

Harm Reduction Strategies to Improve Safety for People Who Use Substances

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Introduction

The non-medical use of prescription opioids and benzodiazepines, as well as the use of illegal substances such as cocaine and fentanyl, poses immediate and long-term risks to individuals and the community at large. In 2023, 48.5 million people (17.1% of the population) were estimated to have a substance use disorder (SUD), which is defined as a pattern of behaviors in which patients continue to use a substance despite experiencing significant problems related to its use.^{1,2} This prevalence rate is a 17% increase since the data was first collected in 2020.³ People who use substances (PWUS) may be at acute risk of harm, such as death from overdose or contracting an injection-related infection. Overdose deaths have increased dramatically in the past decade, to over 100,000 deaths in 2023, in large part due to the rise of synthetic opioids such as fentanyl.⁴ People who inject drugs can be at risk for injection site infections that can lead to bacteremia and other life-threatening issues. Those who share injection equipment are also at risk of HIV and hepatitis C virus (HCV) transmission.⁵ Beyond these acute threats, long-term substance use can lead to the development of SUD and severe physical health issues, such as organ damage with some substances, and can contribute to mental health disorders that often compound problems associated with substance use. Socially and economically, PWUS face stigma and marginalization, which further exacerbate their struggles and limit their access to essential services.

Treating SUD is a complex task. Some individuals with substance use disorder are reluctant to seek help or engage in treatment, partly due to the stigma associated with substance use and partly because treatment approaches historically have focused solely on achieving total abstinence. This one-size-fits-all approach can be alienating, especially for individuals who are not ready or able to commit to complete abstinence. As a result, only around one-in-10 people with a substance use disorder have received treatment,⁶ and many continue to use substances without engaging in any health supports, missing opportunities for intervention that could mitigate harm.

Harm reduction offers a promising, evidence-based alternative to address these challenges. Unlike methods that focus solely on achieving total abstinence, harm reduction strategies prioritize the health and well-being of individuals, even if they continue to use substances. By addressing the immediate risks and reducing the long-term harms associated with substance use, harm reduction provides practical solutions that meet people where they are, helping to protect their health and dignity while offering a path toward improved health and well-being.

Overview of Harm Reduction

Respect for individuals' autonomy, with a focus on engagement, collaboration, and empowerment, is central to the harm reduction philosophy. It acknowledges that people choose for various reasons to engage in activities that may cause harm. Instead of taking away their deciding power and forcing them to abstain from the activity, harm reduction focuses on providing people with information and tools to reduce the risks posed by the activity as much as possible. In this sense, efforts like seatbelts, bike helmets, and speed limits are examples of harm reduction strategies because they reduce the risks of driving or riding a bike without attempting to force people to abstain from those activities. In relation to PWUS, harm reduction recognizes that complete abstinence from substances may not be a realistic or immediate goal for everyone and acknowledges that there are many ways to reduce the risks associated with substance use.

With a non-judgmental and non-stigmatizing approach, harm reduction strategies provide essential services to people who use substances. The services often include access to naloxone for overdose prevention, screening and treatment for injection-related infections, drug-checking services, and in some places, syringe service programs (SSPs) and safe consumption spaces (also known as overdose prevention sites). Harm reduction services may also link people to a variety of social and health-related resources, including peer support programs, medications for opioid use disorder, mental health treatment, and substance use disorder treatment programs.

Harm reduction programs have not been associated with negative outcomes for individuals, communities, or other substance use programs. For example, studies show that SSPs increase the percentage of people entering treatment⁷ and do not increase crime in areas where they are located.^{8,9} Harm reduction is a practical, compassionate approach that provides crucial support for reducing public health risks associated with substance use.

Harm Reduction Strategies and Evidence

A range of tactics and approaches can be characterized as harm reduction strategies. For example, harm reduction includes using non-stigmatizing and non-judgmental language when working with PWUS and utilizing principles of trauma-informed care and motivational interviewing to overcome the stigma commonly felt by PWUS in healthcare and society at large. These strategies are an overarching principle of harm reduction that can be used in all settings, all the time, when dealing with PWUS, and are mainly implemented through staff training. Harm reduction also includes specific strategies, such as syringe service programs to reduce injection-related infections. These harm reduction strategies are easier to isolate and study for effectiveness and are more likely to be setting-specific. Several of these strategies are backed by strong evidence of their effectiveness, while some are newer and need more study to show their

efficacy. This section will review the use of harm reduction strategies in various healthcare settings and their evidence for effectiveness.

Many harm reduction services take place in community settings, through mobile outreach and brick-and-mortar locations that can reach PWUS more readily. One evidence-based intervention is the distribution of naloxone, a medication that can rapidly reverse an opioid overdose, as well as training PWUS and others on its use. Increasing access to naloxone and effective distribution and training programs have been shown to significantly reduce mortality rates from overdoses.^{10,11} Another harm reduction strategy in the community setting is the implementation of SSPs. To reduce the risk of developing infections such as HIV and HCV from shared equipment, these programs provide sterile needles and other injection equipment to people who inject drugs. Several systematic reviews have shown that SSPs are effective at reducing HIV transmission and HCV prevalence in people who inject drugs by as much as half.^{12,13}

Increasingly, harm reduction programs also offer medications for opioid use disorder (MOUD) through referral, telemedicine, or healthcare delivery on-site. MOUD involves the use of medications such as methadone, buprenorphine, or naltrexone for the treatment of opioid use disorder. Buprenorphine and methadone have been shown to reduce overdose mortality by up to half¹⁴ and also significantly improve a patient's chances of remaining in treatment compared to non-medication treatment (counseling alone).^{15,16} For people with a goal of reducing or abstaining from non-prescribed opioid use, MOUD is an extremely helpful tool to reduce the risk of harm, such as infection, among people who inject drugs or overdose.

Drug-checking is a newer harm reduction intervention that emerged in response to rising overdose rates from contaminated or adulterated drugs. This strategy can involve distribution of test strips that allow PWUS to test for specific substances. For example, someone can use a fentanyl test strip to determine whether their substance contains fentanyl. More comprehensive drug-checking programs are also being implemented across the country that allow individuals to bring in a small amount of a substance for more comprehensive testing with sophisticated technology and technicians to interpret the results.^{17,18}

Research on the effectiveness of drug-checking on health outcomes is underway. However, the test strips are inexpensive, early studies show the tests are accurate,¹⁹ and PWUS have a very favorable opinion of them,^{20,21} which has promoted significant uptake among harm reduction programs across the country.

Although many harm reduction services are delivered in the community, outpatient and inpatient settings represent other important opportunities to use these strategies. Regardless of the healthcare setting, it is critical to train all staff who interact with PWUS in harm reduction principles to reduce stigma and ensure that PWUS feel comfortable seeking care and stay engaged in healthcare services. Outpatient settings, such as primary care, present a valuable opportunity to identify risky substance use early and utilize long-standing relationships to guide patients to improved overall well-being, including but not limited to their substance use. Specific strategies can include screening for substance use disorders (SUD) in all patients, educating PWUS on safer drug use practices, and providing referrals to harm reduction services and evidence-based treatment services, if desired.²²

The inpatient setting is a critical place to have harm reduction strategies in place to keep PWUS in care and support them through the acute health crisis for which they were admitted. Specific strategies include managing pain and withdrawal symptoms during the hospitalization, offering medications for addiction

treatment during the patient's stay, and ensuring that naloxone is available at the bedside. Developing a tailored discharge plan that connects patients to community-based harm reduction services and other supports is also critical to ensuring the health and well-being of PWUS. Utilizing a comprehensive approach to harm reduction across all settings will ensure that PWUS receive consistent, judgment-free healthcare, regardless of where they are in their journey toward improved health, which will improve trust in their providers and improve health outcomes overall.

Research and Policy Next Steps

As the field of harm reduction continues to evolve, there are several key areas where research and policy development can have a significant impact. One important avenue for future research is evaluating the effectiveness of drug-checking services on health outcomes and of overdose prevention sites (safe consumption spaces) in reducing overdose and other substance-related harms in the US. Another is more study into how harm reduction strategies can be tailored to specific sub-populations in need, as well as testing the most effective methods to reach these populations. Finally, research into the impact of social determinants of health, such as housing and food security, on substance use outcomes will also help tailor harm reduction strategies to address the complex needs of PWUS.

Recent policy changes have shown a positive shift toward increasing access to life-saving interventions and integrating harm reduction into broader public health strategies. Notably, the availability of naloxone has expanded, with the FDA and statewide policies loosening restrictions.²³ SSPs have also increased, although barriers remain in some states where syringes are still classified as drug paraphernalia, preventing the establishment of sanctioned SSPs.²⁴ On the federal level, significant policy changes include the removal of the waiver requirement for prescribing buprenorphine, a medication for opioid use disorder, and the loosening of restrictions on methadone take-home doses and mobile units, which have broadened access to treatment.^{25,26} Additionally, the Substance Abuse and Mental Health Services Administration (SAMHSA) released a harm reduction framework with substantial stakeholder engagement,⁶ and the Office of National Drug Control Policy, under Dr. Rahul Gupta, has openly supported harm reduction as part of a comprehensive strategy to address substance use disorders.²⁷ Moving forward, harm reduction advocates hope there is a shift away from punitive policies that criminalize substance use and toward approaches that emphasize social services and reduce stigma by recognizing substance use disorder as a chronic health condition rather than a criminal issue.

Conclusion

Harm reduction represents a compassionate and pragmatic approach to addressing the complex challenges associated with substance use. By prioritizing the health, safety, and dignity of people who use substances, these strategies acknowledge the realities of substance use and use disorders and offer practical solutions that reduce immediate risks and promote long-term well-being. The evidence suggests that these interventions can significantly decrease overdose deaths,^{10,11} reduce the transmission of infections,^{12,13} and improve engagement in treatment.⁷ As research continues to explore new harm reduction interventions and their impact, and as policies evolve to expand access to these services, there is

a growing opportunity to further integrate harm reduction into healthcare systems. This approach not only addresses the immediate needs of people who use substances but also contributes to broader public health goals and the creation of a more inclusive, supportive healthcare environment.

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