

Introduction

The United States is grappling with an unprecedented opioid epidemic. In 2016, about 2.1 million Americans had an opioid use disorder (OUD) and about 11.8 million Americans 12 and older misused opioids to some degree¹. Due in large part to skyrocketing opioid use, drug poisoning is now the number one cause of injury-related death in the US². There were 159 opioid-related deaths in St. Louis County in 2015, equaling 17.3 deaths per 100,000 residents — 40% higher than the state rate and 60% higher than the national rate³. Importantly, mortality data capture only a fraction of the public health burden of drug use; for every death, there are many more instances of nonfatal overdose and infection transmission. In particular, people who inject drugs (PWID) have elevated health risks^{*}; injection drug use and associated behaviors such as sharing needles and syringes put PWID at risk for blood borne diseases such as hepatitis C and HIV as well as other health problems⁵. St. Louis County has seen Hepatitis C incidence rise as injection drug use has increased, and the risk of HIV outbreaks is an ongoing public health threat.

A comprehensive public health response to injection drug use and its health consequences includes both preventing new cases of substance use disorder and addressing the mental and physical health of people who have substance use disorders. While many existing programs aim to prevent drug use, there is a lack of programming in Missouri to address the health needs of people already struggling with substance use disorder and engaging in risky injection drug use. Harm reduction practices such as syringe services programs (SSPs) can help fill that gap; they aim to decrease health risks associated with injection drug use without stigmatizing individuals with addiction⁶. SSPs provide PWID with sterile, hypodermic needles and associated paraphernalia and have been demonstrated to reduce the transmission of blood borne pathogens such as HIV and viral hepatitis^{7,8}. They can further serve as an entry point for PWID to connect to treatment and recovery services. In addition to improving public health, SSPs are a good financial investment; they save money due to treatment costs avoided from infections that are prevented⁹.

While over 250 SSPs operate across the country, there are several legal barriers to implementing SSPs in Missouri. Missouri does not permit the sale, distribution, or possession of drug paraphernalia, including sterile syringes and needles. Additionally, Missouri does not permit the possession of a controlled substance, including residue, without a prescription. The severity of the opioid epidemic suggests revisiting the legal environment to facilitate the implementation of this public health solution. Randall Williams, the Director of Health and Senior Services, recently signaled his support for passing legislation to legalize SSPs, noting their many public health benefits and successful implementation in other states.

This brief explains how SSPs work and outlines legislative options and supportive measures that could pave the way for Missouri to implement this type of public health intervention.

^{*} Estimates of the prevalence of injection drug use are imprecise, but annual use was estimated at 774,434 and lifetime use at 7 million in 2011⁴. Prevalence is likely to have risen with the severity of the opioid epidemic.

Risks Associated with Needle Sharing

Sharing needles or other drug paraphernalia is common among PWID; in a 2012 study, about 30% of PWID reported sharing needles in the past year and 60% reported sharing drug paraphernalia of any kind¹⁰. Needle sharing increases risk for the transmission of blood borne diseases such as Hepatitis C and HIV.

HEPATITIS C VIRUS (HCV)

Hepatitis C is an inflammatory liver disease caused by infection with the hepatitis C virus (HCV). HCV is primarily transmitted when an infected person's blood enters the body of a non-infected person. Sharing needles and other equipment is now the most common risk factor for HCV, reported in 64% of cases with known risk factors¹¹⁻¹⁸. Most newly infected people do not experience acute symptoms and thus do not seek treatment; regardless of the presence of symptoms, 75-85% of those infected develop chronic HCV and may transmit the virus to others. Most people with untreated chronic HCV develop liver disease, often with severe consequences; 5-20% develop cirrhosis, and 1-5% die of either cirrhosis or liver cancer^{11, 12}.

Missouri faces an increasing burden of acute and chronic HCV, mirroring national trends. Nationally, reported cases of acute hepatitis C nearly tripled from 850 (0.3 per 100,000) in 2010 to 2,436 (0.8 per 100,000) in 2015. After adjusting for under-reporting*, the CDC estimates the true incidence in 2015 to be 33,900 (10.5 per 100,000)^{17, 18}. In Missouri, an average of only 6.7 cases of acute hepatitis C were reported annually between 2010 and 2015¹⁹; in 2016, 22 cases were reported¹⁷. St. Louis County reported zero acute cases between 2010 and 2015; in only the 13 months between September 2016 and October 2017, 21 confirmed cases were identified. The majority of these cases (81%) reported a history of injecting drugs, indicating the importance of mitigating public health risks associated with sharing drug paraphernalia²⁰.

New Cases of Acute Hepatitis C in St. Louis County

2010 – 2015

0

2016 – 2017

21

81% of new cases reported a history of injection drug use

National health surveys suggest that at least 3.5 million Americans are currently infected with HCV, likely including at least 76,900 Missourians²¹⁻²³. The CDC received reports of 181,871 newly diagnosed chronic hepatitis C cases in 2015¹⁷. New chronic hepatitis C case reports in Missouri increased by 61% between 2013 (4,855 cases; 80.3 per 100,000) and 2015 (7,795 cases; 128.3 per 100,000)¹⁹. St. Louis County saw a 62% increase – 570 cases (57.0 per 100,000) to 923 cases (92.1 per 100,000) – during the same period²⁰. Many of these cases likely represent new infections, though case reports lack complete classification data.

*A lack of resources for surveillance and screening at the local, state, and federal levels is a major barrier to reining in the disease.

Newly Reported Chronic Hepatitis C in St. Louis County

2013	2015
570	923

HUMAN IMMUNODEFICIENCY VIRUS (HIV)

In the United States, HIV is spread primarily by having sex or sharing syringes and other injection equipment with someone who is infected with HIV. The increasing prevalence of injection drug use and associated needle sharing threatens to derail progress that has been made to decrease HIV incidence in Missouri and St. Louis County. Missouri reported 517 new cases (8.5 per 100,000) in 2016, a 4% decrease from 2012²⁴. St. Louis County's HIV incidence rate declined by 19% during the same time period (from 13.4 per 100,000 to 10.8 per 100,000), although incidence remains higher in St. Louis County than the state as a whole^{24, 25}.

CDC has identified several risk factors that indicate particular vulnerability to HIV transmission among people who inject drugs. Thirteen Missouri counties are classified among the most vulnerable such counties in the country, and **St. Louis County exhibits several of the identified risk factors for HIV outbreaks including rising drug overdose death rates, high HIV prevalence, and a relative lack of availability of harm reduction resources such as syringe services programs²⁶.**

Current Public Health Efforts

The Saint Louis County Department of Public Health, along with other government and community partners, is taking steps to address increased drug use and associated health risks through innovative policies and programs. The Department of Public Health action plan to decrease the rate of drug-poisoning deaths involving opioids consists of prevention, harm reduction, and treatment components to interrupt the pathway from appropriate prescription of opioids to opioid use disorder, increase the uptake of overdose reversal tools, and increase access to treatment for those with substance use disorders. A key component of these efforts is the Prescription Drug Monitoring Program (PDMP), authorized by legislation adopted in March of 2016; the program helps healthcare providers manage the prescribing, dosing and dispensing of controlled substances including opioids.

In response to the rise in hepatitis C cases, and the correlation with opioid use, the Saint Louis Department of Public Health, along with regional local health departments, community based organizations, academia, and other healthcare professionals have established the Regional Hepatitis C Workgroup. By coordinating with partners to address issues such as linkage to care, treatment and prevention solutions involving viral hepatitis, the workgroup aims to eliminate new viral hepatitis infections and improve the quality of life for individuals living with chronic Hepatitis C. Additionally, the Department of Public Health has strengthened surveillance capacity to better quantify the HCV burden.

While these efforts address some aspects of the opioid epidemic, they are insufficient to address the public health risks resulting from injection drug use and needle sharing. **SSPs are both effective and cost effective; they save lives by preventing infections and connecting people who inject drugs with treatment opportunities, and they avert costs associated with treating new HIV and hepatitis infections.**

Overview of Syringe services programs (SSPs)

A syringe services program is a set of community-based services for people who inject drugs. Syringe services programs (SSPs) are also referred to as syringe exchange, syringe access, and needle exchange programs. As harm reduction interventions, their aim is to reduce health risks because fully eliminating them may not be feasible²⁷. SSPs provide sterile needles and syringes in an effort to reduce the transmission of viral hepatitis and HIV. These services are rendered at no cost to the [program] user, and also usually include facilities for the safe disposal of used needles and syringes²⁸. The CDC and the Department of Health and Human Services describe SSPs as an effective, evidence-based model for blood borne pathogen risk reduction^{28, 29}.

In addition to reducing transmission of infection through needle sharing, SSPs give healthcare workers the opportunity to link PWID with other services. Most SSPs offer services and materials such as condoms, sterile swabs and water, education on safe injection practices, first aid, overdose prevention, testing and counseling for HIV and HCV, and referrals to substance abuse treatment programs. This opportunity to connect with PWID is especially valuable since PWID may be discouraged from seeking care in mainstream healthcare settings due to stigma and fear of criminalization.

SSPs are extremely cost effective. With respect to HIV alone, the return on investment for SSPs is estimated to be between 350% and 700% such that every \$1 spent on syringe exchange programs saves \$3.50 to \$7 in future spending for HIV treatment⁹. A large portion of these savings redound to the public sector since many PWID are uninsured or utilize Medicaid. With Medicaid accounting for approximately 36% of the state budget and Missouri Medicaid recently expanding access to medication to all participants with hepatitis C at a cost of between \$26,400 and \$80,000 per patient, the value of preventing hepatitis infections is potentially very significant.

The chart below lists common misunderstandings about SSPs and explains the evidence behind SSPs.

Myth	Fact
There is no hard evidence that SSPs work.	SSPs are an effective public health intervention. Extensive studies have shown SSPs to be effective ³⁰ . According to the Surgeon General’s Report on Alcohol, Drugs, and Health, “needle/syringe exchange programs also represent effective and cost-effective prevention strategies that have been shown to reduce the transmission of HIV in communities implementing them, without increasing rates of injection drug use. These programs also provide the opportunity to

Myth	Fact
	engage people who inject drugs in treatment. These types of effective prevention policies can and should be adapted and extended to reduce the injuries, disabilities, and deaths caused by substance misuse ³¹ .
SSPs do not reduce HIV or other diseases.	SSPs help reduce HIV and other diseases. SSPs have demonstrated, in a variety of settings, that they can reduce HIV and other diseases. For example, there was a 78% decrease in HIV prevalence among PWID in New York City between 1990 and 2001 during the time SSPs were introduced). During the same period, the prevalence of hepatitis C fell from 90% to 63% ³² .
SSPs increase drug use among PWID.	SSPs do not increase drug use among existing PWID; they help get them into treatment. A study conducted in Seattle found that PWID who utilized their SSP reported a significant decrease (of more than 75%) in injection drug use and increased participation in treatment compared to those who did not use the SSP ³³ . The World Health Organization also concluded that SSPs significantly reduce HIV without increasing drug use ³⁴ .
SSPs are costly.	SSPs are cost-effective. SSPs prevent infections that are extremely expensive to treat, and for which the public often bear the burden for payment. The costs for treating a person with HIV is about \$400,000 and the cost for treating HCV can range from \$26,400 to \$300,000 depending on disease stage. It is estimated that every \$1 invested in syringe exchange saves \$3.50 to \$7 in HIV treatment costs ⁹ .
SSPs increase crime in their communities.	SSPs do not increase crime in SSP communities. Evaluations of SSPs implemented in different communities have found that the programs are associated with decreased crime because they establish a connection between PWID and treatment. For example, communities in Baltimore saw an 11% decrease in crime in areas with an SSP, while those without SSPs saw an 8% increase in crime ³⁵ . Overall, there is no association between SSPs and an increase in crime rates ³⁶ .
SSPs increase the number of visible contaminated needles in the community.	SSPs help keep communities safe. Studies show that SSPs reduce the circulation of contaminated needles in the community. For example, Baltimore saw a 50% reduction in improperly discarded syringes because of their SSP ³⁷ . Between 2008 and 2009, Miami, which had no SSP, reported levels of improperly discarded contaminated needles 8 times higher than San Francisco, where SSPs were operating ³⁸ .

Myth	Fact
SSPs make law enforcement difficult.	SSPs can protect nonusers. SSPs reduce crime and decrease risk from contaminated needles. Law enforcement officers and health care professionals can be easily pricked by a contaminated needle when interacting with or treating PWID outside controlled, hygienic SSP environments ³⁹ .
SSPs increase risky behaviors.	SSPs decrease needle sharing. Injection drug users who are afraid of arrest while carrying drug paraphernalia are 1.74 times more likely to share syringes and 2.08 times more likely to share injection supplies than other users ⁴⁰ .

SSP Policy Environment

As of April 2017, there were 264 SSPs in the US⁶. The first publically supported syringe services program in the US began in 1988. From 1988 to 2015, programs were initiated across the country but struggled to maintain financial viability due to restrictions on use of federal funding⁴¹. The Consolidated Appropriations Act of 2016 removed many of these restrictions, enabling the CDC and HHS to fund all components of SSPs except for the needles and syringes themselves. The Act was not an addition of new federal dollars, but rather a freeing up of money that was previously barred from being used on SSPs⁴².

There are a number of statutes in Missouri that preempt the administration of syringe services programs. Missouri Revised Statute Chapters 195 and 579 prohibit the possession of drug paraphernalia and controlled substances, including residue that could be present in paraphernalia. CSR § 195.010 (k) defines drug paraphernalia to include syringes, needles, or objects used for injecting controlled substances. Missouri Revised Statute Chapters 195 and 579 also prohibit the sale or distribution of syringes or needles if intended for the use of controlled substances. Missouri does not require a prescription for purchasing needles and syringes, but pharmacies may set their own policies regarding the need for a prescription. Pharmacists may refuse sale to a patient suspected of illicit drug use or to request a prescription before authorizing the sale. Individuals are often refused sales of syringes and needles (47% refusal) and are more likely to be refused sale in urban setting when compared to a rural setting⁴³.

House Bill 88 was proposed in 2017 in an effort to facilitate syringe exchange to prevent the spread of infection and save lives. The bill would have allowed health care organizations affiliated with the Missouri Department of Health and Senior Services to distribute hypodermic needles without criminal liability. This bill would have laid the groundwork for SSPs in Missouri but was not adopted. A similar bill, House Bill 2780, was introduced in 2016. As of the end of the 2017 session, legislation facilitating the operation of SSPs was not in place.

Next Steps: Potential Policy and Program Opportunities

Taking into consideration (a) the ongoing opioid epidemic and the high prevalence of intravenous drug use implicated therein, (b) the health risks associated with sharing needles and syringes, (c) the evidence gathered over three decades supporting the effectiveness and cost savings of syringe services programs, and (d) the benefits of connecting people who inject drugs with overdose prevention, treatment referrals, and other lifesaving services, Missouri may wish to enable the operation of syringe services programs.

The following are potential legislative strategies and supportive measures that could pave the way for Missouri to implement this type of public health intervention based on best practices across the country*.

STATE STATUTE

1. To enable the legal operation of syringe services programs, the legislature may remove any references to “syringe”, “needle” or “hypodermic needle” from the definition of “drug paraphernalia” in state statutes. Altering this definition would allow for the legal sale, distribution, and possession of syringes. This strategy has been successful in Maine (Me. Rev. Stat. tit. 17, § 1111-A), where syringes have been removed from the principal drug paraphernalia statute. A separate provision was added to outlaw trafficking in hypodermic apparatuses, but an exception is made for hypodermic apparatuses used in exchange programs (Me. Rev. Stat. tit. 17, § 1110).
2. If syringes continue to be classified as illegal drug paraphernalia under the law, an exception may be made to allow for the sale, distribution and possession of clean, empty syringes for the specific purpose of preventing the spread of blood borne diseases, as has been done in Washington (WA statute 69-50-412(5)).
3. If syringes continue to be classified as illegal drug paraphernalia under the law, and if an exception is not made for any person to possess syringes or needles for the purpose of preventing the spread of blood borne disease, an exception may be made to allow for the sale, distribution and possession of clean, empty syringes for the specific purpose of operating or participating in substance abuse outreach programs that include a syringe service program. This approach has been used successfully in Kentucky (Ky. Rev. Stat. § 218A.500), Tennessee (TCA title 68.1.1), and North Carolina (NC General Statute § 90-113.27), among others. In these cases, supplies that are part of the program are not deemed drug paraphernalia, and residue is exempted from the ban on controlled substances.

The options above recognize the key preventive role that SSPs can play in a comprehensive public health response to injection drug use and empower public health authorities to operate such programs to mediate health risks and connect PWID to treatment on an ongoing basis. Variations on these first three options have been used by most states. Option four represents a different approach:

4. A fourth option is to create a new statute that specifically enumerates a framework for establishing syringe services programs due to a public health emergency. This approach has been tried in Indiana

* Visit <http://lawatlas.org/datasets/paraphernalia-laws> for an interactive map detailing each state’s laws.

(IC 16-41-7.5). In contrast to options 1-3, option 4 requires a public health emergency to be declared due to an epidemic of HIV or Hepatitis C already in progress. This creates a significant limitation: by requiring a prerequisite epidemic, it forestalls implementing SSPs as a preventive strategy, disallowing the public health sector from acting until substantial harm has already been done.

LAW ENFORCEMENT AND THE PROTECTION OF SSP PARTICIPANTS

1. Should Missouri legalize SSPs, protocols for training all narcotics, vice, and street officers on the basic principles of SSPs should be developed and implemented. Protocols should be designed with input from public health practitioners and be updated regularly to reflect any new harm reduction services.
2. People who inject drugs must be able to participate in SSPs without fear of intimidation or arrest. If legislation allowing the possession of syringes and needles is contingent upon participation in an SSP, SSPs should issue cards identifying clients as participants in these programs. Police departments should ensure that individuals are not arrested, harassed, searched, detained, or otherwise punished based on their possession of sterile syringes obtained from legal SSPs. Participants must be able to keep used syringes in their possession for the purpose of returning them to syringe exchange sites. Law enforcement should refrain from arresting people for possession of controlled substances based on trace amounts of narcotic drugs contained in a used syringe.
3. A protocol for handling syringes found during searches safely should be designed and implemented.
4. Law enforcement adherence to the protocols should be monitored, and police officers who do not comply with them should be appropriately disciplined.

DISTRIBUTION OF STERILE NEEDLES AND SYRINGES

1. SSPs should develop standard operating procedures to be reviewed by a physician.
2. SSPs should distribute needles and syringes in the quantities, sizes, and gauges requested by clients without requiring an equivalent exchange for used needles. Distributing needles at an equal exchange rate (i.e. for each one turned in, one is given) is outdated and ultimately limits safe injecting practices. Such policies prevent those with no needles on their person or those without places to store used needles (such as the homeless) from having access to clean needles⁴⁴. Providing the number and type of needles requested can attract PWID and ensure that clean equipment is used at each injection.
3. Individuals should be able to buy sterile syringes in pharmacies without a prescription. As part of the broader effort to discourage PWID from sharing needles, pharmacies should not refuse sale of syringes based on suspicion of illicit drug use.

TECHNICAL ASSISTANCE AND EDUCATION

1. SSPs should provide technical assistance, education, and support services to participants including education about public health risks, interpretation of state law, and dissemination of referral resources. Assistance should also include provision of an updated list of local SSPs and their contact information. All information provided should be evidence-based or practice-based.

2. It is recommended that conferences be held to convene stakeholders from the local health department, law enforcement, drug treatment and addiction programs, elected officials, and any other interested parties. These conferences would offer an opportunity to share best practices, review the implementation, and resolve any issues that may arise⁴⁵.

Conclusion

Syringe services programs are a key component of a comprehensive strategy to address the opioid epidemic. SSPs have been demonstrated to interrupt the transmission of blood borne diseases and connect drug users to vital health and social services, all while saving money in infection treatment costs averted. Given rising hepatitis C rates, the risk of HIV outbreaks, and the staggering overdose death toll, there is no time to waste. By facilitating the implementation of SSPs, Missouri has the opportunity to improve population health and ultimately save lives.

Suggested Citation

Bildner, M., Cohen, R., Leighton, J., Torgerson, A., Ahmed, S., Iffrig, D. & Donaldson, K. (January 2018). Syringe services programs: issue brief. St. Louis County, MO: Department of Public Health.

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