

# Syringe Exchange Programs: reducing the risks of needlestick injuries

One commonly voiced community concern with regard to a syringe exchange program (SEP) is the fear of a “needlestick injury” resulting from improperly discarded syringes in parks, gutters, or garbage bags. SEPs provide sterile syringes to reduce the spread of HIV, hepatitis and other blood borne illnesses and link injection drug users (IDUs) to health promotion services such as medical and mental health treatment. SEPs actively encourage and educate clients about safe disposal in order to lessen the number of improperly discarded syringes. In addition, SEPs supply puncture-proof ‘sharps’ containers and information on safe disposal discard used syringes to every client who utilizes the program.

The Coalition for Safe Needle Disposal lists syringe exchange programs as a viable option for safe disposal.<sup>1</sup>

## Risk of Infection

The risk of becoming infected with a blood borne virus through a needlestick is extremely low. A recent review analyzing studies of HIV transmission risk through needlestick injuries among health care workers estimated the risk of infection to be less than 1 in 400 (0.23%)<sup>2</sup>. In the majority of studies reviewed, no cases of transmission were documented following needlestick injuries. Risk of infection from needlesticks in community settings (outside health care facilities) appears to be negligible. Studies of community needlestick injuries (primarily among children) in England<sup>3</sup>, Ireland<sup>4</sup>, Spain<sup>5</sup>, Italy<sup>6</sup>, Australia<sup>7</sup>, and South Africa<sup>8</sup> found no cases resulting in infection.

## The reasons for a relatively low risk of infection include:

- Not all used needles carry a virus.
- While HIV and other blood borne diseases can survive outside the body in a used needle, these viruses are very fragile, and will often die if subject to external environmental conditions, such as air or water.
- Most needlestick injuries are superficial and carry far less risk of virus transmission than intravenous drug use, where needles directly enter veins.

## Syringe exchange programs: improving the safety of their community

There is a particular need for safe disposal methods for IDUs, who might be apprehensive to carry syringes (especially used ones) because of their fear of law enforcement.<sup>9</sup> Paraphernalia laws discourage IDUs from carrying or properly disposing of syringes.<sup>10</sup> Yet, research demonstrates that the presence of a SEP results in fewer used syringes improperly discarded.<sup>11</sup>

- SEPs provide a safe and accessible method for IDUs and others to dispose of used syringes. Similar to hospitals and other healthcare settings, used syringes are collected in special puncture-proof “sharps” containers. These containers are picked up and safely



- disposed of according to special procedures designated for hazardous waste.
- The vast majority of syringes distributed by SEPs are returned. In many states, including New York, syringe exchange policies actively encourage participants to return as many used syringes as possible.<sup>12</sup>
- In New York State, all syringe exchange staff receive training by the State Health Department that outlines precautions to avoid a needle stick injury, appropriate safe disposal methods, and procedures to clean an accidental blood spill. Most SEPs offer safe disposal as a community resource and are called upon to retrieve used syringes in public spaces.

## Nation-wide successes

Research collected from states across the nation shows that the presence of a syringe exchange program does not result in an increase in discarded syringes in public.

- In Baltimore, after an SEP was implemented, the number of inappropriately discarded syringes decreased by almost 50%.<sup>13</sup>
- In Portland, the number of discarded syringes decreased by almost two-thirds after the NEP opened.<sup>14</sup>
- In 1992, Connecticut repealed a law forbidding the sale of syringes without a prescription. As a result, reports show a reduction in needle sharing by 50 percent and a decrease in HIV infections by over 30 percent. In addition, law enforcement officials experienced two-thirds fewer needle stick injuries.<sup>15</sup>
- In San Francisco, approximately 3.5 million syringes were recovered and safely disposed of in 2000. These included approximately 2 million syringes recovered at SEPs.<sup>16</sup>

1. <http://www.safeneedledisposal.org> accessed 3/18/06 2. Baggaley RF, Boily MC, White RG, Alary M. (2006). Risk of HIV-1 transmission for parental exposure and blood transfusion: a systematic review and meta-analysis. *AIDS* 20(6): 805-12. 3. Makwana N, Riordan FA. (2005). Prospective study of community needlestick injuries. *Arch Dis Child*. 90(5):523-4. 4. Nourse CB, Charles CA, McKay M, Keenan P, Butler KM. (1997). Childhood needlestick injuries in the Dublin metropolitan area. *International Journal of Medicine* 90(2): 66-9. 5. Aragon Pena, A.J., Arrazola Martinez, M.P., Garcia de Codes, A., Davila Alvarez, F.M. and de Juanes Pardo, J.R. (1996). Hepatitis B prevention and risk of HIV infection in children injured by discarded needles and/or syringes. *Atencion Primaria*, 17: 138-140. 6. Montella, F., DiSora, F. and Recchia, O. (1992). Can HIV-1 infection be transmitted by a discarded syringe? *Journal of Acquired Immune Deficiency Syndromes*, 5: 1274-1275. 7. Russell FM, Nash MC. (2002). A prospective study of children with community-acquired needlestick injuries in Melbourne. *Journal of Pediatric Child Health*. 38(3): 322-3. 8. de Waal N, Rabie H, Bester R, Cotton MF. (2006). Mass needle stick injury in children from the Western cape. *Journal of Pediatric Medicine*. 52(3):192-6. 9. Centers for Disease Control and Prevention. (2005). State and Local Policies Regarding IDUs' Access to Sterile Syringes (December 2005). <http://www.cdc.gov/idu/facts>. 10. Burris S, Blankenship KM, Donoghoe M, Sherman S, Vernick JS, Case P, Lazzarini Z, Koester S. (2004). Addressing the "risk environment" for injection drug users: The mysterious case of the missing cop. *Milbank Quarterly* 82(1): 125-56. Beletsky L, Macalino GE, Burris S. (2005). Attitudes of police officers towards syringe access, occupational needle-sticks, and drug use: A qualitative study of one city police department in the United States. *International Journal of Drug Policy* 16: 267-274. 11. Doherty MC, Junge B, Rathouz P, Garfein RS, Riley E, Vlahov D. (2000). The effect of a needle exchange program on numbers of discarded needles: A 2-year follow-up. *American Journal of Public Health* 90(6): 936-939. 12. Paone D, Des Jarlais DC, Caloir S, Clark J, Jose B. (1995). Operational issues in syringe exchanges: the New York City tagging alternative study. *Journal of Community Health* 20(2): 111-123. 13. Doherty MC, Junge B, Rathouz P, Garfein RS, Riley E, Vlahov D. 2000. The effect of a needle exchange program on numbers of discarded needles: A 2-year follow-up. *American Journal of Public Health* 90(6): 936-939. 14. Oliver KJ, Friedman SR, Maynard H, Magnuson L, Des Jarlais DC. 1992. Impact of a needle exchange program on potentially infectious syringes in public places. *Journal of Acquired Immune Deficiency Syndromes* 5: 534-535. 15. Groseclose SL, Weinstein B, Jones TS, Valleroy LA, Fehrs LJ, Kassler WJ. 1995. Impact of increased legal access to needles and syringes on practices of injecting-drug users and police officers - Connecticut, 1992-1993. *Journal of Acquired Immune Deficiency Syndromes and Human Retrovirology* 10(1): 71-72. 16. Update: Syringe Exchange Programs - United States, 2002 (Editorial Note). *MMWR Weekly*, July 15, 2005. <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5427a1.htm>.

