The Lindesmith Center – Drug Policy Foundation, Sacramento

Research Brief: Syringe Access

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I Introduction: Improving access to sterile syringes as a public health measure is widely supported.

Increasing the availability of sterile syringes through syringe exchange programs (SEPs), pharmacies, and other outlets reduces unsafe injection practices such as needle sharing, curtails transmission of HIV/AIDS and hepatitis, increases safe disposal of used syringes, and helps injecting drug users (IDUs) obtain drug information, treatment, detoxification, social services, and primary health care.[1] Although many states and municipalities in the United States have acted to improve access to sterile syringes, the possession, distribution, and sale of syringes remains a criminal offense in much of the country, and the federal government has not lifted its ban on the use of funds for SEPs. By contrast, national and local governments in Western Europe, Australia, Canada, and even some developing countries have made sterile syringes widely accessible.[2]

Every established medical, scientific, and legal body to study the issue concurs in the efficacy of improved access to sterile syringes to reduce the spread of infectious diseases: the National Academy of Sciences, American Medical Association, American Public Health Association, National Institutes of Health Consensus Panel, Centers for Disease Control and Prevention, Office of Technology Assessment of the U.S. Congress, American Bar Association, President Bush's and President Clinton's AIDS Advisory Commissions, and others. In July 1997, the U.S. Conference of Mayors formally endorsed federal and state policy changes to improve access to sterile syringes. In October 1999, the American Medical Association, the American Pharmaceutical Association, the Association of State and Territorial Health Officials, the National Alliance of State and Territorial AIDS Directors, and the National Association of Boards of Pharmacy issued a joint statement in support of removing legal barriers to pharmacy sale of syringes without a prescription.[3]

Public opinion is moderately in favor of SEPs. A 1996 Kaiser Family Foundation poll found 66% popular support, and Hart Research polls found 54-55% support from 1995 through 1997, although only about 1/3 of the public support syringe deregulation.[4]

Fifteen of the top twenty most widely circulated U.S. newspapers have editorialized in favor of SEPs or syringe deregulation.[5]

II The Human and Fiscal Costs of AIDS Continue to Rise

Minorities are disproportionately affected: In 1999, more African Americans were reported with AIDS than any other racial/ethnic group. AIDS is the second leading cause of death among African Americans aged 25 to 44 and half of those deaths were caused by injections with contaminated needles.[6]

In 1999, Latinos represented 13% of the U.S. population, but accounted for 19% of the total number of new AIDS cases that year. AIDS is the fourth leading cause of death among Latinos aged 25 to 44 and half of those deaths were caused by injections with contaminated needles.[7]

Among IDUs, African Americans are five times as likely and Latinos are at least one and a half times as likely as whites to get AIDS.[8]

Injection Drug Use is Driving the AIDS Epidemic: By June 2000, 36% (270,721) of U.S. AIDS cases reported to the Centers for Disease Control and Prevention had occurred among IDUs, their sexual partners, and offspring[9].

As of June 2000, 57% of all children born with AIDS (and over 2/3 of Latino children born with AIDS) were the children of IDUs or their sexual partners.[10]

Approximately 50% of new HIV infections occur among IDUs, their sexual partners, and offspring.[11]

IDUs are especially susceptible to Hepatitis C: IDUs have one of the highest rates of Hepatitis C infection of any group studied and account for 43% of reported acute Hepatitis C infections in the United States between 1992 and 1995.[12]

Hepatitis C is transmitted in the same manner as other blood-borne pathogens among IDUs (direct needle sharing or contaminated injection equipment) but is acquired more rapidly than other viral infections, with one study reporting that 50 to 80% of new injectors test positive for HCV antibodies within a year of beginning injection.[13] Surveys of adult IDUs consistently report seroprevalence levels of 70 – 90%, or saturation levels in this population.[14]

Approximately 4 million persons nationwide have contracted Hepatitis C and an estimated 8000 to 10,000 deaths occur annually from Hepatitis-related chronic

liver disease, at an estimated cost of more than $600 million per year. Without effective preventive and therapeutic measures, the number of deaths from chronic Hepatitis infection is expected to triple in the next 10 to twenty years.[15] Treatment of last resort is a liver transplant at an average cost of $300,000. Short of a transplant, standard care for a person with cirrhosis of the liver or liver cancer costs $20,000 a year.[16]

III Increasing IDU Access to Sterile Injection Equipment is a Proven Disease Prevention Strategy

In clinical settings, viable proliferating HIV-1 virus has been recovered from syringes stored at room temperature for periods of up to 30 days.[17]

The Centers for Disease Control and Prevention recommend that, to reduce the risk of infectious disease, IDUs unable to stop using drugs should "use a new, sterile syringe to prepare and inject drugs" and practice safe injection techniques.[18]

It is estimated that injection drug use accounts for some 920 million to 1.68 billion injections annually in the United States.[19] In 1999, SEPs exchanged 19 million syringes. While this is a good start, more sources of sterile syringes are clearly necessary.

"Indirect sharing" of injection equipment (water, cookers, and cotton) has recently been appreciated as having a potential for the transmission of blood-borne pathogens.[20]

By the late 1980s, virtually all developed countries other than the United States had made legal access to sterile injection equipment a primary component of AIDS prevention.[21] Several developing countries are beginning to do likewise.[22]

IV Syringe Exchange Programs

As a form of disease vector control, syringe exchange reduces the time that needles and syringes spend in circulation. The less time that potentially contaminated injecting equipment circulates among drug users, the less chance it has of being contaminated and afterwards reused by an uninfected user.[23]

The first SEP in the United States began operating in 1986[24]. Despite a proliferation of SEPs—in mid-1997, 113 operated in 71 cities in 29 states, Washington, D.C., and Puerto Rico[25]; Currently, an estimated 164 SEPs operate in the United States — only about 10% of U.S. IDUs have access.[26]

In 1999 U.S. SEPs exchanged some 19 million syringes.[27]

Syringe exchange decreases risky injection behavior by as much as 73%.[28]

A study of high-risk IDUs recruited in Oakland, California demonstrated that IDUs who attended syringe exchange programs were 2 1/2 times more likely to stop sharing needles than non attending IDUs after just six months.[29] SEPs have been shown to decrease the number of injections per syringe by 44 to 85% and to greatly increase one time use of syringes.[30]

Syringe exchange decreases HIV seropravelance among IDUs: A worldwide survey found that HIV seroprevalence among IDUs decreased 5.8% per year in cities with SEPs, and increased 5.9% per year in cities without SEPs.[31]

IDUs in New York City who used SEPs were two-thirds less likely to become infected with HIV than those who did not.[32]

All but two of the seroincidence studies to-date on SEPs have shown reduced incidence of HIV among participants.[33] A 1997 study in Vancouver and a 1995 study in Montreal, Canada, often cited by critics of SEPs, determined that SEPs play a crucial role in HIV prevention, but are not in and of themselves sufficient.[34]

SEPs help reduce the spread of hepatitis.[35] Participants in a Tacoma SEP were six to seven times less likely to contract hepatitis B or C.[36] A New Haven SEP was associated with a minimum 33% reduction in HIV incidence[37] and a similar reduction in hepatitis B.[38] Studies of SEP participants in Australia found a concurrent 50% decline in needle sharing behavior and a decline in HCV antibody prevalence from 22% to 13% in a 3-year period.[39]

SEPs are cost-effective for society: SEPs have a median annual budget of $169,000.[40] The lifetime cost of treating one person with AIDS is over $100,000,[41] and new treatments expected to extend the lives of people with HIV will, at $10-20,000 per year, be far more expensive.[42] The average SEP more than pays for itself by preventing the transmission of HIV to two people each year.

Using a very conservative model, a *Lancet* article estimates that 4,400 to 10,000 HIV infections among U.S. IDUs could have been avoided between 1987 and 1995 if the federal government had implemented syringe exchange nationally, saving over $500 million in health care costs. Action taken in early 1997 could have prevented an additional 11,000 infections by the year 2000, saving over $600 million.[43]

An economic analysis of governmental expenditures to cover the sterile syringe needs for a hypothetical cohort of 1 million IUDs estimated that complete coverage could be achieved for a total societal cost of $423 million dollars, of which one third would be out-of-pocket expenses paid by IDUs. Although this expenditure seems costly at first glance, it would avert 1.3 billion in medical expenses for a net savings of $916 million dollars.[44]

For every year without increased IDU access, as many as 12, 350 will become infected with HIV, leading to an estimated 1.3 billion in future medical costs.[45]

These estimates, which focus exclusively on the costs of HIV treatment, necessarily underestimate the economic benefit conferred by SEPs because they do not account for prevented cases of Hepatitis.[46]

By controlling infectious disease and referring IDUs into treatment, SEPs may reduce local expenditures on corrections and law enforcement.[47]

"Satellite" or secondary exchange, a phenomenon in which participants distribute sterile syringes they acquire through SEPs to an extended IDU network increases the coverage and effectiveness of SEPs.[48]

Access to sterile syringes does not encourage people to increase drug use or to start injecting drugs.

Seven major government-funded reports concur that access to sterile syringes does not increase drug use.[49] No reports contradict this finding.

Three years after a San Francisco SEP opened, the mean age of IDUs increased while the minimum age remained stable.[50] A New Haven SEP found similar results.[51]

Amsterdam, which has hosted a government-sponsored SEP for over thirteen years, has seen no increase in a steadily aging population of IDUs.[52]

The number of new users choosing to inject drugs has decreased in New York City since the establishment of SEPs.[53]

Access to sterile syringes does not hinder other drug treatment efforts: In fact, many people visit SEPs not only to exchange syringes, but also to get referrals to detoxification and treatment,[54] as well as to obtain primary health care.[55] 97% of U.S. SEPs surveyed in 1996 offered referrals to drug treatment programs and 80% provided education to reduce the risk sexually transmitted diseases.[56]

In 1991–92, a Tacoma SEP was the largest single source of recruitment to methadone maintenance programs in the country;[57] in 1992–93, nearly 20% of participants in a New Haven SEP initiated drug treatment, and hundreds approached the SEP solely for treatment referral.[58]

After a SEP opened next to a methadone clinic in Sydney, Australia, there was no increase in dropouts or positive urine tests among patients at the methadone clinic, nor was there a decrease in the number of people seeking admission.[59]

During a three-year period, 51% of the participants offered referrals to a drug rehabilitation program in a Baltimore, Maryland, SEP entered treatment. A recent study comparing patients referred this program to standard referral patients showed both groups had comparable retention and success rates despite the fact that the SEP patients had a greater severity of baseline drug use.[60]

The legal status of SEPs affects their ability to act as conduits to other services. A survey of 101 U.S. SEPs found that those with legal status were significantly more likely to provide testing for HIV and TB, acupuncture, and referral to social service, STD treatment, birth control, childcare, employment, and mental health agencies.[61]

"[W]ell designed and implemented syringe exchange programs have demonstrated efficacy in engaging populations at severe risk for HIV and reducing the further spread of HIV among injection drug users, their sexual partners and children… After reviewing the research to date, the senior scientists of the department and I have unanimously agreed that there is conclusive scientific evidence that syringe exchange programs, as part of a comprehensive strategy, are an effective public health intervention that reduces the transmission of HIV and does not encourage the use of illegal drugs."

-David Satcher,
Surgeon General of the United States[62]

V Pharmacy Sale of Syringes

Pharmacy sale has been shown to reduce risky injection behavior by 40%.[63]

Pharmacy sale of syringes can reach IDUs around the clock and in rural or suburban areas that may not be able to sustain SEPs. Access to sterile syringes through pharmacies may reduce NIMBY ("Not In My Backyard") issues, while reaching those who may not feel comfortable attending SEPs.

Diabetic IDUs who can legally buy syringes at pharmacies had significantly lower rates of HIV than non-diabetic IDUs—9.8% versus 24.3%—even though the duration and intensity of drug use were similar. [64]

Since Connecticut changed its paraphernalia and prescription laws in 1992 to allow for possession and sale of up to ten syringes, needle sharing among IDUs dropped 40% and needle stick injuries to police decreased by 66%.[65] As of 1995, over 80% of pharmacies voluntarily sold syringes over the counter, and most IDUs obtained syringes at pharmacies, rather than on the street, where equipment is often unsterile and possibly infected. [66]

Pharmacy sale is standard throughout Western Europe, much of Central and Eastern Europe, Oceania, and increasingly in U.S. states.[67] Many pharmacies also sell IDU–specific packs that include syringes, alcohol swabs, and other sterile items, such as cotton and water, which are often shared when not adequately available. Many packs also contain condoms and HIV prevention information.[68]

Pharmacists are health care professionals who can provide needed advice regarding disease prevention and safe disposal of syringes to all purchasers. Although pharmacy sales have been deregulated in several states, studies show this does not immediately translate into access for IDUs. Further efforts are needed to educate pharmacists about the vital public health role they play and to dispel myths and fears about IDUs.[69]

VI Alternate Access Methods

Physician prescription of sterile injection equipment is a new intervention that has tremendous potential to complement existing public health efforts to prevent the transmission of HIV, is clearly legal in 48 states and territories, and has strong support from the American Medical Association.[70]

Automated syringe exchange: Another approach to syringe access in European countries in addition to SEPs and legal pharmacy sales without a prescription is the vending machine. Similar to soda vending machines, syringe vending machines accept used syringes and mechanically deliver sterile ones in exchange. Syringe vending machines have been introduced in over a dozen European and Australian cities.[71] In one program introduced in Marseille, France in 1996, machines regularly attracted a segment of the IDU population that was not reached via SEPs or pharmacy sales after only one year in operation.[72]

Single-use or Difficult-to-Reuse Syringes are technological innovations meant to self-destruct after one use. Although these syringes have an intuitive appeal given public health service recommendations that syringes be used only once, early evaluation suggests they are incompatible with injection drug use practices and may actually negatively affect HIV risks in IDU populations.[73] Single-use

syringes are more costly than regular syringes[74] and would not be necessary if sufficient supplies of regular syringes were available.

VII Syringe Disposal

Fear of discarded needles is a primary factor in community opposition to programs that are intended to increase IDU access to sterile syringes such as pharmacy sales and SEPs. Despite low absolute risk of contracting HIV from a needle stick, the sheer volume of syringes used every year and high level of public concern mean that communities must address the issue of safe disposal.[75] A variety of unique approaches to community disposal (including puncture resistant containers for household trash disposal, drop boxes, and biohazard disposal sites at hospitals and pharmacies) already employed with great success around the world can serve as models for the implementation of more.[76]

IDU access to sterile syringes does not increase the number of improperly discarded syringes. In fact, some neighborhoods report a decrease in improperly discarded syringes.[77] Studies in Portland, Oregon[78] and Baltimore, Maryland[79] found similar or decreased numbers of improperly discarded syringes. Significantly, one study identified an increase in improperly discarded syringes ***after*** public fears about SEP impact on the community forced the closure of a program in Windham, Connecticut.[80]

SEPs and pharmacies provide convenient locations for IDUs to properly dispose of syringes. A pilot program in Baltimore allowing IDUs to dispose of syringes in red mailboxes shows preliminary success.[81] It is estimated that in the first ten months of operation, the red box program collected nearly 3000 syringes, 11% of which were infectious.[82]

- **Community disposal programs can prevent costly needle-stick injuries.** Outside the health care field, waste handlers/sanitation workers, housekeeping staff, police and firefighter are the workers who experience the largest number of occupational needle stick injuries. One privately owned municipal waste-disposal company estimated a total cost of $4400 for the direct and indirect costs of medical care and follow up for each employee with a needle-stick injury.[83]

VIII Barriers to Syringe Access

Progress has been made, but there are still major barriers to obtaining sterile syringes in the United States. Under the Terms of Public Law 105-78[84], federal funds to support needle exchange programs were conditioned on a determination by the Secretary of Health and Human Services that such programs reduce the transmission of human immunodeficiency virus (HIV) and do not encourage the use of illegal drugs. In April 1998 the Secretary of Health and

Human Services, Donna E. Shalala, made that determination. The Act's restriction on federal funding, however, has not been lifted.[85]

"A meticulous scientific review has now proven that needle exchange programs can reduce the transmission of HIV and save lives without losing ground in the battle against illegal drugs. It offers communities that decide to pursue needle exchange programs yet another weapon in their fight against AIDS."

-Donna E. Shalala,
Secretary of Health and Human Services [86]

Drug paraphernalia and prescription laws are stalling state-level syringe deregulation efforts. While only 5 states still require a prescription for the purchase of syringes,[87] 47 states and Washington, D.C., have drug paraphernalia laws limiting the possession and/or distribution of syringes. [88]

Paraphernalia laws impose a "chilling" effect that causes IDUs not to carry sterile injection equipment for fear of arrest and significantly increases high-risk sharing behaviors.[89]

"Legal sanctions on injection equipment do not reduce illicit drug use, but they do increase the sharing of injection equipment and hence the spread of AIDS."

—U.S. National Commission on AIDS [90]

In 1994, the cost of incarcerating 100 IDUs for a paraphernalia possession conviction in Massachusetts alone, excluding court costs, could have put *more than sixteen times* that number IDUs (1,629) through detoxification programs.[91]

Deregulation efforts are underway: Many states and municipalities have adapted or reinterpreted drug paraphernalia laws to allow for the operation of SEPs. A 1996 U.S. survey found that in states with drug paraphernalia laws, 27 SEPs were state-authorized and 13 were legal based on local interpretations of state laws or public health emergency powers.[92]

Based on Connecticut's success, Maine, Minnesota, and New York[93] changed their paraphernalia and prescription laws to allow over-the-counter purchase of up to ten syringes; Rhode Island has legalized pharmacy sale of syringes and set no limit on how many may be purchased.[94]

Perhaps the biggest barrier is fear.

"For most of the countries that have not implemented appropriate HIV prevention programs, however, the problem is not one of resources, but one of political attitudes…Rather than taking a public health approach to the problems of HIV infection among IDUs, many countries have applied moralistic approaches

coupled with law enforcement, or have attempted to prevent public health problems primarily by eliciting fear about using drugs."[95]

IX Notes

[1] See: Drucker E, Lurie P, Wodak A, Alcabes P. Measuring harm reduction: the effects of needle and syringe exchange programs and methadone maintenance on the ecology of HIV. *AIDS* 1998:12(Supp. A):S217-S230. Centers for Disease Control and Prevention. New Attitudes & Strategies: A comprehensive Approach to Preventing Blood-Borne Infections Among Injection Drug Users. October 25, 2000. Normand J, Vlahov D, Moses LE, eds. Preventing HIV Transmission: The Role of Sterile Needles and Bleach (*Note: only portions of this report are available online*.) Washington, DC: National Academy Press; 1995. Lurie P, Reingold A. The Public Health Impact of Needle Exchange Programs in the United States and Abroad (prepared for the Centers for Disease Control and Prevention). Berkeley, CA: University of California, School of Public Health, and San Francisco, CA: University of California, Institute for Health Policy Studies; 1993. Des Jarlais DC, Friedman SR, Sotheran JL, Wenston J, Marmor M, Yancovitz SR, Frenk B, Beatrice S, Mildvan D. Continuity and change within an HIV epidemic: Injecting drug users in New York City, 1984 through 1992. *JAMA*. 1994;271:121-127.

[2] Ball AL, Rana S, Dehne KL. HIV Prevention Among Injection Drug Users: Responses in Developing and Transitional Countries. *Public Health Reports*, June 1998: 113 (Supp.1):170-181.

[3] American Medical Association, American Pharmaceutical Association, The Association of State and Territorial Health Officials, National Alliance of State and Territorial AIDS Directories. "HIV Prevention and Access to Sterile Syringes." Joint Resolution. October 1999.U.S. Conference of Mayors. *Needle Exchange: Moving beyond the Controversy*. Washington, DC: U.S. Conference of Mayors; 1997. American Medical Association 6/97 Statement on Syringe Exchange. Lurie P, Reingold A. *The Public Health Impact of Needle Exchange Programs in the United States and Abroad (prepared for the Centers for Disease Control and Prevention)*. Berkeley, CA: University of California, School of Public Health, and San Francisco, CA: University of California, Institute for Health Policy Studies; 1993. Normand J, Vlahov D, Moses LE, eds. *Preventing HIV Transmission: The Role of Sterile Needles and Bleach*. Washington, DC: National Academy Press; 1995. National Commission on Acquired Immune Deficiency Syndrome. *The Twin Epidemics of Substance Use and HIV*, Washington, DC: National Commission on Acquired Immune Deficiency Syndrome; 1991. U.S. General Accounting Office. *Needle Exchange Programs: Research Suggests Promise as an AIDS Prevention Strategy*. Washington, DC: U.S. General Accounting Office; 1993. National Institutes of Health Consensus Panel. *Interventions to Prevent HIV Risk Behaviors*. Washington, DC: National Institutes of Health; 1997. Surgeon General David Satcher's report: Evidence-Based Findings for the Efficacy of Syringe Exchange Programs. U.S. Department of

Health and Human Services. March 17, 2000. Other agencies supporting SEPs include: AIDS National Interfaith Network, American Academy of Pediatrics, American Academy of Psychiatrists in Alcoholism and Addictions, American College of Preventive Medicine, American Psychiatric Association, American Society of Addiction Medicine, Association for Professionals in Infection Control and Epidemiology–South Jersey Chapter, Brotherhood Crusade, California Latino Civil Rights Network, Denver Medical Society, Feminist Majority Foundation, Illinois Alcoholism and Drug Dependence Association, Illinois State Medical Society, Medical Society of New Jersey, National Association for the Advancement of Colored People, National Association of Psychiatric Health Systems, National Association of Social Workers, National Association of State Alcohol and Drug Abuse Directors, National Black Caucus of State Legislatures, National Black Nurses Association, National Black Police Association, National Nurses Association, National Urban Coalition, National Urban League, New Hampshire Medical Society, Office for Church in Society, People of Color Against AIDS Network, San Francisco Medical Society, Office for Church in Society, Texas Sheriffs' Association, United Church of Christ, World Health Organization, and others. "An impressive body of evidence suggests powerful effects from needle exchange programs. The number of studies showing beneficial effects on behaviors such as needle sharing greatly outnumber those showing no effects. There is no longer doubt that these programs work, yet there is a striking disjunction between what science dictates and what policy delivers. Can the opposition to needle exchange programs in the United States be justified on scientific grounds? Our answer is simple and emphatic—no. Studies show reduction in risk behavior as high as 80%, with estimates of a 30% or greater reduction of HIV in IDUs. The cost of such programs is relatively low. Such programs should be implemented at once."—NIH Consensus Panel.

[4] A Kaiser Family Foundation survey found that 66% of all Americans are in favor of providing clean needles to IDUs: 66% of those age 18-29, 63% of those over 65; 56% of Republicans, 67% of independents, 71% of Democrats; 62% of Evangelicals, 69% of non-Evangelicals, 67% of Catholics. Henry J. Kaiser Family Foundation. *The Kaiser Survey on Americans and AIDS/HIV*. Menlo Park, CA: Henry J. Kaiser Family Foundation; March, 1996. Drug Strategies. *Americans Look at the Drug Problem*. Conducted annually by Hart Research Associates. A separate poll found 55% in support of SEPs (Human Rights Campaign poll, conducted April 8-10, 1997, by Tarrance Group and Lake Sosin Snell & Associates). A 1997 poll conducted for the Family Research Council by the Polling Company found 62% opposition to SEPs; that poll, however, presented SEPs and drug treatment as either/or policy choices. In the Southern Focus Poll, a random digit dial telephone poll conducted in 1997, 61% of respondents agreed that making clean needles available to IDUs would reduce the spread of HIV (University of North Carolina-Chapel Hill, Department of Health Behavior and Health Education, School of Public Health.)

[5] Newspapers that have editorialized in favor of SEPs and/or syringe deregulation include: *Arizona Republic, Asbury Park Press, Asheville Citizen-Times, Atlanta Journal Constitution, Bakersfield Californian, Baltimore Sun, Boston Globe, Capital Times, Chapel Hill Herald, Chicago Sun-Times, Chicago Tribune, Cleveland Plain Dealer, Denver Post, Detroit Free Press, Fresno Bee, Gazette Telegraph* (Colorado Springs), *Hartford Courant, Los Angeles Times, Milwaukee Sentinel, New Haven Register, New York Newsday, New York Times, News and Observer* (Raleigh, NC), *Oakland Tribune, Philadelphia Inquirer, Providence Daily Journal, Providence Journal Bulletin, Rocky Mountain News, Sacramento Bee, St. Petersburg Times, San Francisco Chronicle, Seattle Times, Star Tribune* (Minneapolis), *USA Today, Vancouver Sun, Washington Post, Washington Times. The Wall Street Journal* is the only major U.S. newspaper that has editorialized against SEPs.

[6] Centers for Disease Control and Prevention. HIV/AIDS Among African Americans Fact Sheet. Updated: November, 2000. Day D, *Health Emergency 2001: The Spread of Drug-Related AIDS and Hepatitis C Among African Americans and Latinos*. Princeton, NJ: Dogwood Center Publications, 2000.

[7] Centers for Disease Control and Prevention. HIV/AIDS Among Hispanics in the United States Fact Sheet. Updated: January, 2001. Day D, *Health Emergency 2001: The Spread of Drug-Related AIDS and Hepatitis C Among African Americans and Latinos*. Princeton, NJ: Dogwood Center Publications, 2000.

[8] Day D, *Health Emergency 2001: The Spread of Drug-Related AIDS and Hepatitis C Among African Americans and Latinos*. Princeton, NJ: Dogwood Center Publications, 2000.

[9] Centers for Disease Control and Prevention. U.S. HIV and AIDS cases reported through June 2000. HIV/AIDS Surveillance Report. 2000; Midyear Edition Vol. 12(1):12-13. Categories include: IDUs, people who have had sex with an IDU, and children whose mothers are IDUs or have had sex with an IDU.

[10] Centers for Disease Control and Prevention. U.S. HIV and AIDS cases reported through June 2000. HIV/AIDS Surveillance Report. 2000;Midyear Edition Vol.12(1):22.

[11] Holmberg SD. The estimated prevalence and incidence of HIV in 96 large U.S. metropolitan areas. *American Journal of Public Health.* 1996;86:642-654.

[12] Alter MJ, Moyer LA. The Importance of Preventing Hepatitis C Virus Infection Among Injection Drug Users in the United States. *Journal of Acquired Immune Deficiency Syndromes and Human Retrovirology* 1998: 18 (Supp.1):S6-S10. Of the cases of HCV occurring in persons younger than 30 years of age, most can be attributed to IDU.

[13] Alter MJ, Moyer LA. The Importance of Preventing Hepatitis C Virus Infection Among Injection Drug Users in the United States. *Journal of Acquired Immune Deficiency Syndromes and Human Retrovirology* 1998: 18 (Supp.1):S6-S10. This may be because percutaneous transmission is more efficient for HCV than for other viral infections, see: MacDonald MA, et al. Hepatitis C Virus Antibody Prevalence Among Injecting Drug Users at Selected Needle and Syringe Programs in Australia, 1995-1997. *Medical Journal Australia*. Vol. 172. January 2000; Hagan H, McGough JP, Thiede H, Weiss NS, Hopkins S, Alexander ER. Syringe Exchange and Risk of Infection with Hepatitis B and C Viruses. *American Journal of Epidemiology* 1999:149(3):203-213.; Garefin RS, Doherty MC, Moterroso ER, Thomas DL, Nelson KE, Vlahov D. Prevalence and Incidence of Hepatitis C Virus Infection Among Young Adult Injection Users. *Journal of Acquired Immune Deficiency Syndromes and Human Retrovirology* 1998: 18 (Supp.1):S11-S19.

[14] Thorpe L, et al. Hepatitis C Virus Infection: Prevalence, Risk Factors, and Prevention Opportunities among Young Injection Drug Users in Chicago, 1997-1999. *Journal of Infectious Diseases.* Vol. 183. pp. 1588-94. 2000. High rate of HCV persistence coupled with its ability to produce chronic liver disease indicate that current IDU populations will experience the bulk of future HCV-associated morbidity and mortality in the United States.

[15] Alter MJ, Moyer LA. The Importance of Preventing Hepatitis C Virus Infection Among Injection Drug Users in the United States. *Journal of Acquired Immune Deficiency Syndromes and Human Retrovirology* 1998: 18 (Supp.1):S6-S10.

[16] Day D, *Health Emergency 2001: The Spread of Drug-Related AIDS and Hepatitis C Among African Americans and Latinos*. Princeton, NJ: Dogwood Center Publications, 2000.

[17] Abdala N, Stephens PC, Griffith BP, Heimer R. Survival of HIV-1 in Syringes. *Journal of Acquired Immune Deficiency Syndromes and Human Retrovirology* 1999: 20(1):73-80. The likelihood of viral survival increases as the volume of infected blood left behind in syringe increases. This research supports validity of SEP's because not only do they increase supply of sterile syringes, but they also remove potentially contaminated syringes from circulation. See also: Shah SM, Shapshak P, Rivers JF, Stewart RV,

Weatherby NL, Xin KQ, Page JB, Chitwood DD, Mash DC, Vlahov D, McCoy CB. Detection of HIV-1 DNA in needle/syringes, paraphernalia, and washes from shooting galleries in Miami: A preliminary report. *Journal of Acquired Immune Deficiency Syndromes*. 1996;11:301-306.

[18] Centers for Disease Control and Prevention. Publication of HIV-prevention bulletin for health-care providers regarding advice to persons who inject illicit drugs. *Morbidity and Mortality Weekly Report*. 1997;46:510.

[19] Lurie P, Jones TS, Foley J. A Sterile Syringe for Every Drug User Injection: How Many Injections Take Place Annually, and How Might Pharmacists Contribute to Syringe Distribution? *Journal of Acquired Immune Deficiency Syndromes and Human Retrovirology* 1998: 18 (Supp.1):S45-S51. Estimates were calculated by multiplying the estimated number of IDUs by the average number of daily injections by 365 days. Estimates of the number of IDUs in the United States vary between 900,000 (CDC) and 1.64 million (NASADAD). The national average number of daily injections (2.8) was derived from regional SEP survey data.

[20] Gershon RRM. Infection Control Basis for Recommending One-Time Use of Sterile Syringes and Aseptic Procedures for Injection Drug Users. *Journal of Acquired Immune Deficiency Syndromes and Human Retrovirology* 1998: 18 (Supp.1):S20-S24; Koester S. Following the Blood: Syringe Reuse Leads to Blood-Borne Virus Transmission Among Injection Drug Users [letter]. *Journal of Acquired Immune Deficiency Syndromes and Human Retrovirology* 1998: 18 (Supp.1):S139-140. Although each IDU may use his or her own sterile syringe, multiple variations in the drug preparation and injection process can cause an IDU to inadvertently compromise the effectiveness of that use: an IDU might return his just used syringe to the drug mixing container and cotton filter to obtain any drug residue that was left behind from the initial injection; water used for rinsing syringes might be subsequently used for dissolving drugs into solution; or a single contaminated syringe might be used to mix and distribute each participating IDU's share of the drug.

[21] Lurie P, Reingold A. *The Public Health Impact of Needle Exchange Programs in the United States and Abroad (prepared for the Centers for Disease Control and Prevention)*. Berkeley, CA: University of California, School of Public Health, and San Francisco, CA: University of California, Institute for Health Policy Studies; 1993:61. Sweden is the only European country with a prescription law. The two other countries in Europe or Oceania to enact such laws—Austria and France—repealed them in the mid-1980s.

[22] *Asian Harm Reduction Network Newsletter*. 1996;1:1-8. For further information, contact Paul Deany at Macfarlane Burnet Centre for Medical Research, POB 254, Fairfield VIC 3078 Australia (Tel: +61 3 9282 2213; Fax: +61 3 9482 3123; E-mail: deany@burnet.mbcmrunimelb.edu.au). Ball AL, Rana S, Dehne KL. HIV Prevention Among Injection Drug Users: Responses in Developing and Transitional Countries. *Public Health Reports*, June 1998: 113 (Supp.1):170-181.

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City	Preventable HIV Infections 1987-1995	Unnecessary treatment costs 1987-1995	Preventable HIV Infections 1996-2000	Unnecessary treatment costs 1995-2000
Atlanta	186	$10,349,040	234	$13,019,760
Baltimore	499	$27,764,360	632	$35,164,480
Boston	182	$10,126,480	209	$11,628,760
Chicago	561	$31,214,040	710	$39,504,400
Dallas	39	$2,169,960	44	$2,448,160
Detroit	152	$8,457,280	188	$10,460,320
Gary, IN	14	$778,960	18	$1,001,520
Houston	260	$14,4666,400	328	$18,249,920
Los Angeles	95	$5,285,800	100	$5,564,000
Miami	297	$16,525,080	360	$20,030,400
N.Y. City	2,308	$128,417,120	2,605	$144,942,200
Newark	397	$22,089,080	388	$21,588,320
Philadelphia	641	$35,665,240	810	$45,068,400
San Juan	315	$17,526,600	382	$21,254,480
Seattle	48	$2,670,720	60	$3,338,400
Wash., D.C.	646	$35,943,440	817	$45,457,880

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Massachusetts, along with Washington, DC, have exceptions for SEP operators and participants. Washington state recognizes such an exception based on case law. New York, Maine, and Minnesota have modified their laws to allow possession of up to ten syringes; Connecticut now permits possession of up to 30.

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