

Geographic Representations of Substance Abuse Treatment Options in Colorado Springs, CO: Anthropological Questions for Biomedical Interventions

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A SENIOR CAPSTONE PROJECT

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## **Abstract**

Addiction is linked to high rates of death and disability in the United States. It is a burden on our individual and collective health as well as our health care system. Though we should begin by attending to socioecological problems and risk factors, the treatment system is an important part of care. I intended to research the accessibility of substance abuse treatment options in Colorado Springs, CO and how access informed behavior through the lens of human ecology. I gathered location data for treatment options using the Google search engine and created maps using QGIS. The first map depicts mutual-aid groups and inpatient rehabilitation clinics. While a more complex model including spatiotemporal aspects is necessary to analyze location accessibility, the geographic representation allowed for a broad discussion of spread, quantity, and shifting landscapes. I focused on the recent sphere of opioid substitution therapies, a map of buprenorphine/naloxone providers and methadone clinics. Then posed questions for buprenorphine/naloxone care as an office-based treatment to study the clinical space as part of the social whole. Medical anthropology is particularly well-suited to question claims of decreasing stigmatization while increasing access and autonomy, but especially the general claim of improving health.

On my honor, I have neither given, nor received, any unauthorized aid on this project.

Honor Code Upheld.

*Elisabeth Desmarais*

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## **Introduction**

Substance use addiction is a problem characterized by a compulsion to take a substance, established tolerance, and continuation of substance use despite evidence of harm. In 2018, the National Survey on Drug and Health estimated that there are 19.3 million persons (8% of the total population) in the United States with a substance use disorder (SAMHSA 2018). This includes about 14.4 million (74%) people struggling with alcohol abuse and 7.4 million (38%) struggling with illicit drugs. In 2017, substance use disorders accounted for over 6% of United States disease burden, measured in Disability-Adjusted Life Years or years lost due to disability and premature death (Disability-Adjusted Life Years) (IHME 2017). Substance abuse contributes to several associated health issues including increased vulnerability to infectious diseases, especially HIV/AIDS and Hepatitis C, as well as chronic diseases, including diabetes and liver problems (Brezing and Bisaga 2015; Knight et al. 2011). Worldwide, substance abuse is directly or indirectly responsible for approximately 11.8 million deaths per year, including 350,000 overdoses (IHME 2018). While care for people abusing substances should begin by attending to socioecological influences and lowering risk factors, the treatment system in an integral part of the healing process. Access to beneficial care practices should be prioritized by our country and our communities.

## **Literature Review**

The concept of a problematic relationship with drugs, or a subset of people identified as addicted persons, did not begin with, but rather grew out of, human

consumption of mind-altering substances (Singer 2012). The beginnings of a disease model for addiction were seen in both England and the United States by the late eighteenth century (Barnett et al. 2018). In the nineteenth century the term addiction referenced drug over-consumption (Singer 2012). From there, increasingly concentrated forms of drugs were produced and sold in the global market. In the mid-twentieth century, following prohibition, the disease concept of drug addiction was rediscovered in the United States (Barnett et al. 2012). While the study of addiction as a medical problem began in the eighteenth and nineteenth centuries, it was still considered a social condition. By the late twentieth century, medicalization, or the process through which nonmedical problems are defined and treated as medical ones, was widespread (Harris 2015; Lock and Nguyen 2010: 67). Alcohol addiction is one of the longest forms of medicalization: by 1952, the Diagnostic and Statistical Manual of Mental Disorders had labelled it a disease (Magura 2007).

Previous research on substance abuse can be separated into three categories: risk factors associated with developing an addiction, the behaviors of users, and the treatment and recovery process (Begun, Berger, and Ward 2011). My research is primarily concerned with the treatment system. Treatment defined “as a planned, goal-directed change process, which is bounded (culture, place, time, etc.) and can be categorized into professional based, tradition based, mutual aid based (AA, NA, etc.), and self-change (“natural recovery”) models” (Magura 2007: 343).

The formal treatment program, informal mutual aid, strength of social support, and having something to lose are the four main aspects related to better recovery outcomes (Laudet, Savage, and Mahmood 2002). Magura (2007) defines formal treatment centers as short-term, fee-based medical facilities with a focus on detoxification and professional knowledge; informal programs as long-term, flexible, low-fee group meetings based on mutually supportive relations with peers and experiential knowledge.

One of the most common forms of informal treatment is the 12-step program (Magura 2007). When the 12-step program was first developed in the early twentieth century by Alcoholics Anonymous, formal treatment was required at the beginning of the process. This belief that both formal and informal help is integral to long-term sobriety can be seen reflected in the research on treatment success today (Humphreys and Moos 2006; Laudet, Savage, and Mahmood 2002). This would suggest that in a well-run system, people with substance abuse issues would have access to and utilize both formal and informal treatment types, one as a starting point and the other for continued care. It is important to note that some research has shown that these treatment options are a potential part of the individualized process that is recovery, but that motivation and support are the only requisites that can be generalized (Begin, Berger, and Ward 2011; Borkman, Stunz, and Kaskutas 2016; Kubicek, Morgan, and Morrison 2002). Even if the path to recovery is individualized, in the sense that positive outcomes are not dependent on specific treatment types, but rather which treatment types best help the individual, the system should allow access to beneficial types of



care. Perhaps while not promoting a singular narrative. It might be helpful to acknowledge the variation in healing pathways and responses to treatment. So that knowledgeable parties can work with addicted individuals in a way that encourages self-support.

### **Original Question**

When I first began my research, it was my intention to ask the following questions of the substance abuse treatment system in Colorado Springs, CO: How accessible are formal and informal substance abuse treatment programs? Is there a difference in the individuals that use each type of resource? To examine how accessibility informs an individual's behavior within the system through the lens of human ecology.

Unfortunately, due to personal issues, I had to limit the ultimate scope of the project to the creation of a map of substance abuse treatment options, a collection of location data. Geographic access was intended to be one aspect of accessibility that I studied, though I believe narrowing my question at least in terms of substance, treatment, and/or access type would have been necessary. My focus shifted to gaining a broad familiarity with Colorado Springs care options. Learning from the limits of and insights from this mapping project, I returned to questions of beneficial treatment and the anthropological perspective. What follows is a description of methodology and the resulting maps, a critique of the project, and new questions with an associated literature review.

## **Research Site**

Colorado Springs is the second-largest city in the state of Colorado, with a population of 472,688 people (United States Census Bureau 2019). Colorado Springs demographics are close to the state's: it is primarily white; about one-fifth of the population is Hispanic; and less than one-tenth of the population is Black and Asian. The median household income is US\$61,324 and 12.6% of the population lives in poverty. The percentage of uninsured persons in El Paso County is 6.5% (Colorado Health Institute 2019). Colorado Springs is home to six military bases (Military Advantage 2020). As such, veterans and active-duty service members may use military treatment facilities not found using these methods.

## **I. Methods**

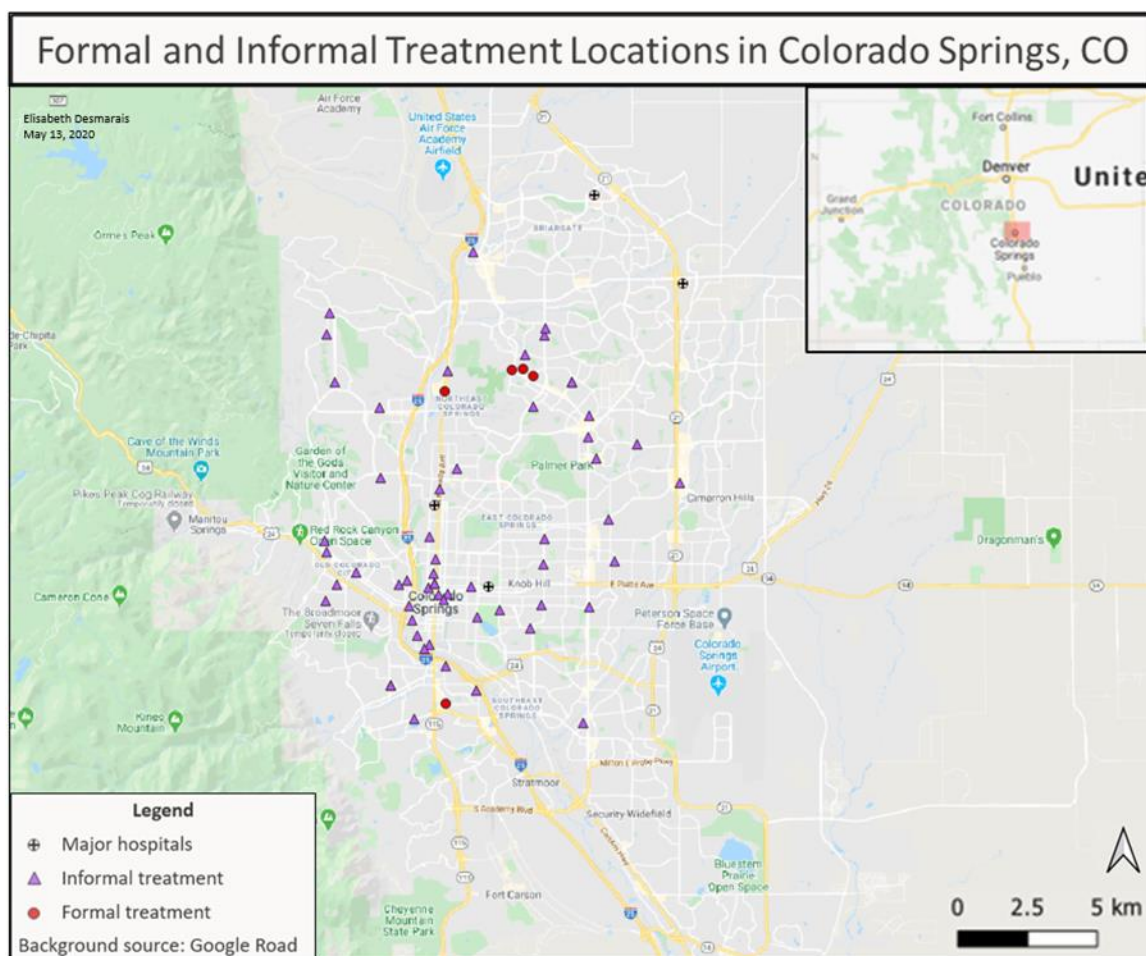
A Google search was used to find a variety of online lists for both formal and informal treatment resources. The keywords substance use, substance abuse, and addiction were used in all searches. Detoxification, medically supervised withdrawal, residential, treatment facility, and rehabilitation were search terms for formal programs. Narcotics anonymous, alcoholics anonymous, SMART, 12-step, group meeting, and support were used to find informal programs. Further Google searches were used to learn more about the providers and find address information, on the organization's own website if available. These addresses were geocoded, and a map was created using QGIS, a geographic information system application.

The formal treatment definition was harder to follow than the informal. That is not to say that mutual aid care was not incorporated into many programs, including sober living homes. These programs were simply more easily filtered out through their additional care practices and pay-for-care basis. Many facilities fit in the formal category. It became apparent that I would need to define what detoxification meant. Even with this adjustment, treatment specifics were often not available. It was difficult to differentiate some outpatient facilities from addiction counselors and psychiatrists, which were not included in my search. The final formal category was restricted to inpatient and residential detoxification treatment centers.

## **I. Results**

The following map (Figure 1) depicts the five formal and 58 informal treatment locations in Colorado Springs, CO.

Figure 1. Formal and informal treatment locations in Colorado Springs, CO



## Discussion

Originally these data were to be analyzed by comparing treatment location densities to Colorado Springs tract demographic data. This analysis was abandoned for a broader discussion and the reasons are described here-in.

Analyzing these data would require a more complex model than a simple location-based measure (Ren, Tong, and Kwan 2014). Assuming that an individual chooses to use the treatment location that is spatially proximal to their home ignores

spatiotemporal patterns of behavior. People do not necessarily travel to the nearest facility but make decisions based on the dynamic activities of their day. Determined by their other movements, time constraints, and city structure. Location-based models are appropriate for services affected by distance such as fire stations and cellular towers, even emergency rooms. In the case of non-emergent treatment options, we must consider space-time constraints, by incorporating activity-travel data for example (Rosenberg 2014).

Even these more comprehensive models do not include other aspects of people's choice behavior (Ren, Tong, and Kwan 2014). Personal emotions and facility qualities weigh in. Respectful treatment, a comfortable environment, and quality of care in formal locations. Inclusivity and group self-identification are important aspects of mutual-aid groups. Some support groups specify a group identity: women, men, youth, Hispanic, atheist. Meetings often occur in the same location at various times of day. Just as office-hours and availability influence formal facility accessibility, the timing of a meeting affects informal treatment accessibility. Just as the size of a formal facility matters, one informal location could correspond with many meeting times.

There does appear to be a concentration of informal locations in what Google Road labels Downtown. As Ren, Tong, and Kwan (2014) discuss, movement to and in a central location is encouraged by the diverse opportunities offered in the area. Therefore, limiting both time and space constraints. Most people do not live Downtown but may have other reasons to visit the area. The central bus terminal is also located

Downtown, potentially increasing accessibility from the rest of the city and traffic through this area.

A Google search allows for inconsistency. Previous browser input influences search engine output and there are possible missed websites or keywords. This begs the question of where an individual or concerned party seeking care may find this information if not on the internet. There are health care provider recommendations, insurance databases, organizations that support families or individuals, and word-of-mouth. While not the most reproducible or refined method in this instance, I would hesitate to discount the internet as a resource for people searching for care options. I often found the resulting information confusing and time consuming. Much information available online was characterized by elusive programs, outdated information, vague descriptions, and a lack of transparency. Specific details like financial options were often lacking. Additional barriers for anyone searching for answers on the internet without support and guidance exist including language barriers to non-native English-speakers.

These data were never meant to stand alone but to provide a starting point for a discussion about accessibility with providers of both formal and informal treatments. Despite the limitations of the mapping project, I became familiar with the range of treatment options, from common treatment pairings to philosophies of care. While the locations do not simply correspond with accessibility, a map is able to show spread and quantity. Formal treatment facilities are underrepresented in Figure 1. It shows there

are almost twelve times as many informal locations as inpatient locations, discounting a variety of care types in between.

If I were to continue my research, I would ask a more focused question. I would focus on substance use care narrowed to a particular substance, as seen in the larger drug field (Singer 2012) and a specific type of care rather than reexamining the formal/informal distinction.

In looking at this broader geography of substance abuse treatment, I became interested in a map's ability to depict the changing landscape and potentially highlight emerging spheres of care or those that are waning. One of the most recent developments discussed in the literature is medically assisted treatment options for opioid dependence. It was also present in the online searches, offered by certain clinics and psychiatrists. I gathered data on buprenorphine/naloxone and methadone providers to get an idea of the current state of opiate substitution therapy in Colorado Springs.

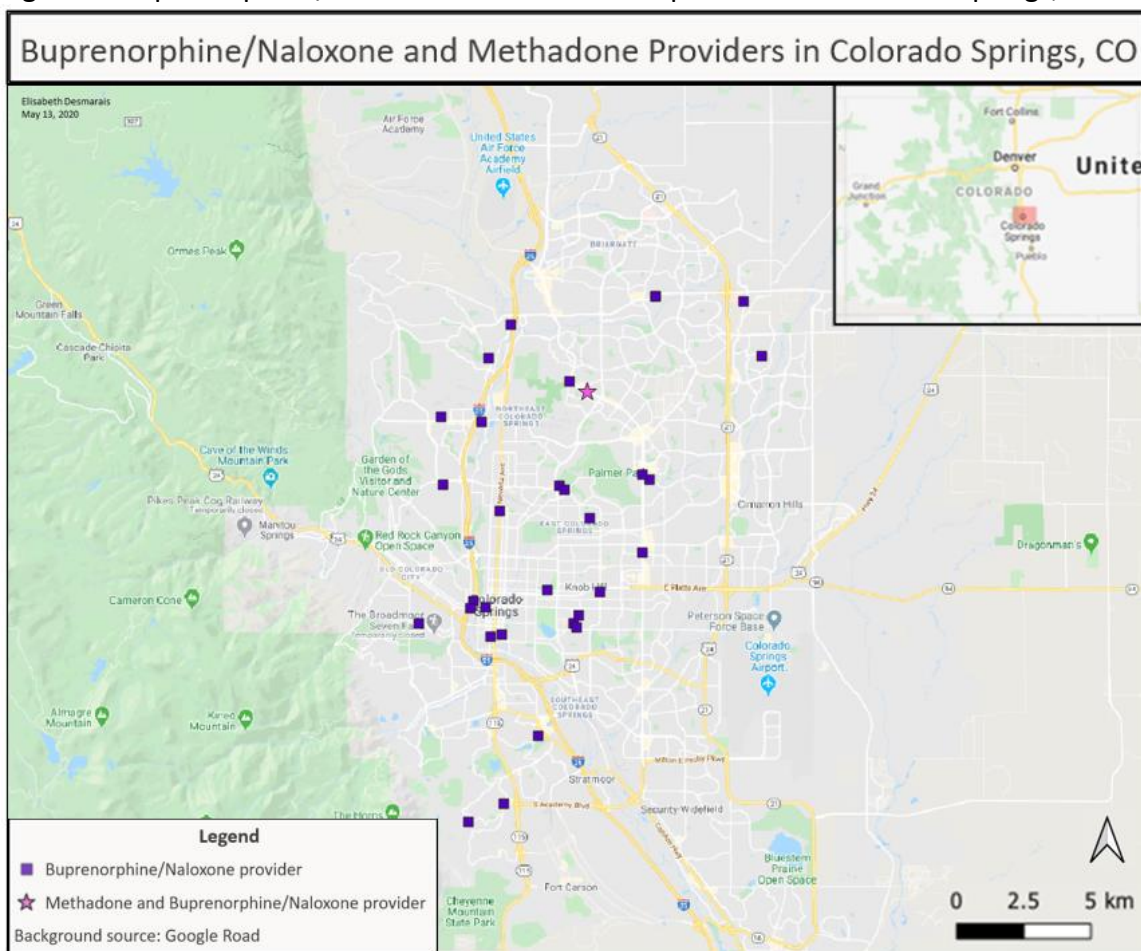
## **II. Methods**

The methods remained the same but methadone clinic, buprenorphine, naloxone, suboxone, provider, opiate substitution therapies, and MAT were used as keywords for medication assisted treatments.

## II. Results

The following map (Figure 2) depicts the 33 buprenorphine/naloxone provider locations and the one methadone clinic in Colorado Springs, CO. Colorado Treatment Services offers both buprenorphine/naloxone and methadone treatment.

Figure 2. Buprenorphine/naloxone and methadone providers in Colorado Springs, CO





## Literature Reprise

### *Opioid Substitution Therapies*

Opioid substitution therapies grew out of a search for a non-addicting analgesics in the 1920s (Campbell and Lovell 2012). Addiction to opiates during medical care prompted chemical research of the morphine molecule. Methadone was one of the first molecules studied. As a mu-opioid receptor agonist and a N-methyl-d-aspartate receptor antagonist, it allows for a milder, longer acting high while still providing antinociception (Brezing and Bisaga 2015). Between the evidence of habituation and a concern about marketing possibly potent drugs, learned from mistaking heroin as an appropriate alternative, antagonists became the focus of study instead (Campbell and Lovell 2012). Antagonists limit or completely disrupt the actions of agonists by competing for and blocking opioid receptor sites without exerting activity (Bridge et al. 2003). Naltrexone, an antagonist, was approved for treatment of opioid addiction and alcohol in 1984 but did not become a frequently used treatment (Campbell and Lovell 2012).

In 1966 Reckitt and Colman discovered buprenorphine and in 1975 it started being developed as an addiction treatment. Buprenorphine is a partial agonist, meaning it activates the mu-opioid receptor at only 50% of the maximum effect of an agonist (Brezing and Bisaga 2015). Its high affinity for the mu-opioid receptor means that it acts like an antagonist. In addition, there is a point, called a ceiling, at which increasing the dosage does not contribute to a greater danger of respiratory depressant effects or

agonist effects (Bridge et al. 2003). In other words, it prevents withdrawal and reduces or eliminates cravings. Buprenorphine was marketed as an analgesic in many countries by 1985, but it was not until the Drug Addiction Treatment Act (DATA) passed in 2000 that U.S. physicians could use it as a therapeutic (Campbell and Lovell 2012). Buprenorphine was advocated for heavily during this time, alongside pushes for the decriminalization and destigmatization of addiction.

In the United States, all three of these medication treatments have been approved by the Food and Drug Administration, the FDA (Brezing and Bisaga 2015). Methadone is only administered at designated, federally regulated facilities. Buprenorphine can be given in an office-based setting by a physician who has completed training and received a DATA2000 waiver. Naltrexone is not regulated. To limit the diversion of buprenorphine for illicit use, it can be combined with naloxone, a short-term opioid blocker (Bridge et al. 2003). This buprenorphine and naloxone combination, with Suboxone as a common brand name, was approved by the FDA in 2002 and is considered a 'best practice' for medically supervised withdrawal and maintenance treatment (Hatcher, Medoza, and Hansen 2018). The evidence given to support this claim includes: the additional accessibility, flexible dosing, individualized-nature of care, and private space of the office-based environment; the decreased likelihood of illicit usage; the demonstrated effectiveness in clinical trials; the potential to treat comorbid conditions; and a reduction of stigmatization (Brezing and Bisaga 2015; Bridge et al. 2003; Hatcher, Medoza, and Hansen 2018).

### *Medical Anthropology*

As Lock and Nguyen (2010) point out, the implementation of an evidence-based practice is always more complex than in the laboratory setting (202) and there are often unintended consequences that could exacerbate problems rather than solve them (14). Anthropology is particularly well suited to questioning the effects and importance of treatment by situating them in the larger context of health (Singer 2012), taking a holistic approach and humanizing perspective.

The early anthropological drug research tradition grew out of the cultural model, which placed importance on the socio-cultural aspects of human relationships to alcohol in a cross-cultural setting. Today common models include life-style, critical medical, and experiential explanatory models. Life-style examines the knowledge, norms and behaviors that are socially constructed. The critical medical model focusses attention on the broad structures of society, especially institutional and social power/control. The experiential model attends to the subjective experiences of drug users. Medical anthropology “frames conversations about health in terms of moral values, political power, social change, structural vulnerabilities, historical legacies, biological development, epidemiological importance, clinical care, and ecological relationships” (Panter-Brick and Eggerman 2018: 234).

Anthropology is integral to improving health care in the United States, especially because there are no organizational countervailing powers to the engines of medicalization like the government, drug industry, and medical profession (Lock and

Nguyen 2010). Biomedicine defines a normal body, framing variation as deviation, thus making normal seem morally correct (32). It has been argued, by Irving Zola among others, that medicine has become an important institution of social control (67). One of the ways it exerts this control is through biomedical technologies, as well as regulation, discipline, and surveillance (18), and, by extension, the internalization of these (25). Pharmacotherapies are linked to a history of oppression by creating docile and responsible (normal) citizens (Harris 2015).

Buprenorphine/naloxone treatment, and its basis on the brain-disease model of addiction (Barnett 2018), is an appropriate example of the continual expansion of biomedical interventions for what Tootle, Ziegler, and Singer (2015) call diseases of the socioecological body and Panter-Brick and Eggerman (2018) refer to as noxious social phenomena. Claims of decreasing stigmatization while increasing access and autonomy, but especially the broader claim of improving health, must be questioned. Increasing access to a poor-quality treatment could do more harm than good.

The anthropological study of buprenorphine/naloxone as an office-based treatment provides an opportunity to study the clinical space as a part of the social whole, not simply the pharmacological outcomes. Hatcher, Medoza, and Hansen (2018) studied patients in New York City receiving buprenorphine in primary care and outpatient clinics. They found that this care often represented more surveillance from the state and institutional neglect. The personal freedom that was described by some

patients was inverted by those who already needed shelter, financial support, or social support. They highlight the need for comprehensive care and psychosocial support.

I would like to ask similar questions of buprenorphine/naloxone treatment. What can we learn from this increasingly biomedical sphere of care through narratives of care? How do perceptions of quality of care conflict with and support current understandings of health, both corporeal and socioecological, and beneficial treatments? While thinking critically about what it means to ask questions of patients (Martin and Stenner 2004) and paying attention to the ways that studying individual care deflects attention from the very socioecological issues that we seek to understand (Tootle, Ziegler, Singer 2015).

The appropriateness of Colorado Springs as a research site should be reevaluated, because this approach requires a diverse group of patients, not only in terms of standard measures like race and socioeconomics, but also referral kind and treatment backgrounds. Even when an appropriately diverse research group is identified, there should be reflection on whose voices are not present. Those excluded from accessing care, but also those who do not make use of available programs (Rosenberg 2014).

### *Race and the Opioid Crisis*

Race is a major component in the history of medication assisted treatment and opioid addiction. Much attention has been focused on the current opioid crisis, declared

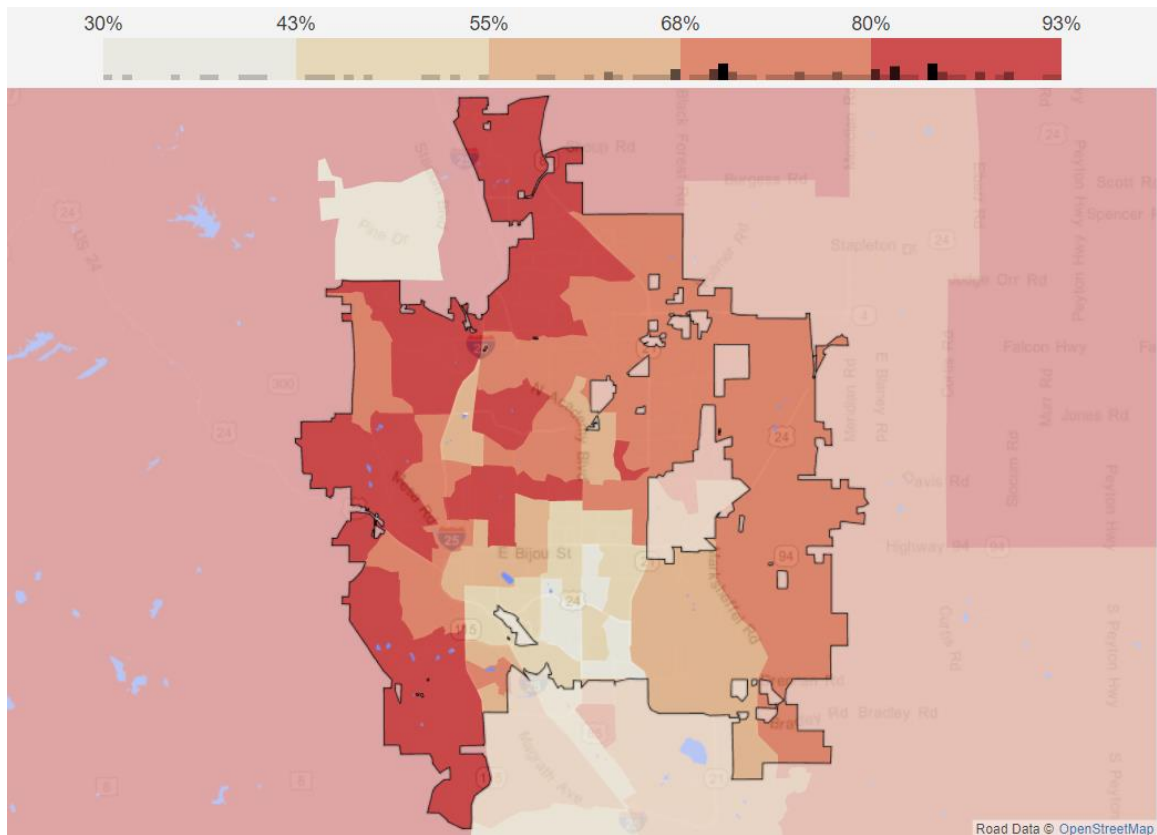
a political health emergency by the President of the United States in 2017 (Hart and Hart 2019). This epidemic has differed from previous drug crises in several ways, especially with regards to its framing, both politically and in the media, as a medical issue (Mendoza, Rivera, and Hansen 2018; Netherland and Hansen 2016). Drug addiction as a biological disease, with users as victims and pushes for treatment as opposed to past framings centered on morality, criminality, and otherness. What looks like a radical shift to more compassionate drug policy is also a stratification of white and minority (Hansen and Skinner 2012; Hart and Hart 2019) as we see in the sympathetic portrayal of the suburban white prescription opioid user as separate from the urban Black and Latino heroin user (Mendoza, Rivera, and Hansen 2018; Netherland and Hansen 2016). It is true that the current epidemic has targeted white individuals, with an increase in prescribed opioid analgesics that started in the 1990s and the availability of heroin (James and Jordan 2018). White Americans now make up 90% of heroin users and drug overdose deaths in the U.S. have increased 7% annually for white Americans (compared to 2% for Black Americans). Yet white people continue to be recommended for treatment while minorities end up in the criminal justice system. Buying and selling opioids tends to occur within racial groups, but 80% of those who are convicted for heroin trafficking are either Black or Latino.

Racial and ethnic minorities tend to have less access to health care and, when they do, have lower quality care than white individuals (Kposowa 2007). These disparities exist even after controlling for health insurance availability and income. Non-white people are also less likely to seek help, probably from past mistreatment leading

to mistrust (James and Jordan 2018). In addition to general institutional racism in medicine, the reason why whites are the target of opioid over-prescription is because of discriminatory practices including the undervaluation of minority patients' pain, and assumptions that they are more likely to sell or be addicted. Yet to focus on this protective aspect is to minimize opioid use, abuse, and overdose in minority communities, which continues to increase. As James and Jordan (2018) point out, "neglecting to acknowledge black people in the current epidemic, while simultaneously describing the current surge in opioid use as a novel crisis, erases both the past and present experiences of black people" (405).

On the map of buprenorphine/naloxone and methadone clinics (Figure 2), the most striking gap in care is in the southeastern neighborhoods. Other than a few providers in the northwestern part (near central Colorado Springs), there are no treatment locations in southeastern Colorado Springs. Demographic data gathered by the U.S. Census Bureau in the American Community Survey 2012-2016 shows non-white people are concentrated in the southeast of the city (Figure 3) (Statistical Atlas 2018).

Figure 3. Race and ethnicity by tract in Colorado Springs: whites (non-Hispanic) as percentage of the population (%) (Statistical Atlas 2018, fig. 13)



This raises questions related to Colorado Springs' care for its minority communities. Do the national trends hold true in this area? There are places, for example Chicago and the District of Colombia, where Black opioid usage exceeds that of white usage (James and Jordan 2018). High rates of opioid use and overdose in minority communities that are mostly associated with the prevalence of a synthetic opioid, fentanyl, cut into cocaine or heroin. If the incidence of opioid abuse is lower in these Colorado Springs communities, then is it low enough that the population does not require treatment or does the lack of facilities represent neglect? Are there other opioid, or even general substance abuse, treatment options in the area?



Before expanding buprenorphine/naloxone care, we must question the quality of the treatment. In France, which has one of the highest buprenorphine prescription rates in the world, even the naloxone combination is often diverted and abused (Hansen and Skinner 2012). Patients in the U.S. mention continual, sometimes life-long, support of the pharmaceutical industry and dependence on yet another drug as negative aspects of buprenorphine care (Hansen and Skinner 2012; Hatcher, Medoza, and Hansen 2018).

It could be argued that buprenorphine has many of the same issues as methadone, just with a new clientele in mind. A network of methadone clinics was set up in 1971, as part of the War on Drugs, meant for Black and Latino people in inner cities as well as Vietnam veterans (Hansen and Skinner 2012). It was highly regulated and surveilled, associated with criminalized patients. The decision to classify buprenorphine as a schedule II (rather than a schedule III) drug may have always been its link to the middle-class white patient. Marketed to the private provider for a “clean clinical atmosphere removed from poverty, ethnic minorities, and street crime” (Hansen and Skinner 2012: 171) with white patients who are seen as less likely to divert drugs. Not only do minorities often have reduced geographic access to health care options, but they have lower rates of insurance and higher rates of public health insurance (usually not accepted by private programs) (James and Jordan 2018). The purported benefits of buprenorphine/naloxone care as an office-based treatment—its integration into the larger medical umbrella allowing for treatment of comorbid conditions, individualized care, flexible timing and dosing, and a reduction in stigma—should be harnessed if they

hold up under scrutiny. However, if this type of care acts as a continuation of surveillance and social control for some peoples, then it should be reevaluated.

If the office-based model is considered worth pursuing, then how do we design culturally relevant programs that specifically target communities? Not simply expanding the current private clinical space, but allowing for more public providers or utilizing larger innovative projects (James and Jordan 2018). All while keeping in mind the risk factors associated with developing an addiction and the disparities that exist in related systems like the criminal justice system.

## **Conclusion**

A map's capacity to show spread, quantity, and shifting landscapes gives insights into how the treatment system is being structured and utilized. Mapping substance abuse care options and learning about programs in Colorado Springs raised questions about what it means to increase access to and assess the quality of treatments.

Buprenorphine/naloxone as an office-based treatment is a recent, developing sphere of care, but as with any 'best' or evidence-based practice, its development and implementation is embedded in histories. In this case, histories that have shaped: the medical system, the criminal justice system, and the pharmaceutical industry; medicalization and biomedicalization; and socioecological health to name a few.

Anthropology, in its interdisciplinary and holistic discussions, can encourage our communities to not only increase the availability of providers, but design inclusive and targeted care practices.

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