



## Public Health and Injection Drug Use

MMWR. 2001;50:377

THIS ISSUE OF MMWR FOCUSES ON INJECTION drug use and highlights ways that state and local health departments monitor injection drug use-related health issues and develop interventions to prevent substance abuse and infections among injection drug users (IDUs). Substance abuse and addiction are major underlying causes of preventable morbidity and mortality in the United States.<sup>1</sup> The risks increase when illicit substances are injected, which contributes to multiple health and social problems for IDUs, including transmission of bloodborne infections (e.g., human immunodeficiency virus [HIV] and hepatitis B and C infections) through sharing unsterile drug injection equipment and practicing unsafe sex.<sup>2</sup> In the United States, approximately one third of acquired immunodeficiency syndrome cases<sup>3</sup> and one half of new hepatitis C cases<sup>4</sup> are associated with injection drug use. Fatal drug overdoses also contribute to death among IDUs.<sup>5</sup> Although the number of persons who inject illicit drugs (primarily heroin, cocaine, and amphetamine) is not available, approximately one million persons in the United States are active IDUs.<sup>6</sup>

### REFERENCES

1. McGinnis JM, Foege WH. Mortality and morbidity attributable to use of addictive substances in the United States. *Proceedings of the Association of American Physicians* 1999;111:109-18.
2. Cherubin CE, Sapira JD. The medical complications of drug addiction and the medical assessment of the intravenous drug user: 25 years later. *Ann Intern Med* 1993;119:1017-28.
3. CDC. HIV/AIDS surveillance report, 2000. Atlanta, Georgia. US Department of Health and Human Services, Public Health Service, CDC, 2000;12.
4. Alter MJ, Moyer LA. The importance of preventing hepatitis C virus infection among injection drug users in the United States. *J Acquir Immune Defic Syndr Hum Retrovirol* 1998;18(suppl 1):S6-S10.
5. CDC. Unintentional opiate overdose deaths—

King County, Washington, 1990-1999. *MMWR* 2000; 48:636-40.

6. Gibbs DA, Hamill DN, Magruder-Habib K. Populations at increased risk of HIV infection: current knowledge and limitations. *J Acquir Immune Defic Syndr* 1991;4:881-9.

## Trends in Injection Drug Use Among Persons Entering Addiction Treatment—New Jersey, 1992-1999

MMWR. 2001;50:378-381

2 figures omitted

INJECTION DRUG USE IS ASSOCIATED WITH high risk for transmission of bloodborne infections, including human immunodeficiency virus (HIV) and hepatitis B and C. Since 1993, the proportion of persons admitted to New Jersey addiction treatment centers for illicit drug use who reported injecting drugs has increased, reversing a decline that began in approximately 1980 (<sup>1</sup>; Community Epidemiology Work Group, unpublished data, 2000). This report summarizes an analysis of trends in injection drug use among persons admitted to New Jersey addiction treatment programs during 1992-1999; the findings suggest substantial increases in injection use among young adult heroin users throughout the state and an increase in heroin use among young adults who reside in suburban and rural New Jersey.

New Jersey's Alcohol and Drug Abuse Data System (ADADS) provided data for this report, including demographic information, client reports of substance use before entering treatment, and whether the client usually injected drugs (ADADS, unpublished data, 1999). Data were analyzed for clients admitted during 1992-1999 who reported using heroin and/or cocaine; ad-

missions to inpatient detoxification programs were excluded. For this analysis, clients were categorized as (1) heroin users who did not use cocaine, (2) cocaine users who did not use heroin, and (3) users of both heroin and cocaine. To examine geographic patterns of heroin use and injection drug use, New Jersey cities, boroughs, and townships were categorized as either (1) urban areas including major cities (i.e., Newark, Paterson, Jersey City, Elizabeth, Camden, and Trenton) and other urban centers and surrounding areas (e.g., Atlantic City, New Brunswick, East Orange, and Hoboken) or (2) suburban and rural areas (Eggleton Institute of Politics, Rutgers University, unpublished data, 1994).

From 1980 through the early 1990s, the proportion of users who injected heroin, cocaine, and both drugs declined (<sup>1</sup>; Community Epidemiology Work Group, unpublished data, 2000; ADADS, unpublished data, 1999; and New Jersey Department of Health and Senior Services, unpublished data, 1991). In 1995, the proportion of heroin users reporting injection began to increase. The proportions who reported injecting drugs were, respectively, for heroin/cocaine, 43% (2810 who injected of 6514 admitted) in 1995 and 45% (2270 of 5074) in 1999; for heroin/no cocaine, 31% (3401 of 10,990) in 1995 and 37% (3796 of 10,386) in 1999. The proportions for cocaine/no heroin users were small in both years, 2% (282 of 11,609) and 2% (144 of 8142).

The largest increases in the proportion of heroin/no cocaine and heroin/cocaine users who reported injecting were among clients aged 18-25 years, with increases in injecting in this age group beginning in 1993. Among clients aged 18-25 years, the increase was from 22% (587 who injected of 2709 admitted for heroin use) in 1993 to 46% (1326 of 2893) in 1999. In 1993 and 1999 among persons aged 26-34 years, 30% (1802 of 5990) and 32% (1744 of



5434) were injecting; among persons aged  $\geq 35$  years, 50% (2624 of 5209); and 39% (2997 of 7655) were injecting.

During 1993-1999, among persons aged 18-25 years, the patterns of admissions for treatment of heroin use were substantially different for those residing in urban areas compared with suburban/rural areas. Admissions for treatment of heroin use decreased among urban residents from 2018 in 1993 to 1076 in 1999 and increased among suburban/rural area residents from 691 to 1817. During this period, the number of young heroin users who reported injecting as their usual method of drug use increased substantially among suburban/rural residents from 232 in 1993 to 920 in 1999; the number of injectors remained approximately the same among urban residents, from 355 in 1993 to 406 in 1999. The proportion of residents who reported injecting increased in both geographic groups from 33.6% in 1993 to 50.6% in 1999 for suburban/rural residents and from 17.6% to 37.7% for urban residents.

**Reported by:** A Kline, PhD, A Mammo, PhD, R Culleton, PhD, J Ryan, MA, R Schadt, MA, TO Connor, MPA, G Rodriguez, DSW, G DiFerdinando, MD, New Jersey Dept of Health and Senior Svcs. J French, MA, Drug-Watch Associates, Gaithersburg, Maryland. C Bruzios, PhD, P Murray, PhD, Eagleton Institute of Politics, Rutgers Univ, New Brunswick, New Jersey.

**CDC Editorial Note:** The findings in this report suggest substantial increases in injection use among persons admitted to New Jersey treatment centers since 1995. By 1999, the number of persons aged 18-25 years admitted for treatment of heroin use and both the number and percentage who reported injecting were higher among residents of suburban/rural areas than urban areas.

Decreases in heroin use in urban areas may reflect risk reduction resulting from intensive efforts to reduce the transmission of HIV and acquired immunodeficiency syndrome in these communities.<sup>2</sup> Another possible explanation for these changes is a substantial decrease in heroin purity. Decreased injecting among heroin users

in the northeastern United States during the 1980s and early 1990s has been attributed, in part, to increases in heroin purity, from  $<10\%$  to  $>50\%$ .<sup>3</sup> Purer heroin allows users to maintain their addiction by inhaling (snorting), which has a lower risk for transmission of HIV and other bloodborne infections than injecting. However, during the period of increases in the proportion of young heroin users in New Jersey who reported injecting, the purity of heroin continued to be  $>60\%$ .<sup>\*</sup> Another explanation may be population shifts from the cities to suburban and rural areas that may have contributed to the regional changes in heroin use and injection. However, U.S. census data for 1990 through 1998 indicate that suburban growth in New Jersey resulted from increases in the number of residents aged  $>35$  years while the number of young adults in these regions declined.

The findings in this report are subject to at least three limitations. First, data on behaviors of drug users admitted to addiction treatment programs may not be generalizable to behaviors of New Jersey heroin users not admitted for treatment. Second, changes in numbers of drug users admitted to addiction treatment may not reflect changes in numbers of drug users in the community. Third, the proportion of heroin users admitted for treatment who inject could be affected by increased outreach efforts, special treatment initiatives, or changes in IDUs' interest in treatment. In New Jersey, except for the decrease in availability of inpatient detoxification, there have been no changes in any of these factors.

In response to the trend in injection drug use, in 2000, the New Jersey Department of Health and Senior Services initiated substance abuse treatment services for young heroin users who resided in the eight suburban/rural counties with the highest proportion of injecting among young heroin users. This program underscores that public health agencies can use data from substance abuse treatment programs to detect emerging drug use and injection

trends, to direct and extend prevention efforts to new populations, and to reach young adults and their sex partners before they begin injecting heroin and other drugs.

#### REFERENCES

1. Mammo A. Drug abuse differentials in Newark: epidemiologic trends in drug abuse. Proceedings of the Community Epidemiology Work Group, vol 1. December 1999:139-55. Rockville, Maryland: US Department of Health and Human Services, National Institute on Drug Abuse.
2. Des Jarlais DC, Perlis T, Friedman SR, et al. Behavioral risk reduction in a declining HIV epidemic: injection drug users in New York City, 1990-1997. *Am J Public Health* 2000;90:1112-6.
3. Substance Abuse and Mental Health Services Administration. Analyses of substance abuse and treatment need issues, analytic series A-7. Rockville, Maryland: Substance Abuse and Mental Health Services Administration, 1998.

*\*Among 23 U.S. cities surveyed in 1999, Newark and Philadelphia (the two largest heroin distribution centers for the area) had the highest mean heroin purity levels (72% in Philadelphia and 67.5% in Newark) (Drug Enforcement Administration, Department of Justice, unpublished data, 1999).*

## Soft Tissue Infections Among Injection Drug Users—San Francisco, California, 1996-2000

*MMWR. 2001;50:381-384*

*1 figure omitted*

SOFT TISSUE INFECTIONS (STIs), INCLUDING abscesses and cellulitis, are a common complication of injection drug use. In 1997, 54 (32%) of 169 injection drug users (IDUs) in one San Francisco neighborhood had a drug-injection-related abscess or cellulitis.<sup>1</sup> To characterize STIs among IDUs, data from San Francisco General Hospital (SFGH) discharge and billing records were analyzed. This report summarizes the results of that analysis and presents the case report of one IDU with an STI. The findings indicate that STIs are among the most common diagnoses among patients admitted to SFGH. Preventing STIs among IDUs in San Francisco will require coordinated action involving



health-care providers, public health agencies, substance abuse treatment, community outreach, syringe exchange programs, IDUs, and community-based organizations.

SFGH inpatient and emergency department (ED) discharge and billing records for fiscal years (FYs) 1996-97 through 1999-2000 were searched for patients aged 15-74 years with primary diagnoses of abscess and/or cellulitis of the trunk, buttocks, or extremities (*International Classification of Diseases, Ninth Revision [ICD-9]*) codes 682.2-682.7 and 682.9). Records with primary diagnoses of ICD-9 codes corresponding to infections of the fingers, toes, face, neck, or head were excluded because infections in these areas are less likely to be related to drug injection. Data were abstracted about demographics, number of ED discharges and inpatient admissions, average length of inpatient stay, and charges for services.

To estimate the proportion of STIs that were related to injection drug use, 30 medical record numbers were selected randomly from the STI discharge lists for the ED and hospital for each FY from 1996-97 through 1999-2000. A total of 240 records were selected for drug-use history review; 20 records were excluded because of multiple visits and/or admissions.

### Case Report

A 42-year-old woman with a 17-year history of injecting heroin presented to the SFGH ED with a low-grade fever and tenderness and swelling in the left deltoid region. Because her veins were scarred heavily by intravenous injection of heroin, she had been injecting intramuscularly for 10 years. She denied sharing injection equipment but admitted reusing her own syringes without cleaning them. Despite increasing pain and swelling in her left deltoid, she continued to inject into that area for the 2 weeks before admission. She was hospitalized for intravenous antibiotics and incision and drainage of the abscess.

### Hospital Record Review

From FY 1996-97 through FY 1999-2000, the number of ED discharges for STIs increased 103%, from 1292 to 2619. The number of admissions to SFGH decreased slightly (11%), and the number of hospital admissions and ED discharges increased 41%, from 2787 to 3922.

STIs at different anatomic sites were four of the top 13 inpatient discharge diagnoses at SFGH in FY 1999-2000; STIs at all sites was the leading cause of admission for medical or surgical treatment. Skin incision and drainage was the most common primary procedure on all inpatient records. During FY 1999-2000, 945 persons were admitted with a diagnosis of STI (average hospital stay: 3.2 days); 23% had two or more admissions, resulting in 1326 admissions. In FY 1999-2000, 7% of all SFGH admissions were for STIs. Of the 945 patients, 69% were male; median age was 42 years (range: 15-74 years); 64% were uninsured and 20% were receiving Medicaid.

Annual inpatient charges for treatment of STIs averaged \$9.9 million per FY from 1996 to 2000. Because most patients admitted to SFGH were uninsured, San Francisco County was responsible for inpatient charges of approximately \$5.1 million.

Of the 220 records selected for review, 188 were located. Of these, 132 (70%) documented injection drug use during the preceding 12 months (86% involved heroin). Two (1%) had histories of injection drug use more than 1 year before the onset of STI. Fifty-four (29%) had no history of drug injection; of these, 34 (18%) had a cause for the STI noted in the record, and 20 (11%) had no documented cause.

In July 1999, concern over the high rate of STIs among IDUs led to the formation of a multiagency STI task force that included representatives of SFGH administration, researchers, community clinicians, and the San Francisco Department of Public Health. The task force recommended the creation of a hospital-based STI clinic, community outreach to IDUs, expansion of sub-

stance treatment services, and standardization of community medical and surgical STI treatment with an emphasis on expanding community-based treatment and prevention.

**Reported by:** D Ciccarone, MD, Dept of Family and Community Medicine, Univ of California, San Francisco; JD Bamberger, MD, San Francisco Dept of Public Health, San Francisco; AH Kral, PhD, BR Edlin, MD, Urban Health Study, Univ of California, San Francisco; CJ Hobart, Univ of California, San Francisco; A Moon, San Francisco General Hospital, San Francisco; EL Murphy, MD, Dept of Laboratory Medicine, Univ of California, San Francisco; P Bourgeois, PhD, Dept of Medical Anthropology, History and Social Medicine, Univ of California, San Francisco; HW Harris, MD, DM Young, MD, Dept of Surgery, Univ of California, San Francisco.

**CDC Editorial Note:** The findings in this report indicate that many STIs in San Francisco are related to injection drug use and are a major cause of hospitalization. Some STIs among IDUs are complicated by tetanus,<sup>2</sup> botulism,<sup>3</sup> and myonecrosis (D. Bangsberg, Epidemiology and Prevention Interventions Center, SFGH, personal communication, 2000).

Possible contributing factors to the high rate of STIs among San Francisco IDUs include poor injection site hygiene, syringe reuse, intramuscular or subcutaneous routes of injection, and contaminated drugs. IDUs often contaminate needles by touching them to surfaces, mouths, or hands.<sup>4</sup> Reuse of syringes may increase the chance of bacterial infections.<sup>5</sup> San Francisco IDUs with STIs report frequent reuse of syringes that only they have used.<sup>4</sup> State laws requiring a prescription to purchase syringes and making possession of syringes by IDUs a crime may contribute to the reuse of syringes.<sup>6</sup> Subcutaneous and intramuscular injection of heroin (either intentional or inadvertent) is associated with STI.<sup>1</sup> Use of alcohol to clean the skin before injection may protect against STI.<sup>7</sup>

In San Francisco, the local health department pays most of the costs of caring for persons with STIs. In 1997, Federal Social Security Insurance (SSI) disability eligibility was amended so that drug and alcohol addictions were no longer qualifying disabilities.<sup>8</sup> Because California's Medicaid program is



linked to SSI, the restriction of federal disability eligibility has reduced the ability of local municipalities to obtain state and federal financial support for the medical costs of persons living with substance addiction.

In response to the high use of emergency and inpatient services, SFGH opened a surgical outpatient STI clinic in July 2000. As of February 2001, the clinic averaged 273 patient visits and 170 procedures per month. For FY 2000-2001, the numbers of admissions and ED visits for treatment of STIs are projected to decline significantly compared with FY 1999-2000.

The findings in this report are subject to at least four limitations. First, the hospital and ED discharge records may be incomplete or inaccurate. Second, using only primary diagnoses underestimated the number of STIs. Third, because only a small percentage of medical records were reviewed, the proportion of STIs attributed to injection drug use is uncertain. Finally, hospital charges were estimated and are related but not equal to the cost to the hospital.

Primary prevention strategies to reduce STIs among IDUs include preventing initiation of injection drug use and increasing entry and retention of IDUs in substance abuse treatment (particularly methadone maintenance). For IDUs who continue to inject drugs, increasing access to sterile injection equipment and alcohol swabs and promoting hygiene (including hand washing, cleaning the injection site before injection, using a sterile syringe for every injection, and avoiding needle contamination) are important prevention goals. Secondary prevention strategies include promoting earlier medical and surgical treatment of STIs. Microbiologic testing of street samples of black tar heroin also may help identify the causes of injection-related STI. Ongoing research into the behavioral and biologic risk factors for STI may identify additional prevention interventions.<sup>9</sup>

#### REFERENCES

1. Binswanger IA, Kral AH, Bluthenthal RN, et al. High prevalence of abscesses and cellulitis among commu-

nity-recruited injection drug users in San Francisco. *Clin Infect Dis* 2000;30:579-81.

2. CDC. Tetanus among injecting-drug users—California, 1997. *MMWR* 1998;47:149-51.

3. CDC. Wound botulism—California, 1995. *MMWR* 1995;44:889-92.

4. Ciccarone D, Bourgois P, Edlin BR. Biological and behavioral predictors of soft tissue infections in injection drug users. In: Proceedings of Community Epidemiology Working Group Meeting. San Francisco, California: National Institutes of Drug Abuse, December 2000.

5. Gershon RRM. Infection control basis for recommending one-time use of sterile syringes and aseptic procedures for injection drug users. *J Acquir Immune Defic Syndr Hum Retrovirol* 1998;18(suppl 1):S20-S24.

6. Koester SK. Copping, running, and paraphernalia laws—contextual variables and needle risk behavior among injection drug users in Denver. *Human Organization* 1994;53:286-95.

7. Murphy EL, DeVita D, Liu H, et al. Risk factors for skin and soft tissue abscess among injection drug users: a case control study. *Clin Infect Dis* 2001 (in press).

8. Bluthenthal RN, Lorvick J, Kral AH, et al. Collateral damage in the war on drugs: HIV risk behaviors among injection drug users. *International Journal of Drug Policy* 1999;10:25-38.

9. Ciccarone D, Bourgois P, Murphy EL, et al. Risk factors for abscesses in injectors of "black tar" heroin: a cross-methodological approach [Abstract]. Presented at the 128th American Public Health Association Annual Meeting, Boston, Massachusetts, November 12-16, 2000.

## Update: Syringe Exchange Programs—United States, 1998

*MMWR*. 2001;50:384-387

2 tables omitted

SYRINGE EXCHANGE PROGRAMS (SEPs) provide sterile syringes\* in exchange for used syringes to reduce the transmission of human immunodeficiency virus (HIV) and other bloodborne infections associated with the reuse of potentially blood-contaminated syringes among injection drug users (IDUs).<sup>1</sup> This report summarizes a survey of 1998 SEP activities in the United States and compares them with 1994-1997 SEP activity surveys.<sup>1-3</sup> SEPs are an increasingly common HIV prevention approach that offer a range of public health services in addition to syringe exchange.

In October 1999, staff from Beth Israel Medical Center and the North American Syringe Exchange Network

(NASEN) mailed surveys to 131 SEP directors (compared with 68 in 1994-1995, 101 in 1996, and 113 in 1997),<sup>2-4</sup> and followed up with telephone interviews about syringes distributed/returned, services provided, and budgets and funding during 1998. The methods of this survey were the same as previous surveys of SEP activities.<sup>2-4</sup>

Among the 131 SEPs contacted, 110 (84%) completed the survey. Some SEPs participated in the survey on the condition that their program data be reported only in aggregate. SEPs operated in 81 cities† and 31 states, the District of Columbia, and Puerto Rico.‡ The largest number of SEPs were in four states: 21 in California, 14 in New York, 12 in Washington, and nine in New Mexico. SEPs were classified by the number of syringes exchanged during 1998; 107 reported exchanging 19,397,527 syringes. The 12 largest programs exchanged 62% of all syringes.§ Referral to substance abuse treatment was provided by 104 (95%) of the 110 SEPs, 109 (99%) provided alcohol pads, 99 (90%) provided bleach, 108 (98%) provided male condoms, 80 (73%) provided female condoms, 104 (95%) provided referrals to substance abuse treatment, 70 (64%) provided on-site voluntary counseling and testing for HIV, 26 (24%) for hepatitis C, and 23 (21%) for hepatitis B. In addition, 21 (19%) provided on-site medical care, 18 (16%) provided hepatitis B vaccine, 17 (15%) provided tuberculosis screening, and 14 (13%) provided sexually transmitted disease screening. A median of 2.5 on-site services were provided by small, 3.0 by medium, 2.0 by large, and 7.0 by very large programs.

During 1998, SEPs operated at 534 sites averaging five sites per program (median: nine; range: 1-31). Sites included 202 health van stops, 59 shooting galleries, 56 sidewalk tables, 51 cars, 43 storefronts/indoor sites, 30 SEP workers on foot, 23 health clinics, and 70 other sites. Delivery of syringes and other risk-reduction supplies to residences or meeting spots was reported by 55 (50%) SEPs, and 94 (85%) allowed participants to exchange sy-



ringes for persons other than themselves (secondary exchange). The 110 SEPs operated a mean of 20 hours per week per program (median: 22 hours; range: 1-140 hours). Sixteen SEPs had syringe shortages that caused four to close temporarily for 16 months (range: 2-8 months).

The combined operating budget of 105 SEPs was \$8,567,662 (range: 0-\$771,053; mean: \$80,493; median: \$38,000). A total of 51 SEPs in 15 states and Puerto Rico received public funding of \$5,992,032. From 1994-1995 to 1998, the number of SEPs participating in the activities survey increased from 60 to 110 (83%), the number of cities with SEPs increased from 46 to 81 (76%), and the number of syringes exchanged increased from 8.0 million to 19.4 million (143%). Nine SEPs received no funds; however, they exchanged >185,000 syringes and provided other services using donated supplies and volunteers.

**Reported by:** MP Singh, MPH, CA McKnight, MPH, D Paone, EdD, S Titus, MPH, DC Des Jarlais, PhD, Edmond de Rothschild Foundation Chemical Dependency Institute, Beth Israel Medical Center; M Krim, PhD, American Foundation for AIDS Research, New York, New York. D Purchase, J Rustad, A Solberg, North American Syringe Exchange Network, Tacoma, Washington.

**CDC Editorial Note:** The findings of the 1998 survey indicated growth in the number of cities with SEPs and in the number of SEPs that provide prevention services for IDUs. Many SEPs, particularly the largest programs, serve as community-based HIV prevention and health promotion centers for IDUs, including IDUs at high risk for bloodborne infections.<sup>5</sup> SEPs also provide additional services (e.g., influenza and pneumococcal vaccinations).<sup>6</sup> Hepatitis B vaccination at a SEP was an important part of the public health response to a hepatitis B outbreak among IDUs in Pierce County, Washington.<sup>7</sup> State and local governments funded ap-

proximately two thirds of the total SEPs budget for 1998.

The findings in this report are subject to at least three limitations. First, the extent of SEP activity probably is underestimated because some of the known SEPs did not participate in this survey and others may exist that are not known to NASEN. Second, the information collected was self-reported and may be biased. Third, because 36 (33%) SEPs requested that their survey data be kept confidential, some data are included only as aggregate state-level information.

IDU access to sterile syringes can be augmented by methods other than SEPs.<sup>8</sup> During 2000, New Hampshire, New York, and Rhode Island adopted new syringe laws that partially or completely removed the requirement for a prescription to purchase syringes and legal penalties for syringe possession. Physician prescription of sterile syringes to IDUs is another possible mechanism.<sup>9</sup> Assuming availability of sterile syringes for IDUs who continue to inject is only one component of a comprehensive approach to HIV prevention for IDUs. Other HIV prevention components include substance abuse treatment, community outreach, tailored HIV counseling and testing, prevention of sexual transmission, services in correctional settings, primary drug prevention, and services for HIV-infected IDUs.<sup>10</sup>

**REFERENCES**

1. Normand J, Vlahov D, Moses LE, eds. Preventing HIV transmission: the role of sterile needles and bleach. Washington, DC: National Academy Press, 1995.
2. CDC. Syringe exchange programs—United States, 1994-1995. *MMWR* 1995;44:684-91.
3. CDC. Update: syringe exchange programs—United States, 1996. *MMWR* 1997;46:565-8.
4. CDC. Update: syringe exchange programs—United States, 1997. *MMWR* 1998;47:652-5.
5. Hagan H, McGough JP, Thiede H, et al. Volunteer bias in nonrandomized evaluations of the efficacy of needle-exchange programs. *J Urban Health* 2000;77:103-12.
6. Standliff S, Salomon N, Perlman DC, Russell PC. Pro-

vision of influenza and pneumococcal vaccines to injection drug users at a syringe exchange. *J Subst Abuse Treat* 2000;18:263-5.

7. CDC. Hepatitis B vaccination for injection drug users—Pierce County, Washington, 2000. *MMWR* 2001;50:388-90,399.
8. Groseclose SL, Weinstein B, Jones TS, et al. Impact of increased legal access to needles and syringes on the practices of injecting-drug users and police officers—Connecticut, 1992-93. *J Acquir Immune Defic Syndr Hum Retroviral* 1995;10:82-9.
9. Burris S, Lurie P, Abrahamson D, Rich JD. Physician prescribing of sterile injection equipment to prevent HIV infection: time for action. *Ann Intern Med* 2000;33:218-26. Available at <http://www.temple.edu/lawschool/aidspolicy/default.htm>. Accessed May 2001.
10. Academy for Educational Development. Comprehensive approach: preventing bloodborne infections among injection drug users. Washington, DC: Academy for Educational Development, 2000. Available at <http://www.cdc.gov/idu>. Accessed May 2001.

\*"Syringe" refers to both syringes and needles.  
 †Cities with multiple SEPs: Detroit, Michigan; Indianapolis, Indiana; Los Angeles, California; Minneapolis, Minnesota; New York, New York; Portland, Oregon; San Francisco, California; Seattle and Tacoma, Washington, and five others that asked that their program-specific information be kept confidential.  
 ‡States with SEPs: California<sup>21</sup>; New York<sup>14</sup>; Washington<sup>12</sup>; New Mexico (nine); Connecticut (six); Massachusetts (five); Michigan, Oregon, Pennsylvania, Wisconsin (three each); Colorado, Illinois, Indiana, Minnesota, Montana, Ohio, Puerto Rico, Texas, (two each); and Alaska, Arizona, District of Columbia, Georgia, Hawaii, Kansas, Louisiana, Maryland, North Carolina, New Hampshire, New Jersey, Oklahoma, Rhode Island, Tennessee, and Utah (one each).  
 §States with the largest SEPs: California (four); Washington (three); New York (two); and Illinois, Maryland, and Pennsylvania (one each). The largest SEPs were San Francisco AIDS Foundation, California (2.1 million syringes exchanged); Chicago Recovery Alliance, Illinois (1.5 million); Point Defiance AIDS Project, Tacoma, Washington (1.1 million); Seattle-King County Department of Public Health Needle Exchange Program, Seattle, Washington (1.0 million); Lower East Side Needle Exchange Program, New York, New York (0.9 million); Alameda County SEP, Oakland, California (0.8 million); Street Outreach Services, Seattle, Washington (0.7 million); Baltimore Department of Public Health, Maryland (0.7 million); and Clean Needles Now, Los Angeles, California (0.6 million). Three large SEPs that exchanged 2.8 million syringes during 1998 asked that their program-specific information be kept confidential.  
 ||SEPs received public funding in the following: (1) states: Arizona, California, Colorado, Connecticut, Hawaii, Illinois, Massachusetts, Maryland, New Mexico, New York, Oregon, Pennsylvania, Puerto Rico, Rhode Island, Washington, and Wisconsin; (2) counties: Clark, King, Pierce, Skagit, and Snohomish, Washington; Pima, Arizona; Boulder, Colorado; Cook, Illinois; and Multnomah, Oregon; and (3) cities: Berkeley, Los Angeles, and San Francisco, California; Chicago, Illinois; Baltimore, Maryland; Portland, Oregon; Seattle, Washington, and Milwaukee, Wisconsin.  
 ¶From 1998 to March 2001, the number of SEPs known to NASEN increased from 131 to 168 (D. Purchase, NASEN, personal communication, 2001).