INTRODUCTION & BACKGROUND

Problem: IV drug use
In 2003, the United Nations Office of Drugs and Crime estimated about 1.4 million people used injection drugs in North America1. The most commonly injected drug is heroin1.

Problem: Syringe sharing and HIV transmission
In 2010, 8% of the estimated 47,500 new HIV infections in the US were attributed to injection drug use2. According to a CDC study, approximately 33% of people who inject drugs (PWID) reported sharing syringes and more than half reported sharing other injection equipment in the past 12 months2.

The sharing of needles has become the most common mode of HIV transmission among injection drug users5. HIV-1 can survive over 4 weeks in a contaminated syringe, remaining infectious to individuals who reuse the syringe in that period of time6.

Intervention: Syringe Exchange Programs (SEPs)
When AIDS was first observed among people who inject drugs in 1981, almost all US states had laws criminalizing the possession and distribution of needles and syringes for injecting illicit drugs5. In 1988 the federal government instituted a ban on federal funding for syringe exchange programs. The passage of state laws also prohibited the use of public funds for needle exchange programs, but social factors that play a part in needle exchange programs leads to a lack of federal funding towards needle exchange programs and that it is not just the presence or lack of needle exchange programs, but social factors that play a part in outcomes as well.

• It is also important to acknowledge that even if needle exchange programs existed everywhere, it would only help partially in terms of infectious transmission and therefore a multi-dimensional approach should be taken:
  - Sexual health promotion in reducing transmission rates
  - Providing drug use cessation resources at SEPs for individuals who are contemplating quitting, but don’t know how
  - Education on infectious disease transmission and its correlation with IV drug use and sharing needles

Changes in current policies can increase SEP funding
- There is a lack of federal funding towards needle exchange
- State policies are varied, and therefore there are many states that do not support SEPs.

RESULTS

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<td>Allen, et al.</td>
<td>Do PWID in periods of non-active substance use travel shorter distances to utilize SEPs than their active injecting counterparts?</td>
<td>Ecological Study</td>
<td>Sample of 137 active and former PWID (71% male, 78% African-American, mean age of 46.8)</td>
<td>Mean walking distance between active and former PWID was statistically significant (p &lt; 0.05)</td>
<td>PWID who are active and non-active injectors do not have equivalent access to SEP services.</td>
<td>- Geometric point distance was measured, but individuals may have utilized public or private transportation.</td>
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<td>Bluthenthal, et al.</td>
<td>Is SEP use associated with cessation of syringe sharing among high-risk injection drug users?</td>
<td>Cohort Study</td>
<td>340 PWID, predominantly African American males, &gt; 40 years (criteria: recent drug injection [track marks] and being at least 18 years of age) from 2 different Oakland, Ca neighborhoods.</td>
<td>- Of those who used SEPs at both interviews, 68.3% (43 of 63) reported cessation of syringe sharing. - For the PWID that didn’t use SEP at either interview, 53.7% (101 of 186) quit sharing syringes at follow-up interview</td>
<td>- PWID utilizing SEPs were more likely to quit syringe sharing than individuals who did not use SEPs.</td>
<td>Due to the secret nature of drug use, finding a randomly selective way to select participants is difficult. Bases associated with using self-report data because of the sensitivity and stigma associated with IV drug use.</td>
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<td>Bramson, et al.</td>
<td>Do state laws permitting syringe exchange and public funding for such programs alter the incidence of HIV infection among PWID?</td>
<td>Ecological Study</td>
<td>PWID in Metropolitan Statistical Areas (MSAs) throughout the US (25 states met criteria for study).</td>
<td>- There is a correlation between public funding of SEPs and incidence of HIV. - Positive correlation between public funding and: • Number of syringes distributed (R² = 0.42) • SEPs offering a greater number of other services to PWID (R² = 0.52)</td>
<td>Public funding for SEPs was associated with low incidence of HIV. Lack of public funding of SEPs was associated with high incidence of HIV</td>
<td>- HIV incidence was estimated based on newly diagnosed cases among PWID, but there is a lag between occurrence and infection diagnosis. - MSA population estimates would have missed any PWID living outside MSAs.</td>
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<td>Strathdee, et al.</td>
<td>In PWID, does attendance at SEPs promote detoxification?</td>
<td>Cohort study</td>
<td>1,483 PWID, with a median age of 40 years, predominantly African American males.</td>
<td>In PWID, SEP attendance was associated with entering detoxification in HIV-infected (adjusted odds ratio (AOR) = 3.2) and HIV-uninfected users (AOR = 1.4).</td>
<td>SEP utilization is associated with an increased likelihood of entering detoxification.</td>
<td>- Although the researchers noted that detoxification is more likely to occur in those using SEPs, this study fails to report long-term drug use cessation rates. - There was some selection bias in selecting study participants, limiting the study’s external validity.</td>
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REFERENCES

METHODS

Information regarding the impacts of needle exchange programs was obtained through a literature search. Specifically, PubMed was utilized to identify studies looking at varied outcomes involving adult IV drug users. Search terms utilized included needle exchange, HIV infection rates, cessation, intravenous drug use, and HIV transmission.

DISCUSSION & CONCLUSIONS

Overall, SEPs have been shown to be effective in decreasing infection transmission if PWID have access and utilize the programs.

• Access to SEP programs promotes a reduction in syringe sharing due to the availability of sterile needles.

SEPs promote drug use treatment programs, but social factors that play a part in outcomes as well.

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