ESP VA Evidence Synthesis Program

Synthesizing evidence for VA leadership to improve the health and health care of Veterans

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What is the ESP?

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The VA **Evidence Synthesis Program (ESP)**, established in 2007, helps VA fulfill its vision of functioning as a continuously learning health care system. We provide timely, targeted, independent syntheses of the medical literature for the VHA to translate into evidence-based clinical practice, policy, and research.

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What is the ESP?

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ESP reports are used to help:

- Develop clinical policies informed by evidence
- Implement effective services and support VA clinical practice guidelines and performance measures
- Set the direction for future research to address gaps in clinical knowledge

Four ESP Centers across the US

- Led by experts in evidence synthesis with close ties to the AHRQ Evidence-based Practice Center Program

ESP Coordinating Center in Portland, OR

- Manages national program operations, ensures methodological consistency and quality of products, and interfaces with stakeholders
- Produces rapid products to inform more urgent policy and program decisions

The ESP accepts topic nominations throughout the year, and nominations are considered every 4 months.

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ESP Locations

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Effectiveness of Syringe Services Programs

December 2023

Full-length report available on [ESP website](#).

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Disclosure

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This presentation was prepared by the Evidence Synthesis Program Coordinating Center located at the Portland VA Healthcare System, directed by Katherine Mackey, MD, MPP and funded by the Department of Veterans Affairs, Veterans Health Administration, Health Systems Research.

The findings and conclusions in this document are those of the author(s) who are responsible for its contents and do not necessarily represent the views of the Department of Veterans Affairs or the United States government. Therefore, no statement in this presentation should be construed as an official position of the Department of Veterans Affairs. No investigators have any affiliations or financial involvement (*eg*, employment, consultancies, honoraria, stock ownership or options, expert testimony, grants or patents received or pending, or royalties) that conflict with material presented.

Outline

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- Describe Syringe Services Programs (SSPs) and the background for this review
- Present our review methods, key findings, and conclusions
- Panel discussion on the review's findings and implications for VHA

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Syringe Services Programs (SSPs)

- Broadly defined as programs that provide sterile syringes and other supplies for the intended injection of drugs
- First implemented in the 1980s as community-based efforts to reduce HIV infection rates among people who inject drugs (PWID)
- Form of *harm reduction*

Harm Reduction

Aimed at reducing negative health and safety outcomes associated with drug use

https://nida.nih.gov/research-topics/harm-reduction

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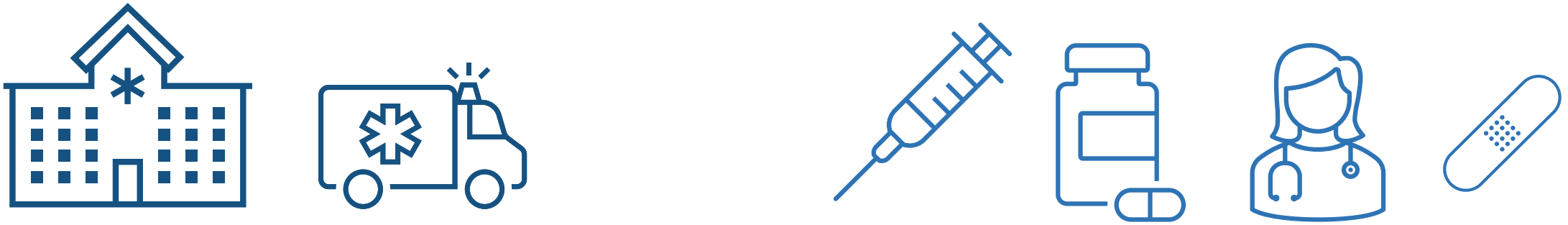
Syringe Services Programs (SSPs)



Wide variation in delivery models and extent of *wraparound* services

Background

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- VHA leadership has recommended that medical centers develop SSPs or otherwise ensure Veterans enrolled in VHA care have access to SSPs where not prohibited by state, county, or local law
- VA currently offers SSPs in several locations and the number is expected to increase
- This report was requested by the VA Offices of Mental Health and Suicide Prevention, Research and Development, and Specialty Care Services to inform VA efforts to meet the goals of the Office of National Drug Control Policy and to implement best practices for harm reduction in VHA settings

See report for author information, a list of Operational Partners, and other acknowledgments.

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Key Questions & Eligible Studies

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The following key questions were the focus of this review:

Key Question 1: What are the benefits and harms of syringe services programs?

Key Question 1a: Do benefits and harms of syringe services programs vary by syringe exchange model* or presence/absence of program components?

*for example, needs-based vs 1-for-1

Key Questions & Eligible Studies

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Population	Adults at risk for substance use-related harms.
Intervention	Syringe services programs. The primary intervention should be dispensing of sterile syringes, but programs may also include other components such as naloxone distribution, infectious disease testing, education on overdose prevention, safer injection practices, and/or infectious disease prevention, and/or referral to treatment and/or prevention services. The efficacy of these components as standalone interventions will not be evaluated.
Comparator	Any comparator or no comparator (*ie*, pre-post studies).
Outcomes	HIV/HCV prevalence or incidence, injection risk behaviors (sharing, borrowing, lending, reuse, or unsafe disposal of syringes); amount, speed, or frequency of injection drug use; naloxone distribution/use, knowledge of overdose risk; linkage to treatment for substance use disorder(s), HIV/HCV, HIV pre-exposure prophylaxis, or other medical needs; utilization of referred services; neighborhood crime rates or property values.
Study Design	Any, but we may prioritize studies using a best-evidence approach. Existing systematic reviews may be included to address some outcomes.

Literature Search and Study Screening

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- A research librarian searched Ovid MEDLINE, CINAHL, PsycINFO, and the Cochrane Database of Systematic Reviews through March 2023 using terms for *syringe services programs*
- Additional citations were identified from grey literature searches and hand-searching reference lists of included studies
- English-language titles, abstracts, and full-text articles were independently reviewed by 2 investigators, and disagreements were resolved by consensus

Data Abstraction and Synthesis

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Approach varied by outcome based on the level of available evidence

HIV and HCV transmission and injection risk behaviors	• Identified a well-conducted 2022 “review of reviews” • Relied on this review for evidence synthesis
Injection frequency, receipt of naloxone and overdose education, treatment linkages and utilization, neighborhood impacts	• No recent, well-conducted systematic review • Abstracted data and synthesized evidence from primary studies
Comparison of SSPs by syringe exchange models or program components	• Identified a well-conducted 2010 systematic review • Abstracted data and synthesized evidence from primary studies published since that review’s end search date and integrated findings

Findings

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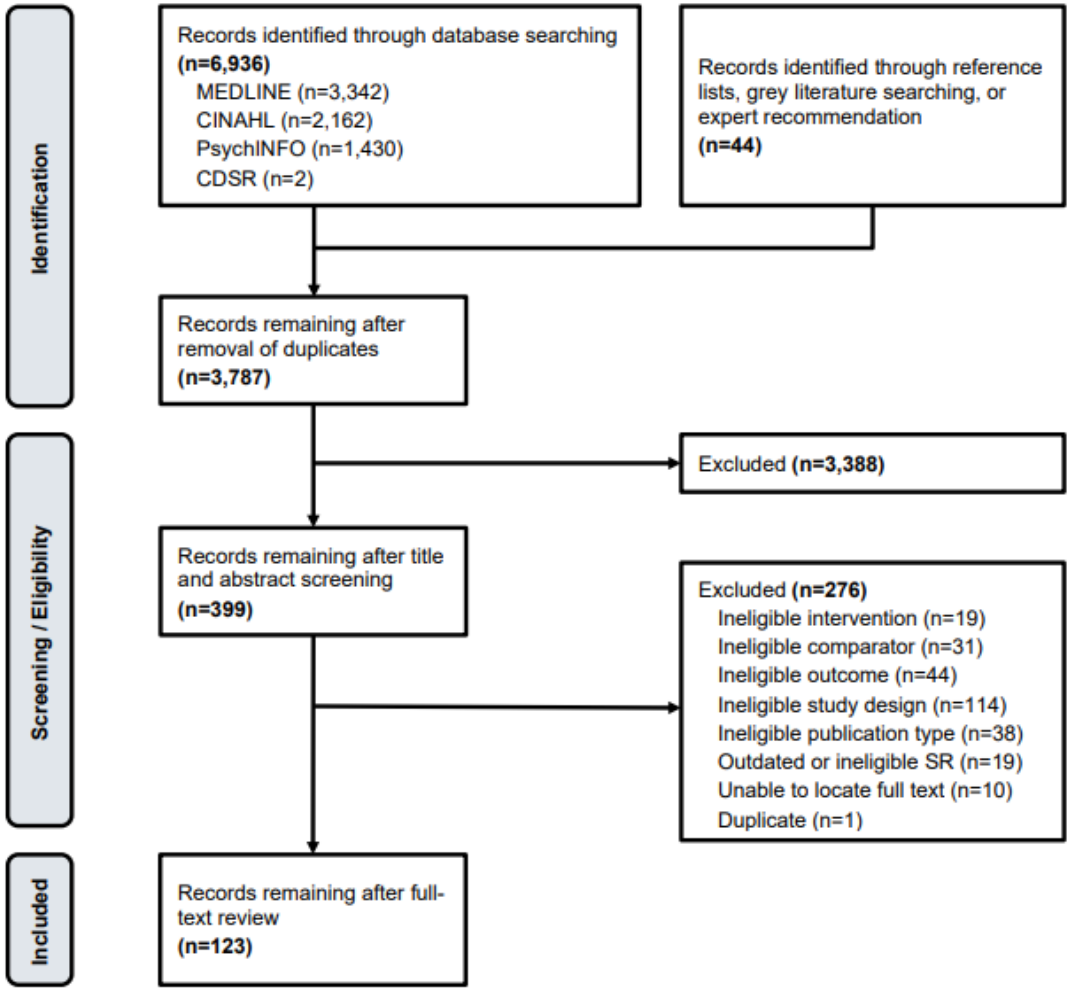

Notes. 17 SRs in 18 records; 100 primary studies in 105 records.
Abbreviations. CDSR=Cochrane Database of Systematic Reviews; CINAHL=Cumulative Index of Nursing and Allied Health.

- We identified 17 relevant systematic reviews and 100 primary studies
- The *evidence base on SSPs is large and complex*, reflecting 4 decades of research during which important changes occurred in:
  - Public awareness of substance use harms
  - Legal and regulatory environments
  - Substance use trends
  - HIV and HCV epidemiology
  - Access to screening, prevention, and treatment for HIV and HCV

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HIV/HCV Transmission and Injection Risk Behaviors*

Outcome	Evidence	Synthesis	Evidence Statement
HIV Transmission	1 review with a meta-analysis of 12 studies	Meta-analysis of 6 higher quality studies found a 58% reduction in risk of HIV associated with use of SSPs (RR 0.42, 95% CI 0.22-0.81).	There is **sufficient evidence** that SSP use is effective in the prevention of HIV transmission.
HCV Transmission	1 review of 15 studies and 5 additional primary studies	Meta-analysis of 5 studies found an equivocal pooled effect (RR 0.79, 95% CI 0.39-1.61); when limited to 2 studies with a more accurate measure of syringe use, the effect size was consistent with a 76% reduction in HCV incidence (RR 0.24, 95% CI 0.09- 0.62).	There is **tentative evidence** that SSP use is effective in the prevention of HCV transmission.
Injection risk behaviors	3 reviews of 43 primary studies	Clear statement of evidence in support of SSPs from 2 SRs and consistent evidence from primary studies.	There is **sufficient evidence** to support the effectiveness of SSPs in reducing self-reported injection risk behaviors.

*Informed by Palmateer et al. "Review of Reviews"
Interventions to prevent HIV and Hepatitis C among people who inject drugs: latest evidence of effectiveness from a systematic review (2011 to 2020). Int J Drug Policy. 2022.

Naloxone Distribution, Overdose Education, and Treatment Linkage

Outcome	Evidence	Evidence Statement	Strength of Evidence
Naloxone Distribution	1 serial cross-sectional and 4 cross-sectional studies	SSP use may be associated with higher rates of carrying naloxone.	*Low*
Overdose Education	2 cross-sectional studies	SSP use may be associated with receipt of overdose education.	*Low*
Treatment Linkage	6 cohort and 3 pre-post studies	SSP use may be associated with increased treatment linkage and/or use of treatment services compared to no SSP use (or less use).	*Low*

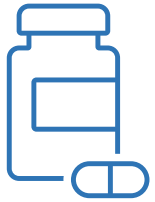
Injection Frequency, Syringe Disposal, and Neighborhood Crime Rates

Outcome	Evidence	Evidence Statement	Strength of Evidence
Injection Frequency	1 RCT, 6 cohort and 9 pre-post studies	SSP use does not appear to be associated with an increase in injection frequency.	*Low*
Syringe Disposal	1 RCT, 2 pre-post, 11 cross-sectional, and 7 ecological studies	SSP use and/or presence of an SSP does not appear to be associated with an increase unsafe syringe disposal practices.	*Low*
Neighborhood Crime Rates	2 ecological studies	Presence of an SSP does not appear to be associated with an increase in neighborhood crime rates.	*Low*

SSP Syringe Distribution Models and Program Components

Evidence from 3 cross-sectional studies found:

- Less syringe re-use with needs-based distribution or more permissive distribution policies
- No difference in syringe sharing



Evidence from the Palmateer 2022 "Review of Reviews" found:

- Combined SSP and opioid use disorder (OUD) treatment programs may be associated with lower HCV transmission risk

Evidence from RCTs was mixed regarding whether motivational interviewing or strength-based case management services increase OUD treatment entry

Conclusions

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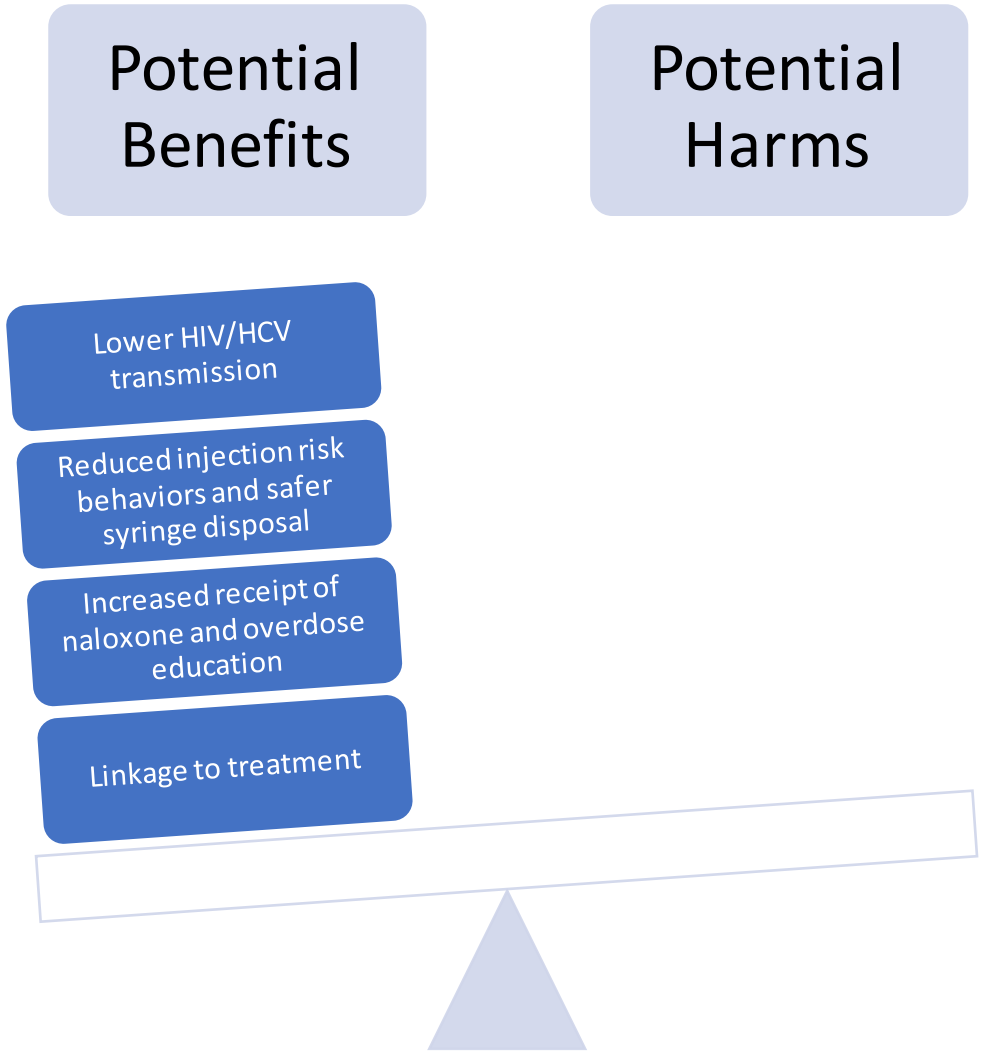

While methodological limitations of primary studies lower the strength of evidence for individual outcomes, the overall evidence demonstrating the potential benefits of SSP use and relative lack of harms is more than sufficient to support SSP implementation when possible.

SSPs serve a segment of the PWID population with a higher baseline risk for drug-related harms, including legal system involvement. Despite this higher baseline risk, we found no evidence that SSP use further heightens risk to PWID or communities.

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Conclusions

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Our conclusions are consistent with recommendations from public health organizations and professional societies including:

CDC	American Public Health Association	American Medical Association
American Bar Association	American Academy of Addiction Pyschiatry	WHO
Joint United Nations Progamme on HIV/AIDS	European Centre for Disease Prevention and Control	European Monitoring Centre for Drugs and Drug Addiction

Limitations

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- Most of the evidence is observational
- Studies used different measures for SSP exposure and outcomes, limiting comparability
- Data often derived from patient self-report
- Most research was conducted prior to the era of fentanyl/synthetic opioid and methamphetamine use

Panel Discussion

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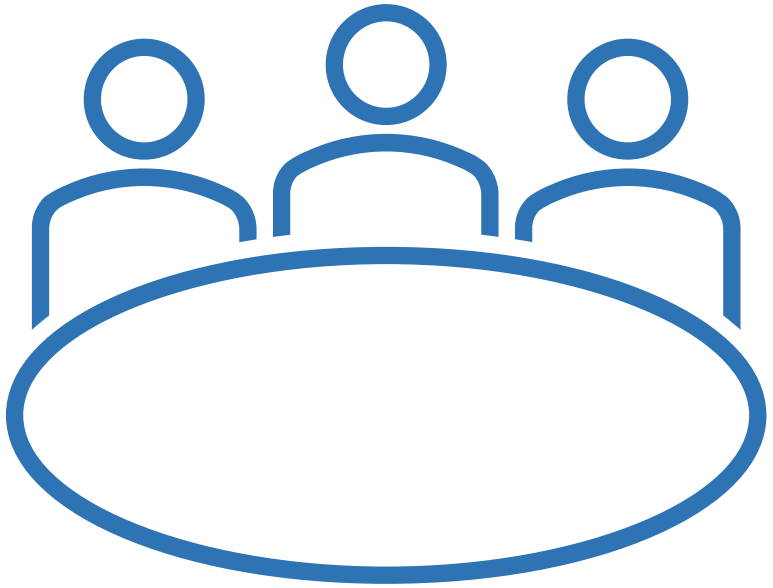

Panelists:

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ESP on the Internet

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