAPCA comprises three principal titles: Title I established rehabilitation programs for individuals using these substances; Title II, the Controlled Substances Act (21 U.S.C. 801 et seq.), and Title III, the Controlled Substances Import and Export Act (21 U.S.C 951 et seq.). Together, the CDAPCA provides a comprehensive framework for federal authority over the use, distribution, import, and export of controlled substances delegated to the Attorney General (Gabay 2013).

The CSA expanded upon the UN Convention by adding one additional schedule for five "Schedules" into which substances can be classified, according to three factors defined in the statute: potential for abuse, having an accepted medical use in treatment in the US, and having accepted safety for the use of the drug or other substance under medical supervision (21 U.S.C. § 812). Notably, neither "abuse" nor "potential for abuse" are defined within the CSA, leaving many questions surrounding what these terms mean and how they should be applied to various classes of substances that produce disparate psychological effects. There has been recent debate over this in the Supreme Court case *United States v. Hemani*, where several justices questioned whether schedule placement could serve as a meaningful proxy for dangerousness. Justice Barrett further noted that many scheduled substances (e.g., Ambien, Adderall, testosterone) do not obviously suggest a risk of violence from their users (*United States v. Hemani* 2025). This is especially relevant when acts of Congress can place drugs or substances into a schedule without requiring any findings of potential for abuse, and its placement then serves as a reference for other substances when they are scheduled by the Drug Enforcement Administration (DEA).

The second and third factors, which relate to a drug or substance having medical utility, have historically been taken to refer to whether a substance has Food and Drug Administration (FDA) approval for a medical indication. There has, however, been substantial debate over whether this is indeed the best reading of the statute or if other considerations should be taken when assessing these factors (*Lester Grinspoon, MD v. Drug Enforcement Administration* 1987; Marks 2025). Throughout this policy brief, we explore how reorganization of the CSA could promote the medical utility of basic research, which often informs clinical trials and thus FDA approval.

Substances classified under Schedule I of the CSA are the most restricted and are declared to have a high potential for abuse, have no established medical use, and lack established safety for use under medical supervision (21 U.S.C. § 812). This includes more than 100 specified substances including heroin, lysergic acid diethylamide (LSD), psilocybin, marijuana, tetrahydrocannabinol (THC), mescaline, and 3,4-methylenedioxymethamphetamine (MDMA). Despite recent progress in our understanding of potential therapeutic roles for many of these substances, research access remains significantly restricted by the requirements and barriers associated with obtaining a Schedule I registration, ultimately causing harm to research (Henningfield et al. 2022; Barnett et al. 2025). An additional critique of Schedule I is that while substances can be placed into this category relatively easily, the process of rescheduling them can take decades and require millions of dollars, further delaying research and potential medical access.

Prohibition can hinder scientific research, potentially limiting breakthrough findings with public health implications. For example, the serotonergic agonist 2,5-dimethoxy-4-iodo-amphetamine (DOI) is a potent anti-inflammatory at doses 1,000-fold lower than the psychoactive threshold (Flanagan and Nichols 2018). These findings were discovered serendipitously, following the aftermath of Hurricane Katrina, where researchers lost several of their testing compounds. DOI's unscheduled status enabled testing of this compound as an anti-inflammatory and the development of a

company (Nichols 2022). This is only one example of medical advancement that could have been hindered by drug scheduling.

**II. Schedule I registration process**

While certain regulations are necessary to ensure safety and prevent diversion, the current process for Schedule I registration is confusing, lengthy, and tedious. It can often take a year from beginning an application to receiving approval from federal agencies. In the current scientific environment where scientists are pushed to "publish or perish" (van Dalen and Henkens 2012), the time and effort required to obtain a Schedule I license can dissuade them from studying these substances altogether.

Under the CSA, the registration process to access scheduled substances is outlined across Schedules I-V. All people who intend to manufacture, distribute or conduct research with a controlled substance must apply for a registration from the DEA under the authority delegated by the Attorney General (21 C.F.R. § 1301.11(a)). A single registration cannot cover schedules I through V; instead, there are two categories: Schedule I researcher (21 C.F.R. § 1301.13(e)(1)(v)) and Schedule II-V researcher (21 C.F.R. § 1301.13(e)(1)(iv)). These licensing processes can differ significantly, as outlined below in Table 1.

Every state but New Hampshire, Vermont, and Maine has adopted a version of the Uniform Controlled Substances Act, proposed by the National Conference of Commissioners on Uniform State Laws (Lampe 2025). Depending on the state, researchers are often required to go through an additional state-controlled substance registration process (Braun 1991). While this process is entirely separate from the timeline of receiving the federal license, it adds additional time to the overall application process, and some states' regulations regarding research with Schedule I substances can be quite onerous and difficult to manage. Adding to complexity, each institution where the researcher resides has its own requirements and processes for working with controlled substances.

Once documentation is prepared and all prerequisites are met, researchers will file a research-specific Schedule I protocol DEA application (US Department of Justice Drug Enforcement Administration 2022). The DEA then reviews the application and visits the laboratory to ensure safety protocols are in place. Once the registration is issued, it must be renewed annually via the DEA (21 U.S.C. § 822(a)(2)). The DEA may conduct periodic, unannounced inspections and audits of the registered lab and storage locations. Under the CSA, the DEA may enter all "controlled premises" to inspect security, records, and inventory with consent or an administrative inspection warrant (21 U.S.C. § 880 and 21 C.F.R. 1316).

**III. Research harm**

*Research harm*, in this context, is defined as the restriction or deterrence of legitimate scientific inquiry arising from governmental actions, such as regulatory controls or criminal prohibitions, including drug scheduling, that limit researchers' access to or use of substances for scientific investigation. This definition has been recognized in federal court (Drug Enforcement Administration 2025).

One prominent example of research harms in this context are the restrictions imposed by placing a substance in Schedule I of the CSA. Placement of substances that are commonly used in scientific and medical research into Schedule I limits research access and hampers the ability of scientists to study the medical potential of substances such as THC or LSD (Andreae et al. 2016; Howard et al. 2021; Lampe 2025) due to the extensive process required to obtain licensure and restrictions on the amount of a substance a researcher can possess at any given time. Numerous review articles have discussed these barriers to research and their impact on scientific breakthroughs in the US and abroad (Barnett et al. 2025; Henningfield et al. 2023; Mikos 2024; Nutt 2015; Nutt et al. 2013). Thus, we recommend amendments to legislation that allow one single registration to cover all substances in Schedules I-V.

In November 2024, the DEA heard testimony in a challenge to the proposed scheduling of DOI, when DEA proposed the placement of this previously unscheduled substance in Schedule I (U.S. Department of Justice Drug Enforcement Administration 2025). For over five decades, DOI has been a critical tool used to identify the localization of certain serotonin receptors throughout the body, and to elucidate those receptors' involvement in behavior, pain, and disease states (Cameron et al.

2025; Glennon & Dukat 2024). Studies suggest that DOI is rarely used recreationally and no evidence suggests it is readily accessible in the illicit market compared to other scheduled substances (Palamar and Fitzgerald 2025). Additionally, DOI does not activate reward pathways in the brain that are thought to lead to reinforcement and compulsive use characteristic of some controlled substances (Cameron et al. 2025). In this case, the DEA Administrative Law Judge recognized that Research Harms may be substantial and placement of DOI in Schedule I would harm researchers who use the substance in their studies (U.S. Department of Justice Drug Enforcement Administration 2025). This marked the first time that research harm has been officially acknowledged by the DEA.

| Requirement for Registration | Schedule I | Schedule II-V |
|---|---|---|
| Approval from Secretary of HHS | ✓ | |
| Approval from Attorney General | ✓ | ✓ |
| Detailed research protocol and prior approval | ✓ | |
| State-specific controlled substance registration process | Often required | Sometimes required |
| Additional documentation from research organizations (FDA, IRB, IACUC) | ✓ | |
| Institution specific requirements | ✓ | ✓ |
| Extensive pre-approval inspection | Often required | Rarely required |
| Processing timeline | Up to 1 year | A few months |
| Amendments and renewal require additional scrutiny | ✓ | |

**Table 1.** Comparison of requirements for Schedule I vs. Schedule II-V registration processes (Drug Enforcement Administration 2022).

**IV. Research barriers**

Distinct from research harms, we define barriers in controlled substances research as issues specific to regulatory compliance that prevent or cause significant delays in beginning or completing studies, which may ultimately cause research harms (Howard et al. 2021). Some barriers would include time, cost, complexity of policies, and stigma (Advisory Council on the Misuse of Drugs 2023).

The issue of research harms and barriers is not unique to the US. In the United Kingdom (UK), the Advisory Council on the Misuse of Drugs (ACMD) identified several options to reduce barriers to research across four broad areas involved in the exploration and development of potentially therapeutic drugs (Advisory Council on the Misuse of Drugs 2023). These areas included theoretical, discovery, development, and clinical studies. However, the US CSA explicitly does not consider preclinical or discovery science under its medical research umbrella, and the DEA has argued that "currently accepted medical use" should be interpreted as requiring an FDA approval. The key distinction between drugs in Schedule I and Schedule II-V is that the former have no FDA-approved medical value .

The above-mentioned barriers (time, cost, complexity, and stigma) are not small issues to be

ignored. They not only cause harm by reducing scientific inquiry and development, but can also be barriers to the career of the researcher.

Time is typically noted by researchers as the most significant barrier. For example, scientists undergo different levels of training that require them to write papers, reports, and grant proposals at each stage of their career. A new assistant professor is typically expected to secure their own funding and grants to support their laboratory and staff, but to obtain funding, they must have previously demonstrated expertise in the field, as evidenced by publications. Because of the lengthy process involved in obtaining Schedule I registration, many researchers forgo scientific inquiry into such substances to focus on other questions that will yield funding and publications more quickly (U.S. Department of Justice Drug Enforcement Administration 2025). In the example of DOI, many researchers work with this substance because it remains unscheduled and provides a line of inquiry into systems related to mood, pain, and inflammation. Other substances may promise similar benefits, but they are not as well-researched due to the limitations imposed by their scheduled status.

Perhaps the second most deterring barrier is the complexity of policies. There is a lack of formal guidance from the DEA on how detailed a research protocol should be in terms of specific experiments. This is exacerbated by the lack of institutional capacity to support DEA-regulated research, both with licensing and logistics, which is critical for many researchers interested in (or already) pursuing research with Schedule I drugs. While many scientists already have some form of the necessary protocols, support for completing this highly specific documentation is limited. Additionally, researchers often come up with new experiments or modify current ones based on new data presented – but new experiments with Schedule I drugs must be halted until one's protocol application is amended properly and approved. There is also confusion about handling records, reverse distribution or disposal of compounds, and transferring of registrations. This has led to a system in which academics must rely on guidance from their peers or the institution rather than the governing body (U.S. Department of Justice Drug Enforcement Administration 2025).

For example, some researchers have reported no disposal requirements for controlled substances, while others have had to complete lengthy reverse distribution procedures to return controlled substances to the DEA. This potentially involves visits by local DEA officers and specific requirements for packaging, transportation, and complex record keeping. Many of these processes and the standards to which laboratories are held are up to the discretion of the local DEA field office, making procedures inconsistent across localities and states (U.S. Department of Justice Drug Enforcement Administration 2025).

Cost is another research barrier. Laboratories at universities and medical centers have budgets for laboratory equipment, which could include the cost of storing substances. Pursuant to 21 C.F.R. § 1301.75, researchers authorized to possess Schedule I compounds must store the controlled substances in a safe or steel cabinet equivalent to a U.S. Government Class-V security container (e.g., a floor-mounted safe). Further, these substances must be stored separately from those in Schedule II-V. This type of storage often requires physical modification of the laboratory, which must be approved by the institution and may pose a significant financial burden for new laboratories with limited start-up or departmental funding.

Lastly, many researchers shy away from working with controlled substances due to stigma and fear of judgment from their scientific peers. For example, when the CSA was signed into law in 1970, LSD was one of the initial compounds placed in Schedule I, shutting down psychedelic research that had been underway for almost 30 years. After these regulations were imposed, scientists interested in studying psychedelics, and other Schedule I substances, were stigmatized or illegitimized due to the powerful rhetoric that these were dangerous drugs with no medical utility. Only in the last decade did the study of psychedelics reawaken. Now, several psychedelics have been designated with Breakthrough Therapy status by the FDA, including LSD, MDMA, and psilocybin, for neuropsychiatric diseases like post-traumatic stress disorder, treatment-resistant depression, and more (Healey 2025). This status suggests that psychedelics may have "accepted medical use", and hence, provides pathways for expedited FDA consideration and for

potentially rescheduling of psychedelics under the current definitions of the CSA. These breakthroughs might have come decades earlier if not for the barriers imposed by the CSA, demonstrating the medical value of basic and translational research.

Some policies for researchers in obtaining scheduled substances can serve several purposes that may benefit scientists and public health at large, such as record keeping and accountability measures regarding quantities of substances being used. However, university and state-level policies typically require similar checks as a federal Schedule I registration, such as safety protocols to prevent diversion, record keeping, and frequent inspections of laboratories. Thus, researchers would already keep detailed lab notebooks and records of scheduled or potentially hazardous substances and other chemicals that are being used, with institutional and state oversight, to track experiments and stocks, making the current Schedule I registration process overly onerous and redundant.

The registration process, while resource intensive and administratively burdensome, is important for the purpose of having a screening process and formal review of the applying candidates to ensure they are properly qualified for safe handling and experimentation. Most scientific vendors will not let someone outside of a university affiliation purchase controlled substances without showing proof of registration or other documentation. This oversight could still be implemented with a researcher registration that covers all drugs in Schedules I-V, with special considerations for substances that have evidenced rates of diversion. Improved regulations can maintain a system of professionalism and necessary regulations, while decreasing the cumbersome amount of time and resources spent by researchers to legally acquire and study scheduled substances.

The harms and barriers described above stifle scientific research, but they can be easily addressed through amending the law or existing policies to promote better access to substances in research. For example, if there were a general researcher license for all scheduled substances, the DEA could still monitor for diversion and provide key safety oversight but additional barriers would not be present. Recently, section 3 of the HALT Fentanyl Act included provisions to reduce the time required to obtain registration and streamline the process for various collaborative situations. These provisions are a first step in amending the laborious CSA processes.

**V. The HALT Fentanyl Act**

The primary purpose of the 2025 HALT Fentanyl Act was to place all "fentanyl-related substances" into Schedule I of the CSA. These were defined by chemical similarity to fentanyl and hundreds of fentanyl analogs were scheduled, some of which have never been chemically synthesized (HALT Fentanyl Act, Section 2). Somewhat misleadingly, though, fentanyl itself was not rescheduled by the statute; as fentanyl has numerous medical uses, it remains in Schedule II. In addition, Section 3 of the bill included expedited and simplified registration procedures, namely the elimination of the need for separate registrations for researchers at the same institution, a single registration for "related research sites," and the ability for researchers to manufacture substances without a separate license.

The HALT Fentanyl Act added a new subsection to 21 U.S.C. §823: "(n) Special provisions for practitioners conducting certain research with Schedule I controlled substances," with new expedited research procedures for those with and without a current Schedule I/II registration. 21 U.S.C. §823(n) now outlines how those without a current Schedule I/II registration may now send notice to the Attorney General containing the chemical name(s) of the desired research substance, the quantity of compound(s), and evidence that they are authorized to conduct research with those compounds in their state. HALT could not alter the provisions of state-controlled substances laws, so researchers still need state-level approval to work with the desired compound(s), if required by state law. However, upon receiving notice from the researcher, the Attorney General must register the applicant within 45 days or provide a rationale for denial.

One major improvement of the HALT Fentanyl Act is the insertion of language to 21 U.S.C. §822(c), which eliminates the need for separate registrations for different research sites (e.g., laboratories or clinical trial sites) by the same researcher. The registration holder can also more readily allow others at the

same research institution or those at another institution within the same county or city to use the Schedule I/II compounds under the registration (21 U.S.C. § 822(e)(4)(A)). This allows them to functionally share their registration with other scientists if the holder assumes responsibility for the substances and has authorized another person to utilize those compounds (21 U.S.C. § 822(c)(4)(A)(i)). Previously, if the registration holder had wanted additional personnel to conduct experiments with Schedule I substances, they had to amend their protocol to include this new person, requiring time-consuming reviews, both institutional and by DEA. This improvement fosters collaboration among researchers and allows for more translational research opportunities across basic scientists and medical research, thus reducing research barriers of time and cost, and overall research harms across fields.

An included provision provides for continuity of research for substances added to Schedule I if a researcher had already been working on them (21 U.S.C. § 822(h)). Now, if a substance is added to Schedule I while a laboratory is actively researching it and they already have a registration for a Schedule I compound, they shall amend their application with DEA Form 225a and be allowed to continue that research without disruption. Further, those with a Schedule I/II registration may now send notice to add new substances to their registrations without having to go through the entire process, which previously included time-consuming applications and inspections (21 U.S.C. §822(f)). This change removes the barriers of time and understanding of processes related to registrations.

Lastly, another significant improvement to reduce time barriers is a provision that allows researchers to synthesize "small quantities of [the Schedule I] substance" without obtaining a manufacturing registration if the synthesis is done for research purposes (21 U.S.C. §822(e)(i)). However, "small quantities" is not defined in the law, leaving room for interpretation in subsequent rulemaking and judicial processes.

Notably, the bill recognizes the laborious process of obtaining registration and aims to streamline processes to allow for the continuation of research while obtaining licensure. While the bill had overwhelming support on Capitol Hill, there was opposition across the House and Senate, primarily by Democrats. This opposition was largely due to the provisions regarding "fentanyl-related substances," not the Section 3 research provisions (Booker 2025).

While many of these provisions offer opportunities to foster collaboration and reduce research barriers and, in turn, research harms, there is more work to be done. It remains to be seen how the DEA and other agencies implement this law. The Attorney General and her delegate, the Administrator of the DEA, missed the statutorily defined deadline for posting the notice of proposed rulemaking for these regulations to the Federal Register on January 16, 2026 (HALT Fentanyl Act (Sec. 5)). During this time, research scientists are working to shape these rules by submitting applications to the Attorney General for new registrations through this expedited process. The present authors are aware that at least one submission was made with no response after 45 business days, as required by law. Further, a Member of Congress recently wrote the administrator of the DEA inquiring about when the guidelines will be published (Cohen 2026). During this time some questions will persist:

- The HALT Fentanyl Act states that in order to apply for expedited procedures, research must either be: i) a part of an investigational new drug application with the FDA, ii) conducted by the Department of Health and Human Services (HHS), Department of Defense (DoD), or Veterans Affairs (VA), or iii) funded by HHS, DoD, or VA. (21 U.S.C. §823(n)(2)). It is unknown whether the grant funding has to specify that the substance of interest is included or whether any funding by these institutions is sufficient for research to qualify for expedited procedures.
- For those with Schedule I/II registrations who are adding new substances to their registrations, it is unclear whether researchers have to submit full protocols per previous requirements.
- For those without Schedule I/II registrations, it is unclear whether registrants must first seek formal registration through the CSA or whether the notice sent to the Attorney General/DEA Administrator is sufficient for

new registration.
- Limitations on amounts allowed under registrations are unclear. The bill states that a practitioner may include amounts specified in their notice and can submit supplemental notification if they need additional quantities, which includes the additional amount needed and attestation that the scope of research is the same as previously described.

**VI. Policy recommendations**

We believe that the HALT Fentanyl Act is a starting point for implementing improvements to researching controlled substances, and these expedited processes will likely reduce barriers, but in some cases, the HALT Fentanyl Act may make processes more confusing. We believe that the following recommendations would further reduce research barriers and thus research harms:

*i. Future legislation should revise the "currently accepted medical use" requirement regarding Schedule I substances to include biomedical research as a prong of medical use.*

This would wipe clean existing court precedent whereby the DEA asserted "currently accepted medical use" requires FDA approval and medical value only pertains to FDA-approved substances ("Denial of Petition" 2016; "Marijuana Scheduling Petition" 1992). Given there are substances in Schedule I that are not used in research, this would not completely discard this schedule. Just recently, Rep. Steve Cohen introduced a bill into the House that would require a cost-benefit analysis as part of the scheduling process, which includes consideration of utility in scientific research as a benefit and updates the definitions of terms such as 'abuse' to reflect accurate scientific and medical definitions for evaluating costs (U.S. Congress 2026).

We believe that legislation such as this could gain bipartisan support, as it specifically would allow better access to scheduled substances that have been identified to have medical value but are not FDA-approved. Breakthrough Therapy (21 U.S.C. § 356 (a)) and Right to Try (21 U.S.C. § 300.200) statuses have been given to several Schedule I psychedelic compounds (Siegel et al. 2023; Healey 2025), allowing for expedited development and review of these substances to treat serious conditions, including treatment-resistant depression, post-traumatic stress disorder, and demoralization following military service. These mental health disorders disproportionately affect veterans, and statewide or local municipality legislation focused on psychedelic access for veteran populations demonstrates the interest in medical value before FDA-approval. The President of the United States has openly shared support for non-FDA approved medications and supplements, suggesting this type of bill could be passed with the right sponsors.

There is current bipartisan, bicameral legislation, referred to as the "Freedom to HEAL Act," which was introduced in December 2025 to allow patients with life-threatening conditions to access Schedule I investigational drugs under the existing federal "Right to Try" law. The bill specifically addresses a regulatory gap where the DEA currently lacks a mechanism to register physicians to administer substances like MDMA and psilocybin, even when they meet all other Right to Try requirements. This bill is a large push to recognize medical value before FDA approval, but does not change the underlying CSA definitions.

*ii. Update DEA procedure or pass legislation to require periodic external review of new literature on drug classes, specific compounds, and modern research techniques to ensure the HHS review of research is consistent with current research that uses what is considered the "gold standard" of understanding abuse potential (Gauvin et al. 2018).*

This change could be easily implemented through the proposal of an external advisory board similar to the type of outside expert panel that the FDA uses to provide advice on the safety, effectiveness, and appropriate use of products. These committees provide independent advice to contribute to the agency's regulatory decision-making. There are two ways this could be put into effect for DEA scheduling: 1) HHS could build out an external review board via the Federal Advisory Committee Act (5 U.S.C. 1006(c) of the Act and Executive Order (E.O.) 12024) that would be made up of non-government employees and experts on pharmacology, public health, epidemiology, and the substance or class of substances in question. Before the DEA initiates scheduling, they must request a scientific and medical evaluation from the Secretary of HHS, which

is performed by the FDA's Controlled Substance Staff. By having an external panel of reviewers at this stage, it would allow experts in scientific research that work with the substance or in public health to assess the accuracy of the scientific and medical evaluation done by HHS before it even reaches the DEA; or 2) Congress could amend the CSA to mandate an independent review board and eliminate sole authority from the DEA to schedule substances. This would broaden participation in scheduling decisions to foster democratization in the rulemaking process that ultimately affects the larger research community and public health.

While this is likely the easiest change to make to increase transparency and reduce bias of the scheduling process, it is the least likely to be implemented due to the current administration's strict "Law and Order" policies related to drug use and drug scheduling. For example, within the HALT Fentanyl Act, the administration increased criminal offenses and mass-scheduled any fentanyl analogs, even those that have not been created. Some of these could be used in research to understand fentanyl-induced respiratory depression (Varshneya et al. 2023) or be used to develop medications to reduce opioid use or a fentanyl vaccine (Chapman et al. 2025). Further, in December 2025, the Trump administration classified fentanyl as a "Weapon of Mass Destruction" despite its dual use as a life-saving medical substance (Cummins and Swaminathan 2026).

*iii. Amend section 3 of the HALT Fentanyl Act (21 U.S.C. § 823) to eliminate special registrations for Schedule I and/or II substances and create one registration that covers research using any controlled substance.*

It is the authors' view that separate research registrations for Schedule I and Schedules II-V substances are duplicative and unnecessary, as there is no documented evidence of significant diversion of controlled substances from research laboratory settings in the United States, and the regulatory burden imposed by separate Schedule I registrations is widely regarded as disproportionate to any demonstrated risk (Nutt et al. 2013; Belouin and Henningfield 2018). Furthermore, a substance's position within Schedule I vs. Schedules II-V is not necessarily representative of its "dangerousness" per se and is more often associated with it not having a "currently accepted medical use in treatment in the United States," or having been added to a Schedule via the legislative branch (21 U.S.C. § 812(b)(1); Nutt et al. 2010). As such, standard protocols to ensure laboratory and/or patient safety and to prevent diversion should be implemented for all controlled substances, and separate research registrations for Schedule I substances should be eliminated.

The authors recognize that some substances, regardless of schedule placement, may require additional control or safeguards. We propose that the DEA be empowered to exert control over substances above and beyond the standardized registration process described above if, and only if, there is well-documented and demonstrated evidence of diversion of said substance from laboratory and/or clinical contexts in amounts sufficient to pose a threat to public health. To ensure accountability, we recommend that the Comptroller General be directed to conduct an assessment first after two years and thereafter every five years following implementation, examining controlled substance diversion rates from research settings, the volume of new research registrations, and any safety incidents attributable to the unified registration framework. This mechanism ensures that the policy can be evaluated on its merits and adjusted if evidence warrants.

Modernizing Schedule I research policy is essential for enabling scientific innovation, improving public health outcomes, and ensuring that US researchers can fully explore the therapeutic potential of controlled substances without hindrance.

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