Mindful
Continuing Education

Harm Reduction in Substance Misuse

Introduction

Traditional approaches to substance use disorder treatment have been centered on abstinence and drug-free living. However, these approaches are ineffective for many people. Harm reduction is a public health approach recognizing that people will continue to use substances, and the best way to minimize the harm associated with substance use is to provide education, support, and resources to help people use substances safely and reduce the negative consequences of substance use.

Harm reduction aims to keep people who use drugs alive and as healthy as possible. The goals of harm reduction are preventing overdoses and transmission of infectious diseases, improving the physical, mental, and social well-being of those who use drugs, and providing options for accessing substance use disorder treatment and other health care services. The harm reduction model removes the expectation that the person will stop using drugs. It does not require the person to be "clean & sober," nor does it have an abstinence expectation. Instead, harm reduction programs provide services to people on their terms and focus on health and social issues the person may be experiencing. Harm reduction principles believe that every person deserves safety and dignity and that drug use is not a moral failing.

"Abstinence isn't wrong, and it is a deeply desired goal for many drug users, but there are changes a person can accomplish whether they stop using or not. The hallmark of harm reduction models is a combination of respect for the customer, non-judgmental stances, compassion, empathy, and practicality." —Edith Springer.

Harm Reduction Definition

Harm reduction is an approach to care that meets people where they are and knows that not everyone is able to or desires to stop the use of substances. Instead of judging the health and behavior of a person who is struggling with addiction, harm reduction focuses on promoting evidence-based methods for

reducing use-associated health risks at this moment in time. Harm reduction is not a set of rules or regulations but a generalized approach that encourages individuals to improve their quality of life. Harm reduction understands that drug use, abuse, and dependence are multi-faceted and complex experiences with a spectrum of behaviors ranging from severe abuse to complete abstinence, and accepts that some ways of using drugs are safer than others. Additionally, these practices aim to respect the rights of those who use drugs.

The defining feature of harm reduction is its focus on the prevention of harm rather than on the prevention of substance use. Harm reduction initiatives have a broad spectrum, from disease prevention and medical care to education and linkage to addiction treatment (Recovery Research Institute, 2023).

Unlike traditional law enforcement approaches and total abstinence programs, harm reduction assumes that individuals can make productive changes in their lives even if they are still using substances. Most importantly, harm reduction aims to save lives and protect the health of the people who use substances and their communities. Secondary harm reduction goals include decreasing the stigma associated with addiction, improving safer substance use education, promoting protected sex, and connecting people who use drugs with health care, social services, or support groups (Coulson & Hartman, 2022).

For harm reduction goals to be achieved, they must be accessible. Locations where harm reduction services could be provided or information made available on how to access resources include the following:

- Community clinics
- Health departments
- Churches
- Public transportation hubs
- Food banks

- Homeless shelters
- Correctional institutions
- Community centers
- Social services offices
- Mental health facilities
- Urgent care centers (Coulson & Hartman, 2022).

Why Harm Reduction is Needed

The United States is currently experiencing the highest rates of substance use and the greatest overdose epidemic in its history. The rise in substance use was exacerbated by the COVID-19 pandemic and the increase of highly potent synthetic opioids containing mostly fentanyl and other analogs.

The most recent provisional data from the Centers for Disease Control and Prevention shows that during the 12-month period between December 2021 to November 2022, there were 103,550 deaths attributed to drug overdoses (CDC, 2023).

Overdose deaths are most prevalent among male non-Hispanic whites aged 25-54 (female opioid overdose deaths have also risen significantly). Not surprisingly, opioids were responsible for over 75% of overdose deaths between December 2021 to November 2022. Other drugs with rising overdose deaths include benzodiazepines, cocaine, and heroin (CDC, 2023).

Harm reduction programs save lives because they are available and accessible and because their specialists treat people who use drugs with humility and compassion. Harm reduction significantly prevents drug-related deaths and offers healthcare, social services, and treatment access. In addition, these services

decrease overdose deaths, acute life-threatening infections due to unsterile drug injection, and chronic diseases such as HIV/HCV (SAMHSA, 2022).

Additional Research

Overdose deaths are the leading cause of injury-related death in the United States.

For every overdose death, there are multiple nonfatal overdoses.

Three out of every five overdose deaths had at least one potential opportunity to connect the person to care before their fatal overdose or to administer life-saving measures at the time of the fatal overdose (CDC, 2022).

75% of the almost 92,000 drug overdose deaths in 2020 involved an opioid.

More than 932,000 people have died from a drug overdose since 1999 (CDC, 2022).

Harm Reduction Services

Harm reduction is part of a continuum of care. Harm reduction approaches have been proven to prevent substance misuse, overdose, injury, disease, and death. Harm reduction effectively addresses the public health epidemic involving substance use, infectious diseases, and other risks associated with substance use.

Harm reduction services can:

- Connect people to overdose education, counseling, and referrals for infectious disease treatment and substance use disorders services.
- Distribute opioid overdose reversal medications (naloxone) to individuals at risk of overdose or those who might respond to an overdose.

- Lessen risks associated with substance use and related behaviors that raise the chances for infectious diseases, such as viral hepatitis, HIV, and fungal and bacterial infections.
- Reduce infectious disease transmission among individuals who use drugs, including those who use injection drugs, by providing them with accurate information and facilitating referral to resources.
- Reduce overdose deaths, promote linkages to care, and facilitate a comprehensive, integrated approach to services through co-location.
- Lower stigma associated with substance use and co-occurring disorders.
- Promote hope and healing by utilizing those with lived experience of recovery in managing harm reduction services, and connecting those who have shown interest in treatment, peer support workers, and other recovery support services (SAMHSA, 2022).

Principles of Harm Reduction

Harm reduction involves a spectrum of strategies, including safer use, managed use, abstinence, meeting individuals who use substances where they are, and addressing conditions of use and the use itself. Harm reduction requires that interventions and policies designed to serve people who use substances reflect specific individual and community needs. Therefore, there is no universal definition of or formula for implementing harm reduction. There are, however, principles that guide harm reduction practices. For example, The National Harm Reduction Coalition:

- Accepts that licit and illicit drug use, abuse, and dependence are part of our world and chooses to work to minimize their harmful effects rather than simply ignore or condemn them.

- Understands drug use as a complex, multi-faceted phenomenon that encompasses a continuum of behaviors ranging from severe abuse to total abstinence and acknowledges that some ways of using drugs are clearly safer than others.
- Establishes quality of individual and community life and well-being, not necessarily cessation of all drug use, as the criteria for successful interventions and policies.
- Calls for the non-judgmental, non-coercive provision of services and resources for people who use drugs and the communities in which they live in order to assist them in reducing harm.
- Ensures that people who use drugs and those with a history of drug use routinely have a real voice in the creation of programs and policies designed to serve them
- Affirms people who use drugs (PWUD) themselves as the primary agents of reducing the harms of their drug use and seeks to empower PWUD to share information and support each other in strategies that meet their actual needs
- Recognizes that the realities of poverty, class, racism, social isolation, past trauma, sex-based discrimination, and other social inequalities affect both people's vulnerability to and capacity for effectively dealing with drug-related harm
- Does not attempt to minimize or ignore the real and tragic harm and danger that can be associated with illicit drug use
- Embraces and celebrates small, incremental changes (National Harm Reduction Coalition, 2020 & Project Echo, 2017).

Stages of Change

The stages of change model is one approach that is frequently used in harm reduction. It recognizes a person's different stages and struggles when making any change, particularly surrounding addictions. Understanding the stages of change allows responders and providers to meet the person where they are and offer supports that match where they are in the change process. Understanding the stages of change also helps set realistic expectations and avoid frustration and disappointment. For example, someone in the pre-contemplation stage who experiences an overdose most likely will not acknowledge that substance use is a problem and will reject a treatment referral upon revival. Therefore, offering them factual information about the harms of drug use and ways to mitigate them may be more readily received. However, when people are in the contemplation or the preparation stage, they are more likely to accept a referral for treatment as they are ready to make healthy lifestyle changes. The stages of change are as follows:

Pre-contemplation. At this stage, people do not intend to take action in the foreseeable future. They are often unaware that their behavior is problematic or creates negative consequences. People in this stage often underestimate the positives of changing behavior and place more emphasis on the negatives of changing behavior.

Contemplation. In this stage, people intend to incorporate healthy behaviors in the foreseeable future. They acknowledge that their actions may be creating issues for them, and they begin giving thoughtful and practical considerations to the pros and cons of changing their behavior, with equal emphasis placed on both. Despite this recognition, people may still feel ambivalent about changing their behavior.

Preparation (Determination). People are ready to act at a specific date/time when they get to this stage. They start to take small steps toward behavior change, believing such change can create a healthier lifestyle.

Action. In this stage, people have recently changed their behavior and plan to keep moving forward with the behavior change. They are modifying their problematic behavior or choosing new and healthy behaviors.

Maintenance. In this stage, people have maintained their behavior change for at least six months and plan to continue the behavior change. People in this stage often incorporate wellness activities into their lives and work to prevent returning to earlier stages.

Relapse. People have returned to their old behavior in this stage but plan to resume action. Rarely does a person return to the pre-contemplation stage.

Termination. At this stage, people have no desire to return to their previous unhealthy behavior (OASAS, 2019).

Benefits of Harm Reduction

Cost Effective

Harm reduction tends to be a cost-effective approach when providing interventions. An example of this is syringe access programs for those injecting drugs, which is cost-effective from both societal and healthcare perspectives. Furthermore, the net financial benefits translate across diverse regions and economic settings. One Australian study found that for every dollar invested in syringe access, there was a $1.30-$5.50 return (Recovery Research Institute, 2023).

Lowering Disease Transmission

Substance use is linked to risky behaviors such as needle sharing, unprotected sex, and immune system weakening. Individually and combined, these place people with substance use disorders at higher risk for exposure and contracting HIV, hepatitis, and other infectious diseases. Intravenous drug use/injection drug use

accounts for 33% of adolescent and adult HIV and AIDS cases and more than 50% of infections at birth.

Studies show that harm reduction programs lower HIV risk and hepatitis transmission. For example, syringe access programs repeatedly show a reduction in the rate of HIV/AIDS transmission among people who inject drugs without increasing drug use rates. Safer consumption spaces have also been shown to decrease disease transmission (Recovery Research Institute, 2023).

One example of successful harm reduction practice was in 1996 in Vancouver, where a needle exchange program was implemented in response to rising HIV & Hepatitis C. Initially, 40% of injection drug users reported sharing needles; by 1996, that number was down to 1.7% (Rehabs.com, 2023).

Treatment

While treatment is not a goal or requirement of harm reduction programs, such practices have served as a gateway to additional treatment because of the non-judgemental provision of information and help offered. For example, syringe access programs regularly make referrals to treatment programs, which have been shown to facilitate the reduction or cessation of intravenous substance use (Recovery Research Institute, 2023).

Preventing Overdoses

Studies show harm reduction programs prevent overdose. For example, the training and availability of naloxone overdose reversal medication and the presence of medical staff at safer injection spaces have greatly decreased the number and frequency of fatal overdoses.

Community Safety

Harm reduction programs provide safe disposal of injection paraphernalia, reducing improper syringe disposal and therefore reducing the number of

contaminated syringes in the community. This also helps protect emergency response personnel from accidental needle-stick injuries.

Misconceptions About Harm Reduction

Enables or Condones Illicit Drug Use

Harm reduction accepts that some people engage in substance use and risky behaviors. There is no judgment for those choices, but this does not mean that those decisions are encouraged. It acknowledges that there are real harms and risks associated with those behaviors, and does not try to minimize the impact of those choices.

Harm reduction does not enable drug use, but rather offers safe and practical solutions. According to Travis Rieder, Ph.D., MA, Associate Research Professor at the Johns Hopkins Berman Institute of Bioethics. "Opponents sometimes argue that giving people sterile syringes, clean pipes, naloxone, a space to use drugs under supervision, etc., incentivizes drug use or leads to drug use. But people are going to use drugs whether they have these resources or not, and so withholding them doesn't prevent that use; it just makes it more dangerous. Making an activity more dangerous doesn't stop people who are committed to engaging in that activity; it just hurts and kills more of them." Harm reduction comes from a place of compassion rather than coercion, and its methods have proven to be beneficial for many.

Prevents People from Getting Help

Harm reduction does not prevent or oppose abstinence, but rather prioritizes keeping people alive and as healthy as possible. It often connects people with recovery resources that support sobriety or abstinence. Harm reduction does not exclusively champion treatment or recovery; instead, it gives people information to choose less harmful ways of engaging in a range of risky behaviors. Some

individuals with substance use disorders choose to enter treatment, some benefit from medication-assisted treatment, and any of these safer options result in improved health outcomes and, many times, increase the likelihood of long-term recovery (Saleh et al., 2021).

When discussing the importance of this type of strategy, Susan Sherman, Ph.D, MPH, a professor at John Hopkins Health, Behavior and Society, states that harm reduction is "both a social movement and a way to provide services, and it includes drug treatment. Harm reduction is not only useful in and of itself, but it also brings people into services who may not otherwise come into services." (Coulson & Hartman, 2022).

It Makes Neighborhoods Less Safe

Not In My Backyard attitudes fear harm reduction programs will increase substance use and crime in their communities. In fact, harm reduction programs do not promote an increase in crime, but rather, they often improve community safety and cleanliness. Syringe service programs decrease improper needle disposal, which helps prevent accidental needle sticks. They also help decrease the spread of disease and help improve the overall health of people in the community who use substances. Similarly, supervised consumption centers decrease public space drug use (Saleh et al., 2021).

Harm Reduction is Unnecessary; Eliminate Drugs & Dealers

Attempts to interrupt or terminate the supply chain of illegal drugs have not been successful.

In fact, prohibition policies have had harmful effects on individuals and communities. People have engaged in risky behaviors throughout history and will continue to do so in the future. Harm reduction offers realistic and practical solutions that help keep individuals and communities safer by minimizing health harms (Saleh et al., 2021).

Harm reduction does not do any of the following:

- Harm Reduction does not attempt to minimize or ignore the actual and tragic harm and danger associated with licit and illicit drug use, abuse, and dependence.
- Harm Reduction is not theory-driven but is, rather, fundamentally pragmatic.
- Harm Reduction is not an assigned set of rules, regulations, or policies.
- Harm Reduction does not threaten abstinence-based goals.
- Harm Reduction does not mean clients/patients are allowed to make all the decisions or "do whatever they want (Project Echo, 2017).

Continuum of Care

Harm reduction is a continuum of care that addresses prevention, treatment, and recovery and how harm reduction can be used as an intervention at each stage of care.

Prevention

The spectrum of prevention through harm reduction can be viewed as a three-tiered approach. At the primary level, the focus is on preventing the initial use or delaying the initial substance use. At the secondary level, problems have already begun, and the focus is on early detection of use and reducing substance use. At the tertiary level, the goal is to reduce substance use problems and harms to prevent further deterioration or death (Recovery Research Institute, 2023).

Primary Level

Adolescence is a critical risk period for initiation of substance use and for adverse outcomes related to substance use. Substance use prevention efforts aim to

prevent and/or delay the first use of substances. Research shows that early age of onset is an important predictor for developing a substance use disorder later in life. Research also shows that prevention interventions can have positive long-term effects in reducing substance use. Adolescent drug use is concerning for numerous reasons, particularly since this is a time when the brain is particularly vulnerable to damage from drug use. Drug use often disrupts normal brain development and can have long-term negative consequences, including lowered academic achievement and an increased risk of anxiety, depression, suicide, and long-term substance use disorder (The White House, 2022).

Secondary Level

Prescription drug monitoring programs (PDMP) are an example of recognizing a problem and intervening to reduce the substance use. A prescription drug monitoring program is an electronic database that tracks controlled substance prescriptions by state. It can inform health authorities about prescribing trends and patient behaviors that contribute to the epidemic, and facilitate a quick and targeted response. PDMP results thus far have been mixed. There have been changes in prescribing behaviors, they have shed light on patients who use multiple providers, and they has decreased substance use treatment admissions. The CDC recommends healthcare providers check the PDMP when starting any type of opioid treatment and at minimum every three months for long-term opioid therapy (CDC, 2021).

PDMPs allow healthcare providers to see a patient's prescription history to help inform their prescribing decisions. Some states require prescribers to check their state PDMP before prescribing a controlled substance. A pharmacist must enter the prescription into the state PDMP when dispensing a controlled substance to a customer. PDMPs can be used by state health officials to inform their understanding of the epidemic locally and provide interventions as necessary (CDC, 2021).

Integrating guidelines into clinical practices regarding prescribing opioids for chronic pain and maximizing the use of prescription drug monitoring programs are promising interventions to improve opioid prescribing. Opioid use guidelines also help to inform clinical practice, protect at-risk patients, and increase access to evidence-based substance use disorder treatment programs, including those that incorporate medications for opioid use disorder (MOUD) (CDC, 2021).

Many states have implemented policies to attempt to combat the overdose epidemic. Some states regulate prescription drugs through monitoring programs and pain management clinics. While they have shown a reduction in opioids being prescribed, prescription drug monitoring programs show mixed evidence of affecting opioid overdose deaths. However, they have been shown to reduce overdose deaths for other pharmaceutical substances. In addition, pain management clinic laws have reduced opioid overdose deaths.

Some states have also implemented medical marijuana laws based on research showing that marijuana use can reduce one's reliance on prescription pain medication. In addition, the availability of medical marijuana dispensaries has been associated with a reduction in substance use treatment admissions for pain medications and a reduction in fatal crashes with drivers testing positive for opioids (Atkins et al., 2019).

Another area for intervening at the secondary level is addressing how social determinants of health can impact overall health. Societal issues, including food and housing security, access to services and supports, income, lack of transportation, stable employment, education, and social inclusion can increase stress levels, leading to an increased risk of substance use. Therefore, prevention initiatives must address these issues. Another critical area to address is Adverse Childhood Experiences (ACES) which are traumatic events that a person experiences between the ages of 0-17. These can include abuse and neglect, experiencing or witnessing violence, experiencing divorce of parents, having a family member in jail, parental mental health or SUD, having a family member or

caregiver attempt or die by suicide, and chronic poverty. Emerging research also includes experiences with racism, bullying, and community violence as additional ACES. The more ACES a child has experienced, the more likely that child will be to develop a chronic disease, poor academic achievement, and/or illicit substance use (The White House, 2022).

Tertiary Level

The tertiary level of prevention is limiting harm and preventing death. Interventions at this level include many evidence-based harm reduction services that will be explored in more detail in upcoming sections. These include Naloxone distribution to intervene during an overdose event to prevent death, syringe and needle exchange programs to prevent diseases, and drug test strips to prevent accidental fentanyl ingestion.

Treatment

The 2020 National Survey on Drug Use and Health (the National Survey) found that 40.3 million people over the age of 12 had a substance use disorder in the past year. Of the 41.1 million people who needed treatment, only 2.7 million (6.5%) received treatment at a specialty treatment facility in the past year. This unmet need in substance use disorder intervention is called the “treatment gap.” The National Survey also found that 95% of the people who met the criteria for SUD and did not seek treatment did not believe they needed treatment. Individuals with substance use disorders respond positively to evidence-based treatments, be they pharmacological, such as Methadone and Naltrexone, or psychotherapy based, such as Contingency Management (The White House, 2022).

One way to increase treatment availability is to screen, diagnose, and refer to treatment, as with any other chronic medical condition. By making treatment more accessible, mortality rates and other morbidity aspects that are linked to substance use can be addressed and reduced (The White House, 2022).

Stigmatizing attitudes towards drug use and people who use drugs exist throughout our society, including in health care. Studies show that people who use drugs are reluctant to access medical care because they do not trust healthcare providers to maintain their privacy from law enforcement. People with SUD are viewed more negatively than people with physical or other mental disorders. Even language choices can play a huge role in how people are treated. One study looked at how mental health and substance use treatment providers reacted to individuals if they were labeled a “substance abuser” rather than as a “person having a substance use disorder” and found that the providers were more likely to assign blame and believe that an individual should be subjected to punitive, rather than therapeutic measures (The White House, 2022).

Treatment is effective and must be more accessible for those who need it, and the treatment gap must come down. The “Treatment Cascade” concept suggests that the more individuals are successfully diagnosed, entering treatment, and receiving tailored evidence-based treatment, the more people will enter long-term recovery (The White House, 2022).

Low-threshold programs that make it relatively easy to get started or participate in treatment can include hospital clinics, telemedicine treatment initiation, mobile methadone programs, or other programs that do not require people to “jump through hoops” to start care. Although drug use has been historically grounds for dismissal from some treatment programs, providers are learning that flexibility can be offered to accommodate a person who might be willing to stop opioid use but not all other drugs. Education about other drug use and the need to take precautions when using benzodiazepines and buprenorphine, for example, may be an area where a provider negotiates with a patient because the benefits of being on buprenorphine outweigh the risks of co-use (The White House, 2022).

Effective evidence-based treatments for substance abuse include pharmacotherapies and behavioral therapies. These can be provided in

conjunction with each other or as stand-alone treatments. However, research shows they are most effective when combined together.

Pharmacotherapies

Methadone

Methadone is a long-acting synthetic opioid agonist oral medication that can prevent withdrawal symptoms and reduce cravings in opioid-addicted individuals. It can block the effects of illicit opioids and is thus useful in treating opioid dependence in adults. Methadone maintenance treatment is available through specially licensed opioid treatment programs or methadone maintenance programs.

Research shows that methadone maintenance is most effective when it is paired with individual and/or group counseling. Outcomes improve even further when individuals are provided, or referred to, other needed medical, psychological, psychiatric, and social services (NIDA, 2018).

Naltrexone

Naltrexone is a synthetic opioid antagonist that blocks opioids from binding to the receptors, preventing its sought-after effects. It is used to reverse opioid overdose and to treat opioid addiction. The theory behind this treatment is that the consistent lack of the desired euphoric effects will lead to the perceived futility of abusing opioids, which will gradually diminish craving and addiction. Naltrexone has no perceived effects following detoxification, has no potential for abuse, and is not addictive. Naltrexone is usually prescribed in outpatient medical settings to treat opioid addiction. However, the treatment should begin after medical detoxification in a residential setting to prevent withdrawal symptoms.

Naltrexone must be taken orally, either daily or three times a week, but noncompliance with treatment is a common problem. Therefore, many clinicians have found Naltrexone is best used with recently detoxified patients who are

highly motivated and who desire total abstinence because of external circumstances, such as parolees or professionals. There is also a long-acting injectable version of Naltrexone, called Vivitrol, that is also an approved medication to treat opioid addiction. In its injectable form, it only needs to be administered once a month, which can improve compliance and provides an alternative to those who do not want to be placed on agonist medications. The drawback of Naltrexone is that it requires full detox before being given (NIDA, 2018).

Buprenorphine

Buprenorphine is a synthetic opioid medication that acts as a partial agonist at opioid receptors. It does not produce the euphoria and sedation caused by heroin or other opioids. However, it can lower or eliminate withdrawal symptoms associated with opioid dependence and has a low risk of overdose. Buprenorphine is available in two forms that are taken sublingually: a pure form of the drug and the more commonly prescribed form of Suboxone, which is a combination of buprenorphine, the drug naloxone, an antagonist (or blocker) at opioid receptors. Naloxone has no effect when Suboxone is taken as prescribed, but if an addicted individual attempts to inject Suboxone, the Naloxone will produce severe withdrawal symptoms. Thus, this formula lowers the likelihood of the drug being abused or shared with others. Buprenorphine treatment for detoxification or maintenance can be provided in outpatient offices by a healthcare provider. Office-based treatment for opioid addiction is a cost-effective approach that increases the availability of treatment and options to individuals. Buprenorphine is also available as an implant and injection. The FDA approved a 6-month subdermal buprenorphine implant in May 2016 and a once-monthly buprenorphine injection in November 2017 (NIDA, 2018).

Behavioral Therapies

Behavioral therapies help engage people in substance abuse treatment and support modifying their attitudes and behaviors around substance use. In

addition, it teaches coping skills to handle stressful situations and environmental triggers that may increase the desire for substance use and perpetuate the abuse cycle.

Cognitive Behavioral Therapy

Cognitive behavioral therapy was developed for treating problem drinking and to prevent relapse and was later adapted for cocaine-addicted individuals. Cognitive behavioral techniques are based on the belief that an individual's learning process is critical in developing maladaptive behavior patterns like substance abuse. Individuals in CBT learn to identify incorrect problematic behavior by applying various skills to address their substance use and other problems that often co-occur.

An essential element of CBT is anticipating likely problems and helping individuals develop effective coping strategies to enhance their self-control. Specific strategies include:

- exploring the positive and negative consequences of continued drug use
- recognizing cravings early through self-monitoring
- identifying situations that might put one at risk for use and avoiding those high-risk situations.
- Developing strategies for coping with cravings

Research shows that the skills individuals learn through a cognitive behavioral approach remain after the completion of treatment. Current research focuses on how to produce an even more powerful effect by combining CBT with medications for substance abuse and with other types of behavioral therapies. CBT effectively treats alcohol, marijuana, cocaine, methamphetamine, and nicotine abuse (NIDA, 2018).

Web-based Cognitive Behavioral Therapy

Kiluk et al., 2018, compared clinician-delivered CBT, the web-based program CBT4CBT, and treatment as usual over a 12-week treatment period. They acknowledged that people seeking recovery from substance use disorder often have significant barriers that prevent them from receiving evidence-based treatment, including insufficient health insurance, difficulty physically getting to appointments, or insufficient motivation to overcome these. Web-based interventions have the potential to overcome many barriers because they can be delivered at a very low cost and can be accessed from home or just about anywhere. Their results found that during treatment, all participants, regardless of the treatment they were assigned, saw a reduction in the frequency of use, with the greatest reduction seen in the clinician-provided CBT participants. However, during monthly follow-ups post-treatment, the web-based CBT participants had more long-term reduction in use, and clinical-based CBT participants had worse long-term results, even over-treatment as usual. At treatment termination, the rates of individuals no longer meeting Diagnostic and Statistical Manual of Mental Disorders IV-TR diagnostic criteria for current substance dependence were best for CBT4CBT (66.7%) over clinician-delivered CBT(51.6%) and treatment as usual (42.9%). The participants assigned to CBT4CBT showed the greatest increase in knowledge of CBT concepts. This computerized version of CBT is an engaging and useful approach for treating substance use disorder (Kulik et al., 2018).

While the researchers acknowledge a major limitation to their study, many participants were assigned to the study from the criminal justice system. They may not have had as much motivation for treatment as someone who is self-referred. Their hypothesis for the positive results of the web-based CBT program includes that the lack of a therapist while delivering CBT may evoke less resistance among those who are perhaps more ambivalent about change making the web-based CBT more effective. Participants are left to ponder themselves without what may be construed as "an agenda" by a therapist for those on the fence about changing their substance use (Kulik et al., 2018).

Motivational Interviewing/Motivational Enhancement Therapy

Motivational Enhancement Therapy helps people resolve their ambivalence around engaging in treatment and managing or terminating their substance use. The goal is to evoke rapid and internally motivated change instead of working through the steps of the recovery process. There is an initial assessment session, followed by two to four individual treatment sessions. The first session focuses on the therapist providing feedback on the initial assessment, encouraging discussions on personal substance use and self-motivational statements, and exploring coping strategies for high-risk situations. In future sessions, the therapist monitors change, reviews cessation strategies being used, and continues to encourage commitment to change. Motivational enhancement therapy has mixed results and seems most effective for engaging those with SUD in treatment rather than producing a change in their substance use (NIDA, 2018).

Contingency Management

Contingency management interventions use incentives in the form of tangible goods or services for completing certain treatment-related activities or for maintaining abstinence. They are among the most effective treatments for stimulant use disorder but are rarely used outside research settings. However, the Department of Veterans Affairs has begun implementing Contingency Management as a SUD treatment option. In their program, a negative urine test earns spending credits in the VA hospital canteen (The White House, 2022).

Contingency management involves giving patients tangible rewards to reinforce positive behaviors. Incentive-based interventions in methadone programs have been highly effective in increasing treatment retention and promoting drug abstinence. One contingency management program is the *In Voucher Based Reinforcement* program where those in treatment receive a voucher for every drug-free urine sample they provide. The monetary value of a voucher increases with each consecutive drug-free urine sample, and the value is reset with a positive urine sample. Vouchers can be exchanged for food, movie passes, or other goods and services.

With *In Prize Incentive* programs, there is an element of chance to win cash prizes. During the program (usually lasting at least three months and occurring one or more times a week), those in treatment who provide a drug-free urine sample or breath test have a chance to have their name drawn to win a prize with a value of $1 to $100. Draws start at one and increase with each consecutive negative drug test. Draws are reset to one with a positive drug screen or unexcused absence. In addition, participants can earn extra draws for attending counseling sessions and completing individualized goal activities (NIDA, 2018).

While some the above strategies encourage abstinence, they are also focusing on harm reduction in that participants are able to continue to participate in programs, even with a positive drug test, and they are supported and rewarded as they continue to progress in their recovery.

Recovery

There are an estimated 23 million people in recovery in the United States. SAMHSA defines recovery as a process of change through which individuals improve their health and wellness, live a self-directed life, and strive to reach their full potential. Recovery is a process and not an event. It generally begins before substance use is stopped, continues after the cessation of use, can be sustained through a return to use, and may accommodate reduced levels of use when these permit improvements in health, wellness, and functioning. Recovery is measured as a positive step, by what it brings, including improved quality of life, a sense of self-efficacy and purpose, and improvements in social and emotional functioning and well-being. It is distinct from both abstinence and remission, which are measured by the absence of symptoms (The White House, 2022).

The national study found that among people who reported having resolved an alcohol or other drug program, 45% participated in mutual aid groups, 28% had received treatment, and 22% had received recovery support services. This shows the importance of accessibility to multiple treatment and support options to meet

people where they are and provide the resources they need to access treatment and support their recovery (The White House, 2022).

Providing Harm Reduction Services

The Office of National Drug Control Policy identifies the following requirements for harm reduction services to be provided successfully.

1. **Care.** Staff and peer outreach workers must support individuals in accessing the care they need and overcoming obstacles. This can include naloxone and overdose prevention strategies and tools; sterile syringes and other injection equipment; medications for opioid use disorders and other SUD treatment; and physical health and mental health services. Entry into different types of low-threshold group support and mentoring relationships, including through peer workers, must also be supported.
2. **Support.** Ongoing support is often required after initiating harm reduction or SUD treatment services. People in SUD treatment or who have completed an episode of substance use disorder treatment may resume or continue to use substances. This can be addressed through ongoing support provided in harm reduction programs or other evidence-based interventions. Substance use should not be a reason for punishment or to limit access to health or social services. Individuals accessing services through harm reduction organizations also need access to housing, nutritious food, education or training, and employment.
3. **Connection.** People who use drugs (PWUD), especially those who inject drugs, those who are experiencing homelessness, or those who experience social marginalization, must have regular access to harm reduction services and the opportunity to connect with staff or volunteers—without preconditions. All PWUDs in the United States deserve the opportunity to forge a personal connection with a caring, non-judgmental individual as

part of receiving health and social services. PWUDs deserve support not just in reducing drug or alcohol use but also in improving any aspect of their lives they want to work on.

4. **Respect.** PWUDs are often in psychological or physical pain. They are generally aware of the negative consequences of their substance use on themselves and others, including family members. This knowledge can cause shame, despair, and embarrassment and create additional obstacles to treatment entry for someone who wants to get help. Research finds that individuals who have a voice in when and how they will receive help, who establish their own harm reduction, treatment, or recovery goals, and who are treated with respect, dignity, and a recognition of their autonomy, are more receptive to receiving help and achieve better outcomes (The White House, 2022).

Evidence-Based Harm Reduction Services

The following are evidence-based harm reduction strategies for addressing substance use disorder and overdoses.

Naloxone Distribution

Naloxone is a medication that quickly reverses an opioid overdose. As an opioid antagonist, it attaches to opioid receptors and quickly and safely reverses possible fatal effects of opioid overdose. The biggest impact Naloxone can have is that it quickly restores normal breathing to a person experiencing an opioid overdose if their breathing has slowed or stopped. Naloxone does not affect a person who does not have opioids in their system, and it is not a treatment for opioid use disorder outside of its emergency response to an opioid overdose. Targeted distribution programs train and equip people who are most likely to interact with someone experiencing an overdose with naloxone kits. Effective strategies include

community distribution programs, co-prescribing Naloxone, and equipping first responders (NIDA, 2022 & CDC, 2018).

Pre-packaged nasal spray such as Narcan is available for substance users, friends, family, and community members. It is a nasal spray administered in one nostril while the person is lying on his or her back and does not require any special training to use. 911 should still be immediately called when an overdose is suspected, even if Naloxone is administered successfully. Naloxone is only able to reverse opioid overdose for 30 to 90 minutes. As many opioids can remain in the body for longer than this, the person can experience an overdose again as the Naloxone wears off. Also, some opioids are stronger or a higher amount was consumed and will require more than one dose of Naloxone to reverse the overdose. People given Naloxone should be monitored for a minimum of two hours after their last dose of Naloxone is given to ensure breathing does not slow or stop (NIDA, 2022).

Naloxone should be given to anyone who shows signs of an opioid overdose or when an overdose is suspected. Some signs of an opioid overdose include:

- unconsciousness
- very small pupils
- slow or shallow breathing
- vomiting
- an inability to speak
- faint heartbeat
- limp arms and legs
- pale skin
- purple lips and fingernails (NIDA, 2022)

People with physical dependence on opioids may have withdrawal symptoms within minutes after being given Naloxone. Withdrawal symptoms may include

- headaches
- sweating
- blood pressure changes
- rapid heart rate
- nausea
- vomiting
- tremors

While these symptoms are unpleasant, they are not usually life-threatening. The risk of death for someone experiencing an opioid overdose is greater than the risk of having a negative reaction to Naloxone (NIDA, 2022).

Opioid overdose education and community Naloxone distribution are effective in reducing overdose deaths. Overdose education and naloxone training programs teach people to know the risk factors for opioid overdose, such as mixing opioids with other sedatives, drug potency considerations, high dosage of prescription opioids versus using opioids alone, to recognize the signs of opioid overdose, and how to administer overdose reversal medication during an opioid overdose (Recovery Research Institute, 2023).

Naloxone policies have been implemented by some states to increase access to Naloxone. This increased access is not only for people who misuse substances but also for other professionals and medical providers, and more states are providing training and access to community members (Atkins et al., 2019).

Additional Research

Research shows that co-prescribing Naloxone when prescribing opioids can reduce opioid-related emergency room visits and reduce the number of prescribed opioid overdoses and deaths. Despite this, only one Naloxone prescription is given for every seventy high-dose opioid prescriptions. Furthermore, rural counties are almost three times more likely to be ranked as low dispensing compared to urban counties (CDC, 2022).

In the United States, 80% of overdose reversals using Naloxone were administered by people who used drugs.

An Ohio study found training and distributing Naloxone to law enforcement officers reduced opioid overdose deaths and increased survival rates.

The Massachusetts Department of Public Health Overdose Education and Naloxone Distribution Program found that family members of persons at risk of overdose made up close to 30% of the program's enrollees and provided 20% of all recorded rescue attempts. While individuals took the training to provide rescue Naloxone to their family members, some of the recorded rescues were performed on someone other than their relative. These results indicate that Naloxone distribution across families and social networks can have lifesaving effects throughout the community (CDC, 2018).

Syringe Service Programs

Syringe services programs, also known as needle exchange programs, are community-based prevention programs that provide access to clean and sterile equipment used for the preparation and consumption of drugs. They also provide tools for preventing and reversing opioid overdoses, such as naloxone training and distribution, fentanyl testing strips, and more. Research has found syringe services programs to be a safe, effective, and cost-saving resource to prevent the spread of HIV and other infectious diseases and reduce high-risk injection behaviors among people who use injection drugs (NIDA, 2021).

Many programs offer a range of additional services, including:

- Access to sterile syringes and injection equipment
- Safe disposal of needles, syringes, and other injection equipment
- Education about overdose and safer injection practices
- Disease prevention, such as HIV and other infectious diseases, through the distribution of condoms, alcohol swabs, counseling, and vaccination
- Testing for HIV & hepatitis C
- Linkage to infectious disease care
- Referrals and access to substance treatment, detox programs, and medication-assisted treatment
- Referral to medical services, including testing and treatment for HIV, tuberculosis, and/or hepatitis B and C, mental health services, and legal or social services. Some programs provide access to these services onsite (NIDA, 2021; CDC, 2018; Recovery Research Institute, 2023).

Needle and syringe access reduces the spread of blood-borne infections among injection drug users through the distribution of sterile injecting equipment. Reusing and sharing injection equipment is linked with an increased transmission risk of blood-borne diseases, including life-threatening diseases such as HIV, HCV, hepatitis B, and infective endocarditis. In addition, skin and soft tissue infections from wounds may occur. Syringe services programs aim to reduce the transmission of infectious diseases by providing sterile injection equipment. Syringe service programs save lives and significantly reduce blood-borne disease transmissions and outbreaks (NIDA, 2021).

Syringe services programs do not increase substance use. Research shows program participants were more likely to access substance use treatment and reduce or even stop drug use. Syringe services programs often provide additional

services, including distributing overdose-reversing medication naloxone, HIV and HCV testing and prevention interventions, vaccinations, and referrals for substance use treatment and other health care services. By programs providing comprehensive services, the results lead to better outcomes for people who inject drugs and can also improve the overall health of communities where programs operate (NIDA, 2021).

The most effective syringe service programs provide on-demand sterile supplies without any restrictions or requirements to return used syringes. Comprehensive syringe services programs are associated with decreasing syringe litter in the community, as they allow people to safely dispose of their used syringes. This, in turn, decreases the risk of accidental needlestick injuries (NIDA, 2021).

Additional Research

Syringe services programs are effective and cost-effective systems for preventing and addressing community outbreaks of HIV and HCV. For example, an HIV & HCV outbreak in 2015 in the rural community of Scott County, Indiana, led to over 200 people being diagnosed with HIV and HCV. Syringe service programs were credited by the Indiana State Department of Health with stopping the increase in transmissions and saving the state and taxpayers an estimated $120 million (NIDA, 2021).

A NIDA-funded study in 2012 found 86% fewer used syringes on sidewalks and in parks in communities with syringe services programs when compared to similar communities without an equivalent program. Research also shows that syringe services programs are not associated with increased crime in communities (NIDA, 2021).

Individuals who access syringe service programs are five times more likely to enter drug treatment and three and a half times more likely to cease injecting compared to those who don't use these programs (CDC, 2018).

Overdose Prevention Sites

Overdose prevention sites, also known as supervised consumption centers or supervised injection centers, are legally sanctioned spaces where people can use pre-obtained drugs with medical supervision and where intervention is available in the event of an overdose. The centers do not provide drugs, and medical staff do not inject users. The sale or purchase of drugs is prohibited on the premises, and many programs have admission criteria such as local residency or proof of identification. Models range from peer-run facilities to mobile units to medical models co-located with addiction treatment programs (Samuels et al., 2022 & Recovery Research Institute, 2023).

Safer-use sites frequently offer multiple additional services, including:

- In addition to sterile needles, syringes, and other injection equipment, they provide other disease-prevention materials such as condoms and alcohol swabs.
- Referral to substance use disorder treatment or detox programs, including medication-assisted treatment.
- Referral to medical services, including testing and treatment for HIV, tuberculosis, and/or hepatitis B and C, mental health services, and legal or social services. Some programs provide access to these services onsite.
- Information and education on substance use reduction and related harms, overdose prevention, Naloxone training, prevention of HIV and other sexually-transmitted diseases, and safer injection practices.
- Safe drug injection equipment disposal (Recovery Research Institute, 2023).

More than 120 Overdose Prevention Centers exist across 10 European countries, Australia, and Canada. The first supervised injection site in North America opened in 2003 in Vancouver, British Columbia. While there have been unsanctioned overdose prevention centers in the United States, it was not until 2021 that the

first government sanctioned center was opened in New York City. In its first two months of operation, there were close to 6000 visits by 600 different individuals, with 75% reporting they would have otherwise used drugs in a public or semi-public location. There were 125 interventions to prevent overdose risk, including administering oxygen or naloxone for individuals using opioids, as well as hydration, cooling, or de-escalation for individuals using stimulants. There were three transportations to emergency departments and no overdose fatalities (Samuels et al., 2022).

Earlier attempts at opening overdose prevention centers met with legal, financial, and logistic challenges due to the potential violation of the federal Controlled Substances Act (Samuels et al., 2022).

Benefits of Overdose Prevention Sites

Research reviews of over a hundred peer-reviewed, evidence-based studies have consistently shown the positive impacts overdose prevention centers have. These include:

- Providing medical and social services
- Increasing entry into substance use disorder treatment
- Preventing overdose deaths and safely managing onsite overdoses (worldwide, there has not been a single overdose fatality reported at an OPS)
- Providing a safe place, without stigma or fear of criminalization, for people who use drugs to find connection and care
- Reducing the frequency and amount that clients use drugs
- Reducing public drug use
- Reducing syringe and other drug paraphernalia litter

- Reducing HIV and Hepatitis C risk behavior such as syringe sharing and unsafe sex
- Saving costs to the community due to a reduction in disease, overdose deaths, and the need for emergency medical services (Drug Policy Alliance, 2022).

One staff member at a newly implemented overdose prevention site in Victoria, British Columbia, had the following observation: “We’ve noticed people, before, they would go to the bathroom, and they’d try and do their hit as quickly as possible to not get found. And here, they’ll come into the OPS, and they’ll use a smaller amount of it to make sure that it is what it is and that they can handle it, and then they’ll use the rest. And they know that they have that time; they’re not going to be rushed out of the spot. Because when people are rushed, that’s when they tend to overdose.”

The above quote illustrates that in addition to having access to a safer supply of substances, having access to a safer space to use is critical. By destigmatizing use and the need to conceal it, overdose risk is decreased. The provision of safer spaces within existing community agencies for injection drug use in Victoria, British Columbia, had multiple impacts, including zero deaths, earlier intervention to prevent overdoses and reduced trauma. More comprehensive implementation of harm reduction also occurred by introducing safer spaces for use, mitigating stigma, and enhancing the development of trust and relationships (Pauly et al., 2020).

Additional Research

Data from Overdose Prevention Sites globally continue to support their safety and effectiveness in preventing fatal overdoses. In 2010 the Medically Supervised Injecting Centre in Sydney, Australia, was opened. It has since experienced 3,426 overdose events with no deaths. Millions of injections have been supervised in European injection sites with no fatal overdoses. The supervised injection center,

Insite, in Vancouver, has overseen 766,486 injections between March 2004 to February 2008 which resulted in 1,004 non-fatal overdoses and zero fatal overdoses (NIH, 2021).

In addition to overdose prevention centers lowering overdose mortality rates (approximately 88 fewer overdose deaths per 100,000 person/year), they also result in 67% fewer ambulance calls for treating overdoses and a decrease in HIV infections (NIH, 2021).

Drug Test Strips

Currently, there are test strips available for fentanyl and for amphetamines. They are a low-cost method to help prevent drug overdoses and reduce harm. Test strips are small paper strips that can detect the presence of fentanyl or amphetamine in all different kinds of drugs and drug forms (pills, powder, and injectables). Test strips provide people who use drugs and communities with important information about fentanyl and amphetamines in the illicit drug supply so they can take necessary measures to reduce their risk of overdose.

Drug test strips are simple to use. A small amount of the drug (10 mg) is mixed with ½-1 teaspoon of water. The test strip is then placed in the water-drug mix for 15 seconds and then placed flat for two to five minutes. A single pink line indicates that fentanyl (or amphetamine, if using an amphetamine test strip) has been detected, and it is recommended that a batch of drugs be discarded to avoid the risk of overdose. Two pink lines indicate that fentanyl (or amphetamine, if using an amphetamine test strip) has NOT been detected. No test is 100% accurate, and one should still be cautious as the test strip might not have detected fentanyl (or amphetamine), the fentanyl (or amphetamine) may not have been consistently mixed into the drugs, or other more potent fentanyl-like drugs, such as carfentanil, will not show up on test strips (CDC, 2022).

Additional Research

A study performed in North Carolina among people who injected drugs found Fentanyl Test Strips were widely used among the sample and that a positive FTS resulted in changes in drug use behavior (Goldman et al., 2019).

Goldman et al. (2019) found the following five themes that emerge in their study of fentanyl test strip use among young adults in Rhode Island:

1. FTS was a tool to confirm suspicions of fentanyl adulteration
2. Differences in ease of FTS testing depended on the testing method
3. Participants re-distributed tests to people with high perceived overdose risk
4. Participants preferred testing their drugs in private
5. The presence of fentanyl led to self-reported behavior change.

Their results show that many young PWUDs at risk of a fentanyl overdose perceive FTS as a feasible and acceptable harm reduction tool.

Good Samaritan Laws

Substance use can result in short and long-term negative health consequences, including overdose and death. Having a timely medical response is critical in preventing overdose deaths. However, many people involved in illegal activities are reluctant to call for emergency response help for fear of the legal repercussions. With the rise in opioid overdoses, underage binge drinking, and other prescription and illicit drug misuse, it is imperative to find ways to encourage contact with emergency medical services and law enforcement as resources to combat the consequences of substance misuse. This is where Good Samaritan Laws can be beneficial (Atkins et al., 2019).

Some states have enacted Good Samaritan policies to encourage calls for emergency help for an overdose. These laws protect the person who calls for

medical assistance for an overdose from legal action for being in possession of a controlled or illegal substance. These laws also protect bystanders from overdose, even those who may also have been using but did not have an emergency event. Bystanders are protected against criminal charges, parole violations, and warrant searches. Good Samaritan laws aim to increase calls for overdose emergency assistance while providing immunity to those involved. Naloxone Access laws protect the person who administered the opioid reversal drug. Forty-seven states and Washington D.C. have Good Samaritan laws and Naloxone Access laws. Kansas, Texas, and Wyoming do not have Good Samaritan laws but do have Naloxone Access laws (Atkins et al., 2019; GOA, 2021; CDC, 2018).

There is a pattern of lower rates of opioid-related overdose deaths in states that have Good Samaritan laws when compared to the state's overdose death rate prior to enacting the law and when compared to states that do not have Good Samaritan laws. There is an increased likelihood that people will call 911 when they are aware of the law. Unfortunately, many are unaware, both among law enforcement and community members, which could impact a person's willingness to call 911 (GOA, 2021).

Additional Research

The U.S. Government Accountability Office (GOA) (2021) reviewed 17 studies on the effectiveness of Good Samaritan Laws and found that states with these laws had lower rates of overdose deaths from opioids and that awareness of the laws varied greatly among law enforcement and the public.

A study of Baltimore overdose scenes found that 911 was only called during one in five overdoses witnessed. If there were more than four bystanders, this statistically decreased the likelihood that 911 would be called.

A study of Alabama opioid-using parolees found that approximately 30% of bystanders will try to find help through means other than calling 911, such as dropping off the overdose victim at a hospital. Though it may be done with good

intentions, this response could mean a fatal delay in care for the overdose victim (CDC, 2018).

Medication-Assisted Treatment

Medication-assisted treatment is a pharmacological intervention for opioid use disorder. These FDA-approved medications, including methadone and buprenorphine, prevent difficult opioid withdrawal symptoms by activating the opioid receptors without euphoric feelings. Naltrexone is a medication that blocks the effects of opioids. The medication-assisted treatment alleviates cravings and helps the person overcome their physical dependence. Through this stabilization, the person can build healthy psychological, social, and lifestyle changes. Research shows that it reduces opioid use, overdoses, criminal activity, and other risky behaviors (CDC, 2018).

Medication-assisted treatment works best when:

- It is voluntary. Mandatory treatment by social welfare or legal services are less effective.
- It is provided with additional social services and counseling.
- Medication doses are given at fixed and predictable times in safe locations.
- Treatment is individualized. Everyone reacts to medications differently and should be given the opportunity to find the one that works best, as well as what support services are needed.
- Barriers are removed. Be that insurance approval, hours clinics are open, and transportation - especially in rural communities, reducing stigma against medication-assisted treatment is necessary so people can access the care they need (CDC, 2018).

Additional Research

Research shows that methadone for opioid use disorder was more effective at treating opioid use disorder and reducing illicit opioid use than nonpharmacological treatments.

A clinical trial with individuals in the criminal justice system with opioid use disorder compared long-acting injectable Naltrexone with basic counseling with no medication. Over the 24-week study, there were no overdoses among the 153 individuals offered long-acting Naltrexone, and seven overdoses among the 155 individuals provided counseling with no medication.

One review assessed providing individuals with medication-assisted treatment who were also receiving HIV treatment and found it increased coverage of antiretroviral treatment by 54%, increased enrollment into antiretroviral treatment by 87%, increased antiretroviral treatment adherence by nearly 200%, increased rates of viral suppression by 45%, and reduced antiretroviral treatment discontinuation by 23% (CDC, 2018).

Non-Abstinence Housing/Housing First

Housing First is a recovery-oriented model for ending homelessness that is not contingent on compliance; instead, it is a rights-based intervention based on the belief that everyone deserves housing and that adequate housing is a necessary pre-condition for recovery. The model is based on quickly moving a person experiencing homelessness into independent and permanent housing. It also includes providing for any additional identified needs such as physical and mental health, substance use care, education, employment, and community connections. Rooted in the principle that people are better equipped to move forward with their lives if they first have stable housing, the Housing First model strives to deliver effective mental health and addiction recovery outcomes. In addition, Housing First is a more cost-effective model than supporting individuals living on the street or in shelters. Once a person has a permanent living situation with

supportive services, the need for expensive state-funded emergency services drops significantly, improving health and reducing healthcare costs. Furthermore, the NIH estimated that emergency department visits and general inpatient hospitalizations decreased between 50-75% once someone is housed (Heading Home, 2021).

Additional Research

Housing First participants report reduced usage of alcohol, stimulants, and opiates. These programs are also effective at increasing outpatient service utilization and for outreach and engagement of clients not appropriately served by the public mental health system. Research has not supported fears that Housing First programs would increase substance use and psychiatric symptoms (Heading Home, 2021).

Research shows the economic benefits surpass the intervention cost for Housing First programs in the United States, with societal cost savings of $1.44 for every dollar invested (NILHC, 2023).

Academic Detailing

Academic detailing is an educational strategy to market evidence-based practices to healthcare providers and community stakeholders. Trained professionals provide structured educational visits to healthcare providers, and they provide tailored training and technical assistance to support healthcare providers' use of best practices. Examples of academic detailing to reduce overdoses include assisting prescribers in reducing possible risky opioid prescriptions and educating pharmacists on effective naloxone distribution to community members (CDC, 2018).

Additional Research

One study found commercial detailing has been so effective in promoting changes in healthcare provider behaviors that it overshadows academic sources. This likely

occurs because while researchers disseminate scientific medical information, they are seldom trained in effective communication skills. Academic detailing offers a bridge between the academically researched knowledge and marketing it to providers in a compelling manner that motivates behavior change.

One educational program targeting reducing rates of inappropriate opioid prescribing for healthcare providers on Staten Island resulted in a 29% decrease in prescription opioid overdoses. This decrease was only seen on Staten Island; the overdose rates remained the same for other New York City boroughs.

Academic detailing has shown impressive results in increasing the rate of naloxone prescriptions. Physicians receiving a half-hour academic detailing session in San Francisco increased their rate of naloxone prescription by eleven-fold. The Veterans Health Administration provided an academic detailing program to physicians; at a one-year follow-up, naloxone prescriptions had increased threefold, and at a two-year follow-up, it had increased sevenfold (CDC, 2018).

Decriminalization of Possession or Use of Drugs

Most people use drugs without criminal penalty and without developing a substance use disorder (SUD). Approximately one in five people older than 12 years in the United States used an illicit drug in the past year, for a total of more than 59 million people. Less than a third of those people, 18.4 million, met the criteria for a SUD relating to their drug use in the past year. Meanwhile, there were 1.5 million drug-related arrests in the United States in 2019, and they were disproportionately among black, indigenous, and Latinx people. People who are marginalized, poor, black, indigenous, or people of color are more likely to experience punishment for drug use, develop SUD, and experience health care discrimination, including receiving less treatment. One can argue that the current policies and structures exacerbate drug-related harms and that decriminalization as a harm reduction strategy would improve patient and community health. Drug decriminalization is not legalization because it does not establish a legally regulated market or supply chain for drug cultivation, production, or sale. The

benefits of drug decriminalization include reducing jail and prison populations, better law enforcement resource utilization, decreased drug use stigma, and removal of barriers to evidence-based harm reduction practices (Bratburg et al., 2023).

Additional Research

One misconception is that decriminalizing drugs will lead to higher drug use and crime rates. However, data from the United States and globally shows that treating problematic drug use as a health issue rather than a criminal issue helps keep communities healthy and safe. Numerous countries have eliminated criminal penalties for drug use and possession without increased societal harm (Bratburg et al., 2023).

In 2021 Oregon decriminalized possession of small amounts of drugs, including heroin (less than 1 gram) and cocaine (less than 2 grams), stating that substance misuse should be treated as a disease rather than a crime. In 2019 Oregon saw 6,700 arrests and 4,000 convictions for drug possession. Between February and August of 2021, there were 1,800 arrests of possession crimes, and 364 courts issued convictions. There has not been a rise in crime, and rates of property crime have actually decreased (Quinton, 2021).

Harm Reduction Programs

The following are a few examples of harm-reduction community programs in the United States.

Bad Batch Alert

This is an anonymous and free text messaging service to help those struggling with heroin addiction in Baltimore, Maryland, to stay alive. An active user can register for the service to receive text alerts when a lethal batch of heroin may be in their neighborhood. The user can then modify the intended dosage. Anyone

can also sign up for the service and share the knowledge with a loved one who uses it. The data the service uses for alerts is gathered from EMS and analyzed by an epidemiologist from Behavioral Health Systems Baltimore. When a spike is seen, a text alert is sent to all registered users in the area. In addition, the service has a built-in set of commands to provide support and recovery tools. For example, if someone texts "Van" to the service, they will receive a text back with the current location of needle exchange vans in the city. If one texts "treatment," they will be sent the 24-hour crisis number to call. Texting "Naloxone" will get a text back with the list of upcoming Narcan trainings. The program aims to help people stay alive and possibly recover from their addiction (Bad Batch Alert, 2023).

Dance Safe

This San Francisco, California nonprofit offers drug-checking services at raves and other nightlife events throughout the United States. In addition, they provide non-judgemental information on drugs, sex, and consent, and distribute condoms, earplugs, and water. Since their inception, they have expanded to have chapters in 24 cities in the United States and Canada.

They see themselves as a non judgemental first point of contact for people to discuss drug use, health, and personal safety. Their goal is to support every person's ability to make informed consensual decisions about their mind and body (dancesafe.org, 2023).

Another service to promote safety occurred in 1998, when the first publicly available drug-checking laboratory in the United States began manufacturing a drug check kit. The laboratory offers fentanyl and amphetamine test strips for sale on their website for individuals and wholesale to other nonprofits. These are reasonably priced at $1.99/test strip, and prices decrease when buying in larger quantities ($18.99 for a package of 10 and can be purchased in as high of a quantity as 500 test strips) (dancesafe.org, 2023).

Recovery Ready Workplace

New Hampshire Recovery Friendly Workplace

New Hampshire Recovery Friendly Workplace Initiative was created to promote individual wellness by empowering workplaces to provide support for people recovering from substance use disorder. The initiative was started to address the economic cost of untreated addictions on the state and businesses due to impaired productivity and absenteeism. In 2018, the governor proposed the initiative with the goal of empowering businesses to create work environments that support those in or seeking recovery and those who may have a loved one with SUD. All services provided by the initiative are at no cost to employers and employees and are tailored to meet a workplace's unique needs. The program has four Recovery Friendly Advisors who work with businesses that wish to participate in the program. Businesses in the program have identified several measurable benefits, including decreased absenteeism, increased productivity, increased workplace safety, and lower long-term healthcare costs. Research has shown that employees in recovery miss five fewer days annually than those with an untreated SUD, saving a company anywhere from $3,200 to $8,400 per year per employee. Businesses in the program report that while they have focused on removing the stigma around substance abuse and recovery and supporting their employees in recovery through open conversations and allowing for time to attend necessary appointments, one unexpected result was that it has drawn in more candidates for jobs, and not just people in recovery (Pearson, 2021).

Indiana Workforce Recovery

The Indiana Workforce Recovery Employer Guidelines were initiated by its governor in 2018. The program offers the proper steps employers should follow if an employee or job applicant fails a drug screening or voluntarily comes forward for assistance. The guideline's purpose is to support employers and employees in navigating substance use prevention, treatment, and recovery in the workplace and to enable employers to hire and retain individuals in need of help. This was

imperative as 35% of employers did not have a basic written drug/alcohol misuse policy, and only 45% had a plan for directing employees to assist with drug and/or alcohol problems. The guidelines provide steps for businesses that want to do something but don't know where to start. They now have a system they can implement to refer the individual to treatment and still retain them as an employee. Businesses are an integral part of a community and may be the first opportunity for a person's substance use to be discovered and the person to be offered support in treatment. The impact employee substance use had on Indiana businesses included absenteeism (48%), decreased productivity (37%), shortage of workers (26%), accidents (15%), increased health insurance costs (15%), and theft (12%). The most common consequences for employees with substance misuse were family discord (28%) and arrest (23%). The program supports employers with resources to connect employees to treatment for substance misuse and to support their recovery and return to work (IN.gov, 2019).

Conclusion

Harm reduction recognizes that people will continue to use substances, and the best way to minimize the harm associated with substance use is to provide education, support, and resources. Such support is intended to help people use substances safely and reduce the negative consequences of substance use. Harm reduction aims to keep people who use drugs alive and as healthy as possible by preventing overdoses and transmission of infectious diseases, improving the physical, mental, and social well-being of those who use drugs, and offering options for accessing substance use disorder treatment and other health care services.

Substance use is a complex issue that has a continuum of behaviors, and therefore, harm reduction programs require a multi-faceted response that is dependent on what the individual's needs are and what community supports are available. Harm reduction research continues to show positive results in reducing

the frequency of use, preventing overdoses, improving community safety, and even having economic benefits.

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Appendix A: Glossary of Abbreviations

ACE: Adverse Childhood Experiences

CBT: Cognitive Behavioral Therapy

FTS: Fentanyl Test Strips

HCV: Hepatitis C Virus

HIV: Human Immunodeficiency Virus

HR: Harm Reduction

NIDA: National Institute on Drug Abuse

NIH: National Institutes of Health

PWID: People Who Inject Drugs

PWUD: People Who Use Drugs

SAMHSA: Substance Abuse and Mental Health Services Administration

SUD: Substance Use Disorder

MAT: Medication-Assisted Treatment

MOUD: Medications for Opioid Use Disorder

OPS: Overdose Preventin Site

PDMP: Prescription Drug Monitoring Program