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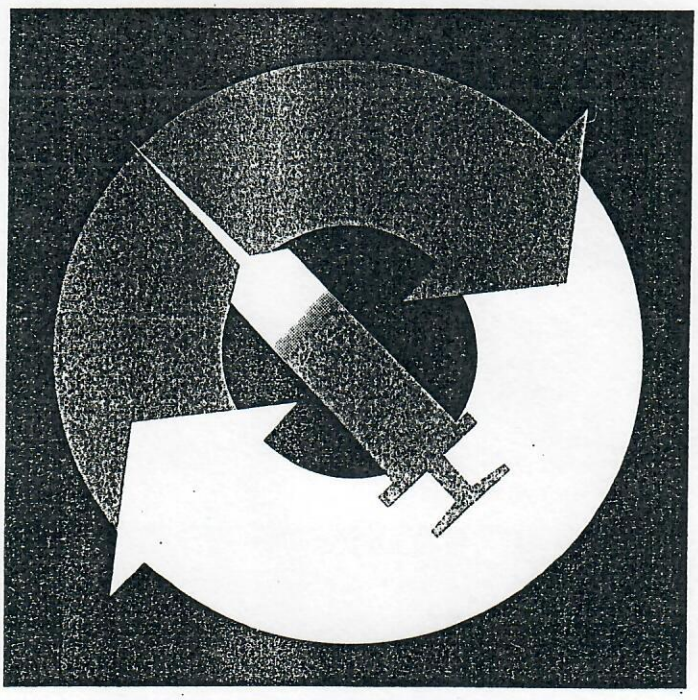
THE PUBLIC HEALTH IMPACT OF NEEDLE EXCHANGE PROGRAMS IN THE UNITED STATES AND ABROAD

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS



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EXECUTIVE SUMMARY

CONCLUSIONS

How and Why did Needle Exchange Programs Develop?

Needle exchange programs have continued to increase in number in the US and by September 1, 1993 at least 37 active programs existed. The evolution of needle exchange programs in the US has been characterized by growing efforts to accommodate the concerns of local communities, increasing likelihood of being legal, growing institutionalization, and increasing federal funding of research, although a ban on federal funding for program services remains in effect.

How do Needle Exchange Programs Operate?

About one-half of US needle exchange programs are legal, but funding is often unstable and most programs rely on volunteer services to operate. All but six US needle exchange programs require one-for-one exchanges and rules governing the exchange of syringes are generally well enforced. In addition to having distributed over 5.4 million syringes, US needle exchange programs provide a variety of services ranging from condom and bleach distribution to drug treatment referrals.

Do Needle Exchange Programs Act as Bridges to Public Health Services?

Some needle exchange programs have made significant numbers of referrals to drug abuse treatment and other public health services, but referrals are limited by the paucity of drug treatment slots. Integrating needle exchange programs into the existing public health system is a likely future direction for these programs.

How Much Does it Cost to Operate Needle Exchange Programs?

The median annual budget of US and Canadian needle exchange programs visited is relatively low at $169,000, with government-run programs tending to be more expensive. Some needle exchange programs are more expensive because they also provide substantial non-exchange services such as drug treatment referrals. The annual cost of funding an average needle exchange program would support about 60 methadone maintenance slots for one year.

Who Are the IDUs Who Use Needle Exchange Programs?

Although needle exchange program clients vary from location to location, the programs generally reach a group of injecting drug users with long histories of drug injection who remain at significant risk for human immunodeficiency virus (HIV) infection. Needle exchange program clients in the US have had less exposure to drug abuse treatment than IDUs not using the programs.

What Proportion of All Injecting Drug Users in a Community Uses the Needle Exchange Program?

Studies of adequately-funded needle exchange programs suggest that the programs do have the potential to serve significant proportions of the local injecting drug user population. While some needle exchange programs appear to have reached large proportions of local drug injectors at least once, others are reaching only a small fraction of them. Consequently, other methods of increasing sterile needle availability must be explored.

What Are the Community Responses to Needle Exchange Programs?

Unlike in many foreign countries, including Canada, proposals to establish needle exchange programs in the US have often encountered strong opposition from a variety of different communities. Consultation with affected communities can address many of the concerns raised.

Do Needle Exchange Programs Result in Changes in Community Levels of Drug Use ?

Although quantitative data are difficult to obtain, those available provide no evidence that needle exchange programs increase the amount of drug use by needle exchange program clients or change overall community levels of non-injection and injection drug use. This conclusion is supported by interviews with needle exchange program clients and by injecting drug users not using the programs, who did not believe that increased needle availability would increase drug use.

Do Needle Exchange Programs Affect the Number of Discarded Syringes?

Needle exchange programs in the US have not been shown to increase the total number of discarded syringes and can be expected to result in fewer discarded syringes.

Do Needle Exchange Programs Affect Rates of HIV Drug and/or Sex Risk Behaviors?

The majority of studies of needle exchange program clients demonstrate decreased rates of HIV drug risk behavior, but not decreased rates of HIV sex risk behavior.

What is the Role of Studies of Syringes in Injection Drug Use Research?

The limitations of using the testing of syringes as a measure of injecting drug users' behavior or behavior change can be minimized by following syringe characteristics over time, or by comparing characteristics of syringes returned by needle exchange program clients with those obtained from non-clients of the program.

Do Needle Exchange Programs Affect Rates of Diseases Related to Injection Drug Use Other than HIV?

Studies of the effect of needle exchange programs on injection-related infectious diseases other than HIV provide limited evidence that needle exchange programs are associated with reductions in subcutaneous abscesses and hepatitis B among injecting drug users.

Do Needle Exchange Programs Affect HIV Infection Rates?

Studies of the effect of needle exchange programs on HIV infection rates do not and, in part due to the need for large sample sizes and the multiple impediments to randomization, probably cannot provide clear evidence that needle exchange programs decrease HIV infection rates. However, needle exchange programs do not appear to be associated with increased rates of HIV infection.

Are Needle Exchange Programs Cost-effective in Preventing HIV Infection?

Multiple mathematical models of needle exchange program impact support the findings of the New Haven model. These models suggest that needle exchange programs can prevent significant numbers of infections among clients of the programs, their drug and sex partners, and their children. In almost all cases, the cost per HIV infection averted is far below the $119,000 lifetime cost of treating an HIV-infected person.

RECOMMENDATIONS

Recommendations for the federal government

- The federal government should repeal the ban on the use of federal funds for needle exchange services.
- Substantial federal funds should be committed both to providing needle exchange services and to expanding research into these programs.

Recommendations for state governments

- State governments in the ten states and the District of Columbia that have prescription laws should repeal these laws.*
- States should repeal the paraphernalia laws as they apply to syringes.**

Recommendations for local governments and communities

- Local governments should enter into discussions with local community groups to develop a comprehensive approach to preventing HIV in injecting drug users, their sex partners, and their offspring. This approach should include needle exchange programs and the expansion of drug treatment services.
- Local communities should seek to further increase sterile syringe availability by encouraging the sale, distribution, or exchange of syringes by pharmacists.

Recommendations for researchers

- Descriptions of the "kinetics" and determinants of needle use patterns: injecting drug users' sources of needles, methods of disposal of needles, frequency of needle re-use, and needle-sharing patterns. How do these change when a needle exchange program or other changes in needle availability are implemented?
- Evaluations of "natural experiments" in which needle availability laws change or pharmacists expand the over-the-counter sales of syringes.

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*Prescription laws preclude the purchase of a syringe without a prescription, limiting sterile syringe availability and creating a risk of arrest for needle exchange program staff and clients.

**Paraphernalia laws exist in 46 states and the District of Columbia and preclude the possession or distribution of syringes except for "legitimate medical purposes." Conviction under a paraphernalia law is a felony or a misdemeanor.

- Surveys of pharmacists to determine their willingness to participate in pharmacy-based syringe sale, distribution, or exchange and to identify the barriers to their participation.

- Assessments of the effects of design features of needle exchange programs (e.g., administering bodies, site characteristics, opening hours, and program rules) upon process measures of needle exchange programs (e.g., needles distributed, drug treatment referrals, discarding of needles).

- Ethnographic and other qualitative research to assess the factors involved in drug use initiation and in transitions between various routes of drug use.

- Case-control studies of the relationship between use of the needle exchange program and acute hepatitis B, particularly in cities with active surveillance for the infection.

- Large, multicenter case-control studies within existing cohorts of injecting drug users to assess whether use of the needle exchange program is associated with hepatitis B or HIV seroconversion.

- Mathematical modeling using program data and behavior change evaluations to determine which aspects of program design determine effectiveness and cost-effectiveness.