RE: “HIGH RATES OF HIV INFECTION AMONG INJECTION DRUG USERS PARTICIPATING IN NEEDLE EXCHANGE PROGRAMS IN MONTREAL: RESULTS OF A COHORT STUDY”

We read with concern the article by Bruneau et al. (1) that reported an association between human immunodeficiency virus (HIV) infection and participation in needle exchange programs (NEPs) among injection drug users (IDUs) in Montreal, Canada. The authors hypothesized that NEPs facilitate the formation of new needle-sharing networks comprising formerly isolated, high-risk IDUs. However, no empirical support for a network hypothesis is provided. In fact, recent studies from the United States and Canada have found that it is uncommon for new social networks to form at NEPs (2, 3). We think that selection bias, imprecise exposure measurement, and a limited impact of the NEP resulted in erroneous conclusions being drawn from this study.

Bruneau et al. (1) performed a post hoc analysis using data from a cohort study that was not designed to assess NEP participation. Although the authors attempted to control for confounding factors, self-selection of high-risk IDUs in choosing NEPs as their preferred source of needles may have produced a bias that statistical adjustment cannot overcome. The alternative to obtaining free needles from an NEP is to purchase them from a pharmacy or off the street. Therefore, NEPs may select for IDUs who cannot afford to buy needles, a group that has been found to practice more high-risk injecting behaviors than do other IDUs (4). Two Canadian studies (1, 5) found that NEP users are more likely than are non-NEP users to practice behaviors risky for HIV infection. In addition, Montreal's NEP operated at night, when hard-to-reach IDUs would be active. At night, pharmacies may not be open, and hustling strategies for obtaining drugs or money may be riskier (e.g., trading sex for money or drugs). Because of selection bias, the association between HIV infection and NEP use in this study may be real but not causal, and without the NEP, these IDUs might have had even higher rates of HIV infection.

Methods used to assess NEP participation in the Montreal study obtained low-precision exposure measurements. This study did not assess the frequency of NEP use or the proportion of NEP needles used relative to the total number of injections. In the cross-sectional and prospective analyses, NEP use was assessed by asking a dichotomous, closed-ended question. Therefore, IDUs who obtained needles from multiple sources, including the NEP, were classified as NEP participants, but they may have also used blood-contaminated needles from other sources. Although the authors attempted to control for transient NEP use in the case-control analysis by considering “consistent” and “exclusive” use, these variables also could not assess the proportion of injections made using sterile needles. Low precision in measuring exposure to NEPs could result in substantial misclassification that would tend to bias the results toward finding an association.

Last, the number of needles distributed by the Montreal NEP was inadequate to affect the risk of HIV transmission among frequent injectors. Remis et al. (6) found that in 1994 Montreal's NEP supplied less than 5 percent of all syringes needed by Montreal's 10,000 IDUs to have a sterile syringe for every injection. Bruneau et al. (1) state that the NEP limited the number of needles distributed to promote frequent contact with the NEP. As a result, IDUs who used the NEP may also have had to rely on needle-sharing or on obtaining needles from unsafe sources.

In summary, selection bias and design limitations make it impossible to draw conclusions about causality from this study. However, the possibility that NEPs select for high-risk injectors is intriguing, and further information may aid us in targeting prevention efforts. For high-risk IDUs, NEPs can provide access to sterile needles, education, and drug treatment programs that may decrease their risk for acquiring and transmitting HIV and other blood-borne pathogens.

REFERENCES