



Community AIDS Partnership

Policy Brief
Needle Exchange Programs in Maine
1997 – 2007

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NEEDLE EXCHANGE PROGRAMS (NEPs) IN MAINE 1997-2007

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For injection drug users who can not or will not stop injecting drugs, the once-only use of sterile needles and syringes remains the safest, most effective approach for limiting HIV transmission.

National Academy of Sciences 1995

INTRODUCTION

This paper provides data and description of Maine's needle exchange programs (NEPs) during the period of 1997 through 2006. This document also includes pertinent data from the national experience regarding the development and implementation of "harm reduction" and needle exchange programs. Recommendations regarding NEPs are also summarized.

Most of the needle exchange programs in Maine are part of larger HIV and HCV prevention programs, which are designed to reduce the harm to health that is often experienced by injection drug users (IDUs). The underlying framework is that persons who inject drugs, legal or not, are a valuable part of society (further information about this framework can be found in Appendix A). Many IDUs have families and jobs, and should have access to health care, appropriate health education messages and other resources. One of the critical components of this approach is access to sterile syringes. HIV prevention programs that include needle exchange typically also distribute wound care kits, provide referral for drug treatment and/or other medical and social services, distribute food, blankets, personal hygiene kits, and provide screening and treatment for abscesses and other injuries incurred through syringe use. A few provide testing for hepatitis C (HCV), as well as vaccinations for hepatitis A and B. Most, in Maine, provide HIV counseling, testing, and referral services.

Seventeen percent of the almost 1,200 persons living with HIV/AIDS in Maine, as of January 1, 2007 can be attributed directly or indirectly to injecting drug use. (14% IDU + 3% MSM/IDU = 17%, *Maine HIV incidence January 1 to December 31, 2006*, Maine Centers for Disease Control (MCDC)).

Eleven percent of the new HIV diagnoses in Maine in 2006 and eight percent of people currently living with HIV in Maine are heterosexuals who have (or had) contact with at-risk partners. Evidence suggests that sexual partners of injection drug users constitute a large proportion of these individuals. Sexual partners of IDUs are among those who most directly benefit from reduced HIV risk among IDUs and they may be in a key role to encourage participation in NEPs. The distribution of the persons living with HIV/AIDS in

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Maine is changing over time and now less than half of persons living with HIV reside in Cumberland and York Counties. Thirty-four percent are from central Maine and 17% are in Northern Maine, which includes Washington and Hancock Counties. Of the 57 people who tested positive for HIV in 2006, 19% were in northern Maine, 39% were in central Maine, and just 42% were in southern Maine, a trend line that runs counter to the state's earlier experiences of the epidemic. *All Maine data citations are drawn from Maine HIV incidence January 1 to December 31, 2006, MCDC – copy can be found in Appendix E.*

According to the North American Syringe Exchange Network (NASEN), as of 2003, there were approximately 148 needle exchange programs operating in the United States (Reuters, 2005). In comparison, four programs currently operate in Maine (Down East, Bangor, Augusta, Portland).

David R. Gibson et al. summarized national and overseas studies (N = 25), which revealed that NEPs generally are correlated with either a reduction in HIV seroconversion, or that there has been a neutral, or null, effect. Gibson carefully reviewed these data “for settings with versus without legal pharmacy access,” and stated that eleven studies revealed the null effect, and twelve studies revealed fewer persons seroconverting. (Gibson, UCSF, 2001) Appendix B contains a summary of these findings.

BACKGROUND - MAINE

In Maine there has been a significant decrease in HIV infection among IDUs between 1997 and 2006, largely attributable to NEPs. According to MCDC data, the proportion of persons diagnosed annually with HIV from injection drug use dropped from 25% to 9% (12 to 5 cases). (*New HIV diagnoses in Maine among injection drug users and MSM/IDU 1987-2006 MCDC*)

All of Maine's existing NEPs were developed during the period of 1998 through 2006. In every area except Lewiston, where the agency sponsoring the program subsequently merged and their certification was revoked, both the programs and the number of participants have been increasing (details below).

Maine has experienced a rapid rise in heroin use following the emergence of significant rates of Oxycontin abuse. Alongside this increase in heroin use, there has also been an increase in overdose deaths. Fortunately this has been coupled with increased access to methadone treatment and improved availability of seboxone treatment.

Injection drug use is one risk behavior suggested to predict the likelihood that an individual develops HCV infection. The Center for AIDS Prevention Studies (CAPS) at the University of California-San Francisco, studying data from abroad and nationally, predicts that “up to 90% of IDUs are estimated to be infected with hepatitis C; ...hepatitis B is also transmitted via injection drug use” (Lurie, 1992). It is estimated that 3.8 million Americans and 20,000 Maine residents have been infected with the virus that causes hepatitis C at least once during their lives. Injection drug use is the primary mode of transmission, with the virus being transmitted through the sharing of needles, syringes, and other drug paraphernalia (*Viral Hepatitis Prevention and Control: An Action Plan for Maine 2005-2007, MCDC*).

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Outreach to current and former injection drug users in Maine through prevention interventions and needle exchange programs are currently operating in only five areas. The Portland NEP is the longest running program, while Bangor is home to the fastest growing NEP. More recently established NEP programs in Augusta/Waterville, Ellsworth, and Calais are expected to see growth in line with that experienced in Bangor.

In 2003 the Maine CDC published a report that summarized most Maine data from 1996 – 2000. Titled, *HIV Prevention and Injection Drug Use in Maine: A Statewide Needs Assessment*, the report contains substantial useful information that will not be repeated in this report. One of the five key recommendations from the 2003 report is the need to expand both the number of needle exchange programs and the accessibility of those programs.

In 2005 the Maine Community AIDS Partnership convened the Maine NEP Providers Group in an effort to support great coordinate and sharing of resources to advance initiatives in HIV and HCV prevention in the State of Maine. Participants included MCAP, the Maine AIDS Alliance and representatives/advisors from all of the needle exchange programs. This group is worked to strengthen the service delivery capacity of syringe access programs, to identify issues and obstacles to greater care, to increase cost effectiveness, and to increase public and financial support of these vital programs. In a related effort, MCAP is currently working with HIV providers to explore the potential for certifying a NEP in York County. The group also conducted a convenience sample survey of 187 current and former injection drug users and data from that survey is included later in this report.

BENEFITS OF NEEDLE EXCHANGE PROGRAMS.

Needle exchange programs (NEPS) in Maine distribute clean syringes and, in a 1 for 1 exchange, take in used/dirty syringes as well as related materials, such as cookers. In so doing, NEPs reduce the likelihood of hepatitis and/or HIV infection transmission AND help reduce the number of contaminated syringes in parks, city streets, parking lots and schoolyards. Exchange programs also reduce the likelihood that police officers and other first-responders get stuck with contaminated syringes while conducting searches of persons suspected to be carrying contraband or weapons (Des Jarlais, 1994). NEP programs typically provide referrals for drug treatment, as well as other health and social services, such as shelters for homeless persons. Additionally, NEP staff either provide or refer clients for HIV counseling and testing, and thus are able to give persons at increased risk for contracting HIV both information about their serostatus and counseling to reduce the risk of spreading HIV and HCV/HBV infection.

NEPs also have the potential to play a role in the implementation of secondary prevention programs addressing C through the identification of existing cases of hepatitis C. There are a number of factors that have been shown to increase progression/risk of negative health outcomes for people with hepatitis C. These include co-infection with hepatitis A and B. The NEPs could provide a venue for preventing these diseases. NEPs could also be used as a means for providing information about HCV treatment options and making referrals for medical management and treatment. (Stegmier, 2006)

2006 Maine Survey – Key Findings

1. Retail purchase of syringes in pharmacies continues to be a challenge. In a convenience sample survey of 187 current and former IDUs conducted by the Maine NEP Provider Group during the summer of 2006, participants reported that it was difficult to obtain syringes and/or works from pharmacies or other sources. This finding confirmed anecdotal reports and reinforced concerns regarding the potential for such difficulties to contribute to increasing the likelihood of IDUs sharing previously used syringes. Barriers to obtaining syringes from pharmacies included being asked for a prescription, being asked for identification, and pharmacists declining to sell syringes without citing a reason. Follow-up telephone surveys of pharmacies in the Augusta area and in Portland confirmed that most pharmacies put up barriers such as the examples cited above, and many also have logs that purchasers are required to sign documenting syringe purchases.

2. There are inadequate opportunities for safe disposal of used needles. Used or dirty needles that are not exchanged are most frequently disposed of with regular trash, in dumpsters, flushed into sewer or septic systems, or dropped into street storm drains. These disposal methods are of tremendous concern. Used sharps may hold blood infected by HIV or HCV and someone who accidentally gets cut by a used sharp that has not been properly disposed of could easily become infected by this contaminated blood. Better and broader access to safe disposal sites, such as NEPs, can help reduce hazardous waste risk to the environment and minimize the risk of accidental needle sticks in the general population.

3. IDUs would exchange more than 10 needles at a time if permitted. Multiple studies document that IDUs who have access to clean needles will use them. Nearly two-thirds of survey respondents (61.8%) reported that they would exchange more than 10 needles if we let them. An additional 15.6% were unsure. Among the 22.5% who indicated that they would not exchange more than 10, the primary reason cited was that they already had other sources from whom they could obtain more than 10 syringes at once.

MAINE’S EXPERIENCE WITH NEEDLE EXCHANGE PROGRAMS

The experience with needle exchange programs in Maine is fairly well documented.

The following profiles highlight key prevention activities among the five active needle exchange programs currently operating in Maine. The data were reported to MCAP and to MCDC, as required by funding contracts (MCAP) and state law (Title 22, Chapter 252 §1341 3).

Summary of NEP Activities in Maine 1997-2006:

Please note that the data for several programs are incomplete because records have not been kept consistently. Part of this has been due to personnel changes. However, cumulative data, for example, are complete for most of the programs described below.

Locations: Augusta/Waterville, Bangor, Calais, Ellsworth, Portland

Funding: One key source has been the Maine Community AIDS Partnership, although most programs receive some funding from private or corporate donations. The Syringe

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Access Fund contributed significantly to the Augusta area needle exchange program to help it become established.

Year programs began: First activities were in Portland, November 1, 1998.

Syringes distributed (minimum): 28,822

Syringes taken in (minimum): 33,183

Note: The “one for one” exchange practice is usually observed, but not always. In some instances, exchange participants will bring in more than 10 syringes, even with the knowledge that they can currently only receive 10 clean syringes in exchange. The number of syringes exchanged in each transaction ranges from 7 to 10. State rules currently require a one-for-one exchange in which the participant receives one clean syringe for each dirty syringe they turn in, up to a maximum of 10.

Total number of people served through NEPs: 555

Total number of NEP participants referred for drug treatment: More than 155

Other related services: Wound care, triage/medical assessments, HIV counseling, testing, and referral; food in pre-packaged units (e.g., Hostess Twinkies, fruit, sandwiches, etc.), personal hygiene kits (e.g., toiletries, soap, toothbrushes, toothpaste, wet wipes, disposable razors, tampons, “Kleenex” type tissues), referral for shelter, referral to soup kitchens, financial aid, legal assistance, and distribution of bus passes and/or other incentives.

1. City of Portland, Public Health Division, Infectious Disease Program

Background: The largest and oldest licensed NEP in Maine, which currently operates from a health clinic co-located with HIV treatment and prevention programs, HIV/STD counseling, and other public health services.

Location: The central office is on India Street.

Funding: Maine Community AIDS Partnership,(1997 – present), Syringe Access Fund (2006-2008) and private donations.

Year NEP began: 1998.

Syringes distributed to date: 13,707 (11,207 confirmed, plus an estimated 1,000 in 2001 and 1,500 in 2002).

Syringes taken in: Approximately 15,552 (13,052 plus an estimated 2,500 needles for 2001 and 2002 – years for which our data is incomplete)

Total number of clients served through NEP: Registered participants = 366.

Other related services: HIV counseling, testing, and referral services; referral for legal services, shelter, food, financial aid, and wound care; on-site access to counseling and

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testing, as well as medical screening and treatment. HCV testing is also provided.

2. Eastern Maine AIDS Network (EMAN)

Background: EMAN started a fixed site needle exchange program in 2002 with funding from the Maine Community AIDS Partnership (MCAP). It was situated in an office building above a bank in downtown Bangor. Mobile exchange was offered during the first three years. In 2005 the program eliminated mobile exchange due to staffing changes and a 2003 office move to a downtown strip mall. All staff and many volunteers have been trained to conduct exchanges, allowing the availability of expanded operating hours.

Location: Downtown Bangor

Funding (both past and present): Maine Community AIDS Partnership, and private donations

Year NEP began: 2002.

Syringes distributed: 14,751 (14,401 confirmed plus an estimated 350 in 2002)

Syringes taken in: 15,930 (15,580 plus estimated 350 in 2002)

Total number of clients served through NEP: 215 clients registered, 141 active in 2006.

Other services: Distribution of blanket, toiletries, and food; referrals for shelter, financial aid, wound care, and medical screening and treatment.

3. Health Reach Substance Abuse Prevention Services

Background: Formerly Dayspring AIDS Support Services, the Health Reach sponsored NEP is in its third year of operation and is growing rapidly.

Location: The central office is in Augusta.

Funding: Syringe Access Fund (2005-2007), Maine Community AIDS Partnership (2007), and Private donations.

Year NEP began: 2005.

Syringes distributed: 2,957

Syringes taken in: 4000.

Total number of clients served through NEP: 37

Other services: Referral for drug treatment, HIV counseling and testing, and referral; referral for first aid and wound screening and treatment, referral for social and mental

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health services.

4. DownEast AIDS Network

Background: DEAN was one of the first agencies certified to conduct needle exchange in Maine, but did not act on that certification until 2006. Most exchanges are conducted by trained volunteers.

Location: There is a part-time staff person at the Ellsworth office. DEAN utilizes both fixed site and mobile exchange. The second fixed site location was in Calais operating a limited hours each week. In 2007 the fixed site was moved to Machias.

Funding: Maine Community AIDS Partnership (2007), Syringe Access Fund 2006 – 2007, and private donations.

Year NEP began: 2006.

Syringes distributed: 150

Syringes taken in: 150

Total number of clients served through NEP: 11

Other services provided: Condom distribution, referral for drug screening and treatment, HIV counseling, testing and referral.

Future plans: Program intends to expand to include mobile exchange capacity, partner with more pharmacies to distribute information about the program to diabetics and persons who purchase syringes without a prescription, and move the Calais fixed site exchange to Machias or Lubec.

POLICY CONSIDERATIONS

Needle exchange programs have several implications for the development of policy, including:

1. NEPs can save many lives, yet can stir controversy among officials in local government, law enforcement, health and medicine, community leaders, and possibly among residents of the general community. Some people do not have a favorable view of drug users, and believe increased availability of sterile needles will only increase illicit drug use. Numerous studies document that these fears are unfounded, but the fears persist regardless.
2. State laws in Maine enable an individual without a prescription to purchase up to 10 syringes. However, each pharmacist has the option of not selling syringes if to do so would violate their personal beliefs. Some pharmacists and some pharmacy businesses impose barriers to syringe sale, despite 15 years of outreach and education.
3. NEPs are less expensive than paying the cost of care for an individual who has HIV/AIDS. According to a publication from the National Alliance of State & Territorial

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AIDS Directors (2005), the total lifetime cost of treating a single adult AIDS patient is \$288,000, based on an average of 20 years of medical care (NASTAD, 2005). To put these costs in perspective, in comparison, the average syringe exchange program in the United States and Canada was about \$168,650 per program in 1992 (Lurie & Drucker, 1997). Thus, if the NEPs prevent just a few cases of HIV, the savings will be substantial.

4. In Maine, the needle exchange portion of HIV prevention programs targeting injection drug users operate on less than \$25,000 / year with a combination of paid staff and trained volunteers. At this funding level, preventing just one new HIV infection could justify funding Maine's four existing NEPs for almost three years. The related programs and services, such as educational outreach, counseling and testing, and mental health services are provided through other funding sources, typically a combination of state substance abuse prevention and HIV prevention funds as well as federal HIV prevention funds.

5. It is not economically feasible to have needle exchange programs in every community. However, there is a move to attempt to develop NEPs in Androscoggin and York counties. The EMAN NEP primarily serves Bangor residents. Thus, it may be necessary to explore creating an exchange in Aroostook County at some time in the future. By removing the cap on the number of needles that can be exchanged during a given visit, Maine legislators and State government could provide a greater incentive for IDUs to periodically travel to NEP locations or to meet a NEP mobile exchange provider. These strategies should support each other to assure greater access to clean syringes for Mainers throughout the state.

6. Congress has prohibited the use of federal funds to develop, support, and evaluate needle exchange programs. The evolution of needle exchange policies and programs has been, and will continue to be, limited by this prohibition.

RECOMMENDATIONS

Based on these policy considerations, many HIV/AIDS and hepatitis policy makers recommend:

1. The establishment of additional needle exchange programs (NEPs) that includes participation of all appropriate members of government and the community working in collaboration to develop programs appropriate to their at-risk population. Collaboration and community support are essential to the success of any NEP.
2. The decriminalization of syringe possession, transportation, and furnishing.
3. That additional funding be allocated to expand opiate addiction treatment and outpatient recovery maintenance programs.
4. That the federal government rescinds its position which currently prohibits the use of federal funds for research, development, implementation, and evaluation of needle exchange programs. The federal government should be encouraged to fund these efforts.
5. Expanded education among pharmacists regarding the rationale for syringe distribution discretion as it applies to injecting drug users.

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6. Expanded opportunities to safely dispose of used syringes in safe and confidential locations such as public restrooms, train and bus stations, airports, public parks, beaches, rural health centers, physician offices, and hospitals.

ORGANIZATIONS WHICH ENDORSE NEEDLE EXCHANGE PROGRAMS

1. American Academy of Pediatrics
2. American Civil Liberties Union
3. American Foundation for AIDS Research
4. American Medical Association
5. American and Canadian Public Health Associations
6. Johns Hopkins School of Hygiene and Public Health
7. Institute of Medicine & National Academy of Sciences
8. National Commission on AIDS

APPENDIX A

DESCRIPTION OF “HARM REDUCTION” & NEEDLE EXCHANGE

Several communities and public health officials in the United States have considered and/or have adopted needle exchange programs to help curb infection among IDUs. As the epidemic shifts to include not only men who have sex with other men, but also IDUs and their sexual partners, new ways of preventing disease transmission become increasingly important (Satcher, 2000).

Needle exchange programs have been implemented in some communities using the "Harm Reduction Model." This framework stipulates that those who use injecting drugs, whether legal or not, are an important and valuable part of society. Many IDUs have families and, more often than not, are employed. The model asserts that IDUs must have access to the means which will empower them to care for themselves, ensure good health, and become educated about HIV and other bloodborne diseases. Essential to the “harm reduction model” is gaining access to sterile needles and sterile drug injection equipment, as well as working with local government, police, and social and health services (Springer, 1991).

Needle exchange programs often include several components: exchanging used needles for sterile ones, as well as obtaining cookers, cotton, water for injection, bleach for cleaning works, and alcohol pads for pre-cleaning injection sites on the body. NEPs may also distribute condoms, arrange for nutritional meals and other social support services, and serve as a referral source for IDUs to enter substance abuse treatment programs. (Satcher, 2000)

Many research articles treat needle exchange as a public health issue, and advocates suggest that development of programs requires a combination of efforts which reflect both the “harm reduction model” and community-level public health programs. Goals of a comprehensive program include:

1. Reducing the incidence and prevalence of needle use and reducing the spread of disease;
2. Diminishing unhealthy behaviors while simultaneously respecting the worth of individuals who engage in the behavior.

Given the serious health threats posed by HIV, TB, and hepatitis to the community at large, an aggressive and multi-faceted public health approach is necessary.

Through needle exchange programs, clients are provided with information about, and access to, drug treatment programs, as well as HIV counseling, testing and referral. NEPs should therefore be regarded as a critical part of community social and health services. Rather than viewing NEPs as capitulating to the habits of IDUs, NEPs may be seen as a humane, efficient, and practical conduit to programs which will ultimately reduce the incidence and prevalence of needle use and disease transmission, as well as many of the problems affecting IDUs as a result of their drug use. Public service announcements must emphasize that NEPs serve to diminish disease threats, such as HIV, hepatitis, STDs, TB, etc., to the community at large, and do not in any way condone

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unhealthy behaviors; respecting the individual is separate from endorsing risk activities.

APPENDIX B

EVALUATION STUDIES OF NEEDLE EXCHANGE PROGRAMS

1. Paone, D, Clark J, Shi Q, Purchase D, Des Jarlais DC. “Syringe Exchange in the United States, 1996: a National Profile.” *American Journal of Public Health*, January 1999, Vol 89(1), pp. 43-46.

Methodology: In November 1996, questionnaires were sent to 101 NEPs. Data were collected about number of syringes exchanged, operations, legal status, and services offered.

Results: Eighty-seven programs participated in the survey, 46 (53%) were legal, 10 (23%) were illegal but tolerated, and 21 (24%) were illegal and underground. Since 1994, there has been a 54% increase in the number of cities and a 38% increase in the number of states with NEPs. 84 programs reported exchanging approximately 14 million syringes, a 75% increase from 1994. Most reported providing more services than just needle exchange.

2. Des Jarlais DC, Perlis T, Friedman SR, Deren S, et al. “Declining Seroprevalence in a Very Large HIV Epidemic: Injecting Drug Users in New York City, 1991 to 1996.” *American Journal of Public Health*, Vol. 88(12), pp. 1801-1806, 1998.

Methodology: Analyzed temporal trends in HIV seroprevalence from 1991 to 1996 in five studies of IDUs recruited from a detox program, a methadone maintenance program, two research storefronts in Manhattan, and STD clinics. 11,334 serum samples were tested.

Results: During this time, HIV seroprevalence declined substantially among subjects in all five studies, from 53% to 36% in the detox program, 45% to 29% in the methadone program, 44% to 22% and 48% to 21% in the Manhattan storefronts and 30% to 21% in the STD clinics. Authors conclude that the decline in seroprevalence represents a “new phase” in the HIV epidemic, given that NYC has the largest AIDS epidemic among IDUs in the world. Des Jarlais, et al. assert that “[p]otential explanatory factors include the loss of HIV seropositive individuals through disability and death and lower rates of risk behavior leading to low HIV incidence.”

3. Brooner R, Kidorf M, King V, Bielenso P, Svikis D, Vlahov D. “A Drug Abuse Treatment Success among Needle Exchange Participants.” *Public Health Reports*, 113; Supplement 1: pp. 130-139, June 1998.

Methods: New admissions (1994-1997) to an opioid agonist treatment program were grouped by referral source (NEP N=82, vs. standard referrals, N = 243), and then compared on demographic/clinical variables and response to treatment during first three months. Outcome measures included retention rates, self reported drug use and injecting frequencies, self reported illegal activities for profit, and results from weekly urinalysis testing for drugs.

Results: Patients from NEP were older, had greater severity of drug use than the

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standards, and were more likely to be male, African American, and unemployed. Despite differences, both groups achieved comparably good short term treatment outcomes, including reduced drug use and criminal activity for profit. Data demonstrated feasibility and merits of creating strong linkages between NEPs and more comprehensive drug abuse treatment clinics.

4. Hagan H, McGough JP, et al. "Reduced Injection Frequency and Increased Entry and Retention in Drug Treatment Associated with Needle Exchange Participation in Seattle Drug Injectors." In Press: Journal of Substance Abuse Treatment.

Methods: Participants included IDUs classified according to whether they had used a needle exchange by study enrollment and during the 12 month follow-up period.

Results: IDUS who had formerly been exchange users were more likely than never-exchangers to report a substantial ($\geq 75\%$) reduction in injection, to stop injecting altogether, and to remain in drug treatment. New users of NEP were five times more likely to enter drug treatment than never-exchangers.

5. Hagan, Holly, et al. "An Interview Study of Participants in the Tacoma, Washington, Syringe Exchange." [Journal of] Addiction 1993, No. 88.

Methodology: Staff counted exchange transactions with each client and estimated the number of clients using the exchange between November 1988 and December 1989. Initial and follow-up interviews were conducted with randomly selected clients; participants were queried about demographic background, drug-injection practices, and sexual behavior. An honorarium of \$5 was given to participants after each interview; 284 exchange users were selected; 204 (72%) agreed to be interviewed.

Results: The sample of 204 study subjects reported no significant change in the frequency of injection (155 to 152 injections per month), and a decline in the frequency of unsafe injections (56 to 30 times per month) while participating in the program. The program has also resulted in the reduced incidence of hepatitis B infection and improved access to health and social services.

6. Jones, Paula, et al. "Initiating Needle Exchange Programs," AIDS Information Exchange, US Conference of Mayors, October 1994, Vol. 11, No. 3.

Methodology: A descriptive history of the politics and efforts to initiate a NEP is presented.

Results: The Mayor of Baltimore, MD took the lead in initiating a needle exchange program, working with the legislature, health department, and social services to coordinate the NEP. The program began in July 1994 and efforts were made to screen 700 to 1,000 participants during the first year. Services are provided at two sites and include: HIV C&T; TB skin testing and referral to chest clinic; syphilis serology; referral to STD clinic; drug treatment intake documents; drug treatment referral; and case management.

APPENDIX C

SCIENTIFIC DATA & RESEARCH

In only two cities where studies were conducted were there negative results from conducting a needle exchange program (Bruneau, 1997; Strathdee, 1997; both were studies of Canadian programs). However, each of these studies had flaws in their methodology, as one of the key authors later acknowledged.

Below are key findings from scientific data and research regarding harm reduction and/or needle exchange programs:

1. NEPs and new drug injectors. Scientific research demonstrates that needle exchange programs do not increase the number of new drug injectors (Des Jarlais, 1994; Gibson, Editorial, J AIDS, 2001). Programs in Connecticut and in Washington state, as well as programs in Puerto Rico, have had well-documented success in referring IDUs to drug abuse treatment programs (Heimer, 1994; Hagan, 2000; Robles, 1998).

2. Benefits of NEPs are clear. Research indicates that NEPs curb HIV infection; reduce rates of hepatitis B/C among IDUs; increase access to treatment for IDUs; are more cost effective than prison; and eliminate contaminated syringes from playgrounds and streets (Satcher, 2000).

The number of times a needle is used dropped significantly among syringe exchange users in Connecticut and Hawaii (Heimer, 2002).

3. Evaluation of the benefits of NEPs has been undertaken in several communities.

These evaluation studies typically measure risk reduction and have demonstrated either a neutral or a positive effect among program users. Des Jarlais et al. measured the effectiveness of the New York City Syringe Exchange Program in what may have been the largest study of its kind. The study assessed the impact of the program among high risk individuals and demonstrated reductions in HIV risk behavior and low observed rates of HIV seroconversion. The research team concluded that "regular participation in these syringe exchange programs would reduce the risk of new HIV infection by approximately half" (Des Jarlais, 1994; Gibson, et al, 2001; Gibson, et al, 2002; Satcher, 2000).

4. Evaluation of seroconversion rates among IDUs participating in NEPS. Studies were conducted in Portland, Oregon; Amsterdam, the Netherlands; Lund, Sweden; and London, England. Seroconversion rates varied from 0 to 4 percent (Lurie, 1992). Evaluation of seroconversion was built into the NEP in New Haven, Connecticut. Evaluators found that there was about a one-third reduction in new infections, based on tests of exchanged syringes (Heimer, 1998). Reduction in the incidence of hepatitis B was also found in Portland, Amsterdam, and London (Stryker, 1993).

5. Prevention of HIV transmission. Stryker et al. found that an HIV epidemic has not occurred among IDUs in several cities, including Lund, Sweden; Athens, Greece; Glasgow, Scotland; and Sydney and Melbourne, Australia. In each city, seroprevalence among IDUs has been at, or less than 5%, largely because some form of legal access to sterile injection equipment has been provided (Stryker, 1993).

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6. Federal support for NEPs. At the date of this paper, evaluation research which examines U.S. needle exchange programs is limited because federal funds cannot be used to support NEPs. Regardless of the absence of federal support, new harm reduction and needle exchange programs, funded primarily by private resources, continue to emerge out of response to the AIDS crisis.

Syringe Exchange Programs: Cost Effectiveness Figures

Seattle & King County Needle Exchange Program (March 31, 2004).

<http://www.metrokc.gov/health/apu/resources/fneedle.htm>.

- Combined total cost for needle exchange programs in Seattle-King County in 2001 is \$775,000.
- This compares with \$120,000-\$150,000 in medical costs to care for just one person with AIDS from the time of infection to death.
- By preventing infections in just 5 people per year, the needle exchange more than pays for itself.
- By preventing HIV infections in just 1% of the injection drug users in King County, the program saves over \$18 million in AIDS-related medical costs.

Update: Syringe Exchange Programs—United States, 2002. (July 15, 2005).

MMWR,

54(27).

- *Method:* “In December 2002, staff from Beth Israel Medical Center (BIMC) in New York City and the North American Syringe Exchange Network (NASEN) mailed surveys about syringes exchanged and returned, services, provided, and budgets and funding to the directors of all 148 SEP’s known to NASEN...126 (85%) completed the survey.”
- *Results:* “One hundred ten of the 126 SEPs reported 2002 budget information. The reported budgets totaled \$13.0 million. Individual fixed budgets ranged from \$0 (nine SEPs) to \$1,035,831 (mean: \$118,273; median: \$53,500).”

Laufer, Franklin N. (2001). Cost-effectiveness of syringe exchange as an HIV prevention strategy. *Journal of Acquired Immune Deficiency Syndromes*, 28(3): 273-8.

- *Method:* Looking at 7 New York State-approved syringe exchange programs.
- *Results:* A cost-effectiveness ratio of \$20,947 per HIV infection averted was calculated based on an estimated 87 HIV infections averted across the seven programs and total program costs of \$1.82 million.
- *Conclusions:* Syringe exchange is a cost-effective and cost-saving strategy for reducing HIV transmission.

Needle Exchange Facts (June, 2001). *AIDS Action*. <http://www.aidsaction.org>.

- The estimated annual budget for running a needle exchange program is \$169,000 per year.
- Mathematical models predict that NEPs prevent HIV infections at a cost of approximately \$9,400 per avoided HIV infection.
- Considering the lifetime cost of treating a person living with HIV/AIDS is approximately \$200,000, this represents a 95.3 percent savings per life.

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APPENDIX D

GLOSSARY

Terms used:

1. Center for AIDS Prevention Studies (CAPS);
2. Centers for Disease Control & Prevention (CDC);
3. HIV/AIDS Prevention & Intervention Section (HAPIS);
4. Injection drug users (IDUs);
5. Needle exchange programs (NEPs);
6. Men who have sex with men (MSM);
7. Maine Community AIDS Partnership (MCAP);
8. Maine Center for Disease Control (MCDC);
9. Viral Hepatitis type C (HVC);
10. Viral Hepatitis type B (HVB);
11. Maine Department of Health and Human Services, Center for Disease Control and Prevention (MCDC).

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NEEDLE EXCHANGE PROGRAMS (NEPs) IN MAINE 1997-2007

APPENDIX E

- a) Maine HIV Incidence, January 1 to December 31, 2006 (MCDC)
- b) HIV infections among injection drug users in Maine (MCDC)
- c) Aggregated syringe exchange data 1997-2006
(compiled from MCDC reports by MCAP)
- d) National HIV trends (CDC)

NEEDLE EXCHANGE PROGRAMS (NEPs) IN MAINE 1997-2007
Maine HIV Incidence, January 1 to December 31, 2006

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During 2006, 57 new HIV diagnoses were reported to the Maine CDC. Males who have sex with males continue to be disproportionately affected by HIV in Maine, accounting for 67% of new diagnoses. Just over 1,100 people are estimated to be living in Maine with diagnosed HIV infection. In addition, Maine CDC estimates that 500 persons in Maine may be infected but unaware of their HIV status. Therefore, the total estimate of people living with HIV in Maine is approximately 1,600.

The table below shows demographic characteristics for 2006 HIV diagnoses. It also presents data about people living in Maine with diagnosed HIV infection as of December 31, 2006.

(rounded percents in parentheses)

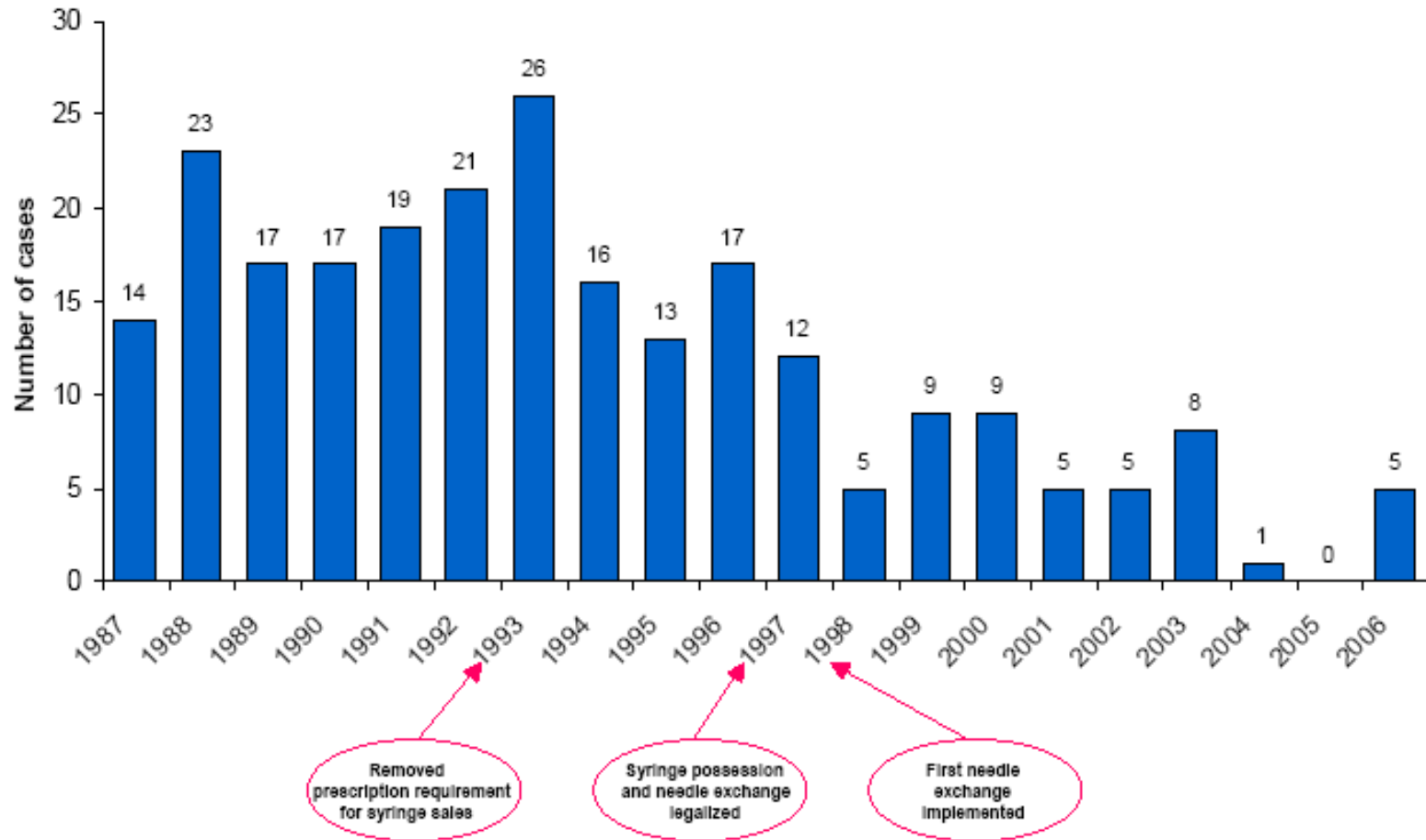
| Mode of Transmission | New HIV Diagnoses, 1/1/06 to 12/31/06 | People living in Maine with diagnosed HIV ¹ as of 12/31/06 |
|--|--|--|
| Males Who Have Sex with Males (MSM) | 37 (65) | 640 (57) |
| Injection Drug Users (IDU) | 4 (7) | 153 (14) |
| MSM/IDU | 1 (2) | 38 (3) |
| Received Contaminated Blood Products | 0 | 13 (1) |
| Heterosexual Contact with At-Risk Partners ² | 9 (16) | 128 (11) |
| Heterosexual, No At-Risk Partners Disclosed | 6 (11) | 94 (8) |
| Child Born to Mother with HIV | 0 | 11 (1) |
| Undetermined | 0 | 53 (5) |
| Total | 57 (100) | 1130 (100) |
| Sex | | |
| Male | 49 (86) | 939 (83) |
| Male-to-Female Transgender | 0 | 3 (<1) |
| Female | 8 (14) | 188 (17) |
| Total | 57 (100) | 1130 (100) |
| Race | | |
| White | 48 (84) | 1019 (90) |
| Black or African American | 9 (16) | 97 (9) |
| Asian | 0 | 3 (<1) |
| American Indian/Alaska Native | 0 | 9 (1) |
| Native Hawaiian/other Pacific Islander | 0 | 0 |
| More than one Race | 0 | 0 |
| Some Other Race | 0 | 0 |
| Unknown | 0 | 2 (<1) |
| Total | 57 (100) | 1130 (100) |
| Ethnicity | | |
| Hispanic | 1 (2) | 58 (5) |
| Not Hispanic | 56 (98) | 1027 (91) |
| Unknown | 0 | 45 (4) |
| Total | 57 (100) | 1130 (100) |
| Age at HIV Diagnosis | | |
| less than 13 | 0 | 9 (1) |
| 13-19 | 0 | 21 (2) |
| 20-29 | 16 (28) | 219 (19) |
| 30-39 | 11 (19) | 397 (35) |
| 40-49 | 19 (33) | 302 (27) |
| over 49 | 11 (19) | 118 (10) |
| Unknown | 0 | 64 (6) |
| Total | 57 (100) | 1130 (100) |
| Region of Residence | | |
| Northern (Aroostook, Hancock, Penobscot, Piscataquis and Washington Counties) | 11 (19) | 193 (17) |
| Central (Androscoggin, Franklin, Kennebec, Knox, Lincoln, Oxford, Sagadahoc, Somerset, and Waldo Counties) | 22 (39) | 382 (34) |
| Southern (Cumberland and York Counties) | 24 (42) | 554 (49) |
| Unknown | 0 | 1 (<1) |
| Total | 57 (100) | 1130 (100) |

¹Includes living AIDS cases and confidential HIV reports made to the Maine CDC through 12/31/06.

²Includes partners who are MSM, IDU or partners who are infected with HIV.

NEEDLE EXCHANGE PROGRAMS (NEPs) IN MAINE 1997-2007

New HIV diagnoses in Maine among injection drug users, 1987-2006



Maine CDC, 2007

NEEDLE EXCHANGE PROGRAMS (NEPs) IN MAINE 1997-2007

| Year | Agency | Total Enrolled | New Enrollees | Syringes In | Syringes out | # of Exchanges | # of offsite exchanges | Referrals 4 testing | Referrals 4 treatment |
|---------------------------------|-----------------|----------------|---------------|--------------|--------------|----------------|------------------------|---------------------|-----------------------|
| 1998 | Portland | 3 | 3 | 1 | 1 | 1 | | | |
| 1999 | Portland | 27 | 24 | 445 | 445 | 81 | | | |
| 2000 | Portland | 50 | 25 | 534 | 516 | 85 | 22 | 7 | 3 |
| <i>Est 2001</i> | <i>Portland</i> | | | 1000 | 1000 | | | | |
| <i>Est 2002</i> | <i>Portland</i> | | | 1500 | 1500 | | | | |
| 2003 | Portland | 170 | 48 | 3962 | 2626 | 351 | 48 | 10 | 5 |
| 2004 | Portland | 230 | 50 | 2228 | 2021 | 305 | 1 | 17 | 21 |
| 2005 | Portland | 276 | 51 | 3106 | 2823 | 396 | 29 | 39 | 22 |
| 2006 | Portland | 366 | 90 | 2776 | 2775 | 377 | 32 | 13 | 10 |
| Subtotal | Portland | | 291 | 15552 | 13707 | 1596 | 132 | 86 | 61 |
| <i>Est 2002</i> | <i>Bangor</i> | | 14 | 350 | 350 | | | | |
| 2003 | Bangor | 25 | 11 | 1042 | 872 | 92 | 26 | 5 | 5 |
| 2004 | Bangor | 55 | 30 | 2187 | 2154 | 226 | 27 | 8 | 33 |
| 2005 | Bangor | 111 | 56 | 3079 | 3159 | 337 | 2 | 16 | 26 |
| 2006 | Bangor | 141 | 88 | 9272 | 8216 | 939 | 0 | 15 | 17 |
| Subtotal | Bangor | | 185 | 15580 | 14401 | 1594 | 55 | 44 | 81 |
| 2005 | Augusta | 9 | 7 | 1000 | 357 | 48 | 0 | 4 | 0 |
| 2006 | Augusta | 37 | 28 | 3000 | 2600 | 260 | 0 | 25 | 9 |
| Subtotal | Augusta | | 35 | 4000 | 2957 | 308 | 0 | 29 | 9 |
| 2004 | Lewiston | 6 | 6 | 401 | 107 | 15 | 4 | 2 | 0 |
| 2006 | Wash/Hanc | 11 | 11 | 150 | 150 | 15 | 2 | 6 | 1 |
| 1998 | Total All Sites | 3 | 3 | 1 | 1 | 1 | | | |
| 1999 | Total All Sites | 27 | 24 | 445 | 445 | 81 | | | |
| 2000 | Total All Sites | 50 | 25 | 534 | 516 | 85 | 22 | 7 | 3 |
| 2003 | Total All Sites | 195 | 59 | 5004 | 3498 | 443 | 74 | 15 | 10 |
| 2004 | Total All Sites | 291 | 86 | 4816 | 4282 | 546 | 32 | 27 | 54 |
| 2005 | Total All Sites | 396 | 114 | 7185 | 6339 | 781 | 31 | 59 | 51 |
| 2006 | Total All Sites | 555 | 217 | 15198 | 13741 | 1591 | 34 | 59 | 37 |
| Combined Total All Sites | | | 528 | 33183 | 28822 | 3528 | 193 | 167 | 155 |

Notes:

2006 Data Bangor "cleaned" their enrollment files to remove anyone who was had not participated in an exchange in the past year
 2001 and 2002 data unavailable at this time, estimates based on MCAP data and trend line

**Proportion of AIDS Cases Among Adults and Adolescents,
by Transmission Category and Year of Diagnosis,
1985–2003—United States**

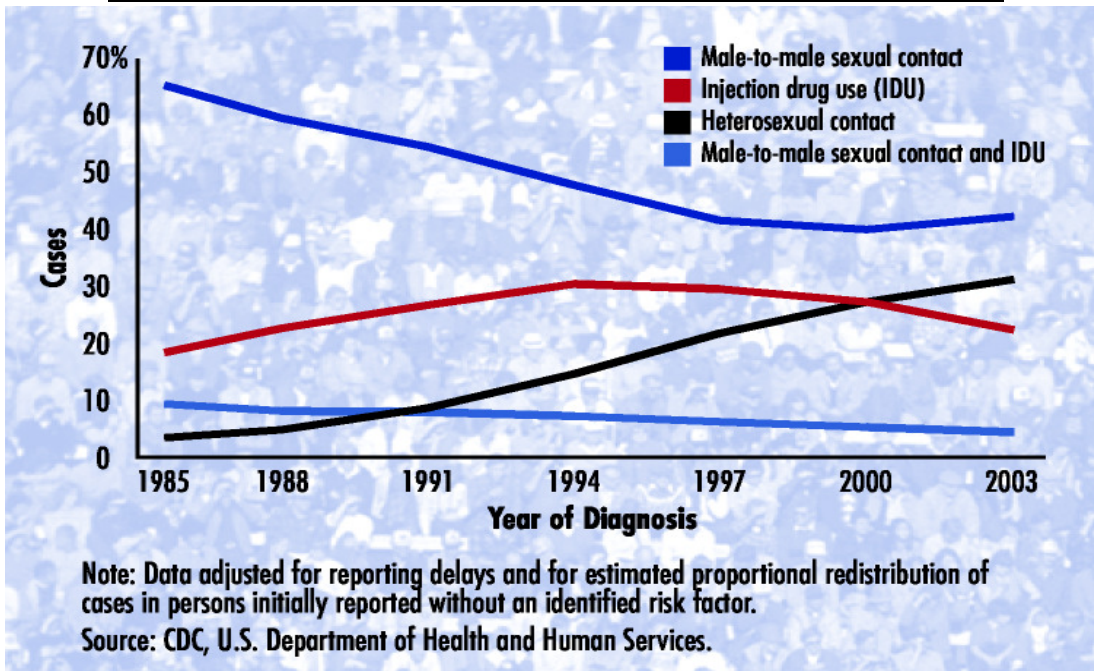


Chart Source: National Institute on Drug Abuse Research Report Series. NIH Publication Number 06-5760, Printed March 2006. Page 6.

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REFERENCES AND RESOURCES

1. ACLU Briefing Book on Needle Exchange, Harm Reduction and HIV Prevention in the Second Decade. New York, New York, 1994.
2. Barrie, Robert. Personal communication with administrators of Michigan harm reduction and needle exchange programs, in Ann Arbor/Ypsilanti, Detroit, Grand Rapids, and Kalamazoo, Michigan. Michigan Department of Community Health, January-June 2004.
3. Barrie, Robert. Personal communication with participants of needle exchange programs, or their representatives, in Ann Arbor/Ypsilanti, Detroit, and Grand Rapids, Michigan. Michigan Department of Community Health, March-April, 2005.
4. Calkins, Richard. Chief, Evaluation & Data Services Section, Center for Substance Abuse Services, Michigan Department of Community Health; personal communication, February 1995.
5. Chvojka, Philip; Calkins, Richard. "Drug Abuse Trends in Detroit/Wayne County and Michigan," *Epidemiologic Trends in Drug Abuse, Proceedings of the Community Epidemiology Work Group, Detroit/Wayne County and Michigan, Vol. 2, June, 2004.*
6. Coffin, P; "Syringe availability as HIV prevention: A review of modalities." *Journal of Urban Health, Vol.77 No.3, September 2000, pp.306-330.*
7. Des Jarlais, Don C, et al. "The New York City Syringe Exchange Program: Evaluation of a Public Health Intervention." Paper presented at the Conference of the American Public Health Association, Washington, DC, November, 1994.
8. "Epidemiologic Profile of HIV/AIDS in Michigan 2004," 2006 estimates based on extrapolation of data from 2004; Michigan Department of Community Health, pp. 35-39, 2004.
9. Gibson, David R.; Brand, Richard; et al. "Two- to Six-fold Decreased Odds of HIV Risk Behavior Associated With Use of Syringe Exchange," *Journal of Acquired Immune Deficiency Syndromes, Vol. 31, No. 2, October 2002.*
10. Gibson, David R.; Flynn, Neil M. "Some Observations Concerning the Contrary Evidence of Syringe Exchange Effectiveness," *AIDS Research Institute, University of California, San Francisco (UCSF), 2001.*
11. Gibson, David R., Flynn, Neil M.; et al. "Effectiveness of syringe exchange programs in reducing HIV risk behavior and HIV seroconversion among injecting drug users," *Editorial Review, AIDS 2001.*
12. Hagan, Holly; Des Jarlais, Don C., et al. "An Interview Study of Participants in the Tacoma, Washington, Syringe Exchange," *Addiction, Vol. 88, 1993.*
13. Hagan, H, Thiede, H; "Changes in injection risk behavior associated with participation in the Seattle needle-exchange program." *Journal of Urban Health. Vol 77 No 3 pp 369-382, September 2000.*

NEEDLE EXCHANGE PROGRAMS (NEPs) IN MAINE 1997-2007

14. Heimer, R, Khosnood K, Bigg D, Guydish J, Junge B. "Syringe Use and Reuse: Syringe Exchange Programs in Four Cities," *Journal Acquired Immodeficiency Syndromes & Human Retrovirology*. 1998: Vol 18, pp. S37-S44.
15. Heimer, R, Khoshnood, K, Stephan, PD, Jariqlal-Freeman, B, Kaplan, EH. "Evaluating a needle exchange program in a small city; models for testing HIV-1 risk reduction." *Int. J. Drug Policy*, 1996; 7:123-129.
16. Heimer, R, Kaplan, EH, O'Keefe, E, Khoshmood, K, Altrice, F. "Three years of needle exchange in New Haven. What have we learned?" *AIDS Public Policy Journal*. 1994; 9:59-74.
17. Heimer, R, Clair, S, Teng, w, Grau, L, Khoshnood, K, Singer, M; "Effects of increasing syringe availability on syringe – exchange use and HIV risk; Connecticut, 1990 – 2001," *Journal of Urban Health*. Vol 79 No.4 , pp 556-570. Dec. 2002. Accessed via www.springerlink.com/content/h73k1622157520m7/ January 5, 2007.
18. Holtgrave, David; Walton-Doyle, Erin; et al. "Phase 1 Report: Number of Persons at Risk of HIV Infection in the State of Michigan," Emory University Center for AIDS Research, November 2002.
19. Kaplan, EH, Heimer, RA; "A circulation theory of needle exchange." *AIDS*. 1994; vol.8: pp.567-574
20. Kirkey, Kim. Personal communication, Viral Hepatitis Program, Bureau of Epidemiology, Communicable Disease Division, Michigan Department of Community Health, March 2007.
21. Lapinski-Lafaive, Maria; Simpson, Harry. "HIV/AIDS and Health Related Needs Among Injecting Drug Users in Michigan: Executive Summary," Michigan Department of Community Health, January 2004.
22. Lurie, Peter. "The Public Health Impact of Needle Exchange Programs in the United States and Abroad," The Center for AIDS Prevention Studies, University of California, San Francisco, 1992.
23. Lurie, Peter, and Drucker, Ernest, "An Opportunity Lost: HIV Infections Associated With Lack of National Needle-Exchange Programme in the USA," *The Lancet*, Vol. 349, pp. 604-8: March 1, 1997.
24. Michigan HIV Testing Survey (HITS), HIV/STD and Bloodborne Infections Surveillance Section, Michigan Department of Community Health, 2002.
25. Miller, C, Tyndall, M, Spittal, P, Li, K, Palepu, A, Schechter, M; "Risk-taking behaviors among injecting drug users who obtain syringes from pharmacies, fixed sites, and mobile van needle exchanges." *Journal of Urban Health*, Vol.79, No.2, June 2002 pp.257-265. Accessed via www.springerlink.com/content/k02n1q5082ug65t2/?p=d15407f7971345b1943302366... January 5, 2007.
26. "Reducing the Risk of Human Immunodeficiency Virus Infection Associated with Illicit

NEEDLE EXCHANGE PROGRAMS (NEPs) IN MAINE 1997-2007

- Drug Use," Provisional Committee on Pediatric AIDS, Pediatrics, December 1994, Vol. 94, No. 6.
27. Reuters Health: citation, July 14, 2005. Data from the North American Syringe Exchange Network, Tacoma, Washington, 2003.
 28. Robles, R, Colon H, Matos T, Finlinson H, et al. "Syringe Exchange as HIV/AIDS Prevention for Injection Drug Users In Puerto Rico," Health Policy, 1998, Vol. 45, pp. 209-220.
 29. Satcher, MD, David. "Evidence-based findings on the efficacy of syringe exchange programs: An analysis of the scientific research completed since April 1998." US Department of Health and Human Services, Washington, DC, March 2000.
 30. Springer, Edith. 1991. Effective AIDS Prevention with active drug users: The harm reduction model. In Shernoff, Michael, ed. 1991. Counseling Chemically Dependent People with HIV Illness. 141-158. New York: Harrington Park Press.
 31. Stegmier, Lori. Personal communication: Viral Hepatitis Program, Bureau of Epidemiology, Communicable Disease Division, Michigan Department of Community Health, December 2006.
 32. Strathdee, S, Celentano, D, Shah, N, Lyles, C, Stambolis, V, Macalino, G, Nelson, K, Vlahov, D; "Needle-exchange attendance and health care utilization promote entry into detoxification." Journal of Urban Health Vol.76 No.4, December 1999, pp 448-460. .
 33. Stryker, Jeff, and Smith, Mark D., MD, MBA. "Needle Exchange: Dimensions of HIV Prevention," Henry J. Kaiser Family Foundation, Menlo Park, CA., 1993.
 34. Syringe Disinfection for Injection Drug Users. Published by the Academy for Educational Development with funding from CDC, July 2004.
 35. Valente, T, Foreman R, Junge B, Vlahov D; "Needle-exchange participation, effectiveness, and policy: Syringe relay, gender, and the paradox of public health." Journal of Urban Health Vol.78 No.2, June 2001 pp.340-349. Accessed via www.springerlink.com/content/ug11311487p6x677/?p=d15407f7971345b1943302366... Accessed January 5, 2007.9
 36. Vlahov, David; Brookmeyer, Ronald S. "Editorial: The Evaluation of Needle Exchange Programs," American Journal of Public Health, December 1994, Vol. 84, No. 12.
 37. Vogt, RL, Breda, MC, Des Jarlais, DC, Gates, S, Whiticar, P. "Hawaii's statewide syringe exchange programs." American Journal of Public Health, 1998; 88:1403-1404.