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Sisyphean Frustrations: The Impetus for Improving Harm Reduction Strategies in Minneapolis, MN

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Sisyphean Frustrations:

The Impetus for Improving Harm Reduction Strategies in Minneapolis, MN

Jordan Baker

Background: The last decade has seen an alarming rise in deaths attributed to opioid use.

Considering the ever-increasing mortality rate attributable to opiate use disorder, it is important to identify and utilize more efficacious public health interventions.

Purpose: The focus of this paper is identifying the current harm reduction strategies being implemented in Minneapolis MN, the history of harm reduction in the US, and opportunities to improve existing systems to better engage current conditions.

Methods: The primary research method for this community assessment was volunteer work with Southside Harm Reduction in Minneapolis, MN. Through community clean-ups the researcher was able to interact with residents in high-intensity drug use areas, safely dispose of harm reduction supplies, and gain a front-line perspective of the intersection of opiate use disorder, houselessness, and injection drug use.

Conclusion: The implementation of harm reduction strategies in the Twin Cities area greatly surpass those in other regions in the country. Access to Naloxone, fentanyl test strips, clean injection equipment, and community resources have been adequately provided by community groups like Southside Harm Reduction Services. It is important to provide more education to primary care and emergency medicine providers to achieve better outcomes when treating these populations. Specifically, improving clinic and hospital buprenorphine protocols and stock and working with community groups to improve the number of patients lost to follow up. Further research on delivery mechanisms or satellite physician dispensing may prove beneficial in improving patient follow up and medication for opioid use disorder compliance.

Keywords: The Impetus for Improving Harm Reduction Strategies in Response to the Opioid Epidemic, harm reduction, opiate use disorder, Southside Harm Reduction, needle exchange programs, medication for opioid use disorder.

Introduction

Opiate use disorder (OUD) has increased to epidemic proportions in the United States over the last two decades. According to the NIH,¹ there were over eighty-thousand opioid overdose deaths in 2021. The increasing prevalence of hyper-potent synthetic opioids such as fentanyl in the illicit narcotic supply chain has undoubtedly served as a catalyst for the increase in mortality among those with OUD. The current environment in which this epidemic is being faced is further challenged by post-COVID fatigue, an increasingly partisan and divided political environment, and economic instability. Implementing a public health approach to addiction has proven a feat reminiscent of Sisyphus due to the war on drugs (and users) that began under the Nixon administration, and the exacerbating factors at present are likely to inhibit an adequate federal response.

It is this researcher's opinion that local solutions to addiction management, specifically harm reduction, may provide a suitable framework for solutions at a universal level. The focus of this research has been community-centered within the Minneapolis metro-area. To gain a better understanding of existing community resources the researcher toured Anishinabe Wakiagun (a residential project by the Corporation for Supportive Housing), attended a lecture by the executive director of Breaking Free (an organization that provides support and resources to those affected by sex trafficking), and volunteer work with Southside Harm Reduction (SHRS) (a south-Minneapolis based organization that provides harm reduction services). It is through this volunteer work that the researcher was able to experience the front-line work being undertaken to serve those with use disorders. While the focus of this paper will be on OUD, it would be a disservice to this population to not address that people who inject drugs (PWID) include polysubstance users and those who inject substances such as methamphetamine and cocaine. It is

important to note that the services provided by SHRS are designed to cast as wide a net as possible to provide services and resources to the widest population possible of those with use disorders.

This research is intended to establish an understanding of the multifactorial reality of harm reduction as it pertains to opiate use disorder (OUD) and to garner a better understanding of community needs in the twin cities area. To this end, a review of established research has been compiled to provide demographic information on PWID, define harm reduction with an emphasis on needle exchange programs, the benefits of community dispensed naloxone, the promise of medication for opiate use disorder (MOUD), and latest community strategies for increasing the efficacy of harm reduction services. The discussion section will serve as a synthesis of pertinent information presented within the literature review and emphasize a medical approach to individuals with OUD and to improve outcomes on a systemic level. During the conclusion the researcher will reflect on their personal experience, propose future research, and provide propositions for better serving this local population.

Methods

A comprehensive literature review was conducted using PubMed, Google Scholar, Heine Online, and UpToDate databases. The following search terms were used in identifying preexisting research: needle exchange, buprenorphine, opiate use disorder, OUD demographics, not in my backyard (NIMBY), MOUD, discarded needles, opioid overdose, ED induction of MOUD, OUD mortality, and needle born infections. Inclusion criteria were studies done within the United States within the last 5 years that provided novel information regarding needle exchanges, opiate use disorder, or other related topics. Exclusion criteria were studies that were

systematic reviews, hypothetical proposals that did not conduct novel research, and studies that were not freely available through Lindell Library resources at Augsburg University.

These search terms were decided upon following volunteer experience with SHRS and were deemed applicable to the researcher's experience and the needs identified in the community. Most volunteering was done in "community cleanups" held for two hours on Saturdays at the corner of 25th street and Bloomington in south Minneapolis. Volunteers would break into groups of three to four and canvas three to five blocks picking up discarded harm reduction supplies that are handed out by SHRS. These supplies include syringes, cooking tins, and tourniquets. To prepare for any possible need while in the community, some volunteers came equipped with Naloxone and extra injection kits and supplies. At the time of writing this paper, the researcher is awaiting volunteer onboarding to conduct Naloxone and HIV transmission education for members of the community, as well as assist in providing mobile delivery of harm reduction supplies. Unfortunately, this paper will not include any perspective gleaned from such experiences.

Literature Review

Demographics

When approaching OUD and use disorders in general from a public health perspective, it is important to delineate routes of administration. The route of administration with the highest associated risk is intravenous injection, not only does it carry an increased risk of fatal doses but may serve as a vector of community transmission of infections such as HIV and hepatitis C. Therefore, from a public health perspective, it is very important to find ways to reduce the risk to communities of needle-borne illnesses. For the purpose of applying harm reduction strategies to

the highest risk of the OUD population, the sourcing of demographic information focused on PWID use.

According to Park et al.,² injection drug use among adults aged 18-64 increased 71.4% between 2002 and 2019. Researchers in this study utilized data from the National Survey on Drug Use and Health to identify recent trends in injection drug use. Heroin made up the majority of reported use for the nearly two decades worth of data that were analyzed, but methamphetamine use showed the greatest increase (117%) from 2002 to 2019.² Furthermore, the researchers stated that in the United States over 770,000 individuals are active injection drug users at any given time, with over 6 million Americans above the age of 13 reported injection drug use at some point in their lives.² The demographics of injection drug users spanned all racial backgrounds and socioeconomic status.

Their research found that compared to individuals who used the same types of drugs, those who chose to inject drugs tended to not identify as Black or Latino, have a high school education or lower, be middle aged, and have a lower household income.² It is important to note that the that these demographics are largely overrepresented in the opioid epidemic generally, so it may largely follow that injection drug use would be endemic to this population.

Harm Reduction

Harm reduction as a public health approach to disease and transmission management of epidemics really began in the 1980's with the HIV crisis. Education, transmission prevention, and testing all served as harm reduction strategies and helped to mitigate new infections while treatments were being formulated and tested. The threat of HIV and other blood borne infections continues today through injection drug use, and harm reduction strategies continue to be widely

implemented. Not only to combat injection related infections but manage other sequelae that pose a health risk to both PWID and the communities in which they reside.

According to Vearrier,³ harm reduction “can be broadly viewed as any policies or interventions that seek to decrease the potential harms of human behaviors.” In her work on bioethics behind harm reduction strategies, she identified four key components of harm reduction: autonomy, beneficence, non-maleficence, and justice. These components are aligned with the medical provider ethos and as such, highlight the importance of this issue being addressed from a public health standpoint rather than criminal. Increasingly, evidence-based approaches to harm reduction for PWID are being implemented in communities across the country. One of the most prominent approaches is the basis for this researcher’s community engagement experience, the needle exchange program.

Needle Exchange Programs

Needle exchange programs (NEP) are also referred to as syringe service programs (SSP), and syringe exchange programs (SEP). Despite the subtle differences in names, these programs all provide similar services. The services provided by these programs include education, needle exchange and safe-injection kits, naloxone, and in most cases provide as a collection point for referral to other services. In this section the researcher will provide general information on needle exchange programs, how they benefit the public health, the controversy surrounding them, and how they are providing promise as the tip of the spear in medical management of OUD specifically.

Needle exchange programs were implemented to decrease the amount of needle sharing in the PWID community. There are approximately 330 such programs operating in the United States.⁴ They generally operate through an exchange service, where participants in the program

return their used needles in exchange for new one. While ideally, there is a one-to-one ratio of exchange, these programs do not refuse to provide safe injection equipment to PWID if they do not have needles to return for collection. NEP are generally accepted by PWID as a safe space where they can seek assistance and find advocacy. According to Paraskos et al.,⁴ PWID who take part in NEP are 5 times more likely to attempt sobriety than their counterparts who lack such resources.

The public health benefits of NEP are well documented in the literature. From a mental health standpoint, it is largely recognized that among the highest risk users there is often an overlap of mental health issues, psychologically these patients are often referred to as “dual diagnosis” patients. In a study of 208 PWID that were referred to psychiatric services via an NEP, Kidorf et al. found that,⁵ 48% of participants had a diagnosable Axis 1 psychiatric disorder other than a use disorder. It is important to keep in mind that the manifestations of substance use may not be appropriately treated without also providing intervention on underlying psychiatric disorders. Using NEP as an entry to local mental health services may aid in improving the lives of PWID and provide a catalyst for entering sobriety or decreasing the occurrence of high-risk behaviors such as needle-sharing.

An important component of NEP is the direct and trusted access to the PWID community, which allows for NEP to provide PWID with direct access to naloxone. This intervention is akin to given EpiPens to people at high risk for anaphylactic reactions, it saves lives. In research conducted by Katzman et al.,⁶ participants of an opioid treatment program received take-home naloxone, researchers found that of the cohort, 73 individuals performed 114 opioid overdose reversals in their community. Most of these reversals were conducted on friends or family members. It is important to note that multiple studies^{6,7} have documented at least a 36% decrease

in opioid overdose deaths in communities where opioid overdose education and naloxone administration (OEND) programs are in place. OEND is one of the critical interventions implemented by NEP, which also play a large role in decreasing injection related transmissible diseases.

Using NEP as a conduit to provide care and improve public health has been proven as it relates to the impact on blood-borne diseases in the PWID community. According to research by Des Jarlais et al,⁸ a large precipitating factor of United States based HIV outbreaks has been injection drug use. The same researchers calculated the amount of HIV infections needed to be prevented to fiscally justify a high functioning NEP (at \$500,000 per Anum) was three.⁸ Interestingly, it has been documented by the CDC that NEP are associated with a 58% decrease in community HIV transmission.⁷ Similar findings have also been documented regarding hepatitis C infection in the PWID community. It has been shown that NEP implementation led to a 125% decrease in maternal transmission of hepatitis C in the PWID community of Scioto County, OH.⁹ Despite the cost effectiveness and public health benefits of these programs being clear in the literature, NEP are still considered a politically taboo topic, leading to barriers to implementation in some areas of the United States.

The unfortunate reality of harm reduction is that there are appreciable percentages of constituents in certain geographies of this country that claim vehement moral opposition to community interventions like NEP. The dire consequences of such an approach to harm reduction were on display in Scott County, Indiana during the HIV outbreak of 2014. It has been found that the outbreak in Scott County was directly attributable to the illegality of HIV prevention services in the form of NEP for PWID.⁸ Unfortunately it wasn't until nearly 200 new HIV cases were documented and increasing national news coverage and pressure applied that

Governor Mike Pence allowed by emergency order the approval of NEP. According to Hunter,¹⁰ common arguments against NEP involve increases in crime and discarded needles as well as decreases in property values. In areas such as Scott County Indiana, such arguments have led to zoning restrictions implemented in residential areas that ban the implementation of NEP.

The common arguments used by those who oppose NEP lack evidence and rely largely on fallacious reasoning and rhetoric that appeal to fear and insecurity. It has been purported that NEP will increase crime, specifically drug dealing in areas where they are implemented.

Research by William and Ouellet has shown,¹¹ that the reality is far more complicated as NEP tend to operate in areas of high drug trafficking for ease of access of PWID. This is not so much a chicken or egg problem; it is more akin to ignoring the chicken and wondering why there are so many eggs underfoot. An unwillingness to acknowledge local harm reduction needs should not be a barrier to implementing interventions that improve public health. In a study evaluating the effect of NEP on the number of discarded needles in Baltimore, MD Doherty et al found,¹² in the two years following the implementation of NEP the quantities of needles in the community decreased significantly. The evidence is clear that NEP not only serve high risk populations but benefit the communities in which they reside.

Finally, regarding NEP it is important to note the evolving nature of their relationship with medical providers. In Chicago, IL research is being conducted into combining NEP with telemedicine to improve access to MOUD for PWID.¹³ Researchers aim to investigate the best methods of performing induction and providing transportation from the NEP location to pharmacies and quantify the effects such an approach will have on health outcomes of PWID. This is promising research that may bolster support for easing the transition to medication management for opioid use and eliminate barriers to its access.

Medication for Opiate Use Disorder

Medications currently utilized to manage opiate use disorder include Naltrexone, Buprenorphine, and Methadone. Naltrexone is an opioid antagonist that binds to opioid receptor sites, effectively blocking the protein binding of opioids to their target receptor. This action inhibits the effects of opioids and is preventative against both overdose and intoxication. Naltrexone is beneficial in individuals who desire achieving abstinence from opioids and is commonly administered monthly via intramuscular injection. Methadone is the original opioid agonist therapy for treating opiate use disorder. The high burden of prescribing restrictions, risk to others through diversion due to its aggressive pharmacokinetics, and geographical restriction to a federally qualified disbursement center cause severe constraints that limit the practicality of methadone as a MOUD for many individuals with OUD.

Buprenorphine, however, acts as a partial opioid agonist. This mechanism of action combined with formulations that include naloxone, decreases the risk of diversion for use as an intoxicant. Furthermore, it decreases the amount of control and oversight required federally for its administration compared to methadone. Most importantly, it shows great promise as a MOUD. Research recently conducted in the Veterans Health Administration found that veterans identified as having OUD that were prescribed buprenorphine were over four times less likely to die of overdose or suicide than their counterparts who were not.¹⁴ Buprenorphine eliminates withdrawal symptoms and empowers patients to regain control of their life as their daily activities no longer need to entail illicit drug procurement to fend off impending withdrawal. Buprenorphine's mechanism of action severely limits its potential for causing an opioid overdose, while effectively controlling opioid cravings in persons with OUD.

The unique characteristics of buprenorphine make it suitable for MOUD induction on the medical frontline. According to Schwarz et al.,¹⁵ initiating buprenorphine induction in the emergency department (ED) decreases the length of stay for patients experiencing opiate withdrawal. Not only does this approach drastically reduce the length of stay, but it introduces patients to an option of no longer participating in illicit drug markets and regaining control in their lives. The main issue that stems from initiating buprenorphine in the ED concerns follow up, many of these patients are not able to overcome barriers for follow up visits with addiction specialists or primary care providers. Multiple studies^{16,17} have expounded on this issue which largely has to do with the ability of patients to find transportation to the pharmacy for refill prescriptions and patients falling through cracks in the system regarding follow up visits. This failure to follow up is not new to medicine and finding a creative solution to this issue would improve medical outcomes across all populations. Despite the issue of losing patients to follow up, according to research by D'Onofrio et al.,¹⁸ patients who received ED initiated buprenorphine were 35.8% more likely to be in treatment for OUD thirty days after their ED encounter.

It is important to mention that between July 2016 and September 2017 there were 142,557 ED visits for opioid overdose.¹⁹ In general trends for opioid overdose presentation at emergency rooms across the country continue to increase. Every patient that does not receive the option of buprenorphine induction as a protective measure following such presentation is robbed of a life-saving opportunity. Weiner et al. conducted an observational study in Massachusetts and found,²⁰ “Of the 11,557 patients who met study criteria, 635 (5.5%) died within 1 year, 130 (1.1%) died within 1 month, and 29 (0.25%) died within 2 days.” Data like this is indicative of a

need for further systemic attention to individuals with OUD and the importance of streamlining approaches for implementing MOUD.

Discussion

A thorough review of the literature depicts a dire situation in which OUD and injection drug use rates are steadily increasing in the United States. Throughout the last decade funding for the Drug Enforcement Agency and combatting the drug trade has increased as well. While it is hard to determine the effect interdiction and law enforcement play on decreasing the rate of opiate consumption, these actions alone are insufficient. The approach of patient-centered medicine and the philosophy of harm reduction have been undervalued in our society at large and under implemented in the medical community broadly.

The introduction of NEP has been proven to decrease needle borne infectious disease transmission. This has not only reduced the burden of the cost of care to the public in managing such infections, but saved unborn children from contracting illnesses such as HIV and Hepatitis C. As previously shown, the savings to the taxpayer in preventing HIV alone justifies the implementation of NEP in communities that need them. Importantly, this aspect of NEP has helped to build trust with PWID through humanizing their experience and actively addressing the need of those with OUD and PWID.

Through such outreach NEP have directly benefitted people with OUD through the distribution of Naloxone for community use. Empowering individuals who engage in high-risk activities, or are involved with those that do, to reverse opioid overdose goes beyond trust-building and establishes NEP as an ally for members of these communities. The local relationships established by NEP are ripe for exploiting when it comes to the issue of follow up.

As mentioned, NEP work by establishing themselves in high drug use areas and fostering trusted relationships with stakeholders and at-risk individuals. There is opportunity in this dynamic for greater collaboration between frontline medical providers in the fields of primary care and emergency medicine and representatives with NEP. The staff of NEP have intimate knowledge of living situations, barriers to access, and fears of individuals in their programs. There is a need for further exploration of using patient advocacy and medical communication consent between medical providers and NEP to increase treatment compliance for OUD.

It is clear that communities can rely on NEP to tend to a portion of the population that many prefer to overlook in their daily lives. While the work is important, in an ideal society providing resources to PWID and those with OUD would eventually lead to an increase in productivity and good works by those receiving support. Here too, NEP provide promise as they act as a trusted broker of participants to other resources in the community such as behavioral health, addiction treatment, and medical resources. By strengthening the collaboration with NEP the latter resources have an opportunity to capture a larger portion of this itinerate community by capitalizing on the success of NEP.

The success of NEP is due to the actions they have taken, medical providers can follow suit by improving their treatment approach to patients presenting with complications related to OUD. The medical community needs to view the mortality rate following a survived overdose as a preventable death and prescribe protective interventions appropriately. Streamlining the approach to provide substantial medical treatment instead of alleviative treatment of withdrawal symptoms may improve relationships between emergency medicine providers and the OUD population. Currently the frustration over length of stay and patient satisfaction is shared by both parties. The opportunity of buprenorphine induction in both emergency and primary care settings

offers promise of ameliorating current frustrations and improving patient outcomes while building allyship between medical providers and those with OUD. Implementing protocols for buprenorphine induction and take-home naloxone disbursement in emergency departments within the Twin Cities region would likely improve both morbidity and mortality in patients with OUD.

Conclusion

This researcher's experience volunteering with SHRS in south Minneapolis has been a complicated combination of ardent purpose and disheartening recognition of the reality of OUD in south Minneapolis. There is a lot of work yet to be done in this community and the problem will likely never be solved. The pathways to addiction are innumerable, and no society can honestly venture to protect every individual from the factors that influence drug use. What can be done is to collectively recognize addiction as a lived human condition and approach it with empathy, boundaries, and the best possible interventions. The effects of OUD and injection drug use on users, families, and communities are heart breaking and cause a pain that is increasingly resonating throughout all communities in this country.

Further research needs to be done in reducing the follow up problem once these patients are identified in clinic or hospital. From an emergency department perspective, resources such as social work are already present and could be utilized to connect patients to advocates and resources in the community. Additionally, discharge of a patient treated for complications of OUD should include take-home Naloxone and a short supply of buprenorphine if the patient elects for induction. However, many of these practices are already in place, and it may be time to take a more proactive approach in making such medications accessible to individuals in the community.

The use of telemedicine in conjunction with NEP may ease the access to care for individuals with OUD and decrease the burden in emergency departments. In-home inductions of buprenorphine are supported by the evidence, making telemedicine a promising avenue for providing treatment. What may further aid in this approach is exploring the legality behind satellite physician dispensing occurring at brick-and-mortar NEP locations. Surely this would require some form credentialing of site supervisors and dispensing staff, but research involving barriers and cost-benefit analysis of such a program is highly warranted. Alternatively, the certification cost of certified medication assistants (CMA) is fairly low and exploration into utilizing CMAs for mobile deliveries of buprenorphine and Naloxone could prove highly valuable in providing unhoused itinerate individuals with the medication they have been prescribed.

In closing, there are a lot of variables affecting the opioid epidemic. An objective view of the issue is almost disorienting in its complexity and expansiveness. When trying to solve a chaotic problem it is important to take the tools at one's disposal, formulate a plan, and execute it with frequent reappraisals. This is science, this is medicine. Watching the opioid epidemic continue to grow and attempting to solve it by using the same frameworks from which it has evolved is to practice in futility. Now is a time of creativity and proactive problem solving, this moment requires the courage to act, the fortitude to chart a new path forward. If there is one realization this researcher has made in their time volunteering with this population it is, "but for the grace of god, there go I."

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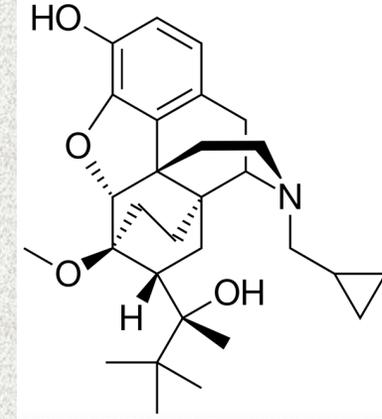
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Sisyphian Frustrations: The Impetus for Improving Harm Reduction Strategies in Minneapolis, MN

Jordan Baker, PA-S; Augsburg University PA Program



BACKGROUND

Over the last decade opioid related overdose deaths have increased year over year. There were over 80,000 deaths in 2021.¹

PURPOSE

Many opioid related deaths are preventable, and increasingly OUD is being recognized as a treatable disease. NEP support the highest risk which consist of over 770,000 active injection drug users at anytime.² The addition of community accessible Naloxone has been proven to save lives.³ This research was intended to compare the current level of resources in Minneapolis to those endorsed by the literature and find opportunities for improvement.

METHODOLOGY

Through community clean-ups the researcher was able to interact with residents in high-intensity drug use areas, safely dispose of harm reduction supplies, and gain a front-line perspective of life in affected neighborhoods. A literature review was conducted to gather consensus on harm reduction efficacy. IRB application has been/will be submitted to Augsburg University Institutional Review Board.

ANALYSIS & LIMITATIONS

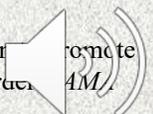
Community research was limited to community clean-ups, the researcher is awaiting educational and disbursement volunteer opportunities that will provide greater access to this population. Experience from interacting with the community shows local lawmakers allow for progressive approaches to the issue. This is promising for implementation of further interventions.

DISCUSSION

The benefit of NEP is well documented, they provide life-saving access to Naloxone and clean injection kits that have shown to decrease HIV transmission by 58%.⁴ Data shows that Buprenorphine induction at first encounter leads to a decrease in mortality and improvement in treatment outcomes.⁵ There is promise in future research of easing access to MOUD through greater collaboration with NEP.

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