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# Treating the American Disease:

# Heroin-Assisted Treatment as a Potential Response to America's Opioid Epidemic

By Lily Kitfield-Vernon

April 2018

A Senior Thesis

Advised by Marque Miringoff and Robert Mcaulay

*Submitted to the Faculty of Vassar College in Partial Fulfillment of the Requirements*

*for the Degree of Bachelor of the Arts in Science, Technology, and Society*

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And to my family: thank you for encouraging me to work hard and to love learning. You are the best teachers I could ever ask for, and I look forward to a lifetime of years in your class.

**ANT**……………………………………………………………………**Actor-Network Theory**
*Popularized by Bruno Latour, this study claims that the success or failure of a technology is determined by the social context in which it is used.*

**EMT**…………………………………………………………**Emergency Medical Technician**

**FDA**……………………………………………………..[U.S.] **Food and Drug Administration**

**FOPH**…………………………………………………..[Swiss] **Federal Office of Public Health**

**HAT**…………………………………………………………….**Heroin-Assisted Treatment**
*This harm-reduction treatment prescribes diacetylmorphine, or medical-grade heroin, to people suffering from opioid addiction. It is a form of Medication-Assisted Treatment.*

**IOT**…………………………………...……………………..**Injecting Opioid Treatment**

**LAAM**…………………………………………………………….**Leo-Alpha Acetyl Methadol**
*This long-acting treatment for opioid addiction was eventually found to be tied to heart failure and taken off the market. It is a form of Medication-Assisted Treatment.*

**MAT**………………………………………………………….**Medication-Assisted Treatment**
*This encompasses any treatment for drug addiction that uses drugs as one of the ways in which patients are treated for their addiction.*

**MMT**……………………………………………………..**Methadone Maintenance Therapy**
*This harm-reduction treatment maintains patients on methadone, rather than attempting to reduce dosage and reach abstinence. It is a form of Medication-Assisted Treatment.*

**NGO**……………………………………………………..**Non-Governmental Organization**

**NHS**…………………………………………………………[British] **National Health Service**

**PROVE**……………………….**Projekt zur ärztlichen Verschreibung von Betäubungsmitteln**
*Roughly translated from German to "Medical Study of Prescription Narcotics," this Swiss study paved the way for Switzerland's implementation of HAT programs.*

**RIOTT**……………………………………..**Randomised Injectable Opioid Treatment Trial**
*This British study reinforced the notion of HAT as more effective than MMT.*

## Introduction

My grandfather, Dr. Edward Kitfield, postpones his family practice in rural Maine every Wednesday so that he can run a treatment clinic for patients with opioid dependence. Marisa Hebble works in the Executive Office of the Trial Court in Boston to improve relationships between the systems of criminal justice and addiction treatment. Dr. Ruth Potee is a driving force behind revolutionary approaches to treating addiction in western Massachusetts. These individuals are important and connected in two ways: they are all actors in the movement against opioid addiction and overdose in the U.S., and each of them inspired me to explore potential improvements in America's response to the current opioid epidemic.

At this very moment, the United States is suffering from widespread addiction. The situation is bleak in any country with a black market for narcotics, but the issue of opioid addiction and overdose is enormous in the United States: in 2016, drug overdoses killed over 64,000 Americans, and close to 55% of those deaths were due to opioid overdose.[1] These statistics dwarf the 6,800 opioid overdose deaths in *the entire continent of Europe* in 2014, providing a case for the fact that opioid dependence is known as the "American disease." [2, 3]

We have tried to combat the crisis as a nation, but nothing has been successful in slowing the spread and reducing the harm to individuals and to society. The policies that the U.S.

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[1] National Institute on Drug Abuse, "Overdose Death Rates," *NIDA*.

[2] "Preventing Overdose Deaths in Europe." *European Monitoring Center for Drugs and Drug Addiction.*

[3] Arnold S. Trebach, *The Heroin Solution* (Unlimited Publishing, 2006) *xii.*

government has implemented in various attempts to ameliorate the problem are actually suspected of making it worse. Intensifying incarceration without providing medication or mental support does little—if anything—to help former inmates fight their opioid dependence before being released back into society. "As congress and state legislatures enact more punitive and costly drug control measures, we conclude with alarm that the war on drugs now causes more harm than drug abuse itself." [4] The war on drugs not only destroyed the lives and chances of becoming sober by failing to provide treatment for convicts with addiction, it destroyed the lives of nonviolent citizens who were reprimanded for mere possession and the color of their skin. In *The New Jim Crow,* author Michelle Alexander notes that "convictions for drug offenses are the single most important cause of the explosion in incarceration rates in the United States."[5] Her book emphasizes the racial disparity between black and white inmates, which will be touched on later.

The approach of this so-called "war" is to shut down the supply of drugs rather than focusing on the most important question: why are so many people demanding them? "As long as the nation's appetite for drugs remains strong, the traffickers are going to find a way to supply it. Any progress made in tackling the drug problem, then, is going to have to come at home."[6] By attributing American drug issues to the supply part of the equation, the U.S. is able to place blame on the countries that grow such drugs, avoiding the admittance of accountability and

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[4] James P. Gray, *Why Our Drug Laws Have Failed and What We Can Do about It* (Temple University Press, 2012) 3.

[5] Michelle Alexander, *The New Jim Crow* (New York: The New Press, 2010 ) 59.

[6] Michael Massing, *The Fix* (Simon & Schuster, 1998) 9.

ruining its relationships with countries such as Mexico, while also locking up many of its own citizens for their use and addictions.

This is a product of a national mindset that limits definitions of success to abstinence alone. Despite the work of many other developed countries to wage said war by providing medication, counseling, and agency together in the form of an integrated treatment program for those who struggle with addiction, the United States is extremely reluctant to adopt such strategies. Most of this reluctance stems from our refusal to change our mindset from its current focus of individualism.

Individualism is the shared belief that anything that happens to an individual is a result of their own choices; everyone is responsible for their own behaviors and future; your success is earned through hard work, and your failures are deserved because you did something wrong. Everything in the U.S. is individualized: students who drop out of school are unmotivated, individuals who can't hold a job have personality problems, female-bodied people who have children while they're young are slut-shamed. In a similar tone, people are dependent on drugs because they opted to try the substance in the first place, and they can't complete the treatment programs because they aren't trying hard enough. Even when someone who doesn't use drugs themselves but spends time with someone who uses drugs contracts HIV, society remains unsympathetic because they chose to spend time with someone in an at-risk population.

In the U.S., there is limited knowledge of and support for the approaches classified under "harm reduction." Their common goal is to minimize the amount of harm done to communities, public health, and the at-risk individuals as well. "Drugs, the harm reductionists argue, are here to stay, and we have no choice but to learn how to live with them."[7] Sometimes, these policies challenge preconceived notions of morality and efficacy, and so the process of their implementation can be rigorous. This is the case in the United States. Gaining traction and the subsequent public approval can be difficult in the current environment, given that President Trump himself believes that there is no place for addiction or drug use throughout the nation. In March of 2018, he remarked that "addiction is not our future," and "we will raise a drug-free generation of American children," entirely discounting the significant prevalence of substance use and abuse in the United States, and demonstrating an extremely individualistic view of the way in which drugs are consumed and physiologically received.[8]

In other corners of the world, progress has been made towards reducing drug addiction and its associated harms. For example, Switzerland made the bold move of testing and implementing Heroin-Assisted Treatment, or HAT. The program would maintain a population struggling with opioid dependence on prescription heroin in order to reduce drug-related damages. This approach took an ancient technology, heroin, and applied it in a new, remedial way for patients who found no success with other treatment methods. Regarding the necessity of treatments that may be of a controversial nature, Dr. Potee notes that "the more tools in the

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[7] Massing, 10.

[8] The White House, "Remarks by President Trump on Combatting the Opioid Crisis," 2018.

arsenal to treat addiction, the better…no one is going to deny that." [9] Unfortunately, many barriers remain firm as our 'arsenal' retains many vacancies.

This thesis will look at the use of drugs and the reception of addiction treatments in the United States, Switzerland, and Britain. In it, I will claim that HAT would be a very beneficial weapon in the battle for appropriate responses to widespread addiction, but that the success of the particular treatment requires a certain amount of societal support. In the first chapter, I will give a brief history of opioid use, addiction, and prescription, as well as a timeline of addiction treatments. Then, I will frame the issue of opioid addiction in various contexts through the lens of Actor-Network Theory, and it is here that I will more explicitly define HAT and the role of heroin as a technoscience. In the third chapter, I will examine Switzerland's unprecedented response to its opioid problem, and delve into the ways in which the HAT approach was successful in that particular context. Next, I will perform the same examination on Britain, using it as an intermediate example to more appropriately compare with the United States. Finally, in my fifth and final chapter, I will look at the implications of Europe's HAT programs on the current U.S. situation and argue that HAT should be implemented but, due to the current socioeconomic and political tensions in the U.S., it is not feasible. To conclude, I will accuse HAT and other responses to addiction of taking a downstream approach that address the symptoms of addiction rather than the root causes, and I will provide big-picture suggestions based on this fundamental flaw.

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[9] Joshua Solomon, "NIH Study Validates Local Opioid Treatment Plan as a Nationwide Model," *The Recorder*.

Before embarking on this transcontinental journey, I need to define some terms that will be used throughout the rest of the piece. I will use the term "opioid" addiction to describe addiction to any naturally-occurring drug derived from the poppy plant, as well as semi-synthetic and synthetic drugs, such as oxycodone and fentanyl, that bind to the same receptors and mimic the effects of the natural derivatives, which include morphine and codeine.[10] Typically, the natural substances are referred to as *opiates* and the (semi-) synthetic substances are considered *opioids*, but I will lump them all into the latter term. This is an attempt to emphasize the role of prescription drugs and the medical industry in widespread addiction while also recognizing that some addictions begin, endure, and end with heroin and aren't initiated or influenced by a legal prescription. I will use the term "epidemic" because that is how widespread, increasingly dense addiction is recognized on a national level, but I mean it in a less formal, technical sense. I will *not* use the word "addict" to mean someone who is struggling from opioid dependence, because that rhetoric defines them by their addiction alone and can be detrimental to recovery and sustained mental health. Instead, I will describe individuals as "people with opioid dependence," for that more appropriately describes their physical situation rather than limiting them to stereotypically associated behaviors.

To find a solution to any problem, you must understand the problem itself. This particular problem can be defined in a number of ways, depending on the scope and perspective. On a large scale, *addiction* is the problem and opioid addiction happens to be its most severe manifestation. Opioid addiction involves many variables, including the quality of black market drugs, safety

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[10] Stephanie Labonville, "Opiate, Opioid, Narcotic - What's the Difference?" *IWP*.

and sanitation during consumption, drug-related crime as necessary to sustain use, and the potential for unknowingly buying pills that are laced with more lethal substances. The solution to this problem is complex. We can try to put bandaids on the collateral consequences via incarceration and prohibition but the real solution lies at the root of the problem, which has yet to be concretely determined. While we search for long-term solutions, we need to keep doing work because lives are being lost. Standard medical practices for other illnesses turn to treatment when a cure has yet to be discovered. So, let's address the symptoms of this destructive disease. Europe has already begun to do so, and it has seen great success.

## Chapter 1 - History of the Treatment of Opioid Dependence

It is widely believed that this opioid epidemic, as it has been controversially labeled, began when American physicians became lenient with the prescription of opioids, known for being highly addictive. A wave of overprescription was pushed by a societal drive for better pain management, for previous decades had seen a cruel refusal to prescribe to anyone other than cancer patients or those with no more than a few weeks of life remaining.[11] Once the target audience had expanded, overprescription became the norm. The prescription of opioids increased by a factor of four between 1999 and 2010, an increase that was mirrored in the drastic spike in opioid overdose deaths.[12] When the crisis was illuminated, the U.S. witnessed an abrupt cessation in prescriptions. Despite the resulting drop in prescription quantities and frequencies, the amount of opioids prescribed in 2015 was still three times as high as that of 1999.[13] Not only did the crackdown on physicians barely reduce addictions and deaths, the sudden change left many patients severely addicted. This, in combination with price increases, drove those struggling with addiction to the black market in search of heroin to satisfy their cravings.[14]

Additionally, it is no small secret that the influence of drug companies on American prescription and consumption is strong. Advertisements for opioids were often misleading and

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[11] Barry Meier, perf. "Chasing Heroin," *PBS Frontline,* 2016.

[12] Jerry P. Guy Jr. et al., "Vital Signs: Changes in Opioid Prescribing in the United States, 2006 - 2015," *CDC,* 697.

[13] Ibid.

[14] Jessica Ravitz & Gena Somra, "What two current heroin addicts want you to know," *CNN*, 2017.

underemphasized the strength and addictive power of the drugs. One of the most controversial marketing campaigns was that in which Purdue Pharma insisted that patients had a reduced risk of abuse and addiction when taking Oxycontin, its pride and joy, than other painkillers.[15] This proved to be fatally untrue. Now, after a plethora of lawsuits and much public frustration, it is generally understood that "Purdue is the central actor who orchestrated the opioid crisis, now causing hundreds of thousands of overdose deaths per year. It controls the manufacturing, distribution, and marketing of lethal drugs."[16]

Though there exist various hypotheses as to why heroin addiction exists and spreads as it does in the U.S., some experts don't believe that the problem is entirely fixable. "There is no pharmacological explanation of why some people get addicted and others do not."[17] However, pharmacology is just one aspect of addiction. On a segment for WGBY, Marisa Hebble and Dr. Potee discuss the underlying factors of addiction. Potee mentions that "genetics is huge. And telling your kids about what your family's genetic risk is is critical…your kids would know if there were strong cancer genes in your family...50% of all addiction is genetic."[18] Both women then agree that childhood trauma is another suspect, for "there's no better way to sort of numb up psychologic pain than alcohol or opiates."[19]

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[15] Barry Meier, "In Guilty Plea, OxyContin Maker to Pay $600 Million," *The New York Times.*

[16] Ryan Hampton, "Purdue Pharma: You Can't Wash Away Your Part In The Opioid Crisis," *The Huffington Post*.

[17] Trebach, 69.

[18] Ruth Potee, perf. "Franklin County Opioid Treatment Center," *WGBY* [Springfield, MA], 2016.

[19] Ruth Potee & Marisa Hebble, perfs. "Franklin County Opioid Treatment Center," *WGBY* [Springfield, MA], 2016.

Social and genetic factors contribute largely, and there are plenty of theories about initial heroin use that would dictate whether or not a certain individual takes the leap in the first place. But even once we've found a response that reduces the number of lives lost and addiction-associated health and social problems, the needs of the community will continue to change as the community itself shifts from one situation to another. "The balance [between complete repression and allowance of heroin] cannot be achieved in a mechanistic manner, like building a bridge, or in a purely scientific fashion, like creating a new drug. It can be pursued only by using human relations skills in combination with a knowledge of history, medicine, and law." [20] This epidemic is dynamic, so the societal responses must be as well. As our current paradigm of individual achievement and failure shifts and what we know is challenged, we must reorganize and be creative in responding to the issues that plague the nation.

A. Timeline of Treatments

For decades, he United States has recognized that a remedy lies in the field of medicine. As an alternative to incarceration in 1960s New York City, people who were dependent on drugs could voluntarily be committed to facilities following a medical exam to confirm the existence of an addiction.[21] The incorporation of the medical exam indicates that the medical community had acknowledged the underlying biology of addiction. Unfortunately, these programs were

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[20] Trebach, *ix*.

[21] Center for Substance Abuse Treatment, *Medication-Assisted Treatment for Opioid Addiction in Opioid Treatment Programs,* Treatment Improvement Protocol (TIP) Series 43, 2005*,* 15.

minimally successful and extremely expensive.[22] "The great majority of those admitted, treated, and paroled to aftercare programs dropped out of these programs, and they usually could not be located." [23] Perhaps the low retention rates were a result of the programs' heavy connection to law enforcement and government coercion, themes not often appreciated by those who are already criminalized for their struggle with addiction. Further, "even though they were civil commitments, the fact of the matter was that most were there under some sort of legal pressure."[24] This is subjectively unethical, since it can be seen as a form of government coercion in which citizens are forced to take drugs.

Twice, first in 1955 and again in 1963, the New York Academy of Medicine recommended the establishment of clinics that would dispense opioids in a controlled manner to those who were addicted to illicit heroin.[25] They began with morphine, which wasn't ideal. The chemical had a short half-life, so associated programs required multiple injections per day, and it sedated patients as well.[26] Both setbacks prevented patients from carrying on with their daily routines, driving researchers to continue the pursuit of a reasonable treatment.

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[22] Richard C. Stephens, *The Street Addict Role: a Theory of Heroin Addiction* (New York: State University Press, 1991) 167.

[23] Center for Substance Abuse Treatment, 15.

[24] Stephens, 167.

[25] Center for Substance Abuse Treatment, 16.

[26] Ibid., 17.

In the late 1960s, Leo-Alpha Acetyl Methadol (LAAM) was discovered and suppressed withdrawal symptoms for two to three days.[27] This long-acting drug was praised for its ability to let patients go on with their normal employment and familial routines. But all good things must come to an end: much to the medical world's disappointment, LAAM was eventually linked to cardiac issues and pulled from the market, leaving methadone as the top choice for treatment of opioid dependence.

Methadone, a long-acting, synthetic opioid, was extremely effective where other treatments had failed. But it still required a dose a day—better than morphine, but less than ideal for those with families and jobs. The long-acting nature of methadone makes it much more appealing to physicians and the public than heroin itself, especially since it provides none of the euphoria and doesn't require take-away doses, which can leak to the black market. Additionally, "Methadone has few adverse biological effects."[28] However, methadone is still highly addictive and is associated with an extremely painful withdrawal period, making the process of decreasing doses tedious and difficult. Despite such limitations, Methadone, with its established presence in the U.S. and its use as a maintenance drug, will come in handy later as a prototype for Medication-Assisted Treatment (MAT) with which to contrast HAT.

Similar to the obstacles challenging HAT today, Methadone and Methadone Maintenance Therapy (MMT) faced a significant amount of national scrutiny when they were first introduced

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[27] Center for Substance Abuse Treatment, 18.

[28] NIDA International Program, *Methadone Research Web Guide,* Part B-44.

as treatment options for opioid-dependent patients. The intensity of the country's drug addiction problem was such that President Nixon called it "public enemy number one."[29] The epidemic, as it was also called back in 1971, drove policy change as it has the potential to do again. "President Nixon shifted federal government policy on opiate addiction away from its strictly punitive philosophy," and succeeded in implementing methadone programs.[30] This was all well and good, but despite Nixon's role as a powerful player, it wasn't easily accepted by the general public. "The pioneer methadone-dispensing physicians, as might be expected, faced some community opposition; they were, after all, dispensing an addicting drug to addicts."[31] Due to criticisms that arose in 1973 and are still embedded in anti-MAT ideologies today that rely on the idea that MAT merely replaces one addictive drug with another, the government imposed strict regulations on the prescription and the use of methadone.[32]

In the United States, Methadone was regulated by the FDA until 2001.[33] This was somewhat limiting, as they had strict rules regarding levels of addictiveness, so the medication was rarely encouraged or permitted. In 2001, physicians complained, feeling that, as trained medical professionals, they knew whether or not it was appropriate to prescribe methadone based on the circumstances. "The new regulations acknowledged that addiction is a medical disorder not amenable to one-size-fits-all treatment. They recognized that different patients, at different

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[29] "Soldiers, Hippies and Richard Nixon—an American History of Methadone," *CRC Health Group.*

[30] CRC Health Group.

[31] Edward M. Brecher, *Licit and Illicit Drugs* (Little, Brown, 1988), 18.

[32] CRC Health Group.

[33] Brecher, 22.

times, could need vastly different services." [34] This led to the development of maintenance programs, a strategy that demonstrates movement towards a more progressive understanding of addiction and its potential remedies. However supportive and relatively in line with harm reductionist approaches, the treatment doesn't come without inadequacies and flaws.

B. Maintenance Therapy vs. Abstinence-Based Treatment

Abstinence has been the primary goal of anti-addiction responses in the U.S. for as long as drug use has been recognized as an issue. Despite its prominence, and like any treatment for a physical disease, there are many limitations. Some programs involve counseling, community-building, and other drugless methods. The 12-step model proposed by Alcoholics Anonymous (and used for other forms of substance dependence) supports the notion that "people can help one another achieve and maintain abstinence from the substances or behaviors to which they are addicted."[35] Others use drugs, but always with the intention—and strict requirement—of complete reduction.

The fundamental goal of MAT—treating opioid addiction with more drugs, often opioids themselves—is to gradually decrease dosage until the individual is successfully weaned off of their drug of choice. This works well for some people. Others can retain sobriety for a while but will eventually relapse, and there are others still who won't be able to make it to the end of the program before engaging in illicit drug use again.

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[34] Center for Substance Abuse Treatment, 22.

[35] "12 Step Programs for Drug Rehab & Alcohol Treatment," *American Addiction Centers*, 2018.

A controversial option for those patients is the notion of maintenance as opposed to the abstinence-based treatment known as detoxification. Dr. Potee dislikes the notion of detoxification programs. She argues that addiction "is a disease…if I told everybody you need to detox off of your diabetes meds in five days, that's impossible." [36] Maintenance programs are analogous to long-term, continuous treatment programs for any disease, and provide a natural remedy to suppress harmful symptoms. If addiction were to be fully understood in this way, there would be no question about whether or not those with opioid dependence deserve to be treated with whatever it takes, including maintenance programs.

In the late 1960s, Dole & Nyswander posited that, in their years of using heroin, addicts "underwent a permanent metabolic change. They needed narcotics in a visceral way, the way a diabetic needed insulin. This would explain relapse, and why complete abstinence was not an attainable goal for the majority of narcotic addicts."[37] Thus, the movement for drug maintenance treatment was born, despite the national opposition to anything but abstinence.

Ideally, patients will become stable and be able to decrease dosage down to nothing, but proponents of maintenance programs acknowledge that long-term stabilization is practical as well. Maintenance programs are in place to encourage and support patients, for dosages aren't required to decrease and, in some cases, patients are able to choose their own doses. A maintenance treatment "recognizes that drugs will always be with us and that there will always

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[36] *WGBY*[Springfield, MA].

[37] David T. Courtwright, "The Prepared Mind: Marie Nyswander, Methadone Maintenance, and the Metabolic Theory of Addiction," *Addiction,* 259.

be some demand for them. So it provides full and accurate information and prepares as many people as possible to make responsible choices about their use."[38] Because of this and the positive socioeconomic effects of maintenance programs, they are classified under the harm reduction umbrella.

MMT is arguably the most well-known type of maintenance program, at least in the United States. "Cushman and Dole (1973) cautiously note that the subjects who were successful were highly motivated, had stable families and jobs, and were far from representative of the population in treatment." [39] MMT doesn't work for all people who struggle with addiction; in fact, the populations for which it fails are typically those who are most likely to become addicted in the first place. "Overall, the risk of failure was greater for those who were unemployed or unmarried, confirming their earlier work (Perkins and Bloch, 1970), which suggested that unemployment was associated with continued drug abuse." [40] Unemployment is one of the societal causes, implying that with MMT as the only treatment option, those who are unemployed are very unlikely to break the cycle of addiction.

MMT doesn't work for everyone, and allows a lot of people with less motivation and fewer societal advantages to fall through the cracks. MAT in general could be improved by more psychosocial assistance such as contingency management, which provides goals and incentives

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[38] Gray, 178.

[39] Jerome J. Platt and Christina Labate, *Heroin Addiction: Theory, Research, and Treatment* (R.E. Krieger Pub. Co., 1986) 287.

[40] Platt & Labate, 283.

for abstinence, and has been shown to improve clinic attendance, and would likely help those most at risk for relapse to remain in their treatment program.[41] But not everyone is willing to engage in drug treatment of any kind. Many drug users "don't trust the health care system: if they got addicted to drugs because a doctor prescribed them opioid painkillers, they have a good reason to distrust doctors who are now trying to get them to take *another* medication--this time for their addiction."[42]

Out of those who *do* participate, not everyone is successful when treated with decreasing dosages. For many, maintenance programs are more reliable because they don't require a reduction in dosage, which can drive many to seek illicit drugs to supplement the inadequate dosage prescribed. Some countries have experimented with maintenance programs because they consider a safe, healthy addiction a step in the right direction. Though not as ideal as total abstinence, it's more realistic, and doing *something* to minimize harm is a great success.

President Trump's former Health and Human Service Secretary, Dr. Tom Price, criticized MAT, arguing that "if we're just substituting one opioid for another, we're not moving the dial much."[43] The U.S. legally allows MAT, but its skepticism is likely discouraging to physicians, unwelcoming to patients, and influential to uninformed citizens who might develop an anti-MAT mindset. Further, the country is less supportive of maintenance programs such as MMT due to

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[41] Peter Blanken et al., "Outcome of Long-Term Heroin-Assisted Treatment Offered to Chronic, Treatment-Resistant Heroin Addicts in the Netherlands," *Addiction,* 141.

[42] German Lopez, "There's a highly successful treatment for opioid addiction. But stigma is holding it back," *Vox*.

[43] Eric Eyre, "Trump Officials Seek Opioid Solutions in WV," *Charleston Gazette-Mail.*

the lack of emphasis on total abstinence. Methadone detoxification is more widely used and supported than methadone maintenance, and though it helps to reduce the symptoms of opioid withdrawal, it isn't effective when it comes to opioid dependence.[44] If the government were to support MMT more, questions of coercion and political ethics would plague the newfound funding. "Government support of methadone programs has often resulted in questionable practices such as requiring participation in a methadone program as a condition of parole." [45] Again, this could be interpreted as the government forcing patients to consume drugs and punishing them if they don't.

If the government-supported drug were heroin, would the ethics be less murky? After all, the user may have already chosen to take that exact drug, so it may be less of an issue whereas methadone is unfamiliar to those who have exclusively used heroin prior to government intervention. Additionally, people with dependencies tend to prefer the euphoria and familiarity of heroin that aren't experienced with methadone, so they'd likely be more willing to participate in maintenance programs if heroin were the drug being maintained. Further, Richard Stephens points out that people with drug dependence often exist in isolated subcultures that have rejected societal norms and created their own definitions of success and status. These "subcultural aspects of addiction" are such that people with opioid dependence seek to *gain* social status through the use of drugs, perhaps counterintuitively, and thus might want to continue using the drug with a

[44] Valerie A. Gruber et al., "A Randomized Trial of 6-Month Methadone Maintenance with Standard or Minimal Counseling versus 21-Day Methadone Detoxification," *Drug and Alcohol Dependence,* 2.

[45] Platt & Labate, 288.

rebellious reputation as opposed to one enforced by the government.[46] However, as one could imagine, the idea of using heroin as a supplementary treatment for opioid addiction would face much criticism from the U.S. government and the American public.

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[46] Stephens, *xi*.

## Chapter 2 - Actor-Network Theory and HAT

> Even if few people still believe in the naïve view, courageously defended by epistemologists, that sets science apart from noise and disorder, others would still like to provide a rational version of scientific strategy, to offer clear-cut explanations of how it develops and why it works. They would like to attribute definite interests to **the social groups that shape science**, to endow them with explicit boundaries, and to reconstruct a strict chain of command going from macrostructures to the fine grain of science. Even if we have to give up our beliefs in science, some of us still wish to retain the hope that another science, that of **society and history**, might explain science.
>
> Bruno Latour, *The Pasteurization of France,* p. 6

Science is typically thought to be synonymous with institutional order, normative structure, and a dichotomous comparison of truth and falsity. It isn't often that science is attributed to "social groups" or "society and history." Bruno Latour, in writing about technoscience and contextual actor-networks, challenged the common understanding of the practice and presentation of science, hurling all of society's communities into an unfamiliar paradigm of interconnectivity, and distinguishing his own thoughts on the relationships between science, technology, and society from those of scientific sociologists who had previously claimed that each aspect—the noise of social interaction and the purity of scientific exploration—could be isolated and independently examined in full.

"Technoscience" refers to the idea that technology and the science from which it stems cannot be separated. You can't begin to examine a technology without understanding its source and its scientific products. Further, it is impossible to remove science or technology from its social context; the technoscience that surrounds us is dependent on society, and its efficacy is determined by whether or not we can finagle a system of social interrelations that will support it.

This system of social interrelations can be visualized as a web composed of entities and connective lines, marking their relationships to one another. Actor-Network Theory, or ANT, is the framework that considers both human actors and non-human actants, and explores their relationships within this social web. Each society, community, and social situation can be represented as such a network of actors and actants, some with abundant connections and some with very few. “A network metaphor is thus a way of underlining the simultaneously social and technical character of technological innovation. It is a metaphor for the interconnected heterogeneity that underlies sociotechnical engineering.”[47]

This construction of the actor-network relies on a few complex notions, that will be perhaps oversimplified for the purposes of this thesis. *Enrollment* is a term used to describe the definition and distribution of roles to the actors and actants in the actor-network, imposed—sometimes unsuccessfully—by the situation around which the network forms.[48] *Translation*, or the method by which various actors are enrolled in the network, makes connections between two entities and allows for communication both ways.[49]

The role of a network in producing and sustaining technoscience is one of context. When a technology or scientific observation is first introduced, the outcome depends on the network that forms around it. “We should not ask if this network is more powerful than another; rather,

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[47] John Law & Michel Callon, “Engineering and Sociology in a Military Aircraft Project: A Network Analysis of Technological Change,” *Social Problems,* 285.

[48] Michel Callon et al., “Glossary,” *Mapping the Dynamics of Science and Technology* (Palgrave Macmillan, 1986) *xvi.*

[49] Darryl Cressman, “A Brief Overview of Actor-Network Theory” (Simon Fraser University, 2009) 9.

we should ask if this association is stronger than another one. Any actor-network, then, is the effect, or result, of the connections that constitute it."[50] A network's support is, in turn, determined by the strength and nature of the relationships between actors and actants: does one influence the other? is it a positive, mutual translation, or is there tension between the two? are the nodes communicating effectively? We ask such questions in an attempt to explore the network and seek out the source(s) of a technoscience's success or failure.

Latour himself notes that "our entry into science and technology will be through the back door of science in the making, not through the more grandiose entrance of ready made science."[51] The study of this science in the making examines the places where science and technology originate, including physical structures such as labs and boardrooms, as well as congregations: institutes, government departments, and funding agencies.[52] ANT can be used as a framework with which to follow the paths within the network, striving to identify the various roles and relations of actors in an attempt to unpack technoscience.

To illustrate the construction of a network and each of its contributing actors, we will use HAT as an example. HAT, as a medical response to opioid addiction, has been successfully incorporated into some networks and rejected by others. It is a form of technoscience that has the potential to help and to harm, depending on the actors involved. Though the entire notion of

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[50] Cressman, 4.

[51] Latour, *Science in Action: How to Follow Scientists and Engineers Through Society* (Harvard University Press, 2015) 4.

[52] Cressman, 2.

technoscience is founded on the integration of science, technology, and social tensions, each component can be simplified for the sake of identifying the key points of understanding necessary for the rest of this thesis.

A. Heroin as Chemical Technology

In 1976, Platt and Labate wrote about the emergence of HAT, also known as Heroin Maintenance, from failures of current U.S. policy and other medications aimed to wean patients off of illicit drugs. "Increasingly, the issue is being raised that perhaps heroin should be provided in some controlled legitimate fashion to addicts until an effective cure is discovered. There is little disagreement that the current treatment effort is inadequate and ineffective." [53] Since then, not much has changed. Only about 10% of Americans dependent on opioids are receiving treatment.[54]

HAT, though illegal and unpracticed in the United States, has been experimented with in a number of other countries, primarily those in Western Europe. Programs look similar to MMT, but with the substitution of heroin for methadone. The programs are specifically for those who have shown resistance to MMT programs and have yet to find stabilizing success elsewhere. Though heroin maintenance "can act as a bridge to ultimate abstinence or, at least, reduced use. It does not demand total and immediate abstinence," it is perhaps the most controversial harm-reduction method known to addiction experts, as it goes beyond the decriminalization of illicit

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[53] Platt & Labate, 247.

[54] "Statistics on Drug Addiction," *American Addiction Centers.*

heroin—already very unlikely in today's political climate—to encourage the prescription of the drug as a medical remedy for addiction.[55]

The general composition of a HAT program includes the prescription of diamorphine—or diacetylmorphine: medical-grade, pure, uncut heroin. This is provided so as to ensure that patients' drugs aren't cut with more potent, lethal substances, and to direct traffic away from the black market and towards monitored clinics. In congruence with the prescription medication, the administration setting is tailored to fit the needs of patients and reduce harm as much as possible. This usually consists of a number of supportive provisions: trained nurses or volunteers on-site with accessible Naloxone to administer in the event of an overdose, clean needles and cookers so as to minimize the spread of disease, sterile indoor facilities to maintain hygiene and warmth.

Why does it matter which opioid is prescribed, if they have similar chemical compositions, addictive potentials, and withdrawal symptoms, and each one benefits a certain population? "[Casriel and Bratter, 1974] raise an interesting point in noting the illogic of making one narcotic legal and another illegal. 'Is a person who uses heroin a criminal and an addict who uses methadone a patient?' " [56] Despite its illogic, the statement mirrors how drug users are treated and spoken about in America.

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[55] Stephens, 172.

[56] Platt & Labate, 295.

The justification for classifying heroin as a Schedule I drug is that has a high potential for abuse and no medical benefit has been discovered. This rationale contradicts the idea of opioid addiction as a disease: if the U.S. were to truly believe that addiction was a disease, the treatment of opioid addiction *with* heroin would be recognized as a medical use. This acceptance would allow heroin to be reclassified as a Schedule II drug, legalizing its prescription and normalizing its use as a medical treatment for dependence. Alas, this is not the case. As we will see later on, the heavy stigmatization of addiction—and, more specifically, of heroin—in America has much influence over the way we view and treat patients who are dependent. Much of the stigma is rooted in the biology of addiction and the way in which it is classified.

B. Heroin Dependence as a Scientific Process

Heroin, an opiate, is derived from the morphine chemical found in poppy plants.[57] When orally ingested, intravenously injected, or nasally inhaled, it affects the brain by binding to receptors that produce a euphoric high.[58] These drugs "primarily affect the central nervous system. That is, they influence mood, perception, and behavior through their actions on the brain." [59]

Intravenous injection of heroin is the quickest, most efficient route to the brain.[60] It produces the most immediate high and, due to the direct nature of the bloodstream, less of the

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[57] National Institute on Drug Abuse. "Heroin." Drug Facts, *NIDA*.

[58] "Treatment Statistics," Drug Facts, *National Institute on Drug Abuse (NIDA).*

[59] Stephens, 3.

[60] Stephens, 6.

chemical is lost along the way, allowing the same high with less of the drug than other methods. This leads to many medical complications, including the transmission of blood-borne diseases via dirty needles and the susceptibility of open, post-injection wounds to bacteria found in the kinds of injection sites that would allow drug users to hide from law enforcement and the general public eye. Many of the health issues associated with opioid use have to do with unsafe, unsanitary intravenous circumstances, rather than with the drugs themselves, indicating that a partial response could provide a safe environment without delving into the complex legal and ethical issues of providing drugs to patients.

When someone uses a substance on a regular basis, their brain expects to receive the specific chemical and doesn't produce enough—or any—of it on its own. "Over time, continued release of these chemicals causes changes in the brain systems involved in reward, motivation and memory. When these changes occur, a person may physically need the substance to feel normal. The individual may also experience intense desires or cravings for the addictive substance and will continue to use it despite the harmful or dangerous consequences." [61] This bodily panic manifests in the form of withdrawal symptoms. These symptoms are different based on the substance, but often include nausea, anxiety, insomnia, etc.[62] The only way to suppress the symptoms is to give the brain what it wants: the drug.

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[61] *American Addiction Centers.*

[62] Jacob L. Heller, ed., "Opiate and Opioid Withdrawal," *MedlinePlus Medical Encyclopedia.*

In addition to the monitoring of safe, healthy addictions that allow patients to participate in society, heroin maintenance "would also insure that addicts are getting drugs of assured quality. By making the drug so cheap, it would probably destroy the drug's distribution and sales networks. Street crime would probably be significantly reduced since so much of it is driven by the price of drugs."[63] Thus, opioid addiction has a number of social ramifications, and HAT has a number of social benefits.

C. Heroin as a Social Drug

Involvement with drugs has many social implications. In 1972, it was suggested that some people are more susceptible to opioid addiction than others because they fear they won't receive positive reinforcement from the world around them, based on past experiences. "They seek forms of reinforcement more completely under the individual's control, such as that provided by the injection of heroin." [64] For those in marginalized communities who don't have total control over much in their lives like jobs or wealth, thanks to the United States' societal inequalities and systematic oppression, initial heroin use is sometimes the only way to make a conscious choice to change a current mood or mindset.

Another theory argues that initial drug use is more actively due in part to socialization and the determination of normative behavior: certain peer groups, like the subcultures described by Richard Stephens, define a set of norms that don't always align with those of the larger

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[63] Stephens, 171.

[64] Platt & Labate, 103.

society, and members of those groups are expected to live with the associated norms in mind.[65] "Deviance is goal-directed learned behavior for seeking success or for coping with failure. When conforming behavior has failed to achieve the desired goals, alternative behaviors will be explored, some of which will probably be deviant." [66] President Trump and his opioid commission call for a far-reaching media campaign to scare people out of the desire for initial use of drugs, yet the research shows, quite interestingly, that "these campaigns often fail—or, worse, actually lead to more drug use by making drugs an attractive sign of rebellion or triggering curiosity about drugs that kids and teens previously didn't know existed."[67] Certain individuals make a point to go against society's norms, engaging in behavior such as the consumption of illicit drugs. Others simply feel they have no place in society and no other way to feel the euphoria that accompanies narcotics.

Harm reductionists argue that current U.S. prohibitionist drug policies are influencing initial use. "The more drugs are tabooed and forcefully repressed, the more its users will tend to be marginalized, criminal, bearers and sources of diseases and the more the world of drug use will offer attractive alternative routes to earning money, gaining social status, and living a meaningful life in deviant subcultures." [68] They don't have access to the legitimate means that

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[65] Platt & Labate, 108.

[66] Ibid., 112.

[67] German Lopez, "Here's what Trump's opioid commission wants him to do," *Vox*.

[68] Martin Grapendaal et al. *A World of Opportunities: Life-Style and Economic Behavior of Heroin Addicts in Amsterdam* (New York: State University Press, 1995) 7.

would allow them a satisfactory natural high from daily life, so they come to expect it from illicit substances.

D. Addiction as a Socioeconomic Issue

Dr. Potee debunks the myth that opioid addiction appeared out of thin air in the late 1900s. “Addiction is not new…opiate addiction has been a problem in many communities for decades, I just think it’s been swept under the rug or ignored because it’s been in urban settings of people who didn’t have as much power.”[69] She remarks that, lately, opioid addiction has begun to transcend class divisions, popping up in every community and subsequently rising to the top of societal awareness. The recent social response to opioid addiction is partially due to the racial identities of those affected: in the past decade or so, opioid use and abuse has been largely attributed to white, lower- to middle-class Americans. The white parents of white people who are dependent on opioids have more of a voice in society due to their race, and are more often able to raise funds and awareness once one of their own has passed away of an overdose. However, parents aren’t the only ones fighting to end this epidemic. Health professionals, politicians worried about their addicted constituents, and citizens who are surrounded by addiction-based struggle and death in their daily lives are all involved in the search for a solution.

This victim-centered activism stands in stark contrast to American opinions regarding drug use and addiction in years’ past. Prior to the current opioid issue, drug use in America was

[69] *WGBY*[Springfield, MA].

primarily attributed to low-income, urban communities of color. Author Michelle Alexander exposes the racist motivations behind the war on drugs, emphasizing that black people are thought to use and sell drugs more often than white people, purely based on stereotypes. These misconceptions are severely harmful for black communities, for they've resulted in alarmingly high rates of arrest. In fact, "in some states, black men have been admitted to prison on drug charges at rates twenty to fifty times greater than those of white men."[70] This movement of mass incarceration that persists today led to overflowing prisons and increases in the wealth and education gaps that divide black and white Americans. "Nationwide, the rate of incarceration for African American drug offenders dwarfs the rate of whites."[71] This disparity mirrors the general sentiment surrounding substance use, even though white Americans are more likely to have used illicit drugs than black America.[72] Since black people and drugs are over-criminalized, the prison population is far from representative of the drug-using or general population as a whole.

Fueled by racist presumptions, society became desensitized to the issues accompanying addiction, and it came to view drug use as nothing more than a personal choice. Once white America felt that opioids had infiltrated its communities and homes, it finally decided to speak out and ask for help for those affected by addiction, more often blaming drug use on fate and unfortunate circumstance as opposed to the direct blame that has historically been placed on black and latinx users.

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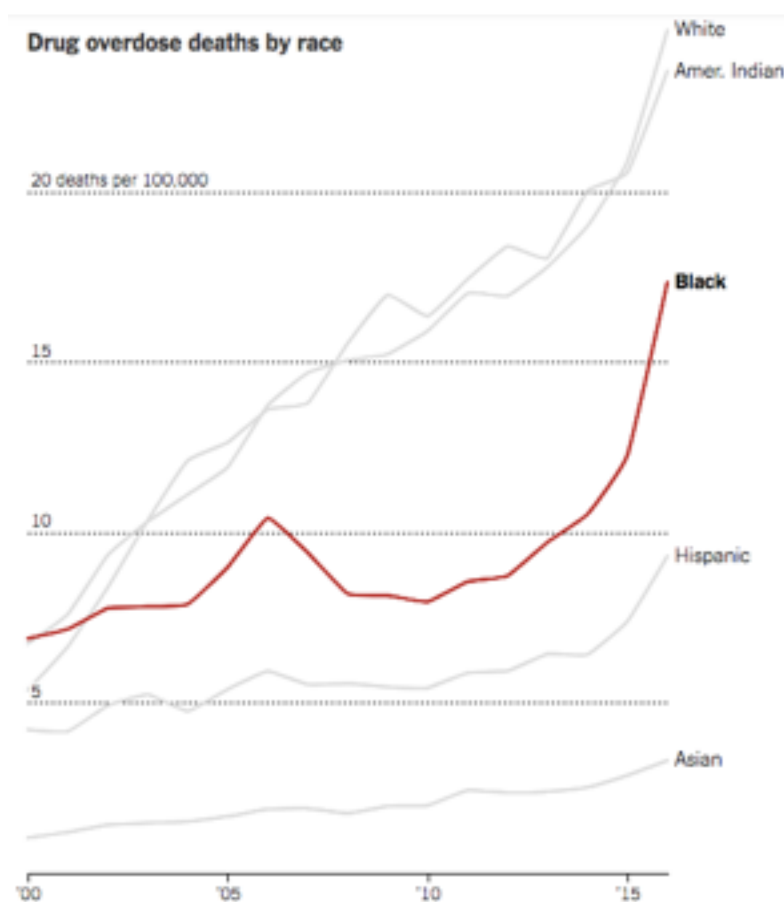
[70] Alexander, 7.

[71] Ibid., 96.

[72] Saki Knafo, "When It Comes To Illegal Drug Use, White America Does The Crime, Black America Gets The Time," *The Huffington Post.*

Recent statistics show that, while heroin is in fact killing white people at a higher rate than black people, the latter population is experiencing a steep rise in overdose death rate that may soon surpass that of white U.S. citizens.[73] There is a fear among those who acknowledge this racial disparity that, once white communities catch wind of the narrowing gap, the national movement will slow and those who are addicted will largely be forgotten. It will be important for white America to continue their fight, even if the numbers suggest that its young adults should no longer be the main focus of public health efforts.




[73] Josh Katz and Abby Goodnough, “The Opioid Crisis Is Getting Worse, Particularly for Black Americans,” *The New York Times*.

Depicted in the above figure is the fact that, though rarely addressed in the media or public conversation, the overdose death rate of American Indians is comparable to that of white Americans. The historic and current lack of recognition of indigenous populations, both in the U.S. and elsewhere, is a huge issue that is necessary to examine and denounce. However, I won't expand on that here, for my focus in terms of race is on the division between white and black America and the historic depiction of drug use by black communities that is now being flipped upside down.

E. European Experiences with HAT

Different countries define success differently when it comes to combatting drug addiction. Countries with the belief that illicit drug addiction is almost unavoidable are much more likely to adopt methadone maintenance policies and programs. Such programs allow for the possibility of abstinence, if the individual struggling with addiction is able to decrease dosage until they are no longer chemically dependent, but also allow individuals to continue their routine drug use in a healthier, safer way, with maintenance programs—including HAT.

As is often the case, the U.S. is behind most of Europe, this time in terms of its social and political attitudes towards drug use and abuse. Switzerland has had tremendous success with its HAT programs, and is typically looked to as the pioneering HAT expert. There is much to be learned from a thorough examination of the Swiss experience in the treatment of opioid dependence, but a definitive country comparison requires a critical eye. Switzerland and the

United States differ in so many ways, and a later explanation will go into detail about why they differ *too* much to draw an effective parallel.

Britain, though still different than the U.S., is much more similar than Switzerland in terms of demographics and national values. This allows for a cleaner comparison between the two countries. Specialized doctors in the U.K. have been prescribing heroin legally and regularly since the 1920s, when most addicted patients were middle-aged females who presented a minimal threat to the social order. [74] However, recent U.K. policy priorities have focused on improving the efficacy of MMT rather than supplementing it with HAT, so they must believe that heroin isn't an ideal drug for the treatment of opioid dependence. This switch could also be a result of the increasing prevalence of young males who were often criminals, and thus not seen as worthy of receiving such a risky treatment.

In order to counter the chemical nature of addiction and the collateral consequences, a public health response to addiction would need to foster safe intravenous use and provide medication that binds to the same receptors in the brain as the drug—but would ideally be non-addictive and non-harmful. This is a lengthy and challenging checklist. However, it is my hope that through a thorough examination of the initiation and outcomes of HAT programs in other societal settings, it will become clear that America needs to do *something* to reduce the harm of opioid addiction that is ravaging communities across the nation.

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[74] Benedikt Fischer, "Heroin-Assisted Treatment as a Response to the Public Health Problem of Opiate Dependence," *The European Journal of Public Health,* 231.

# Chapter 3 - Switzerland

Switzerland was the pioneer on the HAT frontier. This fits with Switzerland's global role; HAT is a progressive technology that requires tolerance, optimism, and a penchant for considering the long-term—all qualities that Switzerland has exhibited time and again.There is much to learn about how Swiss HAT programs came to be, but due to international differences, it may not be the best standard from which to create a U.S. model. Nonetheless, its groundbreaking policy change warrants a tour of the Swiss network.

## A. Swiss Heroin Addiction

A substantial increase in drug use in Switzerland came about through mechanisms similar to those that spurred the U.S. problem. Overprescription in the 1960s led to excessive recreational use, expanding the black market.[75] This led to a sharp increase in addiction towards the mid-1960s, though relative to the U.S., Switzerland had a very minor heroin addiction problem.

More recently, Switzerland lead the controversial push towards medication with heroin itself. "In the 1980s and 1990s Switzerland experienced an increase in opiate users and, as a consequence, a marked increase in health and social problems."[76] Drug policy at the time

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[75] Reuter & MacCoun,"Heroin maintenance: is a U.S. experiment needed?" *in* Musto, David F., et al., *One Hundred Years of Heroin* (Auburn House, 2002) 161.

[76] Patrick Gschwend et al., "Dosage Regimes in the Prescription of Heroin and Other Narcotics to Chronic Opioid Addicts in Switzerland: a Swiss National Cohort Study," *European Addiction Research,* 41.

followed the Swiss narcotic law, which was based strictly on prohibition of both drugs and injection equipment. "This policy could not prevent a steady increase in the incidence and prevalence of drug use, especially of heroin injecting and its sequelae (increase in mortality, in blood-borne infections, in drug-related criminality and in drug trafficking)."[77] There were over a thousand residential treatment places for those struggling with addiction, though the treatments were all forms of abstinence therapy. Despite Switzerland's wide range of drug treatments, the existence of an addicted population that wasn't benefitting was exposed, alerting the country to its flawed policies and programs.[78]

Eventually, the violence and social burden of widespread urban drug use became intolerable, and Switzerland realized that it needed radical drug policy reform.[79] Scientists and policymakers began to implement programs that would reduce the amount of harm that illicit substances brought to individuals and to communities. "The new policy introduced harm reduction as a 4th pillar besides prevention, treatment and law enforcement. It also called for innovative approaches in all pillars, including medical prescription of heroin."[80] HAT's position as an additional pillar indicates that it was never meant to replace preceding methods. "The four pillars are not to be understood as isolated areas of intervention. Rather it is the case that each pillar interacts with the others in several different ways."[81] In order to make room for HAT, some

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[77] Riaz Khan et al., "Understanding Swiss Drug Policy Change and the Introduction of Heroin Maintenance Treatment," *European Addiction Research,* 201.

[78] Gschwend et al., 42.

[79] Khan et al., 201.

[80] Ibid.

[81] "Switzerland's National Drugs Policy," *Swiss Federal Office of Public Health*, 18.

of the emphasis on each of the other three methods needed to shift, but none of the alternatives were dropped entirely. This "4th pillar" rhetoric can be very useful when it comes to conveying the importance of an integrated public health response to a bipartisan crowd, for it reassures the public that other forms of treatment—and even accountability—will remain in place.

B. PROVE: the ground-breaking study

In 1994 the Swiss Academy of Medical Sciences' supra-regional ethics committee approved a study that would monitor the prescription of medical grade heroin and the provision of safe injection spaces for those whose addiction was persistent.[82] It was called PROVE, which combines the beginnings of the German words for "project" and "prescription."[83] The study followed and compared patients using a few types of medical therapies, but "the essential feature and innovative element was the use of diamorphine as a medicine for substituting street heroin."[84] The primary goal of the prescription program was to reach people with longstanding dependencies who failed to complete other MAT programs.[85] Still, the overarching goal for the long term was abstinence, but the Swiss program was founded on the understanding that continued drug use is almost—if not entirely—impossible to eradicate.[86]

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[82] Gschwend et al., 42.

[83] Franziska Guttinger et al., "Evaluating Long-Term Effects of Heroin-Assisted Treatment: The Results of a 6-Year Follow-Up," *European Addiction Research,* 73.

[84] Khan et al., 201.

[85] Guttinger et al., 73; Kahn et al., 200.

[86] Guttinger et al., 74.

One of the common misperceptions regarding HAT is that any drug user could access subsidized heroin with little to no resistance, regardless of their intentions to quit. The PROVE study sought participants with specific eligibility requirements to minimize the possibility of such misuse. It only accepted injectors with a record of multiple unsuccessful attempts at other treatments.[87] These guidelines were put in place to separate people who have been addicted for a while and have repeatedly sought help from those who may have just begun use and are hoping only to get high and not to rid themselves of a painful addiction. To earn the public's trust in the efficacy and exclusivity of the treatment, policymakers framed the HAT guidelines as more strict than the guidelines for treatments already in place, including those for MMT.[88]

The findings of PROVE suggested that the implementation of national HAT programs would substantially benefit Switzerland as a whole. The study found significant changes in a number of areas, including decreased illicit drug use, improvements in health status, a reduction in crime, and more social integration of patients.[89] These conclusions challenge other misperceptions that the public tends to have about drug addiction and HAT as a response. For example, many critics believe that prescribing heroin at no cost would increase drug-related crime. What they're missing, though, is the fact that drug-related crime stems primarily from the high cost of black market heroin, driving some people who are addicted and unemployed to seek out alternative methods of acquiring their drug money. When clean, uncut heroin is provided to

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[87] Benedikt Fischer et al., "Heroin-Assisted Treatment (HAT) a Decade Later: A Brief Update on Science and Politics," *Journal of Urban Health,* 558.

[88] Guttinger et al., 74.

[89] Fischer et al., 558.

communities through medical channels, users have no longer have the motivation to threaten or steal from the surrounding communities.

Additionally, PROVE was "evaluated by social, medical, pharmacological, economical and criminological studies and showed positive results." [90] Despite widespread opposition to funding the prescription of heroin to those who are already addicted to the drug, PROVE found a positive cost-benefit ratio of one to two.[91] As for the opioid-dependent individuals, follow-up monitoring found high long-term retention of HAT, and of those who left the program before completion, many transitioned to other treatments or even abstinence.[92] A year into the study, 74% of participants in the heroin treatment program were still enrolled, compared to 29% of those on methadone.[93]

C. The Official Implementation of HAT

Following the release of PROVE's results, the Swiss federal government implemented HAT as a regular treatment option.[94] Further research is still being funded and executed, so as to optimize the program for Switzerland and other countries who are interested and willing enough to give it a chance. For instance, researchers are looking into immediate and slow-release oral morphine and heroin tablets, and their performance when compared with the more common

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[90] Gschwend et al., 42.

[91] Fischer et al., 558.

[92] Ibid.

[93] Gschwend et al., 43.

[94] Fischer et al., 558.

injectable heroin.[95] Perhaps this would solve the aforementioned dilemma regarding heroin's short half-life and the obstacle it presents to those who struggle with addiction and employment.

In general, the results of the PROVE study indicate that HAT programs, at least in Switzerland, were successful for the target group. The prescription and administration of medical grade heroin succeeded in keeping most participants from resorting to illicit heroin, and "in November 2008, Swiss citizens voted on the 2nd revision of the Narcotic Law, which included the heroin maintenance treatment. It was well accepted."[96] This was a paradigm shift for Switzerland. In some ways, it was a total transformation. But it was founded on preexisting tolerance and openness, and was pushed along by a number of factors.

PROVE's initiation and success was made possible by Switzerland's unified society. The clear communication between the scientific and political communities was vital to the project and the resulting policy work. "This was facilitated by the Swiss direct democracy system. Sustained dialogue between researchers and the users of research enhances the likelihood of research affecting policy."[97] Further, the Federal Office of Public Health implemented a number of measures to quell the rise in drug use and abuse. The World Health Organization endorsed the positive results of PROVE, inspiring the Federal Government to pass an executive order that would act as legal justification to continue HAT for the target group. The integrated HAT programs were then financed by health insurance, which is funded by a number of sources,

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[95] Fischer et al., 558.

[96] Khan et al., 206.

[97] Ibid., 200.

including individual contributions and tax payments. The Swiss Federal Department of Home Affairs created the expert Schild Commission, a network of allied actors itself, in 1996 to revise the existing narcotic law. This presentation of knowledge got many more groups on board, for "after a formal consultation of the Schild Commission report by the authorities, the majority of cantons, parties, and expert organisations expressed acceptance of the medical prescription of heroin as an option for therapy and harm reduction practice."[98]

Perhaps most importantly, the government organizations were able to convince citizens of the program's success and the importance of its implementation. "The Swiss referendum democracy requires a considerable degree of citizen engagement and participation," which means that the general public was accepting of HAT and thus it was in agreement with its government representatives.[99]

D. A Network of Actors

All of the collaboration between groups indicates a strong sense of interconnectedness; Switzerland's government organizations and other societal bodies can be imagined as a web with connecting threads passing from each individual to many others. With the experimentation and implementation of HAT in Switzerland, "a harm reduction advocacy network emerged, where health professionals, social workers, law enforcement agents, judges, lawyers, journalists,

[98] Khan et al., 202.

[99] Ibid.

politicians and others contributed to shaping an alternative to the prohibitionist policy model."[100] In other words, Switzerland proved to successfully enroll and construct its network of allies when used as the context for HAT, allowing the technoscience to maximize its success.

There were many actors at play in the radical reform that Switzerland endured in the 1990s. The aforementioned federal departments all played a significant role in the proposing and passing of relevant policies. Others were public health organizations: the Medical Association advocated for the provision of sterilized injection equipment, the Red Cross facilitated blood testing and immunization for diseases transmitted through the sharing of needles, and teams of EMTs prevented many fatal overdoses during administration.[101] Additionally, "a specialised NGO for risk-free use of drugs was set up and opened a low-threshold methadone clinic, without obligatory counselling and urine controls, but with visual intake control to avoid diversion and overdose."[102] Independent groups of citizens and parents would offer meals to users on the streets and in parks in a less organized but no less supportive way.[103]

Some actors influenced the network in ways that didn't require concrete policy changes or medical initiatives. The Social Department in the City Administration helped to normalize drug use and reduce surrounding stigma by changing "from a repressive attitude against

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[100] Ambros Uchtenhagen, "Heroin-Assisted Treatment in Switzerland: a Case Study in Policy Change," *Addiction,* 31,

[101] Khan et al., 204.

[102] Ibid.

[103] Ibid.

rebellious and drug using youth to an active policy of supporting measures to prevent health and social deterioration of users."[104] Furthermore, the City Government began to actively promote the prescription of heroin to those with chronic addiction, eventually fueling the Federal Government's adoption of the same view in 1991 when the harm reduction pillar was added to Switzerland's drug policy framework.[105]

In addition to all of the groups and individuals who worked for change in Switzerland, this specific network contains a number of non-human actors called *actants* by ANT aficionados. These actants are essentially enrolled by the actors in the network in hopes of building and strengthening alliances, which in turn will strengthen the case for harm reduction strategies. The recruitment of an actant—epidemiological change, for example—by actors such as public health officials, or parents whose children use drugs could be considered a driving force behind the other interactions and changes in the network.[106] Similarly, the excessive violence, drug markets, death rate increases, and general drug use each reinforced the human actors' fight for change.

All of the relationships between actors were built, strengthened, and used for policy change within the span of a decade. The vast collaboration between actors was "driven by the unacceptable realities clashing with the cherished self-image of professionals in the health and social sector of being competent and efficient in meeting new demands."[107]

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[104] Khan et al., 204.

[105] Ibid.

[106] Ibid., 203.

[107] Ibid., 204.

This might seem like a solid case for HAT implementation anywhere, were it not for one thing: Switzerland is unique. It prides itself on qualities such as collectivism, positive communication, and, while perhaps more subtly, on homogeneity as well. Maybe Switzerland doesn't encounter the same stigma surrounding addiction as the U.S. because it never had the racially-polarized drug history that skewed American perceptions. Michelle Alexander reminds readers that a society is a manifestation of its inhabitants:

> We could seek for them the same opportunities we seek for our own children; we could treat them like one of 'us.' We could do that. Or we can choose to be a nation that shames and blames its most vulnerable, affixes badges of dishonor upon them at young ages, and then relegates them to a permanent second-class status for life.[108]

To Alexander, to myself, and to many others, the U.S. has chosen the latter option, blaming and destroying target populations so as to maintain a hierarchy full of toxic power dynamics. The former characteristic might apply to Switzerland when it comes to the unaddicted and addicted populations, but racially speaking, it isn't heterogeneous enough to constitute an 'us' and an 'them' in the same way.

Attempting to contrast Switzerland and the United States with knowledge of their differences is essential to drawing appropriate conclusions from the comparison. We could approach this process with their relative positions in mind and likely still gain insight as to the potential role of HAT in America. However, to ensure that we're looking at a more complete and accurate picture, we shall ground the two extremes by looking at Britain and its relationship with addiction, treatment, and supportive collaboration.

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[108] Alexander, 206.

# Chapter 4 - Britain

Switzerland's smooth transition from successful study to political practice was made possible by the dense network of actors all working for the reduction of harm caused by heroin addiction. Most countries do not have such a stable network that functions in favor of HAT. Britain, a country in which heroin has been prescribed both as a pain medication and as a remedy for addiction, has had a slightly different approach than Switzerland when it comes to harm reduction. Perhaps HAT hasn't been as widely successful and prominent because the British network isn't as supportive of the particular technoscience.

This makes Britain a candidate for comparison with the United States. Switzerland and America don't have quite as much in common, so it's unlikely the U.S. will adopt the Swiss practices without major readjustments. Britain may be a more accurate contender for a few reasons. First, it is more racially diverse than Switzerland and, while it doesn't compare to the U.S., it provides a more moderate comparison within an issue that is racially charged.[109] It also has a larger percentage of urban dwellers, again more closely paralleling the U.S. than Switzerland does in that category.[110] Additionally, at least five British HAT studies used heroin doses that were up to four times lower than a study of dosage regimes in Switzerland.[111] The lower doses are more likely to be accepted and incorporated into any potential U.S. program, since the approach already faces so much resistance. Lastly, Britain's National Health Service

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[109] "Field Listing: Ethnic Groups," *CIA World Factbook.*

[110] Ibid.

[111] Gschwend et al., 47.

(NHS) itself seems to reflect a strong preference for abstinence-based methods, similar to the U.S. mindset.[112]

A. British Heroin Addiction

A brief examination of Britain's history with heroin addiction and treatment exposes the way in which the country experienced the inverse of Switzerland's radical transformation of political and social mindset, leaving Britain in the same old paradigm that is less conducive to progressive changes in treatment. Since the 1920s, British physicians have been prescribing diamorphine to rid patients of addiction and to remedy other afflictions.[113] In 1926, a royal commission chaired by Sir Humphrey Rolleston classified drug addiction as a medical problem.[114] This declaration allowed the Rolleston Commission to successfully prevent the police from interfering in the relationships between patients and their physicians.[115] As a result, physicians were able to treat patients openly and completely, and likely saw more patients due to an increased sense of comfort and immunity.

Britain's history of prescribing—and maintaining—heroin dosages for patients with addiction might imply that their support for harm reduction approaches is one of the oldest around. However, their heroin prescription programs, though old, don't have the necessary social and political support that would allow them to help the population that could benefit

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[112] "Heroin Addiction: Get Help," NHS Choices, *NHS.*

[113] Stephens, 170.

[114] Gray, 198.

[115] Ibid.

significantly. The numbers indicate that the population addicted to heroin and the proportion of those dependents seeking MAT have increased in recent years. Despite those steady increases, the role of any sort of treatment by opioid injection has actually decreased, and experiences a much smaller frequency of new patients than it did a decade ago.[116] This is most likely a result of a change in mindset, as was Switzerland's policy change. Though in this case, harm reduction was replaced by a prohibitionist movement that was remarkably similar to the case in the United States.

> For whatever reason, the British decided to follow the lead of the United States insetting up drug treatment centers, and we convinced them that emphasizing total abstinence was the way to go… Prices of drugs skyrocketed, crime and violence increased, and so did the number of people in prison and the number of deaths from drug overdoses.[117]

Britain observed a shift in mindset towards addiction in the same way that made the U.S. turn its back to those with drug dependence. Originally, it was middle- and upper-class women and professionals using in the privacy of their own homes—a situation that didn't cause societal alarm.[118] "Concern mounted in the 1960s when the profile shifted toward marginalized young men using heroin in a way that was more akin to the situation in the United States."[119] Preconceived notions of the people with addiction prevailed and the demographics of the user population became less forgiving and more threatening; the perfect target on which to blame society's problems.

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[116] Nicholas Lintzeris et al., "Methodology for the Randomised Injecting Opioid Treatment Trial (RIOTT)," *Harm Reduction Journal.*

[117] Gray, 199.

[118] Nick Eardley, "Heroin abuse - Does the UK Still Have a Problem?" *BBC.*

[119] Mervyn London, "History of Addiction: A UK Perspective," *American Journal on Addictions,* 99.

Even with a general recognition of these inequalities, some might think that the observation of these negative effects would inevitably induce a dramatic policy change, like the way in which Switzerland experienced a dramatic paradigm shift after PROVE. However, "the reluctance to prescribe heroin remains the case today; less than 1 percent of those being maintained on an opiate receive heroin (Stears 1997)."[120] Such a minuscule percentage barely begins to cover the proportion of users who can't find success with methadone therapies or other treatments that don't incorporate diamorphine itself.

B. RIOTT: the British trial

Britain's Randomised Injectable Opioid Treatment Trial (RIOTT) began in 2005, followed by the publication of its results in 2010. Its primary goal was to compare the safety, efficacy, and cost-effectiveness of different injectable opioids, diamorphine and methadone in particular, to the more standard oral methadone treatment.[121] As in Switzerland, Britain's heroin prescription targeted only those in methadone programs who hadn't ceased illicit heroin use throughout the course of treatment.[122] In other words, they had been unable to complete the programs successfully, so they were given a chance at an alternative approach to better health.

The conclusion of Britain's RIOTT study was similar to that of Switzerland's PROVE: "recent British clinical guidance indicates that IOT [injecting opioid treatment] should be a

[120] Reuter & MacCoun *in* Musto, 162.

[121] Lintzeris et al.

[122] Ibid.

second-line treatment for those patients in high-quality oral methadone treatment who continue to regularly inject heroin, and that treatment be initiated in newly-developed supervised injecting clinics."[123] The last clause pertains to the monitored location and sterilized tools that assist with the prevention of overdose deaths and the spread of intravenously-transmitted diseases. Safe injection sites are another harm reduction measure that, when used with or without the prescription of medical diamorphine, drastically improve a community's drug-related health by reducing overdose deaths and cutting the risk of diseases that might be transmitted through the use of unsanitary needles and injection environments.[124]

C. The British Network

As in the U.S., current British programs aren't finding the necessary success.The British network, as outlined here, consists of many actors: law enforcement, the government, doctors, the general public and those who struggle with addiction. In the U.S., the relationship between people with addiction and every other group is negative and condescending towards the ill, thus fueling the cycle of their addiction. In Britain, the actors have similar goals—safety and good health for those who need help—and thus they collaborate well, accepting and fulfilling the roles imposed on them by the circumstantial actor world. Not only does that approach save and improve lives that are already dominated by addiction, but the positively linked support network would help to quell the spread of initial use. However, Britain's Americanized mindset might be its downfall when it comes to its reluctance to implement harm reduction strategies such as HAT.

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[123] Lintzeris et al.

[124] Lenny Bernstein, "A Secret, Supervised Place Where Users Can Inject Drugs Has Been Operating in the U.S. for Three Years," *The Washington Post.*

The NHS website itself notes that most treatment programs available in the country "start with detoxification and medically-managed withdrawal, often considered the first stage of treatment."[125] Though the site also reaches out to those with more challenging dependences—"if you're not ready to stop, you can still get help with staying safe and healthy"—it declares that both maintenance an detoxification programs involve a "switch from heroin," rejecting the use of HAT on an official, advertised level.[126]

All hope is not lost for that portion of the addicted population, however. Though the network isn't constructed in the most supportive fashion, Britain possesses a mindset conducive to the effective implementation of HAT. In general, the British "are sophisticated enough to understand that effective drug education must encourage young people to develop their own views about drugs and make informed decisions about their own and other people's drug use."[127] Initiatives are sprouting up at the local level, and some national studies have been conducted in an attempt to support a more integrated diamorphine prescription program. "One of the innovations that has been developed in Britain is the Healthwise Program in Liverpool**,** which recognizes that prevention must focus on specific risks rather than unattainable goals, regardless of how politically useful those goals might be."[128] The recognition that drug use and demand won't just disappear in an instant is a vital step towards implementing preventative and responsive harm reduction measures. The aim is *not* to ignore the topic and hope that, as a result,

[125] "Heroin Addiction: Get Help," *NHS.*

[126] Ibid.

[127] Gray, 177.

[128] Ibid., 178.

no one learns about drugs and their dangers or the treatments that might be available once addicted. Rather, the aim is to provide accurate, comprehensive information and prepare a maximal amount of people to make healthy, responsible choices surrounding drug use.[129]

Britain, while more successful than the U.S. in terms of the efficacy of HAT in the national actor-network, doesn't quite have the support that's found in Switzerland. Its sophisticated understandings and innovations indicate the presence of an appropriate harm reduction mindset, but Britain's network includes the addition of an influential United States, a node that tugs on the web just enough to let HAT slip through the cracks. This failure to sufficiently support HAT allows us to think critically about possibilities for the future of American drug policy, as Britain provides a more realistic point of contrast than Switzerland.

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[129] Gray, 178.

## Chapter 5 - The Plausibility of HAT in the United States

Each of the three countries examined here had a different reaction to discovering that one of the roots of its respective addiction issues had to do with the medical accessibility of drugs. Once they had promoted the prescription of diamorphine to treat heroin addiction, “England chose to allow private physicians complete discretion in maintaining addicts on heroin, partly because the policy makers believed addicts had become addicted in the course of medical treatment (Lidz, Lewis, Crane, and Gould, 1975).”[130] This is almost identical to Switzerland’s feeling of obligation to continue prescription for fear of depriving patients of what they had become addicted to in the course of legal medical treatment.

The U.S. responded differently when it discovered that opioid prescriptions quadrupled between 1999 and 2010, drastically *reducing* the quantities and frequencies of prescription, which drove many addicted patients to seek illicit heroin to quell their symptoms of withdrawal. All three countries have, in a way, given their patients heroin, but for the European countries, it was to make addiction more bearable, whereas the case in the U.S. was indirect and unintentional, and resulted in a raging epidemic.

A Latourian approach might argue that the success of HAT is determined entirely by the construction and strengthening of the social networks that string each country together. If that’s

[130] Platt & Labate, 247.

the case, sociopolitical comparisons of both Switzerland and Britain to the United States should provide insight into whether or not HAT is a reasonable response to the U.S. opioid epidemic.

A. Switzerland vs. the U.S

The three aims of Swiss drug policy are 1) to reduce the use of drugs, 2) to reduce the negative consequences for users, and 3) to reduce the negative consequences for society.[131] Was PROVE successful in these goals of reducing drug-related harm in Switzerland? The study, supported by the vast majority of the nation, says yes. Can the success of PROVE be transported overseas and onto U.S. soil? This is where the controversy lies. On one hand, the belief that such a change in healthcare is possible in all advanced, industrialized nations says that it can absolutely be a solution to the current American opioid epidemic. Many "believe that a reasonable case can be made for a U.S. trial…The downside risks of a trial in the United States seem slight and the potential benefits, substantial."[132] But limited resources and a partisan government force us to wonder whether or not this is realistic.

Will the U.S. be able to look past the risks and focus on the long-term societal benefits? Unfortunately, some argue that the U.S. and Switzerland are far too different. In Switzerland, "the FOPH has the legal mandate to promote scientific research into illegal drugs."[133] The existence of this requirement showcases the inherent and enforced relationship between the

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[131] *Swiss Federal Office of Public Health*, 17.

[132] Reuter & MacCoun *in* Musto, 160.

[133] *Swiss Federal Office of Public Health*, 12.

government and the rest of society, a characteristic that proved useful with the implementation of drug treatment policy.

To supplement the concrete laws that reinforced positive communication and collaboration between Swiss actors, Switzerland's initiation of PROVE required a certain level of mutual trust between its citizens and government: trust in the study's strict eligibility requirements, trust in the science behind addiction and heroin itself, and trust that those who seek treatment are genuinely reaching out for help. Based on the way Americans view and treat opioid-dependent persons, it is doubtful that the U.S. has the capacity for such trust. First of all, the presence of stigma and the national mindset vary drastically. In Switzerland, HAT has existed for decades already, indicating that the public has been and grows more accepting of addiction and of those afflicted. "Swiss pragmatism and American idealism may derive different conclusions from the same set of results about the effects of providing a highly addictive drug to those who already crave it."[134] In general, the American network possesses an abstinence-based mindset, derived from a national obsession with morality, that enforces accountability for one's immorality.

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[134] Reuter & MacCoun *in* Musto, 160.

This figure shows the relationship between the three countries with regards to two important national qualities, measured by Dutch social psychologist Geert Hofstede.[135] As the graph on the left suggests, Switzerland has a much higher orientation for the long term than the U.S., making it much more likely to seek out harm reduction strategies. The second graph shows that the U.S. values individualism, or personal responsibility for one's actions, much more highly than Switzerland, which aligns with the arguments surrounding America's stubbornness towards helping addicted patients. In both measures, Britain scores between the two others, providing support for its position as an intermediary in this thesis.

The countries' mindsets also differ when it comes to the categorization of drug use in general. Switzerland sees it as a health issue, with a cure to which everyone has a right. "Once the [Swiss] government had provided heroin addicts with the drug, it incurred a continuing

[135] This graphic was made with the help of Hofstede Insights' Compare Countries feature. It can be found at: https://www.hofstede-insights.com/product/compare-countries/.

obligation to maintain those addicts as long as they sought heroin."[136] This way, the government is never the source of painful withdrawal symptoms. The U.S. is unlikely to prefer the notion of "maintenance" to that of "abstinence" any time soon. Abstinence has always been the primary—and often only—goal of the American fight against heroin addiction. Thus, it is difficult to justify the maintenance of a certain dosage rather than a diminishing dosage that will eventually lead to ceased consumption.

To be fair, the Swiss have never encouraged recreational drug use and, even at the time of PROVE's initiation, "opinions and attitudes regarding drug policy issues were not unanimous throughout the country."[137] Many were torn between supporting the community and blaming the addicted. "The Swiss citizenry were unwilling to be very tough about enforcement but also were offended by the visibility of the problem, arguably an important consideration in Swiss drug policy."[138] However, their behavior seems a bit more forgiving and optimistic when compared to that of the United States.

Would it be difficult to implement HAT programs in the U.S. as a supplementary treatment option for people caught up in today's growing epidemic of opioid addiction? Absolutely. It is difficult to imagine the prescription and subsidization of a drug so widely despised. But if the U.S. has any desire to listen to and learn from the success of PROVE in Switzerland, there is a possibility that HAT might eventually be an American reality.

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[136] Reuter & MacCoun *in* Musto, 163.

[137] Uchtenhagen, 32.

[138] Reuter & MacCoun *in* Musto, 163.

> The Swiss experience demonstrates that in a wealthy society which values order and sobriety, it is possible to build a base of popular support for heroin maintenance. On the other hand, Switzerland is a somewhat paternalistic society, and its citizens may be less troubled than are individualistic-minded Americans by some of the normative issues discussed here, although there is little positive evidence to support that speculation.[139]

Though there are minimal data that address the country comparison directly, this goes to show that, since Americans *aren't* that different than the Swiss, the U.S. shouldn't have an issue implementing what worked in Switzerland more than two decades ago, and what continues to be an integrated component of its national healthcare.

In order to garner support for PROVE, Switzerland had to transform its views of addiction, leaving a majority of citizens somewhat satisfied, while others had to adjust to the methods with which they disagreed. The change in Swiss drug policy can be examined as "a competition between a prohibitionist and a harm-reduction coalition."[140] The U.S. policy debate may be too complex to be viewed in the same way; there are too many American actors whose mindset is somewhere on the spectrum between the two camps, and too many on the side of prohibition to be able to enroll enough allies in support of harm reduction policies. A harm reduction mindset requires the understanding that, in order to reduce the amount of collateral damage done to communities that contain drug users, "measures to prevent blood-born infections must override the inefficient belief in preventing drug use in an abstinence-only perspective—not only for the sake of users, but in order to protect the general population as well."[141] It may seem

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[139] Reuter & MacCoun *in* Musto, 173.

[140] Khan et al., 204.

[141] Ibid.

effective to frame the issue as everyone's problem, not just those who 'choose' to engage in drug use and related activity, but many American skeptics would likely blame those who interact—sexually or otherwise—with drug users, regardless of their own personal record of drug use. People on the side of individualism will have a tough time adopting a harm reduction mindset in general, for they don't see that the entire community is affected, regardless of the choices each person makes independently.

Switzerland prides itself on an overall sense of unity that allows the government, the general public, the scientific community, and other industries and institutions to collaborate and exchange information with each other. Article 15c of the Swiss Narcotics Act of 1975 says that "the Federal Office of Public Health (FOPH) has the task of supporting players active in the areas of prevention, therapy and harm reduction (cantons, communes, private organisations)."[142] This fuels Swiss technological and social progress. In the midst of a national crisis such as increased heroin addiction, that process is expedited. "Clear shared objectives and a common feeling of urgency brought the coalitions together," driving a positive and productive exchange of ideas.[143]

One way to describe this is with the term *knowledge brokering*, which "focuses on identifying and bringing together people interested in an issue in order to develop evidence-based solutions."[144] Unfortunately, the U.S. lacks this sense of togetherness, especially under the

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[142] *Swiss Federal Office of Public Health,* 12.

[143] Khan et al., 206.

[144] Ibid., 203.

current administration. On April 22nd of 2017, a national "March of Science" was organized and executed as a result of the tension and conflict between the political and scientific communities.[145] The mere existence of the March demonstrates the United States' inability to maintain healthy relationships between those who do research and those who make decisions.

Requirements for productive knowledge brokering include: "organizing and managing joint forums for policymakers and researchers" and "building relationships of trust."[146] Many commissions and panels dealing with scientific issues are founded and facilitated by America's Trump administration, and happen to contain few to no scientific experts that align with the scientific majority view. For example,

> In the United States political reaction to the Swiss trials was illustrated by hearings held by a House subcommittee. The subcommittee called as witnesses two doctors from Switzerland with long records of hostility to both needle exchange and heroin maintenance...No Swiss researcher or official associated with the trials was given an opportunity to testify.[147]

This exclusion of key players from the discussion leads directly to the spread of misinformation and the omission of fact. The U.S. is a frequent suspect in this type of information manipulation, churning out skewed figures and reports based on a particular perspective.

Additionally, the American political divide is polarizing, unlike the Swiss pluralistic structure. Switzerland's Federal Council is composed of the four largest political parties in the

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[145] Nicholas St. Fleur, "Scientists, Feeling Under Siege, March Against Trump Policies," *The New York Times.*

[146] Khan, et al., 203.

[147] Reuter & MacCoun *in* Musto, 170.

country, allowing each party to be well-represented at times of decision-making. "In 1991, the Federal Council decreed a new national drug policy, backed up by a shared policy platform of three major political parties."[148] The Swiss Federal Council's political diversity suggests that, once something is successfully approved and implemented, it must've been supported by three or four parties, rather than the dichotomous domination that occurs in the U.S. Externally, the government is a central part of the Swiss network, holding the web together by maintaining positive relationships with non-government bodies. "On the basis of its position in the structure, which gives it a national and international perspective, the federal government also acts as a moderator and coordinator in encouraging reciprocal voluntary coordination between the various players in drug-related fields."[149] Whereas the U.S. government tends to use its power to widen divides and enforce regulations, the Swiss government uses it to bridge gaps and connect various actors across the nation.

B. Britain vs. the U.S

Britain, though perhaps a better tool for comparison, isn't as similar to the U.S. as some might think. "The problem of addiction to opiates, especially heroin, is vastly larger in America than in the United Kingdom."[150] A few questions arise regarding the nature of this statement: has the discrepancy been consistent throughout history? or is it the result of their differing responses? is it related to Britain's tradition of prescribing heroin? Would the U.S. benefit from adopting similar practices? A potential partial solution to this series of questions is that, "while many

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[148] Khan et al., 201.

[149] *Swiss Federal Office of Public Health,* 14.

[150] Trebach, 20.

observers have commented on the impossibility of comparing the U.S. experience with that of England because of massive cultural differences, Lidz et al (1975) believe the real difference lies in the type of policy each country has pursued in attempting to control heroin addiction."[151] To better grasp the fundamental differences between the two countries' respective problems, it is necessary to look at specific societal aspects and investigate why they might differ from place to place.

The role of and restrictions on doctors in each society vary significantly. For example, the practices of doctors in the U.S. are dictated by the government much more than those in Britain. In the U.S, doctors must follow strict, up-to-date guidelines produced by various government-controlled committees. The NHS, on the other hand, is a body independent of the British government, and thus "English doctors have the power to try a new clinical tack at any time. That power should be given to American doctors: to act on clinical hunches and to adjust them in the light of rational criticism and experience."[152] This suggestion would likely face ethical and political obstacles, especially since the past twenty years have seen an encouraged *decrease* in the prescription of opioids for pain. To legalize and medicalize heroin itself would be to backtrack, and that might ruin the image of the U.S. as a forward-pressing global leader in medicine and technology.

[151] Platt & Labate, 248.

[152] Trebach, 279.

The relationship between the legal system and the medical community is vastly different in the U.S. and Britain. For some people who are addicted, MAT or other legal treatments aren't able to successfully keep them from committing crimes and seeking illicit substances. To some extent, individuals must be controlled so they don't harm their communities, and if available treatments don't work, appropriate police intervention can dampen the consequences of their behavior. In the U.S., police tend to invade clinics and interfere with the doctors' drug-prescribing practices that are only in place to help those who are addicted, and thus the two parties clash. In April 2018, the FBI raided a methadone clinic in New Jersey where patients were receiving MAT for their opioid addictions, simply because it "has long been considered by city officials to be standing in the way of downtown revitalization."[153] However, when the British authorities interact with patients, the medical experts and the police form a team to reduce harm, with the doctors sending risky patients "into the arms of the police" in a gentler, less abrasive way.[154] This is yet another depiction of how the network of actors in the U.S. suffers from too many authoritative relationships, and that of Britain is woven together in a much more productive way.

When a British model of HAT was proposed as a new American policy, the U.S. Strategy Council on Drug Abuse didn't hesitate to shut it down. "It was felt that legalized distribution of heroin would not substantially alter the recruitment pattern of new addicts."[155] The overall goal of the Council and it's founding country is abstinence, so it took immediate issue with the British

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[153] Avalon R. Zoppo, "FBI Raids Methadone Clinic in Camden," *The Philadelphia Inquirer,*

[154] Trebach, 219.

[155] Platt & Labate, 31.

idea of maintenance as a method of harm reduction. The council is a useful example that shows that, while the U.S. *does* construct networks around drug use and potential treatments, the network is oppressive rather than supportive, and its main goal is to maintain current structures of power.

This translation runs both ways, and while the British policy was proposed to and discarded by the U.S., the U.S. itself was busy exerting its influence over its transatlantic neighbor. Many would describe the U.S. network as toxic—riddled with dangerous power dynamics and distrust. Thus, Britain somewhat succumbed to this global power, falling into step behind it on the path to individualism and abstinence, while Switzerland maintained its national identity as a neutral and independently-minded country.

### C. Barriers to the Implementation of HAT in the U.S.

To hypothesize about the plausibility of implementing HAT in the U.S., it is necessary to ask a series of questions, addressing each step of the complicated process that turns an idea into a policy and, from there, into a practice. This process is not linear. It is guided by the actor-network, allowing an idea, policy, and practice to interact with each component of the web.

Will the government have a fair exchange of ideas with the scientific community? As is evident from the examination of Switzerland, it is necessary to have a respectful, mutual translation in order to use research to propose and pass policies. The U.S. seems to be incapable of such a fair exchange.

How would the U.S. respond to heroin's overnight transformation from illicit to prescribed and subsidized? To facilitate such an abrupt change would be to discount the drug classification of heroin that has been supported for decades. It would be difficult to justify said switch, especially when the chemical makeup of heroin hasn't changed at all. Furthermore, heroin has no medical benefit, other than for patients with addiction, beyond what other opioids can do for pain, so it's removal as a Schedule I drug would require a restructuring of the whole classification system and the labeling of *diacetylmorphine* as Schedule II instead.

If politicians and citizens of the United States were willing to implement HAT of some form, how would it be funded? If it became a part of health insurance, though that system is complex, much of the funding would come out of tax payments. Given the recent passage of a regressive tax bill, it is unlikely that individuals will be interested in subsidizing heroin for people who are believed to be entirely at fault for their own situation.

When would the U.S. achieve "success" and what is the American definition of the term? At a minimum, it can be said that it isn't the definition required of a harm reduction mindset. Switzerland and Britain—or at least a large part of each country—share the notion of a successful drug treatment program as one that reduces the number of people who are addicted and allows those who struggle with drug treatment programs to carry on healthy relationships, employment opportunities, and a relatively harmless daily routine. In the U.S., the view is largely that success implies abstinence on a national level. To implement HAT or other harm

reduction methods, America would need "a redefinition of successful outcome in drug treatment programs to focus on a return to productive life rather than remaining drug-free."[156]

As is clear from a thorough exploration of America's current political and social environments, it would be extremely difficult to implement HAT successfully in the U.S. at this moment. In order to do so, the U.S. would have to restructure the translations within the actor-network, making it more stable and allowing information to flow both ways along each connecting thread. Right now, the stigma surrounding addiction is far too prevalent to allow for much support of a harm reduction approach, even though the so-called 'epidemic' continues to devastate communities across the country.

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[156] Platt & Labate, 107.

## Conclusion

So is there a tangible solution to this issue? When we break down the populations who need help in the form of large-scale initiatives, it becomes easier to determine what to do for each group. Stanford drug policy expert Keith Humphreys describes this as the stock and flow dichotomy. "On one hand, you have the current stock of opioid users who are addicted; the people in this population need treatment or they will simply find other, potentially deadlier opioids to use if they lose access to prescribed painkillers. On the other hand, you have to stop new generations of potential drug users from accessing and misusing opioids."[157] With a line drawn between those who need treatment and those who need preventative measures, it is possible to consider a solution with three main areas. The first area focuses on medical treatments that can be enrolled in the network through a series of translations. The second area focuses on the rhetorical changes that can be made by society; this desire is a bit more far-fetched and long-term than the monitored prescription of MAT drugs, but will effect the implementation of both treatment and prevention initiatives. Lastly, I will include the aforementioned societal changes that will hopefully drive a decrease in initial use and thus addiction. This shift will likely happen over generations, so though I understand the urgent need for a ready-made solution, I also feel it is important to look ahead at what will benefit us most down the line.

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[157] Lopez, "Here's what Trump's opioid commission wants him to do,"

Before the U.S. is ready to accept and encourage HAT as a supplementary treatment, there are some intermediate alternatives. Needle exchanges, or the distribution of clean needles to users who have their own substances, tools, and locations, help to prevent the spread of sexual and potentially lethal diseases. Safe injection sites provide clean, private places for users to inject their own drugs with clean tools and in a monitored setting. This also mitigates the spread of disease and the risk of overdosing alone in a filthy environment. Additionally, the privacy reduces the shame that many users feel when seen going into or coming out of a clinic, and reduces the visibility of drug use and its behavioral effects within the public eye.

Once we've lain the foundation for HAT by implementing said intermediate steps, the technology would be much more easily accepted than if it were proposed immediately and with minimal harm reduction policies already in place. It is less overwhelming to introduce a new framework bit by bit than to throw society into a new paradigm without preparation. If safe injection sites were to be more popularized, HAT would entail the mere addition of prescription diacetylmorphine. This way, both the users and those who are monitoring their use, know what the drug is and where exactly it came from, assuring those who use that the drug is pure and uncut with poisons such as fentanyl.[158]

As soon as we're able to offer a maximal amount of options that are considered medically appropriate to treat opioid dependence, we can look to the broader issue of stigma and rhetoric, and how those have been known to significantly impede the implementation of harm reduction

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[158] Lenny Bernstein, "At the Heart of Canada's Fentanyl Crisis, Extreme Efforts That U.S. Cities May Follow," *The Washington Post.*

strategies. Historic events have fueled our harmful language, weighing down words with negative connotations. One such example is "Reagan's National Security Decision Directive, which declared drugs a threat to U.S. national security, and provided for yet more cooperation between local, state, and federal law enforcement."[159] Along with Nixon's association of drugs as the primary public enemy of the American population, this reinforced the notion that drug users need to be controlled and pulled from society. We can begin to flip this negativity on its head by using medical terms such as "diacetylmorphine" rather than the more threatening "heroin," or "in treatment" rather than "getting clean," which implies that those who are currently using or addicted are dirty.

Following drastic adjustments in terminology, we can move on to addressing some deeper questions. If the issue at stake is opioid addiction, how do we define a successful accomplishment? Right now, the conversation seems to pinpoint addiction as the issue, but the more emotionally-wrought battle seems to be centered around the lives lost to overdose death and the loved ones who are left behind. *Why don't we measure our success in decreased death rates?* If we were to change our mindset in this area, we would find immense success with HAT and other forms of MAT, because the data show that the presence of MAT programs is inversely proportional to the overdose death rate.[160] Though he hasn't tried or considered HAT in particular, Dr. Kitfield is one of the few actors in the U.S. network that measures success in this way. "Long before the heroin epidemic began to make headlines in Maine, Kitfield was

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[159] Alexander, 75.

[160] Lopez, "There's a highly successful treatment for opioid addiction. But stigma is holding it back."

providing patients with medication-assisted addiction treatment."[161] The MAT clinic "'is opening a door for people that makes recovery possible,' Kitfield said. 'I've seen life open up again for (patients). They start to feel good again. They can hold down a job. They stop dying.'"[162] Evidently, Dr. Kitfield adheres to a harm reductionist view in this sense, where the goal is to subdue the associated harms rather than eradicate addiction itself.

However, even if the goal were to eliminate addiction overall, we need to reconsider our definition of the disease itself. The definition of substance use disorder is dependent not just upon the physical drug dependence, but an additional behavioral manifestation.

> The qualification for a substance use disorder is that someone is using drugs in a dangerous or risky manner. So someone with an opioid use disorder would not just be using opioids but potentially using these drugs in a way that puts him or others in danger...Basically, the drug use has to hinder someone from being a healthy, functioning member of society to qualify as addiction.[163]

Thus, regardless of the goal, if we keep people from seeking out black market drugs, committing property crime, and overdosing, we've technically stopped addiction and reached the anti-addiction goal for at least the population in treatment. Since the beginning of MAT studies, this finding has been the basis of the argument in favor of maintenance programs that don't require sudden and complete abstinence. "So far as Dr. Dole and Dr. Nyswander could see, [the patients with opioid dependence] had become normal, well-adjusted, effectively functioning human

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[161] Abigail W. Adams, "Wiscasset Family Medicine Has New Owner, Founder Remains on Staff," *The Lincoln County News.*

[162] Ibid.

[163] Lopez, "There's a highly successful treatment for opioid addiction. But stigma is holding it back."

beings--- to all intents and purposes *cured* of their craving for an illegal drug."[164] Addressing this rhetorical and conceptual challenge would likely require a moderate shift in the national mindset, but would eliminate many hindrances to a harm reduction approach.

Let's return to the issue of identifying a problem and its solution. Given the problem of heroin addiction, prohibitionists would say that dosage reduction, law enforcement, and mental therapies are all solutions—as a combination or independently. Harm reductionists would propose that MMT, HAT, or other maintenance programs should be included in the arsenal of treatment options as well.

However, even those who strongly believe in the potential of maintenance programs have hesitations. It is thought to be more of a downstream approach in that it responds to the surface-level manifestation of a more deeply-ingrained societal issue. "As with methadone maintenance, one can claim that by providing a drug on a maintenance basis, one is treating only the symptoms of the 'disease.' The underlying root causes are not being dealt with."[165] Rather than spending all U.S. funding available to combat addiction on a cure that will reduce the prevalence of addiction before the onset, as the argument goes, we're spending too much of the national energy and budget on the suppression of individuals who have already been damaged by drug use and the consequences of addiction.

[164] Brecher.

[165] Stephens, 171.

Even the European programs that are successful and influential on one hand are fundamentally flawed on the other. For example, the British system is criticized for its failure to take a preventative action. Alan Massum, one of its critics, noted that "the British approach deals only with symptomatology and not with the causes underlying the use of drugs."[166] To those which share Massum's views, the aforementioned 'solutions' are no such thing; rather they are merely treatments for individuals in the short-term.

How do we address a problem so large and destructive? We can begin by tracing the problem, opioid addiction, back to its roots in hopes of determining points at which to intervene prior to the onset of addiction. One theory behind initial heroin use is that the United States' own policies and former actor-network, constructed in an attempt to remedy the epidemic, have actually contributed to widespread addiction in various ways. "After the passage of the Harrison Act, a major black market developed which supplied addicts with a variety of drugs, particularly the increasingly popular heroin." [167] To counter this, we must provide heroin for a very specific, needy population through government funding and physician practice, which would compete with the black market and offer cheaper, safer, more legal access to drugs, causing the black market to dissolve. This would be quite challenging, given the widespread opposition for the mere decriminalization of heroin.

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[166] Trebach, 172.

[167] Ibid., 57.

Many studies that examine initial use of heroin "support the hypothesis that narcotics are first used with other persons."[168] Opioids are often considered to be a social drug. Initial use often occurs when an individual is—explicitly or implicitly—pressured by those with prior experience taking the substance, or when the individual has made a pact with another novice to use together. Breaking out of drug-using social circles might be one way to avoid being drawn back into the euphoria, but a way to accomplish this for addicted individuals without jeopardizing their liberties and relationships remains a mystery.

Aside from the black market and small social circles, American society has larger issues that contribute to its widespread struggle with addiction. "A society's drug policy provides telling clues about how that society is coping, not simply with drug issues but also with such problems as poverty, race relations, and political conflicts." [169] Every society faces internal inequalities, but the United States in particular has a long history of discrimination and exclusion. A preventative technique that would target the issues surrounding deviant drug-using behavior would require a drastic reduction in the American wealth gap, improvements in race relations, and a fundamental restructuring of society. The end goal of such an approach would be to make everyone feel included and respected. "A truly successful prevention campaign would require far more ambitious efforts than those described here. It would require making sure that young people--particularly those from disadvantaged backgrounds--have a genuine opportunity to lead fulfilling lives."[170] This, if possible, would entail a lot of work at all levels of society, and would

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[168] Stephens, 73.

[169] Trebach, *x*.

[170] Massing, 275.

take a long time. One recovering patient, Chris Heide, explains his long-term opioid dependence: "The temporary high that I craved replaced my unresolved feelings of not belonging."[171] For the sake of society and its opioid-dependent members who face struggles like those in Heide's past, it is worthwhile to examine and implement large-scale change such as this, no matter how far-fetched it may seem.

The act of turning this causal factor into a solution is tricky. There will always be social groups that have conflicting ideals, morals, goals, norms, and other characteristics. But one way to minimize deviant behavior would be to normalize deviance itself. Dismantling the idea of a norm is the first step on the path to reducing the initial drug experiences that stem from a desire or a need to be deviant. The Netherlands has developed a reputation similar to Switzerland's in that both countries are relatively progressive, collectivist, and demographically homogeneous, rendering it another appropriate tool for comparison. The Dutch parliament began to acknowledge and accept deviance in 1976 by enacting the revised Opium Act, which "is part of the Dutch drug policy framework that includes tolerance for nonconforming life-styles, risk reduction with regard to the harmful health and social consequences of drug taking, and penal measures directed against illicit trafficking in hard drugs." [172] This system, as opposed to its American counterpart, punishes only those who explicitly engage in the spread of addiction: traffickers and dealers. Those who use on an individual basis are treated as people who have made specific life choices, as everyone has, and whose choices require special focus on their

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[171] Chris Heide, "Recovering Addict: Opioid epidemic will be endless if we don't do this," *CNN*.

[172] Graapendal, 5.

health and safety. Accepting ‘abnormal’ drug-using lifestyles helps to normalize the issue and eliminates much of the ostracism that leads to deviance and associated behaviors.

Changing America’s individualistic mindset is a substantial step in the right direction. Were individualism replaced by a more unified, communal outlook, the tension between individual responsibility and external causes—such as genetics or social environment—would be much less severe.

> If we acknowledge that genetics and environmental factors probably cause a portion of the population to be vulnerable to drug experimentation, abuse, and addiction, our drug control policies must necessarily change. But for the moment, while the science of drug abuse and addiction holds great therapeutic promise, the politics are self-defeating, punitive, and vainglorious.[173]

Taking the fundamentals of ANT into account, we can identify addiction treatments as the technoscience and the drug policies by which they’re determined as actants in the larger network of socio-political interaction. When contextualized inside the American version of this network, the technoscience won’t be as effective in remedying widespread addiction.

It is possible to argue that, though the proposed societal changes are much larger than a steadily growing body of literature, or a coalition of heart-broken parents, or a team of medical experts, there *is* hope. Changes are being made at all levels. Trump’s new Health and Human Services Secretary, Alex M. Azar II stated that the agency intends “to correct a misconception

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[173] Moynihan, “One Hundred Years of Heroics” *in* Musto, 36

that patients must achieve total abstinence in order for MAT to be considered effective."[174] The FDA chief, Scott Gottlieb, defined MAT as the use of drugs to stabilize brain chemistry, reduce or block the related euphoria, relieve physiological cravings, and normalize the functioning of the body.[175] None of this indicates that total abstinence is the only accepted measure of success, which is a step in the right direction, but harm reduction rhetoric is useless without action and access.

President Trump's opioid commission, lead by Governor Chris Christie, has put forth over fifty recommendations for how to deal with the opioid crisis, yet "the commission does not say how much funding implementing its recommendations or talking the opioid crisis will require--leaving a huge question open, even as it argues that 'Congress must act'."[176] The director of opioid policy research at Brandeis University, Dr. Andrew Kolodny, expressed frustration with the limited availability of and support for MAT programs: "we already have an effective treatment that people aren't getting access to."[177] Perhaps it would benefit a larger population if we were to continue investing just as much—if not more—into MAT programming and access, rather than running our own studies on HAT for the percent of the population that fits within the target group. Either way, we need to do *something* more than what is happening now,

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[174] Sheila Kaplan, "F.D.A. to Expand Medication-Assisted Therapy for Opioid Addicts," *The New York Times*.

[175] Kaplan.

[176] Lopez, "Here's what Trump's opioid commission wants him to do."

[177] Ibid.

when immobility and harmful rhetoric are fueled from the top down, hindering our potential for progress and major quality of life improvements for the ill.

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