American College of Preventive Medicine
Public Policy on Needle-Exchange Programs to Reduce Drug-Associated Morbidity and Mortality
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Overview:
Based on a review of the current literature and recommendations, the American College of Preventive Medicine presents a public policy statement on needle-exchange programs.


Burden of Suffering

The estimated 1.2 million intravenous drug users (IVDUs) in the United States suffer a high burden of bloodborne infections, including hepatitis B, hepatitis C, and human immunodeficiency virus (HIV). More than one third of all cases of acquired immunodeficiency syndrome (AIDS), and a higher proportion of perinatal AIDS and AIDS among women, is attributed to IVDUs or to having had sex with an IVDU, with ethnic minority groups disproportionately affected. Between 50% and 80% of those who use IV drugs have serologic evidence of past or current infection with hepatitis B virus, and 50% to 85% have serologic evidence of hepatitis C virus, whereas between 1% and 60% are afflicted with HIV.1–4 Hepatitis and HIV infection are responsible for a significant burden of morbidity and mortality among those who use drugs, their partners, and their children. Hepatitis, HIV, and other bloodborne infections are transmitted through sharing contaminated drug-injecting equipment. Despite publicity of this fact, 49% to 60% of drug users continue to share used equipment due to scarcity, cost, or legal obstacles in obtaining clean equipment.5

Description of Preventive Measures

In an attempt to reduce sharing of contaminated equipment, needle-exchange programs provide sterile needles and syringes to IVDUs in exchange for used equipment. These programs encompass mixed sponsors and locations including formal government-sponsored endeavors, informal “semilegal” programs, mobile vans, pharmacy-based exchanges, or even vending machines. Currently 112 needle-exchange programs are operating in 29 states and the District of Columbia, involving at least 71 U.S. cities. Since 1989, more than 5.4 million syringes have been exchanged. Since 1988, the federal government has banned use of its funds to support needle-exchange programs.

Evidence of Effectiveness

Major reviews conducted by the National Commission on AIDS (1991)6; the U.S. General Accounting Office (1993)7; and the University of California, San Francisco, Institute for Health Policy Studies8 suggest that such programs may reduce rates of seroconversion to HIV/AIDS and hepatitis by one third or more.4,5,9–14 Estimates of effectiveness are based on projection models and documented declines in needle sharing. Evidence to support this claim includes stabilization of rates of HIV/AIDS in cities with needle-exchange programs and a lower rate of HIV positivity among syringes returned to needle-exchange programs compared with those obtained from other sites (e.g., “shooting galleries”). These temporal trend data have been criticized, however, because of multiple other factors that may simultaneously influence these rates. In addition, studies consistently show that exchange programs are associated with less lending and re-use of contaminated injection equipment,5,15 decreased frequency of injection drug use,15,16 and increased referrals to social service agencies and drug treatment centers.4,17 Needle-exchange programs have not resulted in an increased number of new IVDUs, earlier age of onset into drug use, increased injection frequency among users, violent behavior around needle-exchange sites, or an increased number of needles on the street.5,15,16,18 Although consistent in their findings, individual studies on the effectiveness of needle-exchange programs suffer from multiple methodologic limitations,
such as lack of randomization, inadequate comparison groups, the effects of attrition, inadequate sample size, self-report bias, and short follow-up periods. The effectiveness of needle-exchange programs in preventing the spread of bloodborne infections is limited. Such programs have high rates of turnover, attract only a minority of IVDUs, and may fail to attract younger injection drug users. About one third of injectors in 1 study visited the needle-exchange site a single time; nonwhite drug injectors and those who have been injecting drugs for longer time periods are more likely to revisit needle-exchange sites.

Public Policy Considerations
Programs face legal and financial impediments to their establishment and operation. Needle-exchange program opponents believe that these programs imply societal condoning of illicit drug use. Exchange programs imply a decriminalization of needle possession, but not a decriminalization of drug use. As many as half of all U.S. programs are currently operating in technical violation of state drug paraphernalia laws. Although there is a stigma associated with needle-exchange programs, at least one large survey found that the majority of U.S. citizens favor them. Successful programs require careful planning, involvement of the affected community members (activists, police, neighborhood associations, politicians), accessible facilities (mobile if possible), and provision for sanitary disposal of discarded injection equipment. Programs should have a continual evaluative component to assess their effectiveness and possible adverse effects, as well as adequate security. Needle-exchange programs must offer anonymous, nonjudgmental services to the IVDU population. Programs are more acceptable to the public and provide greater public health benefit when needle exchange is combined with information and referral for drug treatment and social service programs, informational counseling on risk reduction, HIV testing and counseling, hepatitis B immunization, and condom distribution.

Because the U.S. government has prohibited federal funding for needle-exchange programs since 1988, most programs are funded locally, privately, or by state. Because the costs of running such programs are relatively low (median annual budget of a needle-exchange program is $169,000) and lifetime health care costs of treating a person with HIV infection are high, even with only a few cases of HIV averted, cost-saving estimates can be very high. One conservative model estimated a 5-year cost saving of $1.3 million in one community with a cost saving to costs ratio of 4:1. This model considered only medical costs for those with HIV infection and not costs associated with lost productivity, costs associated with protease inhibitors, nor costs of preventing hepatitis B and C. Cost-effectiveness of such programs will vary depending on the prevalence of injection drug use and rate of HIV positivity.

Recommendations of Other Groups
The American Medical Association, American Society of Addiction Medicine, the American Public Health Association, the Centers for Disease Control and Prevention, the American Bar Association, the United States Conference of Mayors, the National Academy of Sciences, the National Research Council, the National Commission on AIDS, the National Institute of Health Consensus Statement, and the American Academy of Pediatrics officially endorse establishment of needle-exchange programs. The American Medical Association, National Research Council, National Institute of Health Consensus Statement, and the Institute of Medicine, among others, support repeal of the federal ban on the funding of these programs. The International Drug Strategy Institute does not favor needle-exchange programs.

Rationale Statement
The primary purpose of needle-exchange programs is to reduce the spread of infectious disease (including hepatitis and HIV) among IVDUs, their sexual partners, and the public at large. Although individual studies have methodologic limitations, overall many studies conducted in the United States and abroad report a reduction in risk behaviors, possible reduced transmission of HIV and hepatitis B and C, and increased referral to drug treatment resulting from needle-exchange programs. In addition, no significant harm, such as increasing drug use initiation, crime in surrounding sites, increased needles on the street, or increased use of drugs among users, have been noted in limited studies. The public health benefits to those (and their partners) who do use these services are great, despite that these programs serve only a fraction of IVDUs, attrition is high, program recipients infrequently adopt safer sexual practices, and these programs fail to reach the newest or most sporadic users. These sites, secondarily, may be an entrance point for those dependent on drugs to seek rehabilitative therapies, or sites may provide other preventive treatments such as disease screening or hepatitis B immunization.

Recommendations of the American College of Preventive Medicine
Needle-exchange programs should be implemented and expanded in areas with high rates of intravenous drug abuse. Although data are still preliminary, they support a public health intervention that is inexpensive (especially in comparison with the societal costs of
treat those with HIV) and likely to reduce the transmission of fatal bloodborne infection among drug users, their sexual partners, and their children. These programs should include education and counseling, referral for drug and medical treatment, HIV and hepatitis testing, and condom distribution. Needle-exchange programs should be voluntary, anonymous, and accessible and should strive to recapture all needles distributed to reduce the risk to the public. All needle-exchange programs should have an ongoing evaluative component to assess efficacy and need. Additionally, the College supports a repeal of the federal funding ban on needle-exchange programs and instead supports targeting federal monies to programs with well-designed evaluative methodologies. Although needle-exchange programs show promise in reducing needle sharing and acquisition of hepatitis and HIV, these programs are not a panacea for the complex problems of drug use and associated infections. Needle-exchange programs should not substitute for a comprehensive approach to drug treatment and prevention.

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References