The American Drug Crisis: A Biopsychosocial Approach

Rebekah Tinkle

Colorado State University

University Honors Program

HONR 499: Senior Honors Thesis

Fall 2024

Abstract

Addictive substances create one of the greatest urgencies that threatens American's health, evident by drastic increases in drug use. Historically, the system has inadequately handled this problem using moral models which has built an unsteady legal foundation. With a long and complicated history, the drug crisis remains a pervasive problem that affects a majority of individual Americans and society holistically. Currently, legislation remains affected by ethics and demoralization instead of addiction psychology and research. Punishment-based policing models disregard the individual's needs and trap them in a cycle of failure which in turn exacerbates the drug crisis. Correctional facilities also neglect the drug user's needs and fail to utilize effective treatment. Altogether these issues persist creating practical barriers such as homelessness, stigma, and recidivism. This comprehensive review provides a biopsychosocial model and evidence to support success on a system level to progress toward relief from the drug epidemic and solutions for individuals struggling with the mental health disorder of addiction.

Keywords: drug, systematic, marijuana, fentanyl, treatment, neurobiology, individual, drug scheduling, recidivism, stigma

The American Drug Crisis: A Biopsychosocial Approach

America has an unfortunately long history with drugs dating before the popular mentioned time period of the 1960s. During the 1880s, Mary Hunt and the Woman's Christian Temperance Union launched an educational campaign on drug control in schools to harvest abstinence values for life as well as prohibition values; this was known as the "scientific temperance instruction" (Hunt, 1891). Through this politicized campaign, Hunt subjected students to propaganda depicting graphic moral degradation of alcohol and narcotic consumption to ultimately win the future votes of the fear-driven students in favor of prohibition (Hunt, 1891). The political and moral foundation of this issue is clear and inseparable from the substance control issue.

Almost a century ago in the 1930s, Harry Anslinger, who was the first commissioner of the Federal Bureau of Narcotics, made pivotal attempts to control cannabis and other illicit drug use through guilt tactics and blame shifting onto minority groups and undervalued working class, claiming they were overcome by the drug causing heinous behavior (Anslinger, 1937). He illustrated a shocking news post where a young girl was "murdered" by marijuana use along with a boy who murdered his own family under the influence (Anslinger, 1937). These extremities orchestrated by fear mongering tactics consequently shape society's negative perception of a stereotypical drug user, and that this morally wrong decision was rooted in evil intent. Based upon this evidence, in 1971, cannabis was classified as the most dangerous classification: a schedule I drug (DEA, 2024).

In the late 60s, President Nixon focused a portion of his campaign on the "narcotics peddlers" and "filth peddlers" who were criminalized heavily through the campaign which famously ignited the War on Drugs (Nixon, 1968). Nixon villainized this group of people in his

acceptance address, claiming they were targeting the American children which dehumanized them (Nixon, 1968). John Ehrlichman supported Nixon as his domestic policy advisor and confessed the following to Baum in 1994 during an interview:

> "We knew we couldn't make it illegal to be either against the war or black, but by getting the public to associate the hippies with marijuana and blacks with heroin, and then criminalizing both heavily, we could disrupt those communities. We could arrest their leaders, raid their homes, break up their meetings, and vilify them night after night on the evening news. Did we know we were lying about the drugs? Of course we did." (Ehrlichman, 1994).

Creating a racial disparity based upon a supposed health crisis not only diminishes society's perception on these groups of people but can negatively impact their self-worth. This ignited the detrimental systemic solution to the American drug epidemic: unjust incarceration of ultimately free individuals trapped in a guilt cycle who needed access to help, benefits, and resources.

In 1986, President Reagan accompanied by his wife Nancy announced their national campaign against drug abuse (Reagan & Reagan, 1986). This address proposed the plan to resolve the national drug crisis and was famously known as the "just say no" campaign (1986). This targeted youth and encouraged abstinence, but without a holistic explanation reasoning as to why (1986). In his speech, Reagan ignorantly stated, "nothing would be more effective than for Americans simply to quit using illegal drugs" (1986, p. 1). As the drug crisis remains a multifaceted and complex issue, Reagan instead disregarded social and individual contexts by convincing people to "simply quit." Reagan also implied drug use was a moral decision by placing blame on individuals who failed to quit as they became a threat to public health; this

naïve belief is unsupportive for both the drug user and society. A convoluted topic such as the drug crisis will require a complex solution.

The War on Drugs is an ongoing battle against itself: despite the alarming amount of one trillion dollars of funding for the drug policies, drug use has stabilized with an extreme increase in overdoses and infections (see Figure 1) (American Public Health Association, 2013; Provisional Drug Overdose Data, 2024). After centuries of moral degradation, heavy criminalization was a natural sequence to follow, which unfortunately fuels the stigmatization of drug users (American Public Health Association, 2013). Negative attitudes and treatment pose multiple barriers for the user including seeking help, safety, and support from authority and the community (American Public Health Association, 2013).

Upon examining the complexities and convoluted nature of the American drug epidemic, several truths must be acknowledged. Firstly, the American drug crisis has been addressed poorly since the rise of illicit drug use because of important figures like Anslinger, Nixon, and Reagan but the neurobiological drive for pleasure and rewards is constant. Furthermore, the access to detrimental illicit drugs like fentanyl is higher than it has ever been previously as seen by the overdose statistics (figure 1). By holding and acknowledging these truths with humility, the drug crisis requires research, various systematic attention, and flexible solutions that change with social demands.

The American drug epidemic is an ever-increasing problem stemming from misunderstandings and foundational flaws that infect the criminal justice system. With a current punitive approach that neglects the drug user's individuality by omitting the person's neuroscience and social environments, the drug crisis will continue until individual susceptibility of drug use is understood and addressed by the system. Until then, prolonged drug

use continues to detrimentally influence the public health sphere on a macro level. Currently, individual neurobiology and social factors are not adequately incorporated into the criminal justice system's solution for the American drug crisis; this is clear through the prolonged attempt to re-classify cannabis.

Underlying Neurobiological Mechanisms of Drug Use

With failed past efforts to tackle this perversive problem stemming from guilt, shame, and negative reactions toward the individual, a new perspective examining the struggle the individual faces is crucial in the current cultural environment. Drug addiction is not a moral decision individuals are able to make after the onset period. It is chronic in nature, targeting the reward system of the brain, causing relapsing behavior that can be classified as a disorder (American Psychological Association, 2013).

Neurologically, drugs can either inhibit or excite neural activity (Routteledge, 1978). This determines how the neuron will communicate with other neurons and eventually interact with the whole nervous system in the brain (1978). Drugs target neurons in the reward system and involve systems such as learning and memory (1978). Throughout his early research, Routteledge (1978) confirmed that dopamine was a key neurotransmitter released during drug ingestion specifically with stimulants such as amphetamines and cocaine. Dopamine released in the reward and reinforcement center of the brain when activated by amphetamines or methamphetamines creates a powerful flow of dopamine into the synapse and disallows the reuptake of excess dopamine which creates the controlling effects of addiction over time (1978). Individuals self-reinforce behavior because of the dopamine dump that occurs in the substantia nigra region of the brain responsible for mood and learning (1978). If people have any impairment to these regions, Routteledge (1978) discovered a lack of conscious control and subconscious abilities of learning

and memory. Thus, individuals respond differently to this since people are genetically and neurobiologically diverse.

Drug tolerance occurs when an individual ingests enough of a drug that the effectiveness decreases, urging the individual to take more of the drug to feel the effects once again. This is one of the three described mechanisms in the cycle of addiction (figure 2) that George and Koob (2017) discuss: 1. Binge/intoxication and lastly 2. Withdrawal/negative effect
3. Preoccupation/anticipation. Each stage is shown to be more intense with each cycle lapsed which contributes to the extreme grasp addiction holds on people. Motivation and sensation seeking behavior drives the initial desire for intoxication along with cravings that are ignited by release of the associated chemical in the reward system; for example, dopamine is released in the ventral tegmental area upon ingestion of cocaine (George & Koob, 2017). Each stage involves a unique area of the brain responsible for creating habits and reinforcement during the first two stages and disrupt decision making abilities and self-control during the third stage (2017). From the foundation of addiction, it is clear that addiction becomes increasingly difficult to unlearn with each drug ingestion, and impulsivity becomes stronger which limits moral decision-making and increases compulsory action. Therefore, using a moral model in attempts to change individual behavior is impractical.

Individual Contributors to Addiction

Because of the neurochemical stronghold drugs have on individuals and the overwhelming access to prescription drugs in America, the drug epidemic can be considered as one of the greatest urgencies in modern society (Farisco et al., 2018). This creates a greater need for understanding the current state of the drug crisis, what is contributing, and how to approach future solutions; a novel branch of addiction research considers the individual susceptibility of

drug use and brainstorms predictive factors that can hopefully be curbed in the future. A few good predictors of drug abuse are lack of well-being and increased trauma, life hardship, and emotional pain all of which can be internally or externally influenced (Farisco et al., 2018) and can be quantifiable through stress, pain, reward processing, incentive salience, and primary executive functioning (George & Koob, 2017). Farisco and researchers (2018) explored how socioeconomical circumstances modulate the correlation between subconscious processing and drug addiction founded upon neurochemical mechanisms. They argue that individuals who have greater hardship are at higher risk for addiction because of the political, economic, and social pressures that negatively affect global network workspace and paralimbic circuitry of the brain necessary for self-awareness and control (Farisco et al., 2018). Because of this disconnection of conscious thought, people are able to temporarily "escape" their life's problems creating a more rewarding result of drug use (Farisco et al., 2018; Samenow, 2001). Farisco and team (2018) discuss how social factors like socioeconomic status largely influence individuals who use drugs and that their subconscious psychological processes are responsible for addiction on the neuronal level. Therefore the reaction to one's negative environment is to go numb through the use of painkillers typically prescribed as opioids (Substance Abuse and Mental Health Services Administration, 2023). This aligns with George and Koob's (2017) hypothesis that individual vulnerabilities to drug use can be partially attributed to differences in motivational, emotional, and cognitive tendencies. Thus, the psychological and environmental influences are highly specific and individualized, so it is only rational to systematically react by acknowledging these customized experiences.

Statistically, opioid misuse is a pervasive issue; 8.9 million people aged twelve or older misused opioids in the past year because of the access through pharmaceutical industries

(Substance Abuse and Mental Health Services Administration, 2023). Opioids are commonly prescribed as pain suppressors and FDA approved, normalizing their use and decreasing the awareness of abuse by the pharmaceutical companies; 47% of prescription pain relievers that were misused were obtained from a healthcare provider either by stealing or via a valid prescription (Substance Abuse and Mental Health Services Administration, 2023; Farisco et al., 2018). Furthermore, pharmacology research has minimal effect on public attitudes and policy. Cultural attitudes promote more drug abuse since addiction is a deep impairment of conscious and subconscious self-awareness (Farisco et al., 2018). Ignorance of foundational cognitive mechanisms within pharmaceutical expertise is harmful and introduces social and public safety issues surrounding substance misuse. Since policies are influenced and based upon pharmaceutical and expert opinion within scientific institutions, under-researched and misguided information bleeds into the social systems. This consequently poorly impacting populations it was created to serve. The scientific background of addiction is significant in understanding the social and ecological factors of addiction (Farisco et al., 2018). Without a holistic view including neuroscience of the drug crisis, policy makers discount a large section of evidence that would improve decision making. For instance, by increasing drug control to decrease use, this can actually have harmful consequences on both the micro and macro levels (Uhl et al., 2019); without informed decision-making, this issue would intensify as it has over the past few decades. Each system that encounters drugs whether it be medical, clinical, or criminal must consider the individual, the previous research, and the great impact the system itself all have on the micro to macro scale when making decisions.

Individual success can be determined by the institutional structure once the individual has entered the system: if the individual is not met with support from the correctional facility, their

rate of success decreases (Uhl et al., 2019). Neglecting the root problem of disrupted biological problems that the individual suffers from and solely criminalizing drug use creates illicit drug trades that become more dangerous for the individual and society (Uhl et al., 2019).

Evidence of a Failed Method: Statistics

According to the National Center for Drug Abuse Statistics (2024), half of individuals in the United States twelve years or older have tried illicit drugs at least once. Furthermore, since 2000, there have been almost one million overdose deaths in America, and about 80% of these deaths involved opioid use which is seen in Figure 3. Heroin and cocaine are natural drugs that are less chemically potent than fentanyl and have known ingredients and quantities; with the greater increase in synthetic opioids like fentanyl containing the sedative xylazine, 70% of fatal overdoses can be attributed to these unregulated and uncontrolled potent chemicals (DEA, 2024). Individuals who typically use opioids are often unaware of the ingredients in their pills since they physically appear identical to the natural form (Substance Abuse and Mental Health Services Administration, 2024). This can quickly cause an overdose because of the unknown extreme harm fentanyl and xylazine can cause. Two milligrams of fentanyl is considered deadly due to the synthetic process and potency of the drug and the presence of other synthetic drugs like xylazine (DEA, 2024). The Drug Enforcement Administration discovered about 30% of the fentanyl powder they seized in 2023 contained xylazine which is a 5% increase from 2022 (DEA, 2024). Though this increase seems minimal, considering the dysregulation and potency of xylazine, any increase is alarming and can lead to an immediate increase in overdose statistics. As seen in Figure 4, illicit drug use was higher in 2021 than marijuana use, which is a more available and legal drug throughout the United States (Substance Abuse and Mental Health

Services Administration, 2022). The rise of fatal synthetic compounds has become the most pressing issue of the drug crisis as it poses a major threat to public safety.

Another alarming statistic can be found in Figure 5: racial minorities were among the highest number of illicit drug users but are significantly under represented as a population within America (Substance Abuse and Mental Health Services Administration, 2022). This demonstrates the injustice that is prominently a biproduct of the War on Drugs and its harmful outcomes on racial minorities since they are disproportionately represented as victims of drug use. Because of the statistical representation of pervasive drug use and a failed history of drug solutions, the current and past system must be presenting barriers to resolving the drug crisis.

Current Systematic Barriers within Legislation

Numeral systematic flaws contributing to the drug crisis continue to be unaddressed within each branch of the criminal justice system. The judicial process begins with creating laws and enforcing them; the Controlled Substances Act is the primary law that is used to enforce illicit drug use (Gabay, 2013). The Drug Enforcement Administration and the Food and Drug Administration are responsible for creating and enforcing this act (DEA, 2024; Ortiz & Preuss, 2024). This occurs through registration issued by the Attorney General; agencies are responsible for registering pharmaceuticals which expire after three years (Ortiz & Preuss, 2024). Notably, pharmacists within these agencies are automatically exempt from registering which creates room for inconsistencies and deceptive treatment (Ortiz & Preuss, 2024). Amendments to this significant act have occurred since its origination in 1971, including individuals who have been convicted of substance abuse can never be employed within contexts that handle substances like pharmacies; however, this amendment can be waived and re-evaluated on a case-by-case basis (Ortiz & Preuss, 2024). This allows past convicted users an opportunity to return to the drug

scene; this can be harmful for the individual and those they serve because of context-dependent memories and emotions (Godden & Baddeley, 1975). When a drug user returns to people or a setting where drugs have been used in the past, the underlying neurological mechanisms trigger a temptation that leads the user to crave their past substances (1975). Secondly, it negates consistency within legislation since specific situations can be assessed on a case-by-case basis which diminishes the reliability of the legislative system. This is a personal experience which requires an individualized perspective and biopsychosocial solution.

The Controlled Substances Act most significantly impacts the individual via drug scheduling; this contains a measurable list to attempt consistency. Schedule I controlled substances are considered a high potential for abuse and danger and therefore, no prescription can be written for these substances which includes psychedelics, heroin, and marijuana (Ortiz & Preuss, 2024; DEA, 2024). Schedule II also outlines high risk drugs, but clinicians can prescribe these drugs with restrictions; some popular substances include fentanyl and common opioids (DEA, 2024; Ortiz & Preuss, 2024). Schedule III substances have moderate to potential abuse and include ketamine and anabolic steroids. Schedule IV includes low risk drugs that have a potential for physical dependence and contains benzodiazepines (Ortiz & Preuss, 2024; DEA, 2024). Schedule V classifies drugs that have the lowest potential for abuse and includes cough suppressants (DEA, 2024; Ortiz & Preuss, 2024). Considering the alarming statistics surrounding the only recent proposal to reclassify marijuana as a schedule III substance, the legal process is outdated and neglects the importance of basing laws off statistics and neuroscience. Furthermore, the most socially accepted drugs of nicotine and alcohol are not included in these classifications (DEA, 2024; Ortiz & Preuss, 2024), which increases harmful potential since they are less federally regulated. This suggests that drug classification is strongly influenced by cultural

factors and social acceptability instead of expert opinion and research. The potent and common sedative xylazine has been left unscheduled despite its extreme increase in fentanyl and consequently overdose deaths (Ortiz & Preuss, 2024; DEA, 2024). Finally, fentanyl is responsible for 70% of overdose deaths and yet has been scheduled as less dangerous than marijuana (DEA, 2024). According to the CDC (2024), there has been no recorded overdose caused by marijuana. Though marijuana is more accessible than most drugs, it presents a physical dependence, not a long-term neurological alteration that morphs brain chemistry and endangers the drug user like other drugs.

Unfortunately, America has a history of corrupt organizations that have influenced legislation and prescription writing. As aforementioned, about half of opioids obtained for misuse in 2023 were stolen from health care providers or overly-prescribed (Substance Abuse and Mental Health Services Administration, 2023). This is tied to America's dark past: the Sackler Family. The Sackler family who were the owners of Purdue Pharma, were famous for illegally mislabeling oxycontin. This is an opioid-based pain reliever, just as addictive as other opioids, but the Sackler family illegally mislabeled oxycontin as less addictive (Harrington v. Purdue Pharma, 2023). Because of the lies and deceit the Sackler family used in the medical industry, they became one of the wealthiest families in America, generating about 34 billion dollars in revenue through Purdue Pharma (2023). In comparison, the opioid epidemic cost between 53 and 72 billion dollars (2023). In a recent supreme court ruling Harrington v. Purdue Pharma, the Sackler family was found guilty of using third-parties to avoid repaying victims, ultimately undermining the bankruptcy code (2023). Even over a decade after pleading guilty to mislabeling oxycontin, the Sackler family still attempted to regain money and reputation instead of upholding justice and valuing societal health. This demonstrates a segment of the foundation

of the drug crisis and the opioid epidemic: greed and selfish intentions. How can legislation succeed if it is built upon poor intentions?

The difficulty in creating and upholding these laws is that they have both individual clinical implications and public health and safety implications; this creates an even greater responsibility and influential role for both the DEA and FDA. The Controlled Substance Act should be created with the intention and implementation to address behavior in a practical and effective manner. Laws must be founded upon scientific research and expert opinion and it becomes detrimental when it is not. Upon classifying drugs, both medical and scientific evaluation are used to present evidence to the attorney general and the DEA administrator who decide if the drug should be scheduled (DEA, 2024). Comments and public advice are invited but not always considered (DEA, 2024). Firm authority is important for consistency and order within a large organization like the DEA that decides pertinent laws; however, not all perspectives seem to be present in this professional panel that proposes drug abuse. Where are the psychologists and social workers to provide a clinical and social perspective on humanity? How can the minority groups and the user themself targeted by this act be considered if their perspective is rarely presented?

Policing Barriers

The policing branch of the criminal justice system tracks, regulates, and upholds responsibility for adhering to drug laws. Policing lies along a continuum that ranges from punitive to rehabilitative (Rios et al., 2020). As seen in Figure 6, punitive approaches appear in aggressive, controlling manners that result in poor and degrading civilian interactions since they are typically founded upon racial biases (Rios et al., 2020). Rehabilitative approaches are community oriented and can result in trust between society and police officers; however, a model

solely focused on compassion and trust neglects the needed security aspect of the officer's job description. This is what Rios and researchers (2020) argue: a hybrid model between Mano Suave and Mano Dura (figure 6) is ideal when interacting with the community. This presents itself in a contradictory method where officers must maintain punitive action while focusing on rehabilitative reform within the community (Rios et al., 2020). Through observational data, police activity through stop and frisk and punitive responses to non-compliance demonstrate pervasive issues in policing (Rios et al., 2020). Modern policing must divert from current punitive action to improve police interactions with the community (Rios et al., 2020) including drug users.

When built upon a punitive approach, Zhang and colleagues (2022) found that traditional policing did not decrease recidivism, arrest, and incarceration rates in drug-related crimes. Instead, individuals arrested for drug use had higher incarceration periods and frequency after the initial arrest date along with increased overdose rates (Zhang et al., 2022). By focusing on punishment alone, the drug user is not cared for in the long term which leads to harsh relapse (Grimm et al., 2001). During incarceration, it is known that inmates have no access to drugs and are therefore forced to abstain due to situational constraints. In a study conducted by Grimm and team (2001), cocaine abstinence in the first two months resulted in development of extreme cravings due to unknown neuroadaptive mechanisms. This is dangerous for inmates who will re-enter society during this critical incubation period defined as development of intense cravings over an extended period of time (Grimm, 2001). When re-entering society, cocaine users can experience stronger cravings and greater access to them continuing the cycle of recidivism.

Because of the neural change that occurs upon the ingestion of most illicit drugs, it is crucial to appropriately approach drug users upon the basis that personality change consequently

occurs. In a study conducted by Curran and colleagues (2004), individuals who ingested MDMA which generally interacts with the serotonergic system and causes feelings of euphoria and positive emotions resulted in the contrary; participants became more aggressive after several days of drug activation but not after a week which demonstrates a temporary but significant change in emotional disposition. This inherently affects the person's actions and must be considered by the authorities interacting with the individual. Assuming authorities within the system (whether it be police or prison guards) interact with the individual within the first few days of drug ingestion, a more successful outcome for the individual would stem from authorities utilizing research such as this. They would then be able to approach the situation with empathy and understanding instead of matching the aggressive individual with punitive and hostile measures.

Systematic Barriers within Correctional Facilities

Although the drug user is removed from society once in a correctional facility and does not present a current threat to themselves through overdose or others through drug trafficking, there are multiple flaws within the corrections branch of the criminal justice system. According to the Bureau of Federal Prisons (2024), the majority of inmates in prison are due to drug offenses, composing of 44.2% of all sentences (figure 7). Those convicted of the non-violent crime of drug use is twice more than those convicted for violent crimes such as arson, weapons, and explosives (21.9%) and sex crimes (13%) (Bureau of Federal Prisons, 2024). Those who are incarcerated for drug offenses may be placed in a mandatory treatment program which is part of rehabilitative process; however, with a stringent program that many mandatory treatments are structured as, this can counteractively provide barriers for inmates (Gowan et al., 2012). "Strong-arm" rehab programs are punitively based and highly structured which includes drug courts,

parole, and probation (Gowan et al., 2012). When interviewing inmates, Gowan and Whetstone (2012) discovered that “strong-arm” rehab can be discriminatory, resulting in stigmatization and power imbalances rather than biochemical healing. Many attendees were unsuccessful with the strong-arm rehab program as it is highly structured and could be undesirable for some (Gowan & Whetstone, 2012). Some clients would even attend many times (recidivism) which demonstrated its limited personal effectiveness for some (Gowan & Whetstone, 2012). Every individual assigned to programming have individualized life experiences and brain chemistry that are unaccounted for by the correctional setting; a user mandated to criminal-thinking therapy acknowledged their position well: “Our criminal behavior stigmatizes us, but it’s important to understand that this is a disease. We have different brain chemistry than regular people. We think differently than regular people” (George & Whetstone, 2012, p. 78). To this day, there are voluntary and mandatory treatment programs while incarcerated- some are personalized, and some are not (M. Grinde, personal communication, 2024).

Incarceration group therapy and cognitive behavioral therapy are the most common forms of treatment among federal prisons in America (Federal Bureau of Prisons, 2024). Another treatment is drug treatment programs in the form of methadone, suboxone which both aid in opioid withdraw and naloxone which helps recovery with alcohol use disorder (M. Grinde, personal communication, October 8, 2024). The Larimer County Jail located in northern Colorado contains their own methadone clinic that medically treats substance use disorders; however, the inmate must have a prescription for the medication before using it in the correctional setting (M. Grinde, personal communication, October 8, 2024). There is unfortunately a financial burden for the inmates. Methadone and suboxone can be up to $2,000 per one shot a month which cannot be supported by Medicaid for it is not offered to currently

incarcerated prisoners (M. Grinde, personal communication, October 8, 2024). These are crucial for treating opioid withdrawal. Furthermore, once the inmate is released, they are written a script for future treatment, but it is their responsibility to obtain a full prescription from the pharmacy which can present transportation barriers (M. Grinde, personal communication, October 8, 2024). There is no individual treatment planning at Larimer County Jail, but a care coordinator connects with the inmate to discuss broad goals and support for treatment; if the inmate has no interest in receiving treatment, they become the biggest barrier in their own healing journey (M. Grinde, personal communication, October 8, 2024). The programs that this jail offers are voluntary along with the community referrals given after release (M. Grinde, personal communication, October 8, 2024). The progress is impeded since there is not a second party to keep the individual accountable if the individual demonstrates no desire to receive treatment (Taxman et al., 2006). The treatment team at Larimer County always hopes the drug user seeks treatment as intensive outpatient therapy or sober living facilities; these can be coordinated upon release if the judge allows (M. Grinde, personal communication, October 8, 2024). Furthermore, treatment programs often use the gains scoring system to determine a person's susceptibility to psychiatric and substance use disorders due to internal and external factors which can help personalize the individual's experiences, unless this data is not used to follow through with a personalized program (M. Grinde, personal communication, October 8, 2024). In this case, the provided quantitative information is not used to personalize the inmate's healing journey further demonstrating the limited integration of research and knowledge.

Larimer County Jail also provides a voluntary intensive therapy program which focuses on morphing criminal cognition and implementing prosocial behaviors (M. Grinde, personal communication, October 8, 2024). Unfortunately, the guiding materials are based upon outdated

therapy booklets written by Little and team (1999) that contains ten modules to reconstruct cognition surrounding addiction thinking patterns. It begins by assuming the user does not desire to complete the program (1999) which naturally offers the individual the assertion that the facilitators have little to no confidence in the success of the individual. Upon examination of the treatment in state prisons, Fallin and colleagues (1992) concluded that upon several other requirements, a supportive and committed facilitator is necessary for the user to succeed, so when a program is founded upon low confidence, the user is automatically propelled toward failure.

Unfortunately, no treatment has been approved for amphetamine drug use (Hakansson & Berglund) despite its high rate of abuse which was 2.6 million in 2023 (Substance Abuse and Mental Health Services Administration, 2023) and its high level of chemical dependency (Routeledge, 1978). In a study conducted by Hakansson and Berglund (2012), injectable drugs posed an extra risk for recidivism, and specific drugs like amphetamines linked to higher criminal behavior and higher relapse risk. A typical model that is used in drug treatment within prisons is Risk- Need- Responsivity (RNR) which has been thoroughly studied (Taxman et al., 2006; Harris & Wylie, 2022). Upon examining two treatment programs for inmates, Taxman and team (2006) discovered that those assigned to transition into seamless system treatment with a probation officer and drug treatment (RNR) was effective along with cognitive behavior intervention as measured by program completion, but attention must be given to this model to improve treatment according to criminogenic need (substance type and severity of use). Taxman and colleagues' (2006) findings demonstrate there is a clear consequence of disregarding the individual and personalized aspect of treatment that would improve users lives and public health as a whole.

Harris and Wylie (2022) also examine diversion methods within a correctional context through RNR and discover that rehabilitative approaches are generally more effective with a few stipulations: individuals were able to successfully discharge from the program more often if they identified as white and older. Successful discharge was the highest predictor of non-recidivism (Harris & Wylie, 2022). This further demonstrates the racial discrimination that infects multiple facets of the criminal justice system. This also relates to the need for personalized drug treatment programs as this poses an unfair disadvantage for racial minorities to succeed at the same rate as their white counterparts.

Risks Associated with Prolonged Drug Use

Considering the evidence of the flaws throughout every branch of the criminal justice system, the individual is set up for failure which directly impacts society. Because of the macro punitive approach taken toward drug abuse and the shaming micro approach that surfaced from the War on Drugs, the individual experiences tribulations in relation to their struggle with substance misuse. This includes social ostracization through stigmatization and physical needs left unmet like homelessness. In an ethnography on heroin users conducted by Gowan and Colleagues (2012), they describe how political models place individual unproductive shame and moral worth on the user which is more degrading and publicly harmful than a health model which focuses on the cause and cure for the individual. These researchers also noted the impact social views and treatment of the drug user had on their own success and personality which is in accordance with Labeling theory (Durkheim, 1897). When society begins to support and not diminish drug users as “enslaved zombies” (Gowan et al., 2012, p. 1258), programs that restore the user’s sense of rational self and identity could be groundbreaking. When society “labels” the individual as a moral failure who will continue to be a drug user, the user internalizes this

ideology which in turn affects their behavior and lack of success in many facets of life including housing (Durkheim, 1897).

Some individuals unfortunately continue stigma by feeding into labeling their peers. Within the rehab therapy setting, some users neglect the extremity of their chemical dependence when compared to other users. A young user claimed in an ethnography conducted by Gowan and Whetstone (2012): “But I just smoke weed! I’m not, like, some crack addict” (p. 77). Two discrepancies between the individual and a misunderstanding of neurochemical mechanisms lie within this statement: 1. Stigmatization and labeling infects the user himself by defensively claiming a “better than a crack addict” perspective which 2. Demonstrates the rejection of the truth that he himself may have a chemical dependency that affects his quality of life. The diagnosis is clear during rehab programs oftentimes but requires individual acknowledgement for proper cognitive healing (Gowan & Whetstone, 2012). Diagnoses in themselves label people; however, it is the initiation of the healing journey by effectively and empathically recognizing the root of the issue without stigmatization. This further promotes the integration of psychological professionals in the criminal justice system.

Keene and researchers (2018) conducted interviews on inmates re-entering society to find that housing is the most pertinent in forming life after prison experiences which are often negative as the quest for housing in the stigmatized group of individuals is rarely fair. When founded upon stigmatized ideologies, landlords weaponize the individual’s criminal history as grounds for housing exclusion even if they are deserving of housing (Keene et al., 2018). The United Nations Office of Drug and Crime (2016) utilized a biopsychosocial approach to acknowledge that everyone must “recognize drug dependence as a complex, multifactorial health disorder characterized by chronic and relapsing nature with social causes and consequences that

can be prevented and treated through inter alia, effective scientific evidence-based drug treatment, care and rehabilitation programs…" (p. 6). Eight years ago this definition was announced and yet globally people still struggle to accept drug users are their equals deserving of support and resources. These are personal outcomes that require individual changes in behavior.

Solutions for a Better Future

Since substance abuse often co-occur with crimes that disrupt society, the only proper way to approach drug abuse is through a public health model (Substance Abuse and Mental Health Services Administration & Office of Surgeon General, 2016). This book is very thorough and directs America on the path to successful treatment of substance use disorder by taking a multifaceted approach starting with individuals factors like neurobiology and discussing the macro effects of drug addiction like financial burdens and criminal activity (2016). Although this report is thorough, implementation of suggestions is complex and time intensive; the report concludes with granting each American with the responsibility to change their attitude and behaviors toward substance abuse and those who misuse (2016). Unfortunately, there is no practical implementation or guideline to follow-up this conclusion to hold Americans accountable for their negative behavior which can explain the stagnant improvements on this issue as seen by the trending increase in the National Drug Threat Assessment (DEA, 2024) and ethnographies that have captured traditional negative attitudes and discriminatory actions toward drug users (Keene et al., 2018; Harris & Wylie, 2022). Improving behavior begins with improving cognition which is founded upon words. A practical approach to improving social treatment of drug users is improving verbiage surrounding the topic by replacing words that have a moral implication like "abuse" or "addict" with "misuse" or "individual experiencing

addiction." This limits labeling the person poorly to avoid degrading internalization and instead replace it with empathetic and dignifying language.

As societal advances are made, changing policy is also required to avoid harmful phenomenon. Most currently, policies surrounding marijuana use were met with confusion and aggravation as to its more dangerous drug schedule than deadly fentanyl (DEA, 2024). When people view a situation as an impediment to their rights and something that appears to be founded upon faulty logic, an uproar can occur; this is evident from the Prohibition where people were unhappy since social progression was at war with legislation (Harris & Ewing, 1910). Similarly, marijuana was labeled more dangerous than fentanyl until supposedly later in 2024 when it could be ruled to be considered a schedule III drug (DEA, 2024). This demonstrates the inflexibility of legislation which is harmful to the community of people the laws were made to serve. If legislation was properly built upon thorough research and expertise, there would be no need for inflexibility and questions. According to the current classifications, the drug that poses the least threat to Americans (figure 4) remains one of the most dangerous in comparison to the illicit drugs causing death more often.

As recidivism continues to threaten the drug user and society, effective and evidence-based treatment methods must be used in the criminal justice system and beyond. These interventions must adhere to the following according to Fallin and researchers (1992): support and care from a competent staff and correctional officers, useful resources, treatment interventions that target the behavioral lifestyle of the user, and continuation of treatment beyond the correctional facility setting. This initiates an intentional and personal approach that requires knowledge, care, and persistence from the clinician. Furthermore, Linhorst and team (2010) demonstrate that participants in a mental health court with a proper case manager can help the

individual's success rate. This further demonstrates the needed personal approach in meeting people in their current struggles. Some communities go as far as to meet people in public with a variety of certified experts like medical professionals and case managers (LEAD Program, 2024). Caring and competent staff could include having confidence and trust in the drug user they are serving. With trust and confidence, autonomy and responsibility is passed to the individual. When using a specific health-based program called "Connection Points," heroin users assumed autonomy and could imagine a better life for themselves when they were given small responsibilities like cleaning syringes (Gowan et al., 2012). Treatment begins with a good relationship between staff and the individuals they are treating as well as adherence to effective treatment techniques and proper resources.

Since useful and adequate resources are necessary for success (Fallin et al., 1992), there needs to be great improvement. Meeting people in the midst of their struggles can be practically implemented with progression medically in the form of overdose prevention centers (Colorado General Assembly, 2023). Specific regions have allowed a decriminalization approach by limiting overdoses and providing clean syringes to avoid infections (2023). Although this rehabilitative method does not target the root problem or aim for long term care, in a state of emergency, prevention centers have proved as a necessary step in America's healing process (Colorado Drug Policy Coalition, 2024). Staff is present to serve individuals in their current state by not only providing safe materials, but also answering questions and demonstrating care (2024). Roux and team (2023) discovered that this harm reduction method resulted in less overdoses for participants who used overdose prevention centers. This personal approach can limit stigma and re-build the individual's self-worth by labeling them as someone who is worthy of attention and care. Harm reduction and overdose prevention services are protective and

necessary, but when unpaired with another solution, this is unsustainable for a long duration as it does not target the root cause of addiction (Roux et al., 2023).

Progress within this issue is being made, but it is insufficient when considering the increase in use and overdose (see figure 1 and 3). Though the Surgeon General, DEA, and FDA understand the neurobiology of addiction and the desperate need to acknowledge individual differences, legislation and implementation of this knowledge is sparse to non-existent. Legislation must be founded up research and progressive with social direction, policing should be a balance between punitive and rehabilitative measures, and correctional facilities must implement personalized treatment programs by using a humanistic and success-oriented mindset. Numerous studies and reviews agree with using public health and biopsychosocial models to address the root of the issue and offer proper personalized treatment and solutions throughout each branch of the criminal justice system. More research is needed to determine the best model to pair with decriminalization and harm reduction (Roux et al., 2023). Furthermore, more exploration is needed demonstrating how to safely incorporate community members in assisting the drug crisis by supporting individuals.

In addition to the systematic reforms that need to occur, a social shift of destigmatization is necessary for individuals to succeed. Breaking away from shameful concepts created by the War on Drugs is pertinent in America's progress on the drug crisis. Supporting the individual instead of demoralizing them is a necessary ingredient for success. What would happen in a world where addiction was met with understanding, empathy, and proper treatment instead of shame, discrimination, and generic, macro approaches?

References

Anslinger, H. J. (1937, July). Marijuana—Assassin of Youth. *The American Magazine*. https://www.cannabis-marijuana.com/assassin-of-youth.html

American Public Health Association. (2013, November 5). *Defining and Implementing a Public Health Response to Drug Use and Misuse*. https://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2014/07/08/08/04/defining-and-implementing-a-public-health-response-to-drug-use-and-misuse

Baum, D. (April 2016). Legalize It All: How to win the war on drugs. *Harper's Magazine*. https://harpers.org/archive/2016/04/legalize-it-all/

Beck, J. (1998). 100 Years of "Just Say No" Versus "Just Say Know": Reevaluating Drug Education Goals for the Coming Century. *Evaluation Review*, *22*(1), 15–45. https://doi.org/10.1177/0193841X9802200102

Center for Disease Control and Prevention (2024). *Products—Vital Statistics Rapid Release—Provisional Drug Overdose Data*. Retrieved August 7, 2024. https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm

Curran, H. V., Rees, H., Hoare, T., Hoshi, R., & Bond, A. (2004). Empathy and aggression: Two faces of ecstasy? A study of interpretative cognitive bias and mood change in ecstasy users. *Psychopharmacology*, *173*(3), 425–433. https://doi.org/10.1007/s00213-003-1713-6

Drug Enforcement Administration (2024). *DEA Releases 2024 National Drug Threat Assessment*. Retrieved August 27, 2024, from https://www.dea.gov/press-releases/2024/05/09/dea-releases-2024-national-drug-threat-assessment

Drug Enforcement Administration (DEA), Justice. Registration and reregistration application

fees. Confirmation of final rule, remanded for further notice and comment, and response to comments. Fed Regist. 2002 Aug 09;67(154):51987-52007

Drug Enforcement Administration. (2024, August 29). *Schedules of Controlled Substances: Rescheduling of Marijuana*. Federal Register. https://www.federalregister.gov/documents/2024/08/29/2024-19370/schedules-of-controlled-substances-rescheduling-of-marijuana

Durkheim, E. (1897). Suicide, a study in sociology (1951 Edition, J. A. Spaulding, & G. Simpson, Trans.). London: Routledge.

Fallin, G. P., Wexler, H. K., & Lipton, D. S. (1992). Drug Treatment in State Prisons. In *Treating Drug Problems: Volume 2: Commissioned Papers on Historical, Institutional, and Economic Contexts of Drug Treatment* (Vol. 2). National Academies Press (US). https://www.ncbi.nlm.nih.gov/books/NBK234751/

Farisco, M., Evers, K., & Changeux, J.-P. (2018). Drug Addiction: From Neuroscience to Ethics. *Frontiers in Psychiatry*, *9*. https://doi.org/10.3389/fpsyt.2018.00595

Federal Bureau of Prisons. (2024). *BOP Statistics: Inmate Offenses*. https://www.bop.gov/about/statistics/statistics_inmate_offenses.jsp

Gabay, M. (2013). The Federal Controlled Substances Act: Schedules and Pharmacy Registration. *Hospital Pharmacy*, *48*(6), 473. https://doi.org/10.1310/hpj4806-473

Godden, D. R., & Baddeley, A. D. (1975). Context-dependent memory in two natural environments: On land and underwater. *British Journal of Psychology*, *66*(3), 325–331. https://doi.org/10.1111/j.2044-8295.1975.tb01468.x

Gowan, T., & Whetstone, S. (2012). Making the criminal addict: Subjectivity and social control

in a strong-arm rehab. *Punishment & Society*, *14*(1), 69–93. https://doi.org/10.1177/1462474511424684

Gowan, T., Whetstone, S., & Andic, T. (2012). Addiction, agency, and the politics of self control: Doing harm reduction in a heroin users' group. *Social Science & Medicine*, *74*(8), 1251–1260. https://doi.org/10.1016/j.socscimed.2011.11.045

Grimm, J. W., Hope, B. T., Wise, R. A., & Shaham, Y. (2001). Incubation of cocaine craving after withdrawal. *Nature*, *412*(6843), 141. https://doi.org/10.1038/35084134

Harrington v. Purdue Pharma, 23-124, F.2d. p. 1-58. (2023). https://www.supremecourt.gov/opinions/23pdf/23-124_8nk0.pdf

Harris, C. W., & Wylie, L. (2022). Drug Testing Policies and Practices: Predicting Successful Outcomes among Juveniles Participating in Pretrial Diversion Programs. *Justice Evaluation Journal*, *5*(1), 36–52. https://doi.org/10.1080/24751979.2021.1952643

Hkansson, A., & Berglund, M. (2012). Risk factors for criminal recidivism—A prospective follow-up study in prisoners with substance abuse. *BMC Psychiatry*, *12*(1), 111–118. https://doi.org/10.1186/1471-244X-12-111

Hunt, M. E. (1891). *A history of the first decade of the Department of Scientific Temperance Instruction in Schools and Colleges, of the Woman's Christian Temperance Union.* Boston: George E. Crosby and Company.

Keene, D. E., Smoyer, A. B., & Blankenship, K. M. (2018). Stigma, housing and identity after prison. *The Sociological Review*, *66*(4), 799–815. https://doi.org/10.1177/0038026118777447

Law Enforcement Assisted Diversion/Let Everyone Advance with Dignity (LEAD) Program |

Behavioral Health Administration. (2024). Retrieved September 5, 2024, from https://bha.colorado.gov/behavioral-health/LEAD

Linhorst, D. M., Dirks-Linhorst, P. A., Stiffelman, S., Gianino, J., Bernsen, H. L., & Kelley, B. J. (2010). Implementing the Essential Elements of a Mental Health Court: The Experiences of a Large Multijurisdictional Suburban County. *The Journal of Behavioral Health Services & Research*, *37*(4), 427–442. https://doi.org/10.1007/s11414-009-9193-z

Little, G. L., Pettit, J. R., & Robinson, K. D. (1999). *Thinking For Good: Confronting Antisocial and Criminal Thinking*. Eagle Wing Books, Inc. https://www.ccimrt.com/product/thinking-for-good-workbook/

Nixon, R. (1968, August 8). *Address Accepting the Presidential Nomination at the Republican National Convention in Miami Beach, Florida | The American Presidency Project*. The American Presidency Project. https://www.presidency.ucsb.edu/documents/address-accepting-the-presidential-nomination-the-republican-national-convention-miami

Ortiz, N. R., & Preuss, C. V. (2024). Controlled Substance Act. In *StatPearls*. StatPearls Publishing. http://www.ncbi.nlm.nih.gov/books/NBK574544/

Overdose Prevention Center. Colorado Drug Policy Coalition. (2024). Retrieved September 21, 2024, from https://www.codpc.org/opc2024

Reagan, R. & Reagan, N. (1986). *Address to the Nation on the Campaign Against Drug Abuse.* [Speech transcript]. Ronald Reagan Presidential Library and Museum, https://www.reaganlibrary.gov/archives/speech/address-nation-campaign-against-drug-abuse

Rios, V. M., Prieto, G., & Ibarra, J. M. (2020). Mano Suave–Mano Dura: Legitimacy Policing

and Latino Stop-and-Frisk. *American Sociological Review*, *85*(1), 58–75. https://doi.org/10.1177/0003122419897348

Routtenberg, A. (1978). The Reward System of the Brain. *Scientific American*, *239*(5), 154–165.

Roux, P., Jauffret-Roustide, M., Donadille, C., Briand Madrid, L., Denis, C., Célérier, I., Chauvin, C., Hamelin, N., Maradan, G., Carrieri, M. P., Protopopescu, C., Lalanne, L., Auriacombe, M., & COSINUS Study Group. (2023). Impact of drug consumption rooms on non-fatal overdoses, abscesses and emergency department visits in people who inject drugs in France: Results from the COSINUS cohort. *International Journal of Epidemiology*, *52*(2), 562–576. https://doi.org/10.1093/ije/dyac120

Samenow, S. E. (2011). Individual Characteristics Associated with Crime and Substance Misuse. In C. Leukefeld, T. P. Gullotta, & J. Gregrich (Eds.), *Handbook of Evidence-Based Substance Abuse Treatment in Criminal Justice Settings* (pp. 13–21). Springer. https://doi.org/10.1007/978-1-4419-9470-7_2

Substance Abuse and Mental Health Services Administration (US), & Office of the Surgeon General (US). (2016). Vision for the Future: A Public Health Approach. In *Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health*. US Department of Health and Human Services. https://www.ncbi.nlm.nih.gov/books/NBK424861/

Substance Abuse and Mental Health Services Administration. (2021). Key substance use and mental health indicators in the United States: Results from the 2021 National Survey on Drug Use and Health (HHS Publication No. PEP22-07-01-005, NSDUH Series H-57). Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health

Services Administration. https://www.samhsa.gov/data/report/2021-nsduh-annual-national-report

Substance Abuse and Mental Health Services Administration. (2023). Key substance use and mental health indicators in the United States: Results from the 2021 National Survey on Drug Use and Health (HHS Publication No. PEP22-07-01-005, NSDUH Series H-57). Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration.https://www.samhsa.gov/data/sites/default/files/reports/rpt47095/National%20Report/National%20Report/2023-nsduh-annual-national.pdf

Uhl, G. R., Koob, G. F., & Cable, J. (2019). The neurobiology of addiction. *Annals of the New York Academy of Sciences*, *1451*(1), 5–28. https://doi.org/10.1111/nyas.13989

United Nations Office on Drugs and Crime. (2016). *Outcome Document of the 2016 United Nations General Assembly Special Session on the World Drug Problem.* https://www.unodc.org/documents/postungass2016/outcome/V1603301-E.pdf

Zhang, A., Balles, J. A., Nyland, J. E., Nguyen, T. H., White, V. M., & Zgierska, A. E. (2022). The relationship between police contacts for drug use-related crime and future arrests, incarceration, and overdoses: A retrospective observational study highlighting the need to break the vicious cycle. *Harm Reduction Journal*, *19*(1), 67. https://doi.org/10.1186/s12954-022-00652-2

18th Amendment of the Constitution. (1910). [Graphic]. In *Harris & Ewing photograph collection* (LC-H25- 3144 [P&P]). Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA http://hdl.loc.gov/loc.pnp/pp.print. https://www.loc.gov/resource/hec.14201/

Figures

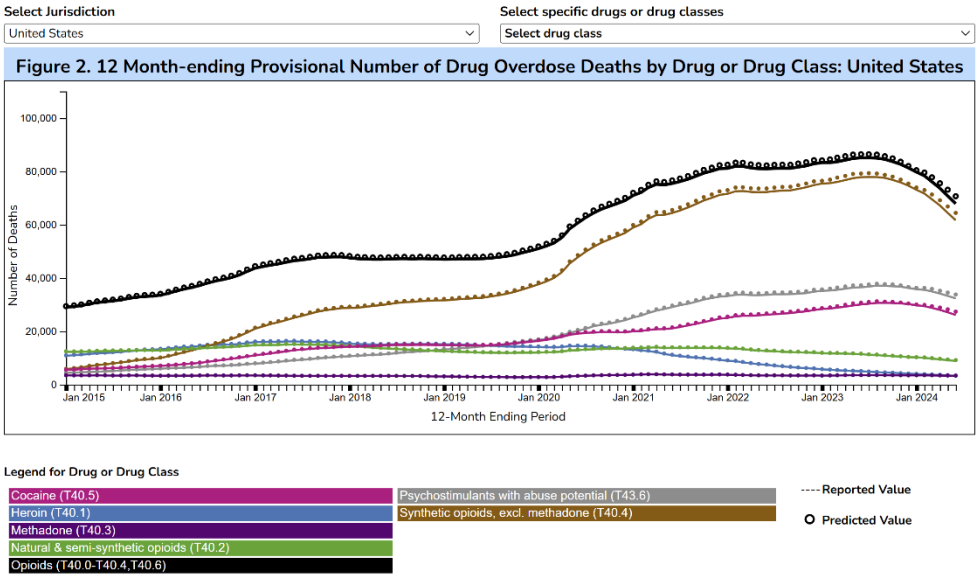


Figure 1: Drug overdose deaths in the US from 2015-2024 categorized into drug types as provided by the Center for Disease Control

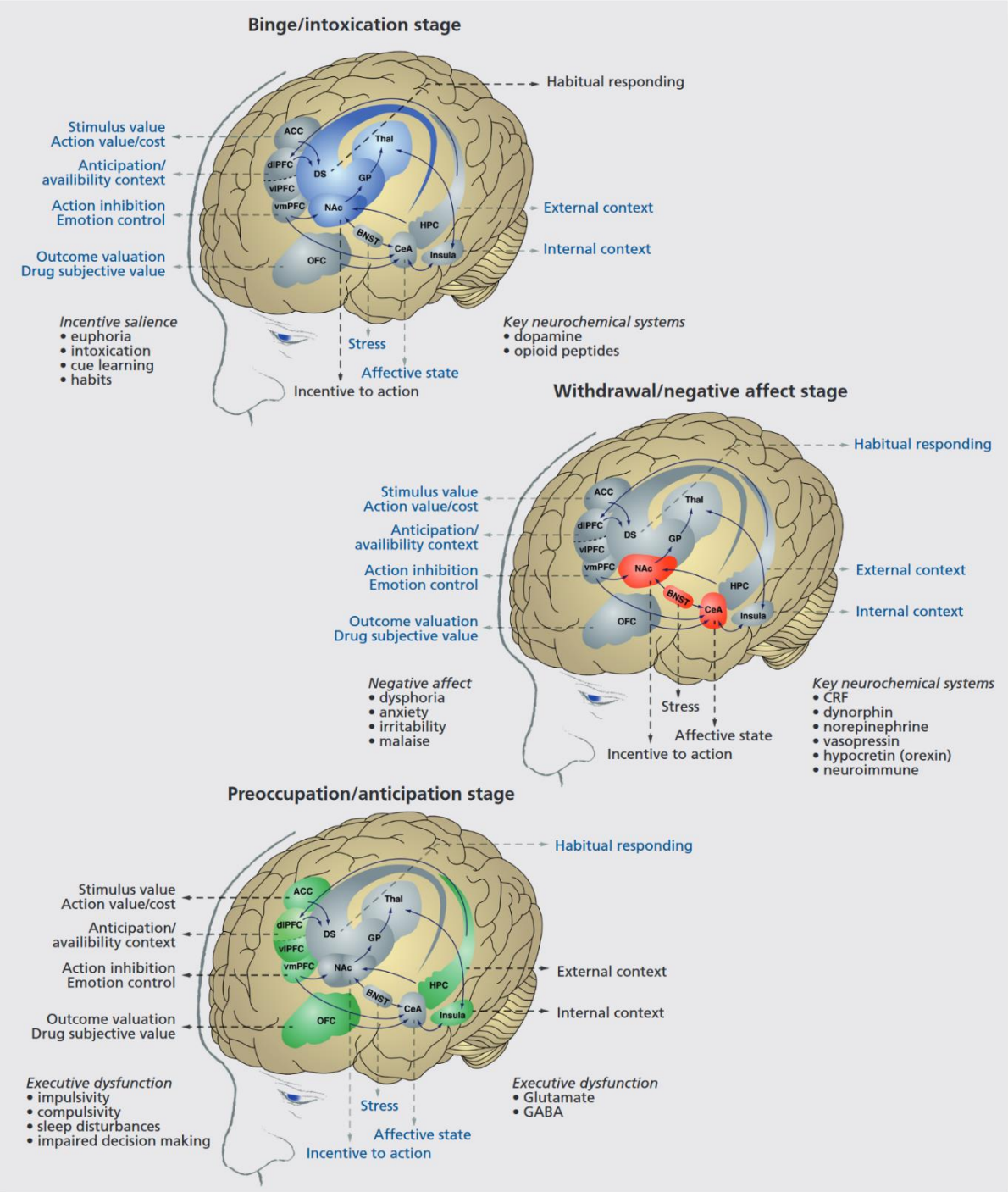


Figure 2: The Cycle of Addiction consisting of three stages: 1. Binge/intoxication stage 2. Withdrawal/negative affect stage 3. Preoccupation/anticipation stage (George & Koob, 2017)

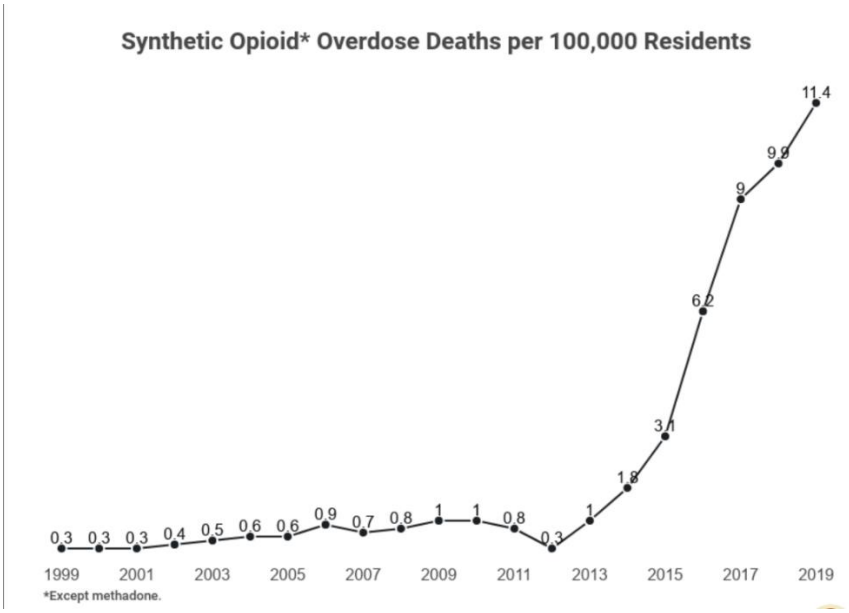


Figure 3: National Center for Drug Abuse Statistics describing opioid overdose deaths in America across time

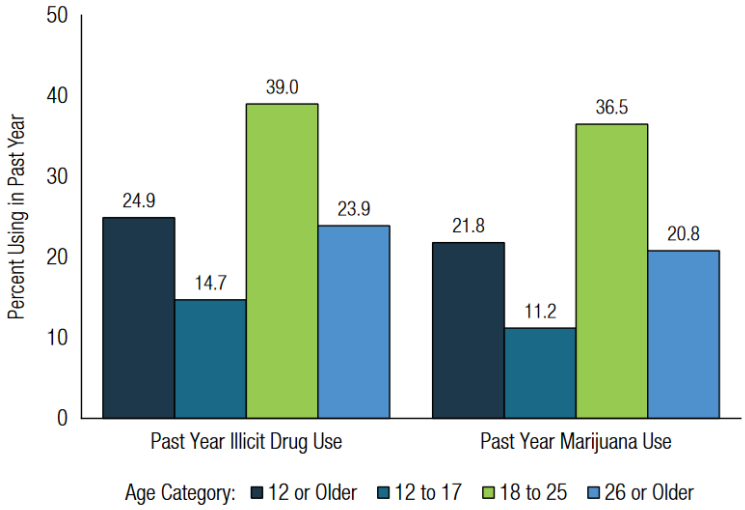
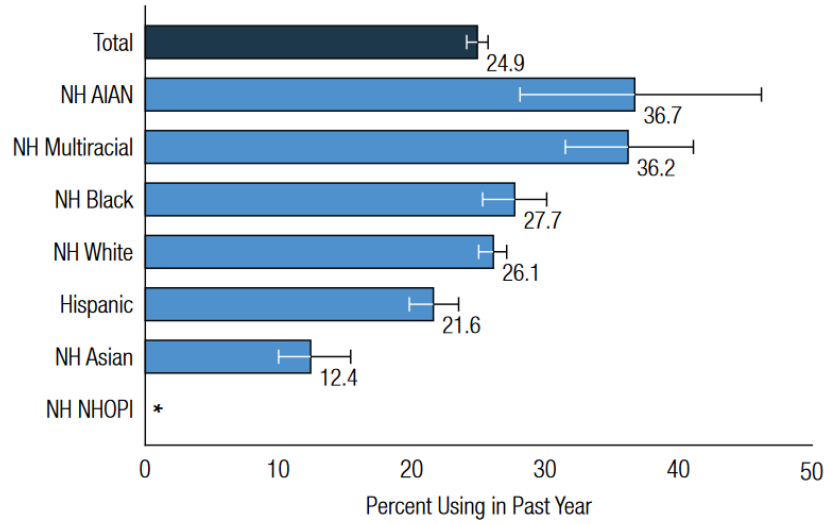


Figure 4: 2023 illicit drug use compared to past year marijuana use among people aged 12 or older provided by 2023 National Survey on Drug Use and Health



* Low precision; no estimate reported.

AIAN = American Indian or Alaska Native; Black = Black or African American; Hispanic = Hispanic or Latino; NH = Not Hispanic or Latino; NHOPI = Native Hawaiian or Other Pacific Islander.

Note: Error bars were calculated as 99 percent confidence intervals. Wider error bars indicate less precise estimates. Large apparent differences between groups may not be statistically significant.

Figure 5: 2023 illicit drug use among people aged 12 or older distributed across ethnicity provided by 2023 National Survey on Drug Use and Health

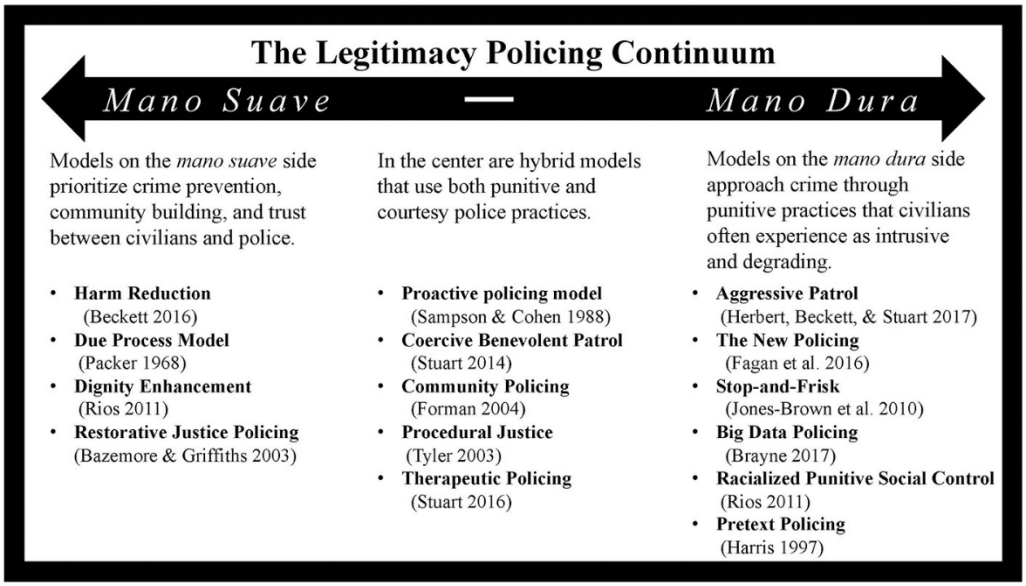


Figure 6: The legitimacy of policing continuum demonstrating a balanced approach between rehabilitation and punishment (Rios et al., 2020)

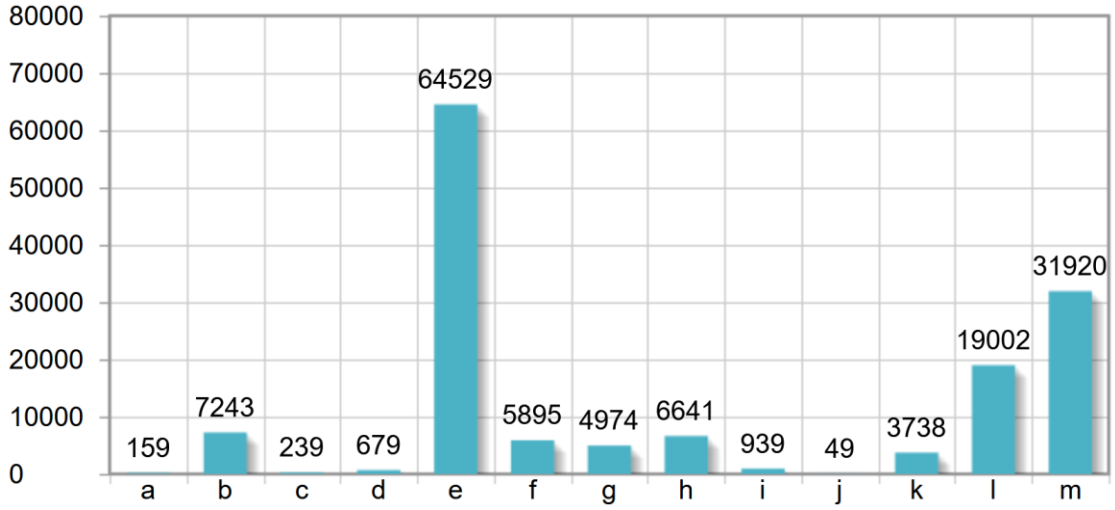


Figure 7: Prison composition of inmates by offense in reference to E, drug offenses (Federal Bureau of Prisons, 2024)