

An Innovation Agenda for Addiction

Federal policy proposals to accelerate medication development for substance use disorders.

Expand FDA incentives, modernize efficacy standards, and increase public investment to rebuild a market for addiction medications and treat addiction as the major medical challenge it is.

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Executive Summary

The Problem

- Policy efforts on both the left and right have failed to reduce addiction harms
- Roughly 750,000 Americans die every year from tobacco, alcohol, opioids, and stimulants — exceeding deaths from heart disease or cancer
- Only 3% of people with SUDs take medication; for meth, cocaine, and cannabis, no FDA-approved medications exist
- Pharmaceutical companies have largely abandoned addiction medicine development

The Solution

- Expand FDA Priority Review Vouchers to cover addiction medicine indications
- Extend exclusivity periods and modernize FDA efficacy standards for SUDs
- Deploy advanced purchasing commitments and increase federal funding from ~\$700M to ~\$5B annually
- Build public-private partnerships modeled on NIH's Accelerating Medicines Partnership

Policy Efforts to Address Addiction Have Stalled

Over the past two decades, addiction policy efforts on both the left and right have struggled to reduce harms from opioids, alcohol, and stimulants. For opioids, cocaine, and methamphetamine, the problem has grown many times worse, with overdose deaths near record highs, particularly as these drugs have become widely used in combination. Deaths from alcohol per capita have [doubled since 1999](#) and continue moving upward. No American city or state, no matter how liberal or conservative, has found a solution that can reduce the rate of addiction at scale.

On the enforcement side, it is virtually impossible to [stop fentanyl or methamphetamine smuggling](#). No one is considering an alcohol ban, and attempts to raise alcohol taxes have [failed](#) in both red and blue states. While treatment efforts help many people and "medication-first" is considered the standard of care, the medical options currently offered are unlikely to ever reach scale. [Only 3%](#) of people with a substance use disorder take medication in a given year, due to existing medications' limited appeal, efficacy, and availability. For several substance use

disorders (methamphetamine, cocaine, and cannabis), there are no FDA-approved medications at all.

US policymakers need a new approach to addiction policy, oriented towards advancing innovation in medication development.

Asymmetrical Innovation in Addiction

Rapid innovation is happening in the field of addiction, but it's been occurring on the wrong side: addiction-inducing technologies are becoming more powerful.

Fentanyl has transformed the illicit opioid supply:

- 25x stronger than heroin by weight
- Cheaper and easier to smuggle
- More addictive
- Fentanyl overdoses are [more difficult to reverse](#)
- Now dominates the opioid supply

Meanwhile, [advances in Mexican production techniques](#) have dramatically increased the quantity and purity of methamphetamine, which is now [easily combined](#) with fentanyl and cocaine in pills and powder.

These innovations drove a 400% increase in overdose deaths over two decades.

Meanwhile, very little industry activity in addiction medicine exists due to modest sales of current treatments and perceived reputational risks. This creates a reinforcing cycle of canceled programs and minimal venture investment.

Addiction Is the Most Significant Medical Challenge of Our Society

The scope of the problem is vast: roughly [750,000 Americans](#) die every year from tobacco, alcohol, opioids, and stimulants -- exceeding heart disease (695,000) and cancer (609,000) deaths.

The opioid crisis alone [costs the US \\$1.5 trillion annually](#) in direct spending and lost productivity.

- Over 321,000 US children lost a parent to drug overdose between 2011 and 2021
- Roughly 60% of all crimes and 65% of violent crimes relate to drugs or alcohol
- Addiction triggers mass incarceration with severe unintended consequences

The Addiction Medication Market Is Broken

Despite the enormous medical, economic, and societal cost of addiction, the field of addiction medicine has been largely abandoned by the pharmaceutical industry and underfunded by the US government.

The innovation disparity is stark. Between 2000 and 2023:

- **Cancer:** 222 FDA approvals
- **Heart disease:** 57 approvals
- **Psychiatric illnesses:** dozens of approvals
- **Substance use disorders:** only 6 approvals (3 were different delivery methods for buprenorphine)

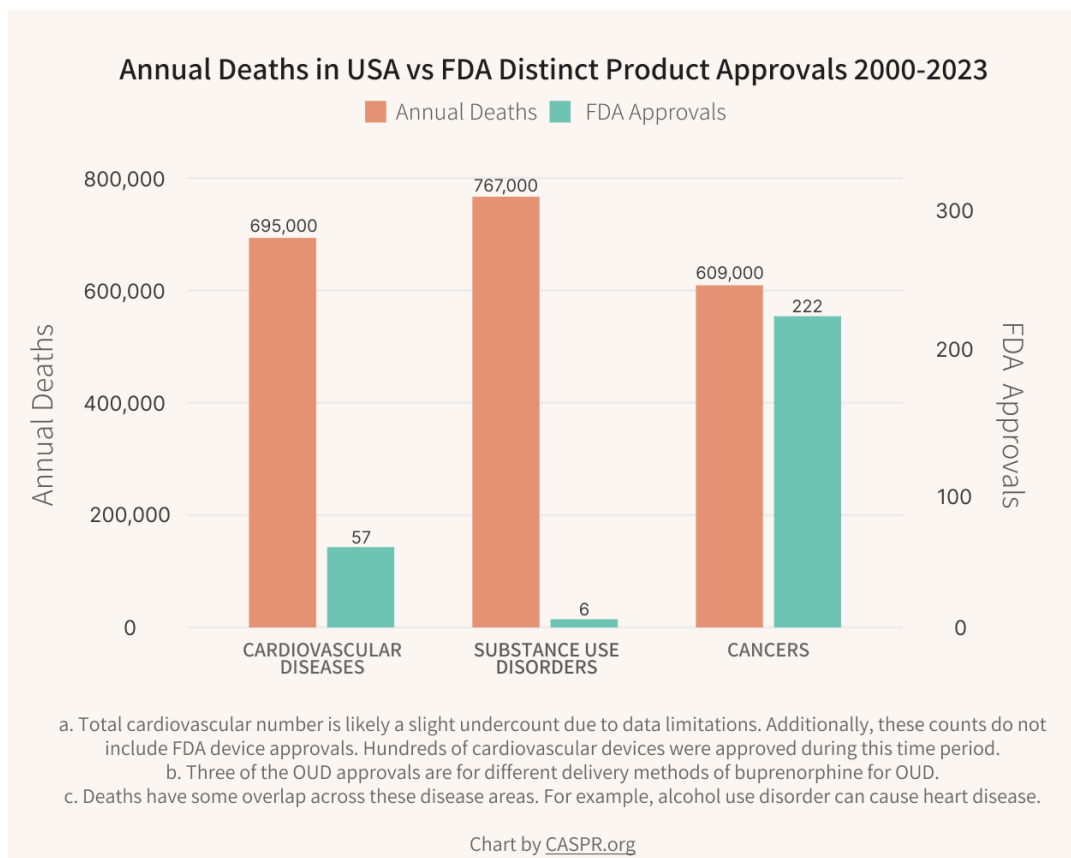


Figure 1 Source: CASPR.org

The last major approvals in addiction medicine were Suboxone for Opioid Use Disorder in 2002 and Acamprosate for Alcohol Use Disorder in 2004. Current medications for opioid and alcohol use disorders have significant limitations in efficacy, side effects, and patient acceptance that prevent them from reaching scale.

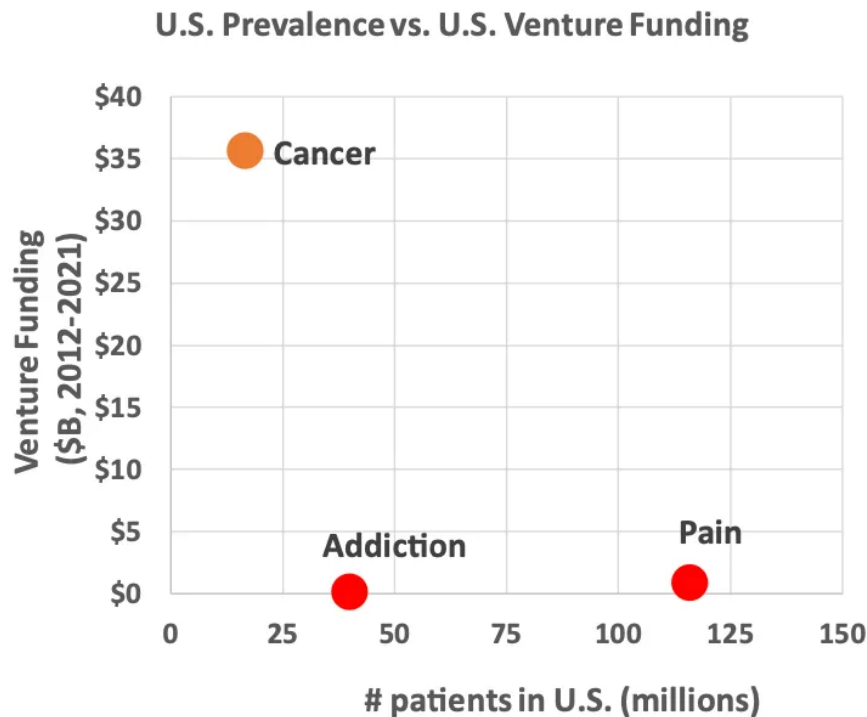


Figure 2

Venture investment into companies with novel addiction drug programs over the last 10 years is estimated at \$130M, 270 times less than oncology.

According to a [report from BIO](#): "Novel addiction treatments have the lowest Phase II success rate, with 14 of 15 Phase II programs failing over the last decade."

Why Pharmaceutical Companies Avoid Addiction Medicine

Large pharmaceutical companies avoid substance use disorder medication development almost completely. There are five rational business concerns that explain this behavior:

- 1. Low sales of existing treatments** -- Current addiction medications generate modest revenue compared to other therapeutic areas, signaling limited commercial opportunity. [1-year efficacy](#) for medications like Chantix (for smoking cessation) is less than 20%.
- 2. Unpredictable FDA standards** -- FDA efficacy standards for SUD medications rely on outdated measures, creating regulatory uncertainty that discourages investment.
- 3. Brand stigma** -- Pharmaceutical companies fear that addiction programs will damage their corporate brand and negatively affect sales of other products.
- 4. Liability concerns** -- Companies worry about adverse events in high-risk patient populations and the potential for costly litigation.
- 5. "Problem of new uses"** -- Clinical trials of lucrative drugs for new SUD indications carry downside risk if safety signals emerge that could threaten the original, more profitable indication.

"The societal stigma of developing and marketing a medication for treating drug-dependent patients is a concern for pharmaceutical companies... Even among their own employees, pharmaceutical companies have encountered significant resistance to working in the field of medications development for drug addiction."

— [National Academies](#), Development of Medications for the Treatment of Opiate and Cocaine Addictions

The history of Eli Lilly's involvement with methadone provides a cautionary tale. Despite methadone's proven efficacy for opioid use disorder, the company eventually withdrew from the market due to stigma and liability concerns, leaving a critical medication without a major pharmaceutical company champion.

Pfizer's experience with Chantix (varenicline) further illustrates the risks. Pfizer paid \$273M to settle psychiatric event lawsuits from Chantix in 2013. Though subsequent randomized controlled trials found no psychiatric effects and FDA removed the black box warning, settlements had already been paid. Since then, Pfizer has not pursued any SUD medication development.

"The world's largest pharmaceutical companies have completely divested from developing treatments for addiction other than to tobacco. They have overstated fears of stigma damaging their brand and of liability problems."

— Keith Humphreys, Stanford University

The Medical Potential for Reducing Addiction Is High

In many ways, the field of addiction today is where obesity was 10 years ago, with low hopes and aspirations for medical progress.

When more effective medications emerged (e.g., Ozempic), sales exploded and obesity may be declining at a population level.

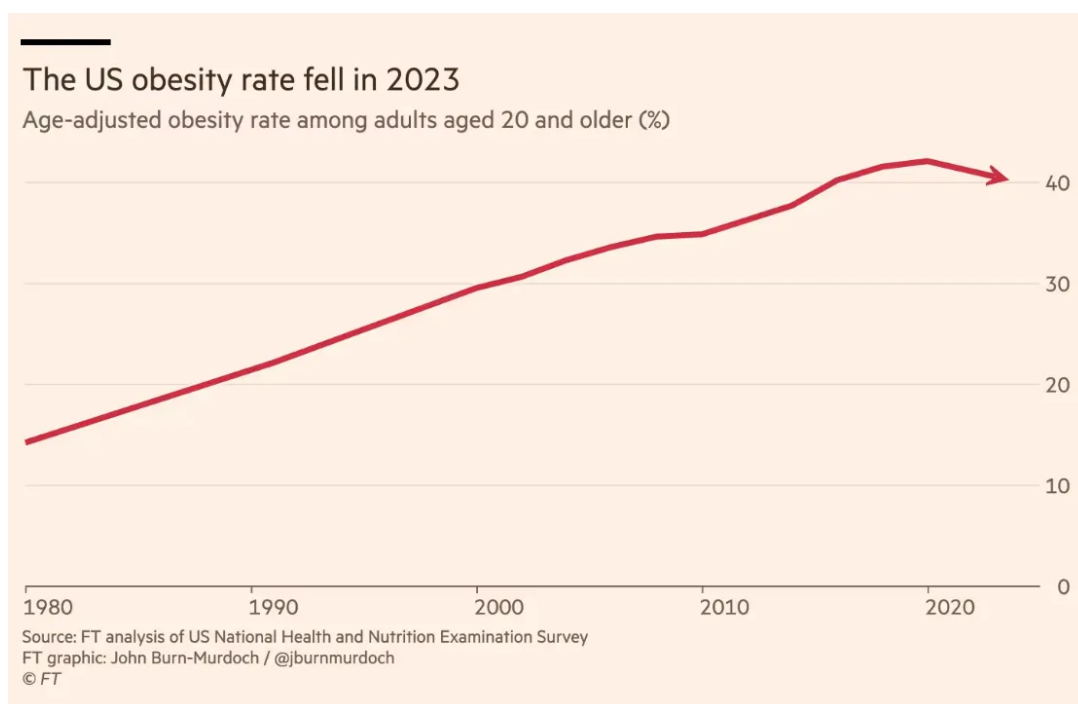


Figure 3 Source: Financial Times

Human and animal studies indicate that addictive cravings and substance use are [medically modifiable](#). The same brain regions driving food cravings appear to drive cravings for other substances.

GLP-1 medications show [anti-addictive effects across substances](#) (alcohol, opioids, nicotine, stimulants) in animal trials, observational studies, and early human trials.

Novo Nordisk and Eli Lilly hold patents on GLP-1 therapies but have not and do not plan Phase 3 trials for SUD indications. Government agencies are not structured to advance these studies. A promising addiction medicine candidate is stuck in an indefinite limbo.

Building a Robust Market in Addiction Medicine Development

Market Shaping Interventions

Proposal 1: Expand the FDA Priority Review Voucher (PRV) Program

The [Priority Review Voucher](#) program rewards companies with a transferable voucher -- worth approximately [\\$100M](#) -- that shortens FDA review of a future drug from roughly 10 months to 6 months. The program has been successful in incentivizing development of treatments for rare pediatric diseases, tropical diseases, and infectious diseases.

The proposal is to expand PRVs to cover substance use disorder indications. This would create a powerful financial incentive for pharmaceutical companies to invest in addiction medicine, with no government spending required.

A total of 53 RPD PRVs have been awarded as of April 30, 2024, reflecting a steady upward trend in rare pediatric disease drug development...

— [National Organization for Rare Disorders \(NORD\)](#)

Proposal 2: Extend Exclusivity for Addiction Medicines

This proposal would provide additional market exclusivity for companies that develop medications for SUD indications:

- Additional 2 years of exclusivity for biologics in addiction indications
- Additional 3 years of exclusivity for small molecules in addiction indications
- Exclusivity vouchers for companies achieving SUD indications
- Increased FDA consideration for breakthrough, fast track, and priority review designations

This strategy builds on the established safety track record of a medication, reducing development costs, shortening time to market, and [increasing likelihood of approval](#). Durations would be tiered, as described in [this proposal from Duke](#). These measures would directly incentivize companies with GLP-1 therapies and other promising candidates to pursue SUD indications.

Proposal 3: Modernize FDA Standards of Efficacy

Current FDA standards for SUD medications rely on outdated binary abstinence measures that are extremely difficult for patients to achieve and do not reflect clinical reality. A [recent NIAAA report](#) recommends shifting to consumption-based endpoints

that better capture clinically meaningful improvements.

While achieving continuous abstinence has been documented to be clinically beneficial, such an outcome is difficult to achieve or sustain... Such a difficult-to-achieve outcome has deterred the development of new agents to treat substance use disorders.

— Compton and Volkow, American Journal of Psychiatry

Congress should require FDA to report on its standards for SUD medication efficacy and publish updated guidance that reflects modern clinical understanding.

Proposal 4: Advanced Purchasing or Risk Sharing

The federal government should offer commitments to reduce market risk for addiction medicine developers: formulary inclusion, advanced purchases, and minimum sales guarantees. This is modeled on the proposed [PASTEUR Act](#) for antibiotics, which would delink antibiotic revenue from unit sales.

An alternative or complementary approach would be a prize model, with an annual pool of approximately \$500M for successful addiction medication development. [Prizes are growing in use](#) as a government innovation mechanism.

Public Funding and Strategy Interventions

Proposal 5: Increase Public Funding

Current federal funding for addiction medication development is less than \$700M annually -- dramatically less than comparable disease areas. This proposal would increase funding significantly:

- [NIDA](#): Increase from \$1.8B to \$4B
- [NIAAA](#): Increase from \$600M to \$1B
- Total federal addiction medication R&D: approximately \$5B annually

For context, NCI receives \$7B annually and NHLBI receives \$4B -- disease areas where the US has achieved significant medical progress through sustained investment.

Proposal 6: Strategy-First Funding Orientation

Current federal addiction research programs are largely reactive, responding to grant applications rather than proactively pursuing strategic questions. This proposal would shift toward a strategy-first orientation with large grants and rapid turnaround for high-priority questions.

There is precedent for this approach: the \$350M [HEALing Communities Study](#) demonstrated the feasibility of large-scale, strategically directed addiction research.

Proposal 7: Public-Private Partnerships

Addiction should be added to the NIH [Accelerating Medicines Partnership \(AMP\)](#), which has successfully brought together pharmaceutical companies, non-profits, and federal agencies to accelerate drug development in Alzheimer's, Type 2 Diabetes, and other areas.

This approach can be modeled on the [Cancer Moonshot](#) and [Operation Warp Speed](#) -- ambitious, publicly funded initiatives that paired pharmaceutical companies with federal agencies to achieve breakthrough results. Specifically, partnerships with agencies like the VA, which serves a large patient population with high rates of substance use disorders, could accelerate clinical trial recruitment and translation.

Measuring Success and Costs

How will we know if we've succeeded? Depression and substance use disorders affect similar shares of the population -- depression affects [around 18%](#) of Americans, while substance use disorders affect [roughly 17%](#). Yet the treatment landscapes could not be more different.

Key targets include:

- **Industry activity:** Multiple Phase 3 programs underway for SUD indications, with major pharmaceutical companies participating
- **FDA approvals:** Using antidepressants as a benchmark ([30+ medications](#) in the market), the current [~7 SUD medications](#) represent a fraction of what is needed
- **Patient adoption:** Currently only 3% of people with SUDs take medication (0.5% of the US population). By comparison, [at least 13%](#) of Americans take antidepressants -- a 26x higher rate. Even modest improvements in SUD medication uptake would represent enormous progress.

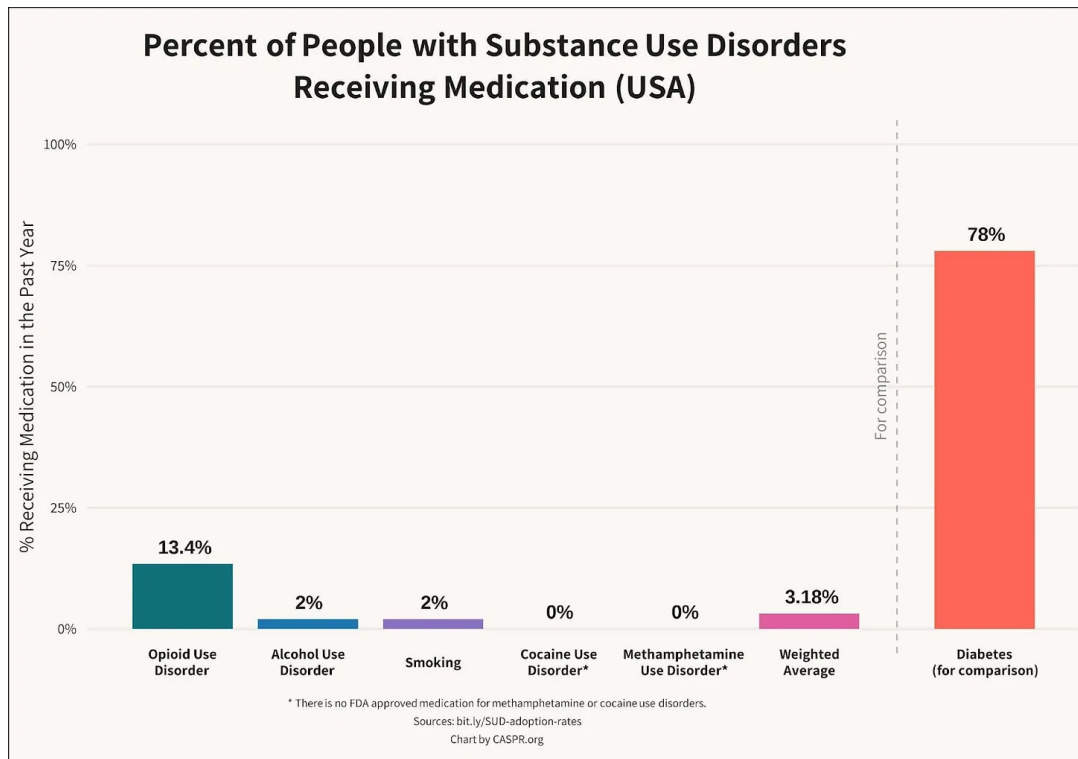


Figure 4 Source: CASPR.org

The total cost of a legislative package for what is proposed in this plan is roughly \$3 billion annually.

Compared to the tens of billions spent annually on downstream addiction costs and the **trillions** in total economic costs, this investment could save money over time by reducing emergency department visits, incarceration, lost productivity, and premature death.

We Can't Solve Addiction If We Don't Try

Addiction, cancer, and heart disease are the largest drivers of death and disability for Americans (and a large portion of those cancer and heart disease deaths are caused by substance use).

Unlike cancer and heart disease, where the US has invested heavily in medical innovation and achieved significant improvements, addiction treatment has been largely neglected by the pharmaceutical industry and inadequately funded by the government.

If the US treats addiction as a medical problem deserving of the same level of innovation investment as cancer and heart disease, there is substantial reason to believe that effective new treatments can be developed. The seven proposals outlined in this agenda represent a comprehensive strategy to revive pharmaceutical innovation in addiction medicine.

Appendix: Innovation in Illicit Markets

Fentanyl

Fentanyl is a synthetically produced opioid, made from commercially available precursors and much cheaper to produce than heroin.

- 25x stronger than heroin -- 8,000 doses fit in one golf ball
- Made from commercially available precursors
- Reuters purchased \$3,600 of precursors online -- enough to manufacture \$3M of fentanyl
- Wears off more quickly than heroin, causing more frequent redosing
- Over 30% of overdoses involve combinations of fentanyl with other substances
- Naloxone (Narcan) is less effective against fentanyl than against heroin

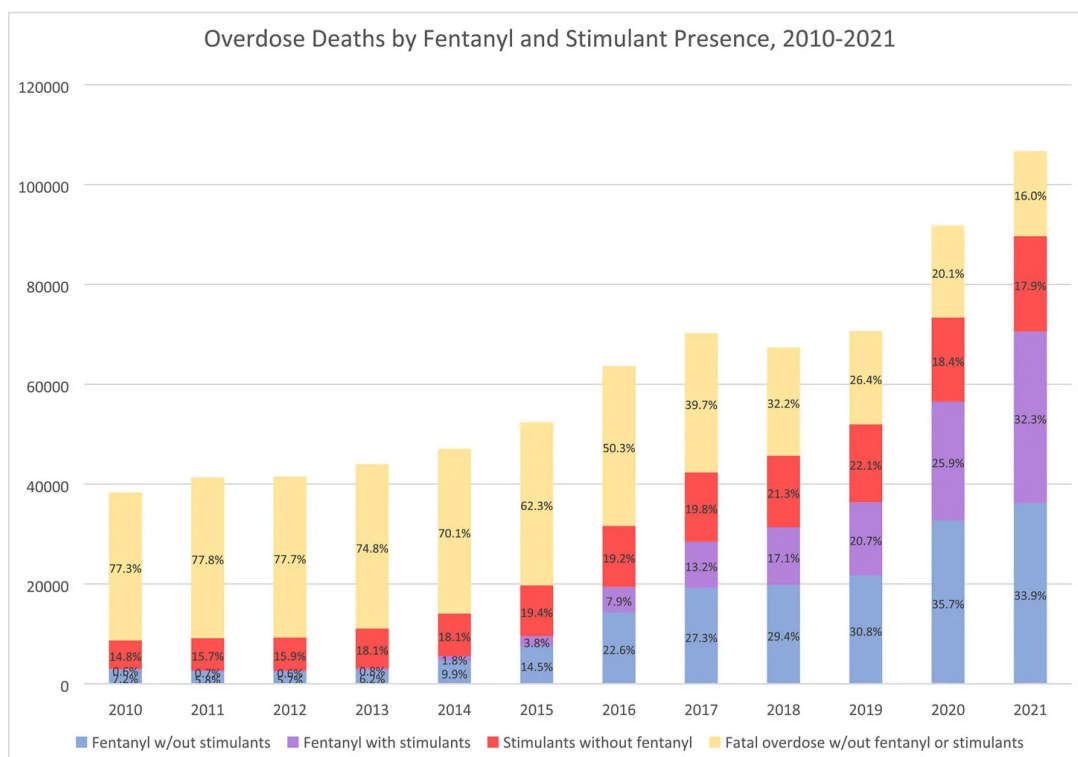


Figure 5 Source: *Addiction*

Methamphetamine

Methamphetamine prices have rapidly fallen as strength has increased, due to breakthroughs in production techniques in Mexican meth labs.

- Mexican "super labs" use advanced production techniques, producing hundreds of pounds per batch
- CBP seizures increased 93% between 2018 and 2019; over 177,000 lbs seized in 2020 compared to 29,000 lbs in 2012
- Price per pound fell from \$10,000 to \$1,000
- Average purity reached approximately 97%
- Expanded from western US to the Midwest, South, and New England

Price and Purity of U.S. Methamphetamine Purchases

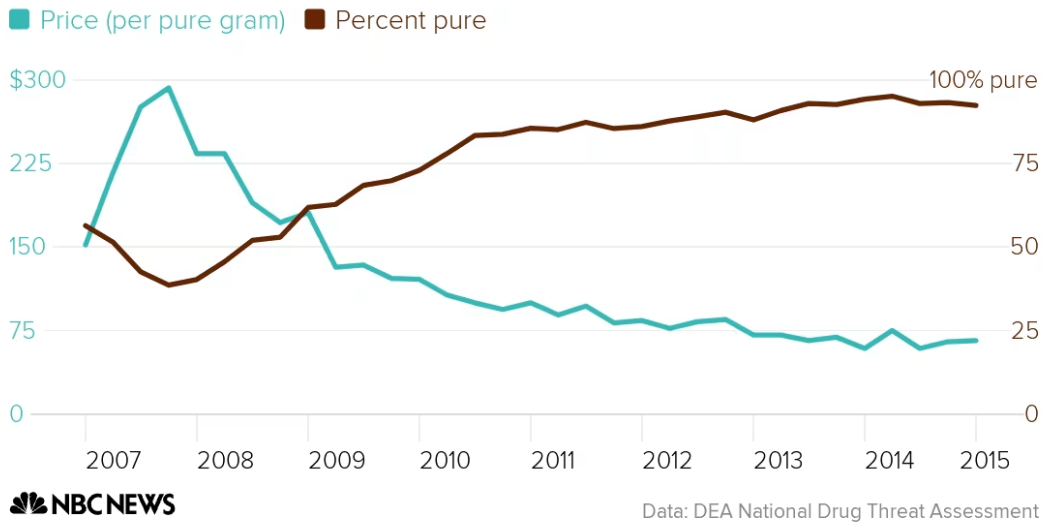


Figure 6

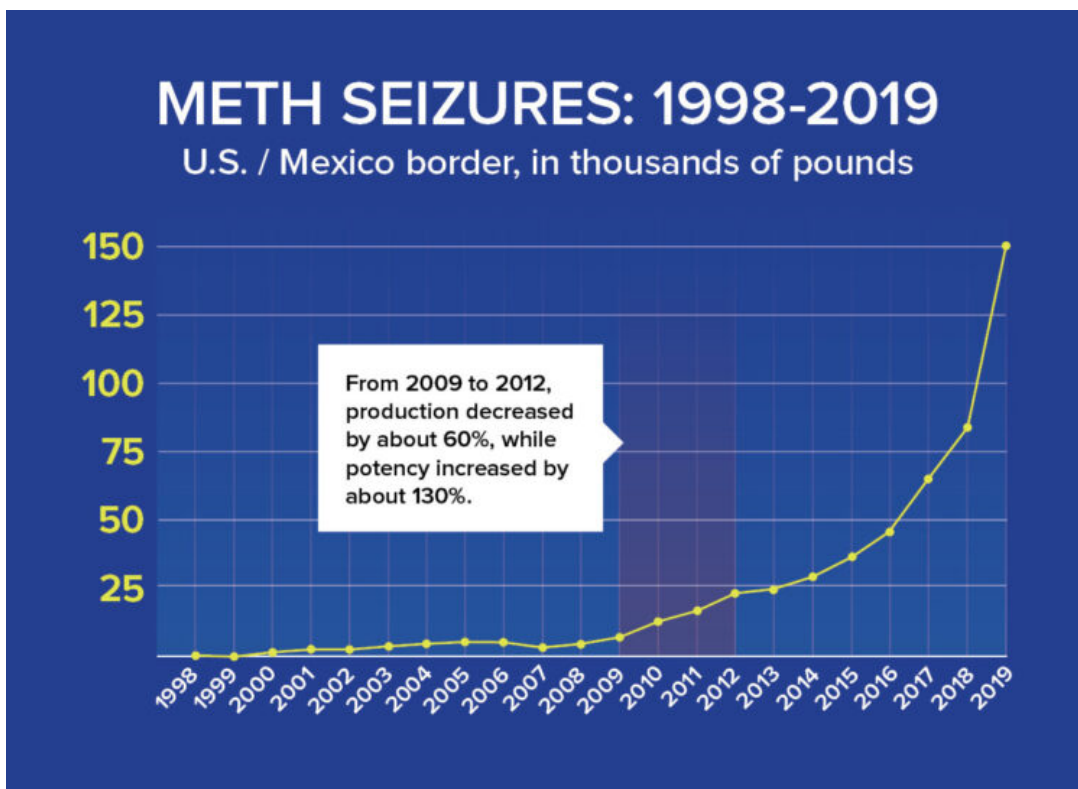


Figure 7