

Exploring the harm reduction paradigm: the role of Board-Certified Psychiatric Pharmacists

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How to cite: Douglass AR, Maister A, Moeller KE, Salwan A, Vallabh A, Waters K, et al. Exploring the harm reduction paradigm: the role of Board-Certified Psychiatric Pharmacists. Ment Health Clin [internet]. 2024;14(4):253-66. DOI: 10.9740/mhc.2024.08.253.

Submitted for Publication: December 11, 2023; Accepted for Publication: May 7, 2024

Abstract

Deaths related to opioid overdoses continue to climb, and there remains a need for innovative strategies to address this ongoing crisis. Harm reduction (HR), a nonjudgmental philosophy aimed at reducing consequences associated with drug use and other potentially unsafe behavior, has emerged as a compassionate and effective approach. Harm reduction further emphasizes overdose prevention and fosters a shift in perspective that recognizes substance use disorder as a disease and not a moral failing. The tenets of HR collectively advocate for the well-being of individuals who use substances and support any positive change as defined by the individual. Given the high rate of morbidity and mortality associated with substance misuse and barriers or ambivalence to receiving treatment, awareness of and advocacy for HR practice is essential. This manuscript aims to describe evidence-based HR interventions, provide a foundation for the implementation of services, and further promote the importance of providing humanistic care without judgment. As valued members of the multidisciplinary treatment team, Board-Certified Psychiatric Pharmacists should implement and engage in HR services in the settings where people with substance use disorders receive care.

Keywords: harm reduction, substance use disorders, psychiatric pharmacists

Disclosures: The authors have no conflicts of interest to disclose.

Background

Substance use disorders (SUDs) are chronic disorders characterized by continued drug seeking and use despite negative consequences.¹ The cyclic nature of addiction, a neurochemical disorder, stems from initial hyperactivation followed by hypoactivation of the dopamine reward system.² Over time, continued use of a substance leads to the development of tolerance or the need for more substance to produce the desired effect. In the absence of the substance of choice, people who use drugs (PWUD) may develop uncomfortable and potentially dangerous withdrawal symptoms that often lead to a return to use. As the SUD progresses and increases in severity, the ability to experience pleasure without the substance declines and may result in the development of anhedonia,^{3,4} a lack of



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pleasure in activities that were previously enjoyed. Chronic substance use changes the brain, demonstrating that addiction is a medical disorder rather than moral ineptitude.^{5,6} In 2022, the Substance Abuse and Mental Health Services Administration (SAMHSA) estimated that over 48 million Americans over the age of 12 years met the criteria for a SUD, yet only 14.9% received treatment.⁷

Deaths related to SUDs continue to rise. Provisional data from the Centers for Disease Control and Prevention (CDC) indicate that more than 109 000 people died from a drug-related overdose in 2022, with around 80 000 involving opioids.8 Currently, synthetic opioids, such as fentanyl and its analogs, are driving the increased rate. The number of deaths related to fentanyl has surged nearly 7.5 times, escalating from 9580 deaths in 2015 to nearly 71 000 in 2021.9 The lethality of fentanyl is exacerbated by the presence of the veterinary tranquilizer xylazine, known as "trang," an adulterant in the fentanyl supply. Overdose deaths involving xylazine in the United States (US) have been increasing in recent years, escalating from 102 in 2018 to 3468 in 2021. 10 Along with the risk of overdose, people with SUDs are at an increased risk for developing cardiovascular disease, co-occurring psychiatric disorders, infectious diseases, and poor overall well-being, all of which may fuel the cycle of use. 11

To significantly reduce mortality and adverse consequences linked to substance misuse, both clinicians and public health officials advocate for the adoption of a proactive harm reduction (HR) approach. 12,13 The White House Office of National Drug Control Policy advocates for HR, which is considered 1 of the 4 strategic priorities of the US Department of Health and Human Services Overdose Prevention Strategy. 14 Additionally, the American Association of Psychiatric Pharmacists endorses the adoption of a proactive HR approach. As vital members of the treatment team for patients with SUDs, Board-Certified Psychiatric Pharmacists (BCPPs) have demonstrated their ability to provide opioid use disorder treatment.15 They are also well-suited to educate patients and the treatment team on HR principles and implement HR practices to reduce the risk of death. A harm reduction attitude acknowledges that abstinence is not always the ultimate goal and focuses instead on improving the well-being of people who use substances. 16 The goals of this manuscript were to further contextualize HR practice in substance use treatment, provide guidance on implementing evidence-based HR strategies, and outline how psychiatric pharmacists can take an active role in applying HR principles and practices when treating patients with SUDs. The aim was to provide a nonprescriptive framework for HR adoption to foster implementation and innovation across various BCPP practice settings.

Emerging Paradigm

Harm reduction is an overarching philosophy and approach to reducing adverse individual and societal consequences of potentially unsafe behaviors, including ongoing substance use. SAMHSA recently released a draft Harm Reduction Framework publication, which defines HR "as a practical and transformative approach that incorporates community-driven public health strategies - including prevention, risk reduction, and health promotion - to empower PWUD and their families with the choice to live healthy, self-directed, and purpose-filled lives. Harm reduction centers the lived and living experience of PWUD, especially those in underserved communities, in these strategies and the practices that flow from them." The roots of HR go back at least several centuries, yet the HIV epidemic in the 1980s catalyzed the adoption of HR as a public health approach to drug policy on an international level. ^{17,18} Six principles that capture the essence of HR have been identified for use in healthcare as follows: humanism, pragmatism, individualism, autonomy, incrementalism, and accountability without termination.¹⁹ While supporting abstinence, HR transcends the narrow limitations of a zero-tolerance approach to substance use treatment by offering a spectrum of options. In other words, HR embraces meeting patients "where they are at" to get them to where they want to be. Harm reduction thereby recognizes the individual's needs and strengths and celebrates any steps toward positive change (individualism, incrementalism). It recognizes SUDs as chronic diseases with the patient being the agent of change; abstinence may not be a desired goal for an individual at a certain time, yet making drug use safer can be (autonomy, pragmatism). Harm reduction dismisses the notion of drug use and return to use as a moral failing, offers continued engagement in care, methods to increase safety, and access to services despite ongoing use simply as it is, a human right (humanism, accountability without termination). Harm reduction and SUD treatment sit on a continuum of care with bidirectional movement typical of chronic diseases and can be used in concert. These principles overlap with shared decision-making and person-centered care, which are best practices in managing chronic medical illnesses.²⁰

The SUD treatment approach should mirror how chronic medical illnesses are managed. For example, the American Diabetes Association guidelines for adults with diabetes discuss the importance of working with a patient to develop healthy eating patterns and individualize meal plans based on needs and preferences.²⁰ It is not expected that simple or added sugars will be completely eliminated from the diet in a patient with type II diabetes to see a reduction in A1c, and patients will not be discharged from treatment if readiness for change to improve blood sugars is low. Further, although a reduction in the Patient Health Questionnaire (PHQ-9) or Generalized Anxiety Disorder Assessment (GAD-7) rating scale serves as a marker for improvement in depression and anxiety, it is recognized that remission cannot always be achieved. Recognizing that such an outcome is unattainable

for many, a reduction in symptoms while working with the patient in a whole-health framework can lead to desirable outcomes for the individual and society, such as increased quality of life and decreased risk of hospitalization and death by suicide.

Harm reduction is viewed negatively by opponents, including healthcare professionals, because of stigma and social injustices when applied to the already disenfranchised group of PWUD. However, when applied to any other disease state or aspect of life, HR is considered a standard of practice or a necessary safety measure. Fire extinguishers, helmets, seatbelts, and sunscreen are a few HR practices integrated into daily lives. In fact, the criminal justice system punishes those who do not use seatbelts but may criminalize HR methods (see "Regulatory Status" in Table 1) aimed at increasing the safety of PWUD, such as fentanyl test strips or overdose prevention centers.

Harm reduction continues to face controversy, with opponents believing the framework enables or condones drug use despite published data refuting this and demonstrating positive medical outcomes.^{21–23} Results from a study comparing outcomes between treatment-engaged and nontreatment-engaged PWUD in a syringe exchange program found reductions in percent days of heroin and cocaine use in both groups over 4 months, with larger reductions in the treatment group.²¹ This not only demonstrates that HR does not increase drug use, but can decrease it, even when a patient is not ready for treatment. In a study of nontreated individuals actively injecting opioids, a personalized overdose education and naloxone distribution (OEND) intervention resulted in substantial reductions in selfreported opioid use and overdose risk factors over 12 months. The reports included a 70.5% decrease in opioid dose escalations, a 27.2% decrease in injection use, a 15.5% decrease in concurrent benzodiazepine use, a 15.9% decrease in concurrent alcohol use, and an 18% decline in same use patterns postabstinence.²³ In addition, 65% of participants reported naloxone use on either themselves or another person. Thus, incorporating HR into practice is critical to reducing morbidity and mortality. It is imperative we acknowledge biases and turn toward the evidence to do what we set out to do as healthcare professionals: help save lives.

Harm Reduction Strategies

The current HR landscape in the US includes a myriad of strategies to ameliorate drug-related harm. One widely accepted and used practice is the distribution of naloxone to reduce opioid overdose-related deaths. The rise of the opioid epidemic from prescription opioids in the 1990s to heroin in 2010 and synthetic opioids, namely illicitly manufactured fentanyl, in 2013, has led to one of the largest

public health responses with the establishment and expansion of OEND programs across the country.²⁴ The major elements of OEND programs are educating individuals and their support systems on preventing and identifying opioid overdoses, responding to an overdose by contacting emergency medical services and administering naloxone, and providing rescue breathing/cardiopulmonary resuscitation. A systematic review of community OEND programs in the US, Canada, and Europe found that most programs experienced a 100% survival rate after naloxone was administered.²⁵ Most OEND programs reviewed were offered in syringe services programs (SSPs) and SUD treatment settings with others in HIV education centers, prisons, pain management clinics, primary care clinics, by paramedics, and through mobile SUD services. This not only demonstrates the effectiveness of naloxone in saving lives but also supports the wide implementation of this critical public health approach. In 2023, through a unanimous decision, the FDA approved over-the-counter status of naloxone (3 and 4 mg) by priority review, conveying the message: Everyone needs access to naloxone, and they need it now. 26,27 Detailed information on additional HR strategies, such as SSPs, drug test strips, and infectious disease prevention, may be found in Table 1. Local health departments have been instrumental in expanding access to HR interventions, and any of the strategies discussed here could benefit from coordination with these agencies.

Core Elements of a Harm Reduction **Program**

There are multiple reports published on HR measures; however, there is a paucity of formal guidance describing the implementation of HR programs. The recently released draft of the Harm Reduction Framework from SAMHSA is historic and takes an important step in describing best practices and principles in HR.¹⁴ Additionally, the importance of pharmacist involvement has been described by Kosobuski et al¹⁰³:

"Pharmacists can continue to promote harm reduction practices such as naloxone and sterile syringe provision to prevent community overdoses in general. Additional structured training, resources, and organizational support would increase confidence level and provision of pharmacy services."

While pharmacists in all applicable settings should be encouraged to engage in HR, BCPPs are well-positioned to lead this charge with their training in treating SUDs. Furthermore, the core elements of an HR program align closely with those of a psychotropic stewardship program (PSP).¹⁰⁴ PSPs prioritize optimizing psychiatric pharmacotherapy and monitoring, including SUDs, and place the patient at the center of the team. Following PSP guidance, the core

TABLE 1: Harm reduction strategies and implications for pharmacists

Harm Reduction Strategy	Description and Relevance	Impacts	Regulatory Status	Pharmacist Role
Contraception ^{28–33}	Contraception can help reduce the rate of unintended pregnancies and subsequent negative outcomes (eg, congenital defects, loss of child custody). Only approximately half of patients with OUD report using contraception and most were not using a preferred method. PWUD have up to a 70% increased risk for unintended pregnancies.	A significant increase in proportion of patients using contraception after free mobile contraceptive services and a high acceptability and demand for contraception has been demonstrated for PWUD.	Over half of states in the US, allow for pharmacists to prescribe contraception based on state regulations or CPA. A new OTC birth control pill was FDA approved in 2023.	Prescribe contraceptives Administer long-acting injectable contraceptives Provide condoms Provide education on contraceptive methods and emergency contraception If pregnancy occurs: Promote appropriate prenatal care Assist with postpartum contraception planning Administer recommended vaccines
Drug test strips ^{34–43}	Rapid test strips are commercially available to detect the presence of substances such as fentanyl, fentanyl analogues/metabolites, and xylazine in urine. These test strips, used off-label by dissolving a small amount of drug residue in water, help detect adulterants in the drug supply before consumption to reduce the risk of overdose.	High willingness to use FTS in PWUD, which has led to safer overdose risk behaviors, including reducing drug amounts, using more cautiously, and using in the presence of other individuals.	Test strips are illegal in some states due to drug paraphernalia laws. In states where test strips are legal, they can sometimes only be obtained directly from an SSP or HR program.	Provide education to PWUD and healthcare professionals about correct use of drug test strips. Distribution of tests strips is likely one component of an HR program.
Immunizations ^{44–50}	The CDC recommends all PWID receive vaccines for HAV, HBV, tetanus, and other routine vaccinations (eg, influenza, pneumococcal). HAV vaccine is also recommended in PWUD due to concern of transmission through poor sanitary conditions.	Vaccinations reduce the risk of contracting the virus/infection. The HAV vaccine is highly effective, providing 95% protection with 1 dose and nearly 100% protection with 2 doses. Completion of the HBV vaccine series offers about 90% protection. A study in PWID who completed the HBV series, revealed none tested positive for HBV over a 15-year period.	Pharmacists can administer vaccines in all states in accordance with state laws, which may vary in terms of age requirements and specific allowable vaccines.	Promote, advocate, screen, and administer vaccinations to PWUD. Increase vaccination rates.
Infectious disease screening and treatment ⁵¹⁻⁶²	Infectious disease screening is part of routine preventative care in PWUD to reduce the spread of blood-borne and STIs. Screening for HIV, HCV, TB, and STIs (gonorrhea, chlamydia, syphilis) are recommended at HR sites and during healthcare visits. People who test positive for infections should be offered treatment to further reduce the risk of disease transmission.	Testing allows PWUD to detect infections and may lead to reduced transmission and facilitate access to treatment.	POCTs are CLIA-exempt and can be used in nonclinical settings. Reporting requirements may vary by state. In some states pharmacists can conduct tests and prescribe medication based on test results.	wound care, and recommend testing for PWUD. Assist in treatment selection, monitoring and follow-up care.

TABLE 1: Harm reduction strategies and implications for pharmacists (continued)

Harm Reduction Strategy	Description and Relevance	Impacts	Regulatory Status	Pharmacist Role
Naloxone ^{27,63,64}	Naloxone is an opioid reversal agent and is available in intranasal and intramuscular form for use in the community. Education around and distribution of naloxone began in 1996 and is one of the first HR strategies.	Naloxone has demonstrated the ability to reduce opioid overdose deaths. Communities where pharmacists could prescribe and dispense naloxone (before available OTC) had fewer opioid overdose deaths.*	Legal in all states; can be prescribed and intranasal naloxone (3 and 4 mg) approved as OTC in 2023.	Dispense naloxone Prescribe naloxone (based on clinic setting or CPA) Provide education to PWUD, family members, and community members how and when to safely administer naloxone Expand community access to naloxone
Overdose prevention centers (OPCs) ⁶⁵⁻⁷¹	Safe, nonjudgmental setting where people can consume preobtained drugs (also called safe use sites). Staff can immediately intervene if an overdose occurs. Centers may provide services including other HR services, housing, food, medical services, or SUD treatment. Different models exist such as women-only, mobile outreach, and stand-alone centers.	Decrease in: Overdose deaths, substance use-related harms, all-cause mortality among PWUD, public drug consumption, littering of drug consumption equipment, and crime in surrounding neighborhoods. Increase in: Treatment engagement. No increase in: Drug trafficking, initiation of substance use among people who did not previously use drugs, resumed use among people in recovery. Additionally, no reported overdose death at an OPC.	Illegal under US federal law; however, 2 OPCs opened in New York City in 2021. There are approximately 200 OPCs currently in operation in 14 countries.	Provide education on safe injection techniques, naloxone/overdose education, test strips, syringe services and access to care
Peer Support ^{72,73}	One prominent nonpharmacologic model is the inclusion of people with lived experience such as peer recovery coaches or patient navigators. This may include strategies such as assertive outreach following an opioid overdose and contingency management.	This model has been used effectively for retaining people with HIV in treatment. Its use in OUD may motivate participants to enter into a treatment program, remain involved in a treatment program, and decrease return to use.	Available in all states	Assist in connecting individuals with a peer counselor or other program Advocate for the utilization of both pharmacologic and non- pharmacologic treatment options when appropriate
Pre-exposure prophylaxis (PrEP)/Post-exposure prophylaxis (PEP) ^{74–85}		Both oral and injectable PrEP decrease the risk of acquiring HIV from sexual activity by almost 99% when taken as prescribed. Effectiveness in PWID is approximately 74% when taken as prescribed. There are limited studies of PEP in PWID.	Pharmacists' ability to prescribe PrEP/PEP is limited by scope of practice laws and CPA in specific states. Standing orders or state-wide protocol allows pharmacists in approximately ten states to prescribe PrEP/ PEP.	Assess patients for eligibility for PrEP treatment Conduct PrEP education Prescribe PrEP Monitor adherence Set up laboratory testing including POCT and mail-in testing

TABLE 1: Harm reduction strategies and implications for pharmacists (continued)

Harm Reduction Strategy	Description and Relevance	Impacts	Regulatory Status	Pharmacist Role
Safer supply ^{86–92}	PWUD are provided with a prescription for pharmaceutical-grade opioids with the goal of reducing the use of drugs adulterated with fentanyl or other substances to decrease overdose risk. Prescribed opioids may include diacetylmorphine, hydromorphone, or morphine. Dosing is more flexible than standard OAT. May include take-home supply or witnessed administrations. Other forms of safer supply include distribution of illegal drugs that have been tested and repackaged.	Since safer supply programs were implemented in British Columbia, there has been no increase in mortality from illicit drugs. Safer supply has resulted in a reduction in overdose risk within the previous 1 month and previous 6 months compared with the risk at intake (self-report). One safer supply program reported no overdoses or deaths at 1 year with 45% of PWUD in a program reporting no illicit opioid use at 1 year.	Not available in US per federal law. Available in several other countries, including Canada.	Same as OPCs Limited due to current regulations
Storage and disposal ^{93–95}	Safe storage and proper disposal of high-risk medications, including opioids, can reduce the risk to other household members. Disposal methods include take back sites or programs, permanent drop boxes, mail-back programs, or taking certain steps before disposing in the regular trash. Medication disposal kits can also deactivate and destroy drugs in pill, liquid, or patch form.	Cost, ease of access, and product design are the most important predictors of use of safe drug disposal. The number of drugs (by weight) collected at national take back days sponsored by the Drug Enforcement Administration has increased since they were started in 2010. One study based on vignettes found that take back programs offered at a pharmacy were the most preferred disposal option followed by at-home products dispensed with a prescription.	Drug take back events are available in all states.	Provide education about safe storage and disposal of prescription and illicit substances Provide and demonstrate use of drug deactivation pouches, sharps container, and/or home needle destruction devices Advocate for permanent drop boxes Host drug take back events
Syringe services program (SSP)	Provide access to sterile needles, syringes, and other injection supplies (eg, cotton	SSPs have led to significant decreases in risky injection	Over half of states in the US have legalized SSPs, but some states	Provide access to sterile needles/ syringes through non-prescription

 TABLE 1: Harm reduction strategies and implications for pharmacists (continued)

Harm Reduction				
Strategy	Description and Relevance	Impacts	Regulatory Status	Pharmacist Role
(Syringe access program, syringe exchange program, needle exchange program) ^{12,96–102}	balls, tourniquets, alcohol swabs) and assists with the safe disposal of used needles. These programs are mainly available at fixed sites, outreach programs (mobile units), or dispensing/vending machines. SSPs may offer comprehensive services including referrals to SUD, medical, and mental health services, screening, treatment, and education around infectious diseases, distribution of naloxone, wound care, and other educational resources.	behaviors, reduced HIV transmission rates, may lower risk of HCV transmission and have shown to increase access to SUD treatment.	consider syringes/needles as drug paraphernalia and are illegal, and other states have no clear policy allowing or disallowing SSPs. Similar laws apply with OTC syringe/needle sales in pharmacies and vary by state.	consider syringes/needles as drug sales as permitted by local paraphernalia and are illegal, and regulations. other states have no clear policy Implementation of SSP programs. allowing or disallowing SSPs. Educate, dispel myths and advocate Similar laws apply with OTC for SSPs in the community. syringe/needle sales in pharmacies and vary by state.

CDC = Centers for Disease Control and Prevention, CLIA = Clinical Laboratory Improvement Amendments of 1988; CPA = collaborative practice agreement; FTS = fentanyl test strips; HAV = hepatitis A virus; HR = harm reduction; OAT = opioid agonist therapy; OTC = over-the-counter; OUD = opioid use disorder; POCT = Point-of-care tests; PWID = people who inject drugs; RWO = people who use drugs; REMS = Risk Evaluation and Mitigation Strategy; STI = sexually transmitted infection; SUD = substance use disorder; TB = tuberculosis. Full inclusion of naloxone-related outcomes is beyond the scope of this paper elements of an HR program model the plan-do-study-act format (Figure).

Harm Reduction Team

The HR team should be centered around the patient and involve a multidisciplinary approach. Team members should include a BCPP, collaborating prescriber(s), peer support, and other interdisciplinary/ancillary support, such as social work, chaplain services, nursing, and technicians, to meaningfully engage patients and family members of PWUD. The BCPP is well-suited to serve as the team lead; however, another interdisciplinary team member with appropriate training may also fit this role. It is imperative to include peer support or those with lived/living experience and community resources to facilitate program design and to offer unparalleled support to patients and their families. Team members must be committed to the HR paradigm, positioned for patient interaction, and highly communicative with other team members to adapt services based on patient goals.

Health-System Collaboration

Leadership and committee support for HR is essential. They are responsible for developing a vision and mission for the program, establishing goals, evaluating regulatory requirements, approving specific services, securing funding and resources, and establishing policies and procedures. Because of this important role, the HR team should initially focus on collaborating with health-system leadership. Tips for success to gain leadership support include 41,105,106:

- Identify a physician (or key stakeholder) champion to assist with justifying the need for new harm reduction services.
- Identify target interventions, starting with one service, and include potential funding sources.
- Funding will vary and may include grants or donated supplies from sources such as state or local health departments, other government agencies with a public health focus, community organizations, and schools or universities.

Strategic Program Review

A thorough audit should be completed before program development and routinely for program revision to offer services that are applicable to the health-system or site. A strategic program review will include using population health to stratify individuals who may benefit from the service, identifying outcomes, and analyzing results to make necessary changes. For example, observing trends, such as increasing hepatitis C virus infection rates or a number of opioid overdoses resulting in emergency department visits, may point to an opportunity to evaluate current practices

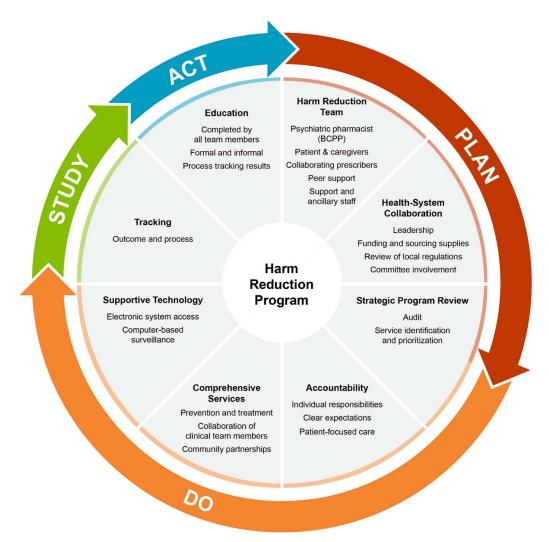


FIGURE: Core elements of a harm reduction program (adapted from Haight et al. Ment Health Clin 2023;13(2):36-48).

and assess where additional HR resources are needed.^{41,107} Consultation should be available from the HR team to other health-system members to assist with questions and accessibility of services.

Accountability

For an HR program to be successful, all team members should adhere to assigned tasks and deliverables to prioritize the key element of enhancing patient care. Responsibilities and expectations for each team member should be transparent, and the team leader(s) should cultivate accountability and follow-up.

Comprehensive Services

The use of various services will be essential to the rollout and growth of an HR program. For in-depth descriptions of services, including prevention and treatment approaches, see Table 1. As the program evolves, additional HR offerings may be added to better care for the whole patient and target best outcomes. Partnering with organizations in the community, such as local health departments, will further optimize care. It is critical team members be cognizant of abstinence-oriented community resources that may present barriers to patient participation in harm reduction interventions, such as 12-step and transitional housing programs, and continue to engage those patients in care. Participation in services for the patient is voluntary and self-directed and should have the lowest requirements for access. Strong collaboration and communication of clinical team members across disciplines will encourage seamless program functioning.

Supportive Technology

Electronic system access and computer-based surveillance should be used for optimal program implementation. These will aid in tracking supplies, identifying interventions, obtaining and analyzing data, and outcome reporting. Expansion of telehealth services, including mobile medication for opioid use disorder services, is highly encouraged to engage and retain people receiving care for SUDs. 14

Tracking

Continuous monitoring of the service should occur to ensure optimal functioning of the program. Monitoring the program will encompass several aspects and is not limited to the following: patients served, supply inventory, staffing requirements, evaluations of and updates to policies and procedures, and program outcomes. Key outcomes related to HR services, as outlined by the Core Outcome Set of Psychiatric Pharmacists, may include ¹⁰⁸:

- Optimized patient safety through surveillance
- Improved progress toward treatment goals
- Improved patient quality of life
- Improved patient medication access

Education

Training/in-services will be necessary to educate those directly and indirectly involved in the program and should encompass the emerging paradigm and 6 principles of HR. These may be informal conversations or more formal presentations regarding new policies and procedures for the service. This should also include system-wide messaging to alert all staff of the new HR service and encourage referrals when appropriate. Additional means of providing program education or information include posters, handouts, and electronic messaging to staff and patients where applicable. Leadership and team members should be briefed routinely regarding program outcomes and changes. Education is a key component during program startup, evaluation, and revision.

Psychiatric Pharmacist Involvement in Harm Reduction Education

Patient counseling and education is a well-known service provided by pharmacists, and it is important to further expand upon the impact a BCPP can have in the arena of provider education. Pharmacist-provided education, including HR initiatives, has been well described in the literature. Examples of pharmacists providing HR education to peers and other healthcare professionals occur in various settings, including health-systems and community pharmacies. 41,103,109,110

One well-defined role that psychiatric pharmacists may serve in to further the knowledge of colleagues in HR and management of SUDs is academic detailing. Academic detailing is a one-on-one educational approach with providers to address knowledge gaps and shape prescribing and outcomes within their own practices. ^{109,111} An analysis of academic detailing provided by clinical pharmacists targeting

TABLE 2: Nonstigmatizing language 113-118

Instead Of	Consider This
Addict	Person with a substance use disorder
User	Patient
Junkie	Person in active use
	People/Person who inject(s) drugs (PWID)
Habit	Substance use disorder (SUD)
Abuse	Use
	Misuse
	Used other than prescribed
Problem	Unhealthy, risky or heavy use
Relapse	Return to use
	Recurrence of use
Opioid Substitution Therapy	Medication for opioid use disorder (MOUD)
Medication-Assisted	Opioid agonist therapy (OAT)
Treatment (MAT)	Pharmacotherapy
Clean	Person in recovery
	Not currently or actively using drugs
	Testing negative (toxicology screen results)
Dirty	People/Person who use(s) drugs (PWUD)
	Testing positive (toxicology screen results)
	Unexpected test results

OEND demonstrated that providers exposed to academic detailing had significantly higher incidence rates of prescribing naloxone compared with those not exposed. Also, clinical pharmacist practitioners in the Department of Veterans Affairs recently delivered more than 25 national webinars throughout their organization, which focused on incorporating HR into healthcare, developing SSPs, and ending stigma.

Choosing the right words to describe SUDs and HR approaches can improve patient health outcomes and the likelihood that people will seek care. See Table 2 for examples of nonstigmatizing language. Psychiatric pharmacists should take an active role in using person-centered language and disseminating information on this topic.

Barriers

Potential barriers exist to developing and implementing a pharmacist-led HR program. One of the most notable challenges is the continued stigma associated with PWUD and SUDs, even among healthcare professionals, which is why health-system collaboration is a core element of an HR program. Harm reduction team members are likely passionate and motivated toward providing strategies for their patients; however, there may be differing opinions from health-system leaders in prioritizing these initiatives. Leadership buy-in is important for advancing new programs, which will require direct costs of procuring appropriate supplies and indirect

costs of work hours spent toward its expansion and away from existing obligations. Alternatively, health-system leadership may support HR strategies but be unable to provide funding for specific needs. Existing HR programs have outlined options to receive local, state, or grant funding; however, neither the specific monetary amount nor duration of availability are clearly stated. The ability to offer a comprehensive HR program or one that provides multiple strategies may also be limited by state or federal regulations. As described above in Table 1, certain approaches are not uniformly available in all states.

Most of these barriers can be overcome through program planning and education, as explained in greater depth in the American Association of Psychiatric Pharmacists Harm Reduction Toolkit. For example, stigma-reducing and sensitivity training can be offered for key stakeholders to not only demonstrate the importance of the provision of HR strategies, but also to show how the emerging paradigm in which person-centered care is being delivered. Standard operating procedures and policies can be written to ensure clear expectations, delegation of responsibilities, and compliance with legal regulations. Familiarity with available funding resources outside the health-system supporting such programming is also beneficial.

Conclusion

SUDs are medical conditions that remain prevalent in the US. With overdose-related deaths continuing to rise and the vast array of negative consequences associated with drug use, our communities and organizations need to adopt and expand HR approaches. Harm reduction embodies compassionate care and includes the goals of saving lives, reducing stigma and mistreatment, and improving outcomes and quality of life for people who use drugs. Harm reduction is person-centered, nonjudgmental, nonpunitive care that includes multiple strategies and minimizes barriers to accessing services. It is important to use a stepwise approach to creating and expanding services to ensure successful program development and optimal functioning. The plan-do-study-act method outlined in this paper should serve as an introductory guide and facilitate implementation or improvements to HR services that best fit the practice setting. Many challenges remain in the path of the HR movement; however, with increased education, advocacy, and persistence, BCPPs can increase the services available in our communities as trusted harm reductionists.

Acknowledgments

The authors thank the Board of Directors of the American Association of Psychiatric Pharmacists for their support of this project.

References

- American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 5th ed. The American Psychiatric Association; 2013.
- Solinas M, Belujon P, Fernagut PO, Jaber M, Thiriet N. Dopamine and addiction: what have we learned from 40 years of research. J Neural Transm. 2019;126(4):481–516. DOI: 10.1007/s00702-018-1957-2
- 3. Kennett J, Matthews S, Snoek A. Pleasure and addiction. Front Psychiatry. 2013;4:117. DOI: 10.3389/fpsyt.2013.00117
- 4. Stull SW, Bertz JW, Epstein DH, Bray BC, Lanza ST. Anhedonia and substance use disorders by type, severity, and with mental health disorders. J Addict Med. 2022;16(3):e150–6. DOI: 10. 1097/ADM.00000000000000891
- Volkow ND, Michaelides M, Baler R. The neuroscience of drug reward and addiction. Physiol Rev. 2019;99(4):2115–40. DOI: 10.1152/physrev.00014.2018
- Matthews S, Dwyer R, Snoek A. Stigma and self-stigma in addiction. J Bioethical Inq. 2017;14(2):275–86. DOI: 10.1007/s11673-017-9784-v
- 7. Substance Abuse and Mental Health Services Administration, editors. Key substance use and mental health indicators in the united states: results from the 2022 national survey on drug use and health [Internet]. Rockville: Substance Abuse and Mental Health Services Administration; 2023 [cited 2024 Mar 26]. Available from: https://www.samhsa.gov/data/sites/default/files/reports/rpt42731/2022-nsduh-nnr.pdf
- 8. Centers for Disease Control and Prevention. Provisional data shows US drug overdose deaths top 100,000 in 2022. 2023 May 18 [cited 2023 Oct 11]. In: NCHS: A Blog of the National Center for Health Statistics [Internet]. Washingon, DC: Centers for Disease Control and Prevention; [about 1 screen]. Available from: https://blogs.cdc.gov/nchs/2023/05/18/7365/
- National Institute on Drug Abuse [Internet]. Drug overdose death rates; [updated 2024 May 14; cited 2023 Oct 11]. Available from: https://nida.nih.gov/research-topics/trends-statistics/over dose-death-rates
- Spencer M, Cisewski J, Warner M, Garnett M. Drug overdose deaths involving xylazine, United States, 2018–2021. Vital Statistics Rapid Release [Internet]. 2023 Jun [2024 Mar 28]:[about 11 pp.]. Available from: https://stacks.cdc.gov/view/cdc/129519
- 11. Centers for Disease Control and Prevention [Internet]. HIV and people who inject drugs; [updated 2022 Jun 28; cited 2023 Aug 18]. Available from: https://www.cdc.gov/hiv/group/hiv-idu.html
- 12. Centers for Disease Control and Prevention [Internet]. Syringe services programs (SSPs) FAQs; [updated 2019 May 23; cited 2023 Dec 7]. Availabe from: https://www.cdc.gov/ssp/syringe-services-programs-faq.html
- Vearrier L. The value of harm reduction for injection drug use: a clinical and public health ethics analysis. Dis Mon. 2019;65(5):119–41. DOI: 10.1016/j.disamonth.2018.12.002
- 14. Substance Abuse and Mental Health Services Administration [Internet]. Harm reduction framework; [updated 2023 Apr 24; cited 2023 Dec 7]. Available from: https://www.samhsa.gov/find-help/harm-reduction/framework
- 15. Ly J, Peterson D, Geier M. Evaluating a novel pharmacist-led buprenorphine outreach service for treatment of opioid use disorder in individuals residing in supportive housing. J Am Coll Clin Pharm. 2024;7(2):115–22. DOI: 10.1002/jac5.1915
- Christie T, Groarke L, Sweet W. Virtue ethics as an alternative to deontological and consequential reasoning in the harm reduction debate. Int J Drug Policy. 2008;19(1):52–8. DOI: 10.1016/j. drugpo.2007.11.020

- 17. Ball AL. HIV, injecting drug use and harm reduction: a public health response. *Addiction*. 2007;102(5):684–90. DOI: 10.1111/j. 1360-0443.2007.01761.x
- Ramprashad A, Burnett GM, Welsh C. Harm reduction. Psychiatr Clin North Am. 2022;45(3):529–46. DOI: 10.1016/j.psc. 2022.04.005
- Hawk M, Coulter RWS, Egan JE, Fisk S, Friedman MR, Tula M, et al. Harm reduction principles for healthcare settings. Harm Reduct J. 2017;14(1):70. DOI: 10.1186/s12954-017-0196-4
- ElSayed NA, Aleppo G, Aroda VR, Bannuru RR, Brown FM, Bruemmer D, et al. Facilitating positive health behaviors and well-being to improve health outcomes: standards of care in diabetes. Diabetes Care. 2023;46(Supplement_1):S68-96. DOI: 10. 2337/dc23-S005
- 21. Kidorf M, King VL, Pierce J, Kolodner K, Brooner RK. Benefits of concurrent syringe exchange and substance abuse treatment participation. J Subst Abuse Treat. 2011;40(3):265–71. DOI: 10. 1016/j.jsat.2010.11.011
- Strathdee SA, Vlahov D. The effectiveness of needle exchange programs: a review of the science and policy. Al DScience. 2001;1(16):1–13. DOI: 10.1126/aidscience.ado3571
- 23. Winhusen T, Wilder C, Lyons MS, Theobald J, Kropp F, Lewis D. Evaluation of a personally-tailored opioid overdose prevention education and naloxone distribution intervention to promote harm reduction and treatment readiness in individuals actively using illicit opioids. Drug Alcohol Depend. 2020;216:108265. DOI: 10.1016/j.drugalcdep.2020.108265
- 24. Centers for Disease Control and Prevention [Internet]. Opioid data analysis and resources; [updated 2023 Aug 8; cited 2023 Dec 7]. Available from: https://www.cdc.gov/opioids/data/analysis-resources.html#:~:text=The%20first%20wave%20began%20with,increasing%20since%20at%20least%201999.&text=The%20second%20wave%20began%20in,in%20overdose%20deaths%20involving%20heroin
- Clark AK, Wilder CM, Winstanley EL. A systematic review of community opioid overdose prevention and naloxone distribution programs. J Addict Med. 2014;8(3):153–63. DOI: 10.1097/ ADM.00000000000000034
- U.S. Food & Drug Administration [Internet]. FDA approves first over-the-counter naloxone nasal spray; [updated 2023 Mar 29; cited 2023 Dec 7]. Available from: www.fda.gov/news-events/ press-announcements/fda-approves-first-over-counter-nalox one-nasal-spray
- U.S. Food & Drug Administration [Internet]. FDA approves second over-the-counter naloxone nasal spray product; [updated 2023 Jul 28; cited 2024 Mar 28]. Available from: https://www.fda.gov/news-events/press-announcements/fda-approves-second-over-counter-naloxone-nasal-spray-product
- Muzzy Williamson JD, DiPietro Mager N, Bright D, Cole JW. Opioid use disorder: calling pharmacists to action for better preconception and pregnancy care. Res Soc Adm Pharm. 2022;18(7):3199–203. DOI: 10.1016/j.sapharm.2021.08.004
- Hurley EA, Goggin K, Piña-Brugman K, Noel-MacDonnell JR, Allen A, Finocchario-Kessler S, et al. Contraception use among individuals with substance use disorder increases tenfold with patient-centered, mobile services: a quasi-experimental study. Harm Reduct J. 2023;20(1):28. DOI: 10.1186/s12954-023-00760-7
- Heil SH, Melbostad HS, Rey CN. Innovative approaches to reduce unintended pregnancy and improve access to contraception among women who use opioids. Prev Med. 2019;128:105794. DOI: 10.1016/j.ypmed.2019.105794
- Shafique S, Umer A, Innes KE, Rudisill TM, Fang W, Cottrell L. Preconception substance use and risk of unintended pregnancy: pregnancy risk assessment monitoring system 2016–17. J Addict Med. 2022;16(3):278–85. DOI: 10.1097/ADM.0000000000000886

- Terplan M, Hand DJ, Hutchinson M, Salisbury-Afshar E, Heil SH. Contraceptive use and method choice among women with opioid and other substance use disorders: a systematic review. Prev Med. 2015;80:23–31. DOI: 10.1016/j.ypmed.2015.04.008
- 33. U.S. Food & Drug Administration [Internet]. FDA approves first nonprescription daily oral contraceptive; [updated 2023 Jul 13; cited 2023 Dec 7]. Available from: https://www.fda.gov/news-events/press-announcements/fda-approves-first-nonprescription-daily-oral-contraceptive
- 34. Krieger MS, Goedel WC, Buxton JA, Lysyshyn M, Bernstein E, Sherman SG, et al. Use of rapid fentanyl test strips among young adults who use drugs. Int J Drug Policy. 2018;61:52–8. DOI: 10. 1016/j.drugpo.2018.09.009
- Goldman JE, Waye KM, Periera KA, Krieger MS, Yedinak JL, Marshall BDL. Perspectives on rapid fentanyl test strips as a harm reduction practice among young adults who use drugs: a qualitative study. Harm Reduct J. 2019;16(1):3. DOI: 10.1186/ s12954-018-0276-0
- Barrolle AA, Gable KN, Dell N. A pilot study assessing client understanding and use of fentanyl test strips for harm reduction. J Am Pharm Assoc. 2023;63(1):295–300. DOI: 10.1016/j.japh. 2022.09.018
- 37. Krieger MS, Yedinak JL, Buxton JA, Lysyshyn M, Bernstein E, Sherman SG, et al. High willingness to use rapid fentanyl test strips among young adults who use drugs. Harm Reduct J. 2018;15(1):7. DOI: 10.1186/s12954-018-0213-2
- Friedman J, Montero F, Bourgois P, Wahbi R, Dye D, Goodman-Meza D, et al. Xylazine spreads across the US: a growing component of the increasingly synthetic and polysubstance overdose crisis. Drug Alcohol Depend. 2022;233:109380. DOI: 10.1016/j.drugalcdep.2022.109380
- Reed MK, Imperato NS, Bowles JM, Salcedo VJ, Guth A, Rising KL. Perspectives of people in Philadelphia who use fentanyl/heroin adulterated with the animal tranquilizer xylazine; Making a case for xylazine test strips. Drug Alcohol Depend Rep. 2022;4:100074. DOI: 10.1016/j.dadr.2022.100074
- 40. Center for Forensic Science Research and Education [Internet]. Evaluation of xylazine test strips (BTNX) for drug checking purposes; c2024 [updated 2023 Mar 22; cited 2023 Dec 7]. Available from: https://www.cfsre.org/nps-discovery/drug-checking/evaluation-of-xylazine-test-strips-btnx-for-drug-checking-purposes
- Rife-Pennington T, Dinges E, Ho MQ. Implementing syringe services programs within the Veterans Health Administration: facility experiences and next steps. J Am Pharm Assoc. 2023;63(1):234–40. DOI: 10.1016/j.japh.2022.10.019
- 42. Tilhou AS, Zaborek J, Baltes A, Salisbury-Afshar E, Malicki J, Brown R. Differences in drug use behaviors that impact overdose risk among individuals who do and do not use fentanyl test strips for drug checking. Harm Reduct J. 2023;20(1):41. DOI: 10. 1186/s12954-023-00767-0
- 43. Legislative Analysis and Public Policy Association, editors. Drug paraphernalia: summary of state laws [Internet]. Washington, DC: Legislative Analysis and Public Policy Association; 2022. [cited 2023 Dec 7]. Available from: https://legislativeanalysis.org/wp-content/uploads/2022/04/Drug-Paraphernalia-Summary-of-State-Laws-FINAL.pdf
- Schillie S, Vellozzi C, Reingold A, Harris A, Haber P, Ward JW, et al. Prevention of hepatitis B virus infection in the United States: recommendations of the Advisory Committee on Immunization Practices. MMWR Recomm Rep. 2018;67(1):1–31. DOI: 10.15585/mmwr.rr6701a1
- Nelson NP, Weng MK, Hofmeister MG, Moore KL, Doshani M, Kamili S, et al. Prevention of hepatitis A virus infection in the United States: recommendations of the Advisory Committee on Immunization Practices, 2020. MMWR Recomm Rep. 2020;69(5):1–38. DOI: 10.15585/mmwr.rr6905a1

- 46. Lugoboni F, Migliozzi S, Mezzelani P, Pajusco B, Ceravolo R, Quaglio G. Progressive decrease of hepatitis B in a cohort of drug users followed over a period of 15 years: the impact of anti-HBV vaccination. Scand J Infect Dis. 2004;36(2):131. DOI: 10. 1080/00365540310018833
- 47. Le LM, Veettil SK, Donaldson D, Kategeaw W, Hutubessy R, Lambach P, et al. The impact of pharmacist involvement on immunization uptake and other outcomes: an updated systematic review and meta-analysis. J Am Pharm Assoc. 2022;62(5):1499–513.e16. DOI: 10.1016/j.japh.2022.06.008
- 48. Hyams KC. Risks of chronicity following acute hepatitis B virus infection: a review. Clin Infect Dis Off Publ Infect Dis Soc Am. 1995;20(4):992–1000. DOI: 10.1093/clinids/20.4.992
- Roberts H, Kruszon-Moran D, Ly KN, Hughes E, Iqbal K, Jiles RB, et al. Prevalence of chronic hepatitis B virus (HBV) infection in U.S. households: National Health and Nutrition Examination Survey (NHANES), 1988-2012. Hepatology. 2016;63(2):388-97. DOI: 10.1002/hep.28109
- 50. Foster MA, Haber P, Nelson NP. Hepatitis A [Internet]. Washington, DC: Centers for Disease Control and Prevention; 2021 [cited 2023 Oct 16]. Available from: https://www.cdc.gov/vaccines/pubs/pinkbook/hepa.html
- 51. NHBS Study Group. HIV infection, risk, prevention, and testing behaviors among persons who inject drugs. HIV Surveillance Special Report 24 [Internet]. Washington, DC: Centers for Disease Control and Prevention; 2020 [cited 2023 Dec 7]. Available from: https://www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-surveillance-special-report-number-24.pdf
- 52. National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, Division of Tuberculosis Elimination, editors. Latent tuberculosis infection: a guide for primary health care providers [Internet]. Washington, DC: Centers for Disease Control and Prevention; 2020 [cited 2023 Aug 28]. Available from: https://www.cdc.gov/tb/publications/ltbi/pdf/LTBIbooklet508.pdf
- Schillie S, Wester C, Osborne M, Wesolowski L, Ryerson AB.
 CDC Recommendations for hepatitis c screening among adults— United States, 2020. MMWR Recomm Rep. 2020;69(2):1–17.
 DOI: 10.15585/mmwr.rr6902a1
- 54. Workowski KA, Bachmann LH, Chan PA, Johnston CM, Muzny CA, Park I, et al. Sexually transmitted infections treatment guidelines, 2021. 2021;70(4). DOI: 10.15585/mmwr.rr7004a1
- 55. Centers for Disease Control and Prevention. Implementing HIV testing in nonclinical settings: a guide for HIV testing providers [Internet]. Washington, DC: Centers for Disease Control and Prevention; 2016 [cited 2023 Aug 28]. Available from: https://www.cdc.gov/hiv/pdf/testing/cdc_hiv_implementing_hiv_testing_in_nonclinical_settings.pdf
- 56. National Community Pharmacist Association [Internet]. Point-of-care testing (POCT); c2024 [cited 2023 Aug 28]. Available from: https://ncpa.org/point-care-testing-poct#:~:text=Require ments%20for%20POCT%20in%20pharmacies,certification)%2C %20or%20written%20protocols
- 57. Koren DE, Zuckerman A, Teply R, Nabulsi NA, Lee TA, Martin MT. Expanding hepatitis C virus care and cure: national experience using a clinical pharmacist–driven model. Open Forum Infect Dis. 2019;6(7):ofz316. DOI: 10.1093/ofid/ofz316
- Mikolas LA, Jacques K, Huq M, Krasner C, Mambourg SE. Utilizing clinical pharmacist specialist to manage hepatitis C virus patients on direct-acting antiviral therapy. J Pharm Pract. 2019;32(6):655–63. DOI: 10.1177/0897190018777345
- 59. Yang S, Britt RB, Hashem MG, Brown JN. Outcomes of pharmacy-led hepatitis C direct-acting antiviral utilization management at a Veterans Affairs Medical Center. J Manag Care Spec Pharm. 2017;23(3):364–9. DOI: 10.18553/jmcp.2017.23.3.364

- Kherghehpoush S, McKeirnan KC. The role of community pharmacies in the HIV and HCV care continuum. Explor Res Clin Soc Pharm. 2023;9:100215. DOI: 10.1016/j.rcsop.2022.100215
- Klepser DG, Klepser ME, Peters PJ, Hoover KW, Weidle PJ. Implementation and evaluation of a collaborative, pharmacy-based hepatitis C and HIV screening program. Prev Chronic Dis. 2022;19:220129. DOI: 10.5888/pcd19.220129
- Wood H, Gudka S. Pharmacist-led screening in sexually transmitted infections: current perspectives. Integr Pharm Res Pract. 2018;7:67–82. DOI: 10.2147/IPRP.S140426
- 63. Mueller SR, Walley AY, Calcaterra SL, Glanz JM, Binswanger IA. A review of opioid overdose prevention and naloxone prescribing: implications for translating community programming into clinical practice. Subst Abuse. 2015;36(2):240–53. DOI: 10. 1080/08897077.2015.1010032
- 64. Abouk R, Pacula RL, Powell D. Association between state laws facilitating pharmacy distribution of naloxone and risk of fatal overdose. JAMA Intern Med. 2019;179(6):805. DOI: 10.1001/jamainternmed.2019.0272
- Samuels EA, Bailer DA, Yolken A. Overdose prevention centers: an essential strategy to address the overdose crisis. JAMA Netw Open. 2022;5(7):e22222153. DOI: 10.1001/jamanetworkopen.2022. 22153
- 66. Institute for Clinical and Economic Review. Supervised injection facilities and other supervised consumption sites: effectiveness and value; final evidence report [Internet]. Boston: Institute for Clinical and Economic Review; 2021 [cited 2023 Dec 8]. Available from: https://icer.org/wp-content/uploads/2020/10/ICE R_SIF_Final-Evidence-Report_010821.pdf
- 67. British Columbia Centre on Substance Use. Supervised consumption services [Internet]. Vancouver: British Columbia Centre on Substance Use; 2017 [cited 2023 Nov 1]. Available from: https://www.bccsu.ca/wp-content/uploads/2017/07/BC-SCS-Operational-Guidance.pdf
- Powell M. Drug consumption rooms: saving lives, making communities safer [Internet]. Bristol: Transform Drug Policy Foundation; 2019 [cited 2023 Nov 1]. Available from: https://transformdrugs.org/assets/files/PDFs/drug-consumption-rooms-briefing-2019.pdf
- New York City Health. Overdose prevention centers: frequently asked questions [Internet]. New York: New York City Health; 2023 [cited 2023 Nov 1]. Available from: www.nyc.gov/assets/ doh/downloads/pdf/basas/overdose-prevention-centers-faq.pdf
- 70. Feldman N. In Philadelphia, judges rule against opening "supervised" site to inject opioids. 2021 Jan 14 [cited 2023 Nov 1]. In: NPR. Shots Health News [Internet]. Washington, DC: NPR: c2024; [about 5 screens]. Available from: https://www.npr.org/sections/health-shots/2021/01/14/956428659/in-philadelphia-judges-rule-against-opening-a-medical-site-to-safely-inject-hero
- 71. Harocopos A, Gibson BE, Saha N, McRae MT, See K, Rivera S, et al. First 2 months of operation at first publicly recognized overdose prevention centers in US. JAMA Netw Open. 2022;5(7):e22222149. DOI: 10.1001/jamanetworkopen.2022.22149
- Bolívar HA, Klemperer EM, Coleman SRM, DeSarno M, Skelly JM, Higgins ST. Contingency management for patients receiving medication for opioid use disorder: a systematic review and meta-analysis. JAMA Psychiatry. 2021;78(10):1092. DOI: 10. 1001/jamapsychiatry.2021.1969
- Jones CM, Houry D, Han B, Baldwin G, Vivolo-Kantor A, Compton WM. Methamphetamine use in the United States: epidemiological update and implications for prevention, treatment, and harm reduction. Ann N Y Acad Sci. 2022;1508(1):3–22. DOI: 10.1111/nyas.14688
- 74. Centers for Disease Control and Prevention, editors. US Public Health Service: Preexposure Prophylaxis for the Prevention of HIV Infection in the United States - 2021 Update, A Clinical

- Practice Guideline [Internet]. Washington, DC: Department of Health and Human Services; 2021 [cited 2023 Aug 7]. Available from: https://www.cdc.gov/hiv/pdf/risk/prep/cdc-hiv-prep-guidelines-2021.pdf
- Choopanya K, Martin M, Suntharasamai P, Sangkum U, Mock PA, Leethochawalit M, et al. Antiretroviral prophylaxis for HIV infection in injecting drug users in Bangkok, Thailand (the Bangkok Tenofovir Study): a randomised, double-blind, placebo-controlled phase 3 trial. Lancet. 2013;381(9883):2083–90. DOI:10.1016/S0140-6736(13)61127-7
- Martin M, Vanichseni S, Suntharasamai P, Sangkum U, Mock PA, Leethochawalit M, et al. The impact of adherence to preexposure prophylaxis on the risk of HIV infection among people who inject drugs. AIDS. 2015;29(7):819–24. DOI: 10.1097/QAD. 00000000000000613
- 77. Mayer KH, Molina JM, Thompson MA, Anderson PL, Mounzer KC, De Wet JJ, et al. Emtricitabine and tenofovir alafenamide vs emtricitabine and tenofovir disoproxil fumarate for HIV pre-exposure prophylaxis (DISCOVER): primary results from a randomised, double-blind, multicentre, active-controlled, phase 3, non-inferiority trial. Lancet. 2020;396(10246):239–54. DOI: 10.1016/S0140-6736(20)31065-5
- Landovitz RJ, Donnell D, Clement ME, Hanscom B, Cottle L, Coelho L, et al. Cabotegravir for HIV prevention in cisgender men and transgender women. N Engl J Med. 2021;385(7):595– 608. DOI: 10.1056/NEJMoa2101016
- Havens JP, Scarsi KK, Sayles H, Klepser DG, Swindells S, Bares SH. Acceptability and feasibility of a pharmacist-led human immunodeficiency virus pre-exposure prophylaxis program in the Midwestern United States. Open Forum Infect Dis. 2019;6 (10):ofz365. DOI: 10.1093/ofid/ofz365
- 80. Lopez MI, Cocohoba J, Cohen SE, Trainor N, Levy MM, Dong BJ. Implementation of pre-exposure prophylaxis at a community pharmacy through a collaborative practice agreement with San Francisco Department of Public Health. J Am Pharm Assoc. 2020;60(1):138–44. DOI: 10.1016/j.japh.2019.06.021
- 81. Hoth AB, Shafer C, Dillon DB, Mayer R, Walton G, Ohl ME. Iowa TelePrEP: a public-health-partnered telehealth model for human immunodeficiency virus preexposure prophylaxis delivery in a rural state. Sex Transm Dis. 2019;46(8):507–12. DOI: 10. 1097/OLQ.0000000000001017
- 82. Myers JE, Farhat D, Guzman A, Arya V. Pharmacists in HIV prevention: an untapped potential. Am J Public Health. 2019;109(6):859-61. DOI: 10.2105/AJPH.2019.305057
- 83. National Alliance of State Pharmacy Associations [Internet]. Pharmacist Prescribing: HIV PrEP and PEP; c2024 [updated 2022 Dec 9; cited 2023 Aug 7]. Available from: https://naspa.us/resource/pharmacist-prescribing-hiv-prep-and-pep/
- 84. Crawford ND, Myers S, Young H, Klepser D, Tung E. The role of pharmacies in the HIV prevention and care continuums: a systematic review. AIDS Behav. 2021;25(6):1819–28. DOI: 10.1007/s10461-020-03111-w
- 85. National Alliance of State and Territorial AIDS Directors, editors. Pharmacist-Initiated PrEP and PEP [Internet]. Washington, DC: NASTAD; 2021 [cited 2023 Nov 2]. Available from: https://nastad.org/sites/default/files/2021-11/PDF-Pharmacist-Initiated-PrEP-PEP.pdf
- Ivsins A, Boyd J, Beletsky L, McNeil R. Tackling the overdose crisis: the role of safe supply. Int J Drug Policy. 2020;80:102769. DOI: 10.1016/j.drugpo.2020.102769
- 87. Government of Canada [Internet]. Safer Supply; [updated 2023 Apr 25; cited 2023 Nov 2]. Available from: canada.ca/en/health-canada/services/opioids/responding-canada-opioid-crisis/safer-supply.html
- 88. Harris MT, Seliga RK, Fairbairn N, Nolan S, Walley AY, Weinstein ZM, et al. Outcomes of Ottawa, Canada's Managed

- Opioid Program (MOP) where supervised injectable hydromorphone was paired with assisted housing. Int J Drug Policy. 2021;98:103400. DOI: 10.1016/j.drugpo.2021.103400
- 89. BC Centre for Disease Control, editors. Knowledge update: postmortem detection of hydromorphone among persons identified as having an illicit drug toxicity death since the introduction of risk mitigation guidance prescribing [Internet]. Vancouver: Provincial Health Services Authority; 2021 [cited 2023 Nov 2]. Available from: http://www.bccdc.ca/resource-gallery/Documents/Statistics%20and%20Research/Statistics%20and%20Reports/Overdose/2021.09.15_Knowledge%20Update_Hydromorphone%20and%20drug%20toxicity%20deaths.pdf
- London InterCommunity Health Centre, editors. Safer opioid supply program: preliminary report [Internet]. London: London InterCommunity Health Centre; 2021 [cited 2023 Nov 2]. Available from: https://lihc.on.ca/wp-content/uploads/2022/01/2021-SOS-Evaluation-Full.pdf
- Oviedo-Joekes E, Guh D, Brissette S, Marchand K, MacDonald S, Lock K, et al. Hydromorphone compared with diacetylmorphine for long-term opioid dependence: a randomized clinical trial. *JAMA Psychiatry*. 2016;73(5):447. DOI: 10.1001/jamapsychiatry.2016.0109
- 92. Kilmer B, Pardo B. Clarifying 'safer supply' to enrich policy discussions. Addiction. 2023;118(6):994–7. doi:10.1111/add.16124
- 93. US Food & Drug Administration, editors. It's important to safely remove opioids from your home [Internet]. Washington, DC: US Department of Health and Human Services, 2021 [cited 2023 Nov 2.] Available from: https://www.fda.gov/media/123330/download?attachment
- 94. Varisco T, Patel H, Saadi RA, Wanat M, Thornton D. Patients prefer free drug disposal options delivered by pharmacists at the point of care: Results of a decision tree analysis of a national factorial vignette panel survey. Int J Drug Policy. 2023;116:104045. DOI: 10.1016/j.drugpo.2023.104045
- 95. Stubbings J, Crawford SY, Menighan TE. A safe in-home disposal system with every opioid prescription? Food and Drug Administration is considering a potential new Risk Evaluation and Mitigation Strategy that could impact pharmacists. J Am Pharm Assoc. 2022;62(2):413–8. DOI: 10.1016/j.japh.2021.11. 009
- 96. Aspinall EJ, Nambiar D, Goldberg DJ, Hickman M, Weir A, Van Velzen E, et al. Are needle and syringe programmes associated with a reduction in HIV transmission among people who inject drugs: a systematic review and meta-analysis. Int J Epidemiol. 2014;43(1):235–48. DOI: 10.1093/ije/dyt243
- Gibson DR, Flynn NM, Perales D. Effectiveness of syringe exchange programs in reducing HIV risk behavior and HIV seroconversion among injecting drug users. AIDS. 2001;15(11):1329–41. DOI: 10. 1097/00002030-200107270-00002
- 98. Bluthenthal RN, Anderson R, Flynn NM, Kral AH. Higher syringe coverage is associated with lower odds of HIV risk and does not increase unsafe syringe disposal among syringe exchange program clients. Drug Alcohol Depend. 2007;89(2-3):214–22. DOI: 10.1016/j. drugalcdep.2006.12.035
- Nassau T, Al-Tayyib A, Robinson WT, Shinefeld J, Brady KA. The impact of syringe services program policy on risk behaviors among persons who inject drugs in 3 US cities, 2005-2015. Public Health Rep. 2020;135(1_suppl):138S-48S. DOI: 10.1177/0033354920930137
- 100. Platt L, Minozzi S, Reed J, Vickerman P, Hagan H, French C, et al. Needle and syringe programmes and opioid substitution therapy for preventing HCV transmission among people who inject drugs: findings from a Cochrane Review and meta-analysis: OST and NSP to prevent HCV transmission. Addiction. 2018;113(3):545–63. DOI: 10.1111/add.14012
- 101. Hagan H, McGough JP, Thiede H, Hopkins S, Duchin J, Alexander ER. Reduced injection frequency and increased entry and retention in drug treatment associated with needle-exchange

- participation in Seattle drug injectors. J Subst Abuse Treat. 2000;19(3):247–52. DOI: 10.1016/S0740-5472(00)00104-5
- 102. Fernández-Viña MH, Prood NE, Herpolsheimer A, Waimberg J, Burris S. State laws governing syringe services programs and participant syringe possession, 2014-2019. Public Health Rep. 2020;135(1_suppl):128S-37S. DOI: 10.1177/0033354920921817
- 103. Kosobuski L, O'Donnell C, Koh-Knox Sharp CP, Chen N, Palombi L. The role of the pharmacist in combating the opioid crisis: an update. Subst Abuse Rehabil. 2022;13:127–38. DOI: 10. 2147/SAR.S351096
- 104. Haight RJ, Di Polito CN, Payne GH, Bostwick JR, Fulbright A, Lister JF, et al. Psychotropic stewardship: advancing patient care. Ment Health Clin. 2023;13(2):36–48. DOI: 10.9740/mhc.2023.04. 036
- 105. Caley C. AAPP practice expansion toolkit: facilitating change to develop a practice position in psychiatric pharmacy [Internet]. Lincoln: The American Association of Psychiatric Pharmacists; 2023 [cited 2023 Dec 8]. Available from: https://aapp.org/ed/presentation/2023/aapp-practice-expansion-toolkit-facilitating-change-develop-practice-position?view=link-0-1530209527&pdf
- 106. Thakarar K, Nenninger K, Agmas W. Harm reduction services to prevent and treat infectious diseases in people who use drugs. Infect Dis Clin North Am. 2020;34(3):605–20. DOI: 10.1016/j. idc.2020.06.013
- Sexton SM, Marciniak MW, Gatton O, Shelton P. Impact of a statewide community pharmacy approach to opioid harm reduction. J Am Pharm Assoc. 2023;63(1):389–95.e1. DOI: 10.1016/j. japh.2022.10.020
- Reinstatler K, Cobb C, Lister JF, Parmentier B, Payne G, Santos R. Development of the core outcome set for psychiatric pharmacists (COS-PP). J Am Coll Clin Pharm. 2024;7(2):140–8. DOI: 10.1002/jac5.1917
- DiPaula BA, Cooke CE, Boyle CJ, Love RC. Implementation of academic detailing for pharmacists on opioid use disorder and harm reduction. J Am Pharm Assoc. 2022;62(1):241–6. DOI: 10. 1016/j.japh.2021.09.012
- 110. Hanson KA, Smart MH, Mandava MR, Carkovic E, Aslamy M, Lee TA, et al. Pharmacists and naloxone: barriers to dispensing

- and effectiveness of an educational outreach program. J Am Pharm Assoc. 2023;63(2):608–13.e3. DOI: 10.1016/j.japh.2022.12.018
- Dunne RB. Prescribing naloxone for opioid overdose intervention. Pain Manag. 2018;8(3):197–208. DOI: 10.2217/pmt-2017-0065
- 112. Bounthavong M, Devine EB, Christopher MLD, Harvey MA, Veenstra DL, Basu A. Implementation evaluation of academic detailing on naloxone prescribing trends at the United States Veterans Health Administration. Health Serv Res. 2019;54(5):1055–64. DOI: 10.1111/1475-6773.13194
- 113. Volkow ND, Gordon JA, Koob GF. Choosing appropriate language to reduce the stigma around mental illness and substance use disorders. Neuropsychopharmacology. 2021;46(13):2230–2. DOI: 10.1038/s41386-021-01069-4
- 114. Wakeman SE. Medications for addiction treatment: changing language to improve care. J Addict Med. 2017;11(1):1–2. DOI: 10.1097/ADM.0000000000000275
- 115. National Institute on Drug Abuse [Internet]. Words matter terms to use and avoid when talking about addiction; [updated 2021 Nov 29; cited 2023 Jun 28]. Available from: https://nida.nih.gov/nidamed-medical-health-professionals/health-professions-education/words-matter-terms-to-use-avoid-when-talking-about-addiction
- 116. Boston Medical Center [Internet]. Reducing stigma: why words about addiction matter; c2024 [cited 2023 Jun 28]. Available from: https://www.bmc.org/addiction/reducing-stigma
- 117. American Psychological Association, editors. Equity, diversity, and inclusion: inclusive language guide. 2nd ed [Internet]. Washinton, DC: American Psychological Association; 2023 [cited 2023 Nov 2]. Available from: https://www.apa.org/about/apa/equity-diversity-inclusion/language-guide.pdf
- Kertesz SG. The unexpected urine test: a matter far from simple. J Addict Med. 2017;11(6):417–9. DOI: 10.1097/ADM.0000000000 000357
- 119. Stock C, Geier M, Nowicki K. AAPP pharmacist toolkit: harm reduction strategies for people who inject drugs [Internet]. Lincoln: American Association of Psychiatric Pharmacists; 2022 [cited 2023 Nov 2]. Available from: https://aapp.org/guideline/harmreduction