An Investigation of the Societal Implications of Addiction Treatments in the US Healthcare System

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On my honor as a University Student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments

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Introduction: Addiction and the Social Constructs Around Cocaine Use

The 1987 “This is Your Brain on Drugs” commercial, a symbol of the Reagan administration’s War on Drugs, depicted a fried egg representing the brain’s destruction by drugs. This period marked a turning point, paving the way for the disproportionate impact of substance abuse policies on marginalized communities. Harsh sentencing for drug possession and paraphernalia became the defining feature of the ‘war’, leading to skyrocketing incarceration rates. The Anti-Drug Abuse Act of 1986 exemplifies the disparity establishing a 100:1 sentencing difference between powder cocaine and crack cocaine. This meant a person with 5 grams of crack received the same mandatory sentence as someone with 500 grams of powder cocaine. Crack, highly available and cheap to make, spread like wildfire in marginalized and low-income communities (especially black communities), fueling the sociocultural debate and making people of color prime targets. In *Crack Was King,* Donavan X. Ramsey describes that the following Reagan, Bush’s push against crack cocaine was a panic epidemic in which demonized drug dealers and addicts as well as fueled his administration to be hard on crime. By 2013, 57% of people incarcerated in state prisons and 77% of people incarcerated in federal prisons for drug offenses were Black or Latino compared to 30% of the U.S population (DPA, 2023). While this study does not directly compare usage patterns to incarceration rates, it highlights the importance of considering how socioeconomic factors influence drug patterns over time. Virginia, as a case study, increased cocaine use underscores the potential link between economic climate and substance abuse, aligning with the Social Determinants of Health framework (economic stability, educational access, healthcare access, neighborhood environment, and social context). *From which, this paper will explore to what extent do socioeconomic factors exacerbate substance abuse, especially cocaine use, issues in marginalized communities in the United States?*

Methods

The method of investigation will follow a literature review and data analysis in order to attempt to draw meaningful conclusions about the correlation between socioeconomic factors and cocaine addiction in the United States. First a historical overview of the drug, followed by the role it has played in pop culture and socio-politically. Next, there will be an assessment of the current state of the healthcare system and general societal factors that influence the United States healthcare systems efficacy which will be framed under Five Social Determinants of Health. Lastly, in order to confirm the hypothesis that there is a direct interconnection between cocaine use and social determinants of health, public health data as well as overdose rates will be important metrics in order to determine the gravity of the problem that is predicted to be exacerbated by factors discussed. In conclusion, a solution can be offered in funding and exploring more ubiquitous treatment for addiction to address and interrupt the current path of addiction rates in the United States.

Background Information: How Has Culture Played a Role?

The history of cocaine in the United States is a complex and deeply tragic story. While the original variation of cocaine can be dated back to the 1500s when the inca tribes understood the effects of chewing the coca leaves. It transitioned to being explored by scientists to be used for modern medicinal uses, but it was not until the 19th century when the chemical compound was isolated so it could be further developed as an early form of local anesthesia, and recognized as the modern day anesthesia ancestors. Through its development the adverse effects of addictions were discovered as it moved to more mainstream forms such as including it in wines, coca cola products, and other advertised ‘supplements’. From this shift it was as early as the 1900s evidence of cocaine addiction began to appear, and ultimately led to amphetamines.

Cocaine's addictive properties outweighed the wonder drug that it was initially thought it was to be. Paralleling Reagan's War on Drugs, recreational cocaine use surged in the 70s. Its cultural impact began to divide along socioeconomic lines as it was seen amongst wealthy populations as a 'jet set' drug associated with affluence and leisure fueled even by its Hollywood portrayal (think sex, drugs, and rock and roll)(*The Buyers - A Social History Of America's Most Popular Drugs | Drug Wars | FRONTLINE | PBS*, n.d.). On the other hand, the development and quick appearance quickly turned this rock and roll drug to a public health epidemic. Crack was developed, with its origins highly refuted, by mixing freebase cocaine with baking soda and water to form a white milky part which can be formed into rocks. This form was highly potent using less of the expensive ingredients, at the same time by making it highly smokable increasing accessibility even more (*Crack Cocaine*, 2013). The appearance of crack due to its accessibility began popping up in major cities such as Los Angeles, New York, and Miami and hit the marginalized communities most. While the exact reasons for its prevalence in these areas are multifaceted, socioeconomic factors such as poverty, lack of opportunities, and historical disinvestment in these communities plays a significant role. Additionally, the targeting of inner-city neighborhoods by drug traffickers and the aggressive marketing tactics used to promote crack contributed to its widespread availability in these cities. Moreover, the advent of crack coincided with the escalation of the War on Drugs, which disproportionately impacted communities of color. As previously stated, this is the beginning of when the factors of the War on Drugs began to hit these communities as crack began to the be the major contributor to the high incarceration rates of the 80s and 90s, and during this time it was found that while 2⁄3 of crack users were White and Hispanic, 84.5% of convicted for possession were black (*The Buyers - A Social History Of America's Most Popular Drugs | Drug Wars | FRONTLINE | PBS*, n.d.).

Different societal forces have created the storm of cocaine addiction that has had lasting societal impact will be explored throughout the paper.

Through each of the 5 determinants of health, the exploration of the detrimental effects of addiction has had in the United States can be further understood as not only uniquely a cause, but simultaneously an effect as well. The five determinants of health are a framework developed by the CDC which describes the nonmedical factors that influence a person's health. Economic stability, educational access, healthcare access, neighborhood environment, and social context are the five factors that are not only interconnected but interdependent factors. In the lens of addiction, it can help frame the complex interplay where addiction not only acts as a cause for adverse health outcomes but arises from and perpetuates unequal access to resources and opportunities.

STS Analysis and Framework: Utilizing Public Health Structures

The social implications of addiction treatment in the United States healthcare system, focusing on cocaine addiction in the field of Science, Technology, and Society (STS) offers valuable perspectives for analysis. STS explores the interplay between sociopolitical, cultural, and historical forces that shape scientific and technological practices. The social implications of Addiction treatment can be well viewed from the STS lens as the complex interactions between healthcare systems, addiction treatment

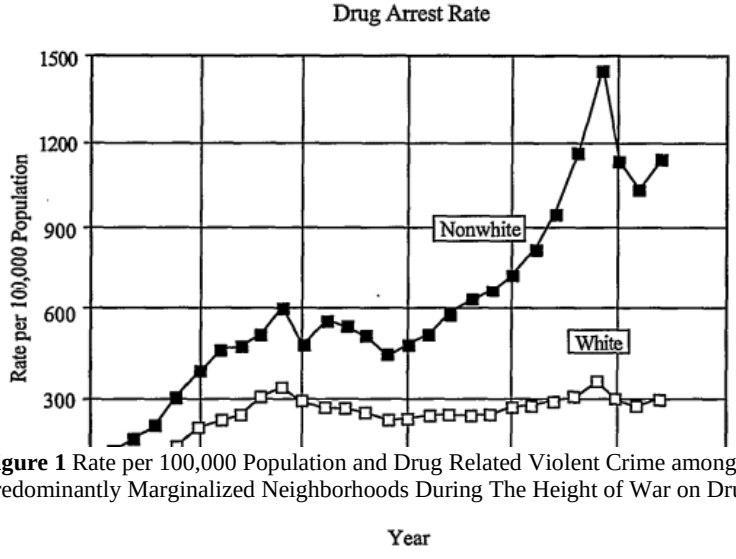

Figure 1 Rate per 100,000 Population and Drug Related Violent Crime amongst Predominantly Marginalized Neighborhoods During The Height of War on Drugs

policies, social determinants of health, and the lived experiences of individuals who suffer with addiction.

There has been considerable interest in the social determinants of health (SDOH) over the last 2 decades. The World Health Organization defines SDOH as “the conditions in which people are born, grow, live, work, and age” and the “fundamental drivers of these conditions” (Braveman & Gottlieb, 2014). This definition has been broadly adjusted and revised across many different sources, but the U.S Department of Health and Human Services has defined a clear framework of 5 domains including: Economic stability, education access and quality, healthcare access and quality, neighborhood and built environment, and social and community context. The framework provides a significant lens to analyze the social implications of addiction treatment. The SDOH framework is broadly used in not only public health but also in sociology, economics, and policy studies. It guides diverse perspectives and contexts through a comprehensive basis. Bravemen and Gottlieb argue that while medical care is essential, it alone cannot adequately address health inequities without addressing broader social factors. SDOH advocates for a deeper examination of the “causes of the causes” and merely addressing proximal factors and individual players in healthcare access is insufficient without tackling what is fundamentally at the root of the healthcare disparities within the US. Which aligns perfectly with the framework in which this research will continue to question how socioeconomic disparities, structural inequalities, and cultural factors influence access to addiction treatment, effectiveness of interventions, and stigma surrounding addiction.

As for major contributors, Thomas McKeown was highly influential as he studied death records for England and Wales from the mid-19th century through the early 1960s. McKeown attributed the dramatic increases in life expectancy to improved living conditions, nutrition,

sanitation, and clean water. McKeown went on to explore that medical care played little to no role in the increase in life expectancy. It is found through many of the current and recent studies reference and relate back to the work of McKeown, giving him a heavy contribution to the basis of SDOH. A review by McGinnis et al. estimated that Medical Care was responsible for only 10-15% of preventable mortality, while Mackenbach suggested that might even be an underestimate (Mackenbach, 1996). McGinnis and Foege went on to conclude that half of *all* deaths in the US involve behavioral causes and are strongly shaped by social factors (McGinnis & Foege, 1993). Michael Marmot, a prominent epidemiologist, went a step further to suggest policy interventions in which SDOH can address disparities.

In terms of agreement or disagreement among authors of the SDOH framework, while there are many nuances and slight differences in how determinants are sorted into domains, there is a consensus that the importance of addressing SDOH to improve health outcomes. Any author such as Bravemen, Gottlieb, Marmot, etc. all underscore the critical role of social factors. The critical role can be attributed to shifting the focus from individual behaviors, biological factors, or medical advances to broader social, economic, and environmental conditions. However, there has been some push back on McKeown specifically as he relied on backward extrapolation of a deductive kind for his assertions about trends in the pre-registration period. Secondly, his analysis of the post 1838 cause of death data reportedly overestimated the role of tuberculosis leading to overstate the role of living standards. Lastly, it argued that early medical interventions were more effective than McKoewn allowed for. Overall, it seemed a lot of his research was heavily biased. However, despite these refutes to the basis of the SDOH framework, it is still heavily supported that much action is to be taken to safeguard the health of society outside policy and factors such as income, safety, and environment have major roles (Grundy, 2005).

Overall, the Social Determinants Framework provides a comprehensive and nuanced perspective for analyzing the social implications of addiction treatments in the US healthcare system, including addiction treatment. By understanding the broader conditions policy makers but also healthcare providers and researchers can develop more effective and equitable approaches to addressing and improving population health.

Results: The Interplay of SDOH

Educational Access

As a large indicator of socioeconomic climate, not only the access to quality education is inarguable, but rather the correlation between educational attainment and addiction rate. It has been found that there is a significant impact of early education on adult drug use disorders in African Americans as it follows a cohort of children from first grade to mid adulthood. These significant findings included that underachievement in early education, low math and reading scores in middle school, lack of high school attendance, and dropping out of school before receiving their diploma were associated with increased risk of developing drug disorders. The underlying causes of this has been deeply explored, as the relationship not only can be an indicator of other factors discussed, but rather it is not what it was originally understood to be in that it is not simply childhood do not learn about dangers of drugs that they do not do it, which was the big educational push to done by the Reagan administration parallelling the war on drugs in the start of D.A.R.E educational program (Fothergill et al., 2008). From here, educational access is just another indicator of social and economic factors.

Social Context

When considering social context, this began not just with the War on Drugs but rather the paralleling factors of the glorification of cocaine of the 70s into the 80s. It was commonplace to see rockstars, movie stars, businessmen and women use coke as a part of everyday lifestyle. All the while, the War on Drugs was demonizing users in the marginalized communities. This dichotomy limited the dialogue and access to resources, along with high incarceration rates. Furthermore, the media and sexualization of drug use fails to capture the complex and social and economic factors involved, even furthering the stereotypes that exist today. Examples such as 'crackhead', or 'cracked' out are common terms in modern language dating back to the late 1900s.

Additionally, along with economic stability, it is found there is a correlation between world events and social instability and drug use. While this may feel like a catch-all but is often seen that in a high state of social turmoil there is a high level of drug use. It can even be seen in the 70s with the state of the cold war, the height of cocaine use and beginning of the epidemic. As well as in the past two decades there is a higher level after 9/11 as well as the 2008 economic collapse, and even since 2013 cocaine use has increased in Virginia by 33% (UVA CLEAR, 2023).

Social disorganization also plays a vital role in drug abuse research. Social disorganization is defined as the breakdown of social cohesion and weakening of social bonds within a community. It can manifest in various forms such as high rates of poverty, unemployment, crime, and residential instability (high homelessness, gentrification, and high turnover rates). Recent research and theoretical development within the social disorganization tradition highlights the interconnectedness between disorganized social conditions, drug markets, and violent crime. Building upon the classical theory of disorganization formulated by the

Chicago School, contemporary scholars develop a systemic model of disorganization and community social control. The model emphasizes the further role of neighborhood environment, social institutions and social control mechanisms shape patterns of crime and disorder (Martínez et al., 2008). Systemic models of disorganization suggest that drug markets may serve as a mechanism through which disorganized social conditions contribute to high rates of violent crime. Competition over drug territory, disputes between rival groups, and involvement in drug trafficking can escalate into violence within communities (Shaffer & Ruback, n.d.). Violence and criminalization continue to play an important role in cocaine use since the War on Drugs, and sustained criminal activity further perpetuates the addiction cycle as discussed prior. Social disorganization offers a further explanation, and interconnectedness to neighborhood environment that cocaine use can continue to keep strongholds in marginalized communities, as well as further continuing the generational effects as exemplified in the lower life expectancy.

Economic Stability

Economic stability can be seen as a factor as it is not only a cause but an effect as well. Financial insecurity is a major risk factor for substance abuse issues as it is often seen that lower income areas have a higher rate of use, not just neighborhood environment but it is an easy and accessible coping mechanism. Lack of access to quality jobs, and income stability exacerbates the problem. In turn the cost of addiction is a steep slope, as cocaine was often seen as the rich drug, it was highly expensive as well as an extremely lucrative market and while crack was the cheaper option the high potency can create a poor cycle of financial burden. Cocaine is an interesting subject as many users, compared to other substances, span across many economic sectors due to its continuing glamorous allure among higher social classes. However, on a greater

scope recessions as well as financial crisis have long been related to drug use such as the 2008 recession saw an uptick in substance abuse in 21st century as seen in a survey with over half of participants rating drug use during or after the crisis compared to only 25% prior (Bruguera et al., 2018).

Neighborhood Environment

It has long been explored how crack was able to spread so rapidly in marginalized communities. Prior studies show that social disorganization is a prime factor which drives up substance use in turn leading to higher rates of stress and crime and perceived crime (Yangyuen et al., 2018). From an institutional standpoint, the factors that have driven up marginalization of communities, especially in major cities, also fall along substance abuse lines. The ability to 'get out' will be explored in greater detail, as well as generational abuse issues and neighborhood environment in conjugation with each other factor.

The impact of neighborhood environment on substance abuse, particularly in marginalized communities is further exacerbated by systemic factors such as redlining and lack of access to resources. Redlining, a discriminatory practice by which banks and lending institutions denied loans or financial services to certain neighborhoods based on their racial and

ethnic composition, significantly contributing to their marginalization (Erikson et al., 2022).

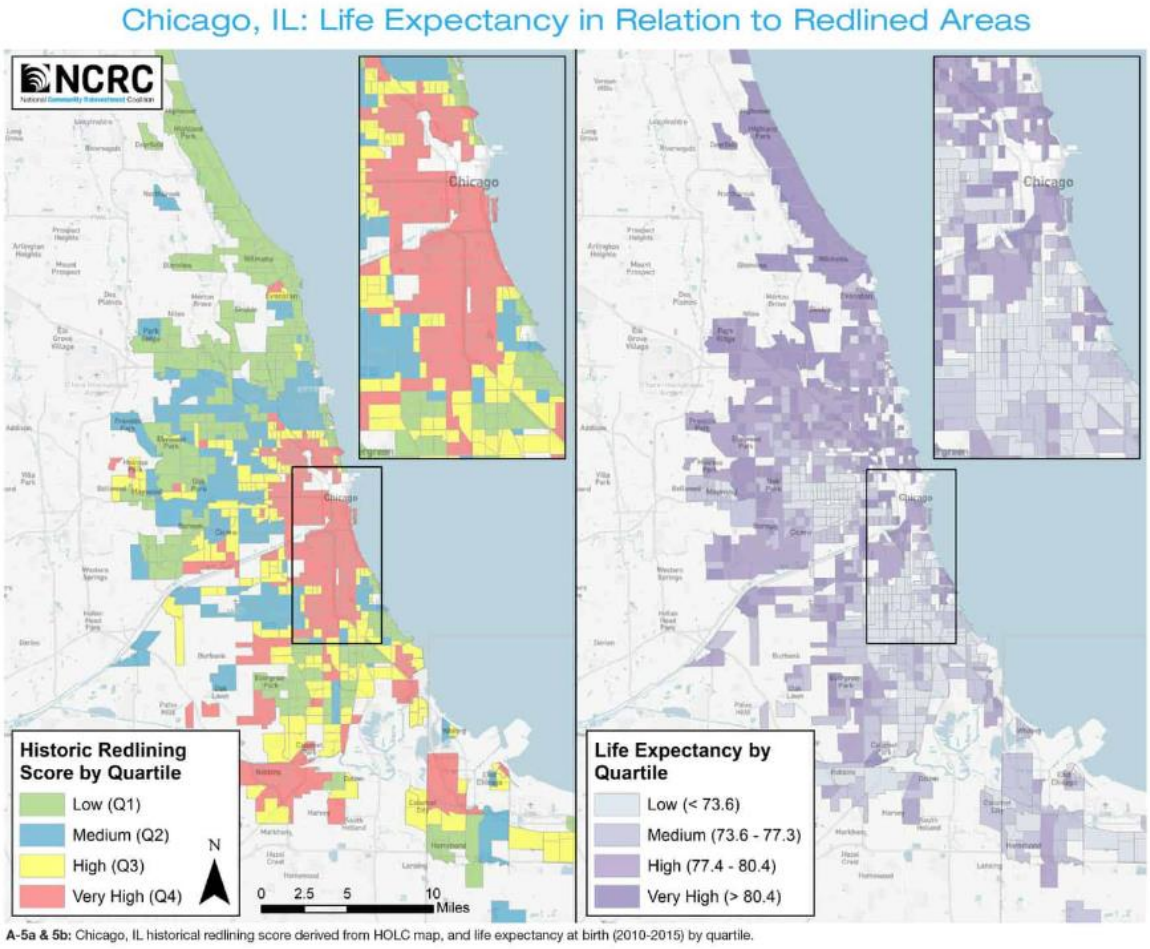

Figure 2 The historical redlining derived through Homeowner's Loan Corporation which show the correlation between neighborhood and life expectancy.

. Chicago is one of the most historically significant examples of redlining in the US. From Figure you can see the correlation between the financially troubled areas, and that of life expectancy data. Redlining could be seen as not only a neighborhood issue, but an indication of economic stability. However, the neighborhood environment is further characterized as the widespread disinvestment in predominantly Black and Hispanic neighborhoods not only perpetuated economic disparities but limited access to quality healthcare, education, and employment opportunities creating a niche for substance abuse to take hold. Similar to economic

stability, Vlahov et al. (2004) can lead to increased mental health problems and feelings of hopelessness making residents more vulnerable to self-medicate. Moreover, the lack of resources and opportunities in these neighborhoods can perpetuate cycles of generation abuse. Research suggests that individuals growing up in environments characterized by substance abuse and violence are at increased risk of developing similar behaviors themselves. Thus, the neighborhood environment, coupled with social disorganization and systemic inequalities create a fertile ground for abuse to not only take root, but persist across generations.

Healthcare Access

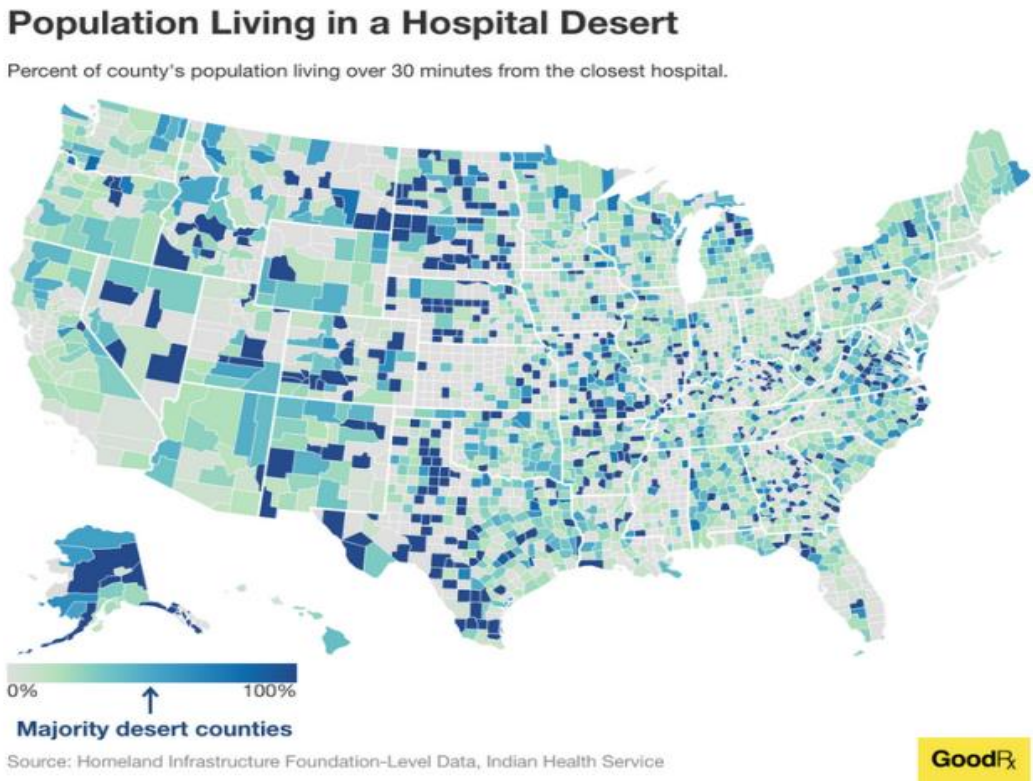

Figure 3 The lack of access of adequate healthcare resources in the US in 2021

Cocaine use disparities intertwine with existing healthcare disparities in the United States. Crack's potency fueled a rapid cycle of addiction, withdrawal, and relapse, exceeding powder cocaine. Yet, criminalization rates were high, making it difficult for addicts to access medical care, especially marginalized communities with fewer hospitals and treatment options. Substance abuse issues, while impacting vulnerable populations rapidly, worsen due to limited access to proper care. As reported by the Substance Abuse and Mental Health Services Administration (SAMHSA) in 2019, only 10.8% of individuals needing treatment received it. Moreover, white individuals had higher access (11.9%) compared to Black and Hispanic individuals. Let alone this country has a high rate of discrimination when accessing healthcare especially against women and people of color, as well as it is possible that the deep stigma of drug and addiction formed from the demonization of users in the late 20th century can contribute to the lack of desire to get help. As well as the deep systemic barriers to healthcare exist, as an indicator of socioeconomic status it is found that there, in the same way, there is grocery deserts, there is heavy healthcare deserts in the US and these go even further for the lack of access to proper addiction care and lack of funding for addiction research such as research being done at UVA CLEAR. However, a lot of data is lacking in this sector, with what feels like a gross underestimation of reported cocaine use. Reid et. al conducted a study to estimate the cocaine consumption in communities using three methods: survey, sewage testing, and random driver testing. Comparison of the prevalence estimates derived from the combined population survey (0.22 (0.13–0.30) % per day) and the road-side testing (0.70 (0.36–1.03)%) indicates that under-reporting and possible under-representation of users is apparent within the combined population surveys.. While this study was conducted in Norway, it introduces that the SAMHSA survey data is not giving the entire picture of the problem if it is grossly underestimated, and the lack of

resources leaves a pessimistic outlook on the gravity of cocaine addiction use in the United States (Reid et al., 2012).

Discussion: Introducing the Road to More Accessible Recovery

Cocaine Accessibility, and Problem Creation

Access is a pivotal part of creating and fueling the problem. Crack mysteriously showed up in the 80s in major cities and communities in Los Angeles, transitioning to its continued use in many different communities in the United States, accessibility of drugs as an outlet is an important factor. Economic hardship does not discriminate when it comes to creating those who seek cheap and accessible coping mechanisms, and studies by Bruguera et al. (2018) show a correlation between economic downturns and increased substance use. Disorganized neighborhoods, as explored by Yangyuen et al, exacerbate the problem further. These areas often leave the scars of historical discriminatory practices such as redlining, and lack of equity when it comes to resources and baseline stable infrastructure creating a breeding ground for substance abuse. The social context surrounding cocaine use also plays a significant role. While cocaine use often carries a glamorous image in wealthier circles, the demonization of users during the War on Drugs created a stark and harmful dichotomy. Think of Jordan Belfort's glorification in *Wolf of Wall Street.* He was King, he was God, and his lifestyle was the goal and cocaine amongst other drugs was served on silver platters by beautiful women. While at the same time in history that this was happening, in 1987 a war was being waged on these vulnerable communities for their same abuse and reliance on cocaine. It created a difficult time with demonization and conflicting messages for policies being made (Fothergill et al., 2008).

Even during present day, Jordan Belfort is considered an icon and a respected businessman, and his film even just being made in 2013 is considered widely as a cult classic,

which even further exemplifies that the double standard has never been addressed. Common themes explored in the social determinants of health are important but when it comes to seeing the whole picture, consideration of the state in which these factors come into play can create a more cohesive picture. While I believe there is still an issue within large cities such as New York, or Los Angeles, the rural communities of many states such as West Virginia or Middle America are the forgotten Americans, but no matter where it is coming in - overdoses are still on the rise (*Global_cocaine_report_2023.Pdf*, n.d.). It was almost impossible to find data about drug use in these geographical areas and that can highlight the deep significance that it can be a bigger problem than what is truly predicted by overall overdose and SAMHSA data.

Using West Virginia as a case study because it has become under scrutiny in the last decade for its high rate of opioid use and public eye due to stories in the media such as followed in the novel and TV show, “DOPESICK”, it has the highest rate of drug overdoses in the country with 90.9 number of deaths per 100,000 total population. Alongside this you can consider that West Virginia has ranked the worst education system, in 2022 West Virginia has a poverty rate of 18% which is the 3rd worst in the nation. Alongside this, it has made for a cohesive story to be told for many of users, that they are forgotten and even during this literature review there is such a hole in the data around the use percentages, and overdose deaths, it leads to an open door to explore how a better integration of rural communities into the modern technological age of data collection can create a better image of the use problem in most of America. The effects of all of this have been devastating, and while a lot of Americans cannot be fully accounted for in the substance abuse census data, a lot of it can be found to be disturbing.

The Healthcare Desert: Perpetuating Stigmas and Addiction Cycles

Marginalized communities often exist in areas with limited healthcare resources. Healthcare deserts refer to areas where residents have limited access to healthcare services due to shortage of facilities, providers, or resources. The existence of healthcare deserts poses significant challenges to the US healthcare system and public health more broadly and creates a significant barrier to obtaining treatment for substance abuse disorders like cocaine addiction. A study by the National Rural Health Resource Center (2023) found that over 80 million Americans live in healthcare deserts, defined as areas with limited access to primary care physicians and specialists. The limitations make it difficult for individuals struggling with cocaine addiction to find the help they need, hindering their recovery and perpetuating the cycle of addiction. Even when healthcare facilities are present in marginalized communities, the quality of care may be lower compared to wealthier areas. This can involve a lack of specialists trained in addiction treatment, outdated equipment, or limited access to medication-assisted therapies (MAT) proven effective in treating cocaine addiction. A report by the Kaiser Family Foundation (2017) highlighted these disparities, finding that minority communities have lower access to mental health and substance abuse treatment services compared to white populations. Unequal access to quality care further disadvantages residents of marginalized communities struggling with cocaine use. The lack of readily available and high-quality treatment in healthcare deserts reinforces the stigma surrounding addiction. When individuals cannot access effective treatment or encounter limited options, it perpetuates the perception that addiction is a personal failing rather than a medical condition. This stigma can further discourage people from seeking help, hindering their chances of recovery, and exacerbating the overall problem of cocaine addiction in these communities.

The ‘Knowledge’ Gap: The Importance of Increased Funding for Addiction Treatments

While the lack of robust evidence for some treatment modalities presents a challenge, it also underscores the critical need for increased research funding in this area. The gravity of addiction's impact on millions of Americans demands a comprehensive understanding of effective interventions. Further research can not only validate existing therapies but also pave the way for the development of novel approaches, like the promising work on neuromodulation and low-intensity focused ultrasound at UVA CLEAR. This could offer non-invasive alternatives to address the neurological effects of chronic cocaine use. The current treatment landscape faces a double bind. Firstly, the high cost of treatment, ranging from $1,000 to $15,000 for outpatient detox alone (Addiction Center, 2023), creates a significant barrier for many individuals seeking help. Secondly, the lack of an FDA-approved pharmacotherapy for cocaine addiction highlights a critical gap in healthcare options. This gap stems not only from the lack of conclusive data but also from limited budgetary allocation towards addiction research and treatment programs. Moving forward, it's crucial to address both the research funding gap and the cost barriers to treatment. Increased investment in research can lead to more effective and accessible interventions, like those exploring neuromodulation. Additionally, policies aimed at expanding insurance coverage for addiction treatment and exploring alternative funding models are essential steps towards creating a more equitable healthcare system with readily available options for all. By tackling these issues, we can bridge the gap in addiction treatment and offer hope for a future where recovery is a possibility for everyone.

Conclusion

This research has explored the complex relationship between socioeconomic factors and cocaine use in the United States healthcare system. It has revealed a clear connection between social determinants of health, and the prevalence of cocaine use disorders. Marginalized communities

often face a double burden: greater vulnerability to addiction due to these social factors and limited access to effective treatment due to healthcare deserts and disparities in quality care. The lack of robust evidence for some treatment modalities highlights the urgent need for increased research funding. This investment should not only focus on validating existing therapies but also on exploring innovative approaches like Low Intensity Focused Ultrasound at University of Virginia Center for Leading Edge Addiction Research. However, research advancements alone are insufficient. The high cost of treatment and limited insurance coverage create significant barriers for many individuals seeking help. Moving forward, addressing both the research funding gap and the cost barriers to treatment is crucial. Increased public and private investment in research can lead to more effective and accessible interventions. Additionally, expanding insurance coverage for addiction treatment and exploring alternative funding models are essential steps towards creating a more equitable healthcare system. By tackling these issues, we can bridge the gap in addiction treatment and offer hope for a future where recovery is a possibility for everyone, regardless of socioeconomic background. This will require a multi-pronged approach that addresses not just the individual struggling with addiction, but also the underlying social and economic conditions that contribute to the problem in the first place.

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