

Needle Exchange Programs

Delivery and Access Issues

Carol J. Strike, PhD¹⁻³

Laurel Challacombe, MHSc²

Ted Myers, PhD^{2,3}

Margaret Millson, MD, MHSc, FRCPC^{2,3}

ABSTRACT

Objective: Examine the challenges of four service delivery models (i.e., fixed, mobile, satellite and home visits) and how service delivery may impact on NEP HIV prevention efforts.

Methods: Using a modified ethnographic approach, semi-structured interviews concerning policies and procedures were conducted with staff (n=59) of NEPs (n=15) in Ontario. An iterative, inductive analytic process was used.

Results: According to workers and managers, effectiveness of NEP prevention efforts depend on client development and retention and service design. Fixed and satellite sites, home visits and mobile services provide varied levels of temporal and spatial accessibility. Combining modes of delivery can offset the disadvantages of individual modes.

Discussion: NEP evaluations that do not consider service and resource factors run the risk of concluding that NEPs are ineffective when it may be that the program works for a small proportion of IDUs whom the NEP has the resources to serve.

La traduction du résumé se trouve à la fin de l'article.

1. Health Systems Research and Consulting Unit, Centre for Addiction and Mental Health, Toronto, ON
2. HIV Social Behavioural and Epidemiological Studies Unit, Faculty of Medicine, University of Toronto
3. Department of Public Health Sciences, University of Toronto

Correspondence and reprint requests: Carol J. Strike, Health Systems Research and Consulting Unit, Centre for Addiction and Mental Health, 33 Russell Street, Toronto, ON M5S 2S1, Tel: 416-535-8501, ext. 6446, Fax: 416-979-4703, E-mail: carol_strike@camh.net

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As the HIV epidemic has progressed among injection drug users (IDUs), needle exchange programs (NEPs) have been implemented to prevent transmission of bloodborne pathogens.^{1,2} In Ontario, evaluations have shown that NEPs encourage safe injection procedures.³ In other settings, evaluations using HIV incidence/prevalence and/or reuse of needles as measures of NEP effectiveness have produced varied results.⁴⁻¹⁰

The literature suggests that if NEPs are to attract and retain clients, encourage behavioural change and reduce transmission of bloodborne pathogens, they need to provide services to meet the particular needs of IDUs in terms of location, time and space.¹¹⁻¹³ However, service delivery factors have been overlooked in NEP evaluations.¹⁴ Front-line NEP staff and managers have accumulated knowledge about these factors and their impact on NEPs' ability to prevent infections. As a preliminary step towards understanding the link between service delivery factors and NEP effectiveness (i.e., prevention of bloodborne pathogens), this article examines the strengths and challenges of four service delivery models: fixed site, mobile, satellite sites and home visits from the perspective of NEP staff and managers. Data for this article are drawn from a larger study that examined the impact of organizational legitimacy on the development and delivery of NEP services in Ontario.¹⁴

METHODS

Using a modified ethnographic approach (i.e., interviews and observations), NEP staff and managers at all Ontario NEPs and government officials involved with the Ontario provincial needle exchange program participated in semi-structured, audio-taped interviews (11/98 to 04/99). Interviews consisted of open-ended questions about staff roles, program philosophy, policies, routines and socio-demographic questions. During data collection, several questions were added to capture greater depth about policies.

The response rate for programs (n=15) was 100% and 95% for individuals (n=59). Three workers did not participate due to illness, newness to NEP work and current employment insecurity, respectively. Of those who participated, 56% were women and 44% were men; 66% worked

for a public health unit, 22% for an AIDS service organization and 12% for another agency type; and 61% were front-line NEP staff/coordinators.

Interviews were transcribed verbatim, verified for accuracy and entered into The Ethnograph V.5.0. Qualitative analytic methods were used.^{15,16} An iterative coding process was used wherein data were compared with a core set of theoretical concepts derived from the organizational literature¹⁷⁻²⁸ and new concepts (i.e., emergent) were developed where appropriate. Coding was conducted during and after the data collection period. Each transcript was read twice, then coded manually and recoded in an iterative process as data collection and analysis progressed. Initial and amended codes were entered into Ethnograph V.5.0. The text under each code was then reviewed and summarized into an analytic memo. All memos were reviewed, compared and expanded to be used as the basis for the overall thematic analysis of the data. Several participants were asked to provide feedback about the analyses. The final analyses reflect their suggestions. Below, excerpts are used to illustrate the analyses.

Other than limited professional familiarity with some of the NEP staff and managers, the research team did not have ongoing professional relationships with participants. This project was approved by the Ethics Review Committee at the University of Toronto.

RESULTS

Attracting clients

From the perspective of workers and managers, NEP disease prevention efforts are dependent in part on their ability to attract and maintain contact with clients so that education, exchange and referrals can be provided. However, IDUs typically avoid service providers, often until a crisis emerges, because they find interactions in service settings to be humiliating, degrading, unhelpful and offered in locations and at times not compatible with their lives. To overcome these challenges, NEPs use varied service models (i.e., fixed site, mobile service, satellite sites, home visits) where possible to provide choice for clients. The sections to follow describe four service delivery models and present, from the

workers' and managers' perspectives, the challenges they have faced in relation to each model.

NEP fixed sites

In Ontario, all NEPs offer a fixed site service: two thirds at the parent organization (e.g., public health unit, AIDS service organization) and one third at another location. Fixed sites range from single offices to office suites that provide space for counselling, phone referrals, supply storage, etc. As part of their commitment to client-centred services, NEPs try to offer services at sites and in ways (e.g., non-judgemental) that appeal to clients. Specifically, NEPs attempt to ensure that fixed sites are geographically accessible, have a non-clinical appearance and a friendly atmosphere.

Budget constraints can interfere with efforts to provide convenient and adequate exchange sites. When drug use is geographically dispersed, programs tend to be concerned that fixed sites may be too distant from drug-using areas and will not attract clients as well as more proximal locations. However, NEPs do not always have sufficient funds to rent space in client-convenient locations. For other NEPs, when attendance increases and puts pressure on available space, finances often limit expansion and create a less comfortable environment for clients. In addition, the hours of program operation may not meet the needs of all clients due to restrictions placed on these programs by the parent organization (e.g., 9 am to 5pm). As such, location, adequate space and hours of operation are perceived as factors that can negatively impact on client development and retention.

Fixed sites can also be problematic within parent organizations and for clients. According to workers, non-NEP agency staff sometimes fear that NEP clients will commit crimes (e.g., thefts and assaults) at the parent site. These attitudes can create an inhospitable environment for NEP clients and negatively impact program attendance. Conversely, clients are said to be hesitant to attend fixed sites at public health units because these locations are perceived by clients to be too 'clinical' and/or too 'governmental'. NEPs based in AIDS service organizations are sometimes perceived by clients to be too 'gay-oriented' or HIV-related. In light of these image prob-

lems, three NEPs relocated their fixed sites closer to the core drug-using areas of the city. However, when finances preclude relocation, other NEPs have changed the physical lay-out of fixed sites (e.g., created a separate entrance) to increase access for clients but reduce interaction with other agency staff and clients.

Fixed sites can also be focal points for opposition to NEPs. According to workers, residents concerned that NEPs condone drug use, bring drug users and drug problems into their communities and/or increase the amount of discarded injection equipment in community settings sometimes oppose fixed NEP sites. One NEP rented retail space in a core 'drug-using' area but residents vigorously opposed the NEP site. About this incident, the manager said: *'The landlord pulled the lease. So we were open for six weeks. We had drug users crossing picket lines of concerned housewives to get their needles.'* The NEP was forced to move to a more distant location that was consequently less well attended.

Mobile NEP services

Although fixed sites appeal to some clients, others who are reluctant to attend agency settings are said to prefer mobile services. Two thirds of NEPs provide mobile services: five have agency-owned vans and six reimburse mileage expenses for personal vehicles. The appeal of mobile services is reflected in the following remarks:

A van would ... provide better service for our program... Transportation's a big issue in this city... Like geographically we're all over the place and so travel is an issue, particularly with our clients.'

In terms of ensuring accessibility for clients, mobile services can be provided at locations and times that are compatible with the clients' lives. Mobile service is believed to increase accessibility for clients who prefer to exchange during evening hours, do not have a vehicle or money for transportation, and/or may be too impaired to drive to the fixed site.

While older NEPs tend to offer mobile services from agency-owned vans (often converted ambulances), newer programs have had difficulties finding funds to purchase vehicles. As a result, newer NEPs tend to offer services from the workers' personal vehicles. However, reimbursement for mileage expenses does not always

cover expenses. In these situations, workers often feel that they offset the funding responsibilities of their agencies and the provincial government. Workers are also concerned that using personal vehicles might be a safety hazard for their family members who also drive these vehicles. For example, a worker said:

I only got the one vehicle, and I don't really want it identified as the needle exchange vehicle because... it's also used by my better half. Now, we've never ran into a problem with people harassing her or nothing like that... But, I mean, I still am uncomfortable.

For safety reasons, mobile service is operated by two workers per shift. However, some programs have only two or three part-time workers and mobile service can be severely restricted when workers are sick or on vacation. A minority of NEPs have successfully integrated volunteers to address human resource shortages; however, others are reluctant to use volunteers because of concerns about client comfort, confidentiality and the dependability of volunteers.

While mobile service is believed to meet the needs of clients in terms of basic services, it is viewed as insufficient for: lengthy counselling sessions, arranging referrals, HIV and other disease testing, helping clients fill out forms and contacting other agencies. This opinion is more common among workers who provide services from personal vehicles as opposed to agency-owned vans. Difficulties surrounding the provision of confidential services within cars/vans when other clients approach the vehicle for exchanges and other assistance is also a concern. For example, a worker offered these remarks:

It's really hard to sit in a van. And with always two people on [duty] in the program... when you're trying to counsel somebody, you really need that one to one type of relationship. Though I was comfortable doing it from the van, it's much better to be doing it within a fixed site or in somebody's home or something like that.

Workers based in programs that concentrate on mobile service delivery believe that a more balanced mobile/fixed site approach would better serve their clients.

Satellite NEP site model

Sometimes known as community coalitions, satellite NEP sites are community

agencies that provide NEP services at their site on behalf of the parent NEP. From the NEP perspective, satellite sites provide many benefits such as offsetting human resource and space costs and increasing accessibility for a wider range of clients at varied locations and time. Half of the NEPs have satellite agreements with local agencies. Agencies who serve a different type of clientele (e.g., age, ethnicity, gender), are open at different times and/or are situated in another locale, are invited to host NEP services. Typically, parent NEPs provide supplies and training to the satellite NEP staff.

These partnerships can be troublesome when satellite agency staff do not follow NEP service guidelines. In these situations, NEP managers are reluctant to impose strict guidelines on satellite sites for fear that doing so will damage inter-agency relationships and, potentially, service availability. However, managers also worry that they will be held responsible for the actions of satellite agency staff. Furthermore, agencies may not embrace the opportunity to become a satellite site despite their own mandate to provide HIV prevention and/or services for street populations (e.g., drop-ins, soup kitchens and temporary shelters). NEP workers believe that refusal to act as a satellite often stems from rejection of harm reduction principles and a desire to impose abstinence as the only option for clients.

Home visit model

One third of NEPs in Ontario have extended services to clients' homes. Among workers who conduct home visits, this mode of delivery is believed to increase the accessibility and credibility of the NEP by demonstrating workers' comfort with, and acceptance of, clients. Workers who are former drug-users (i.e., roughly one quarter of front-line staff) are more accepting and comfortable with home visits than other workers. Regarding home visits, a worker offered the following remarks:

You have to go into the drug houses. You have to go to where they are because they don't have the vehicles... They don't feel comfortable and a lot of them are paranoid. A lot of the time to make the best contact is being, going into one of their houses.

Providing service in homes is a very contentious issue among NEP workers and

managers. Some oppose home visits because of concerns about worker safety and/or intrusiveness into clients' lives. Workers who do home visits downplay safety issues and contend that the probability of danger is low because home visits are conducted with trusted, regular clients. For example, a regular client prevented a worker from entering his/her home for safety reasons and later phoned when the 'coast was clear'. However, five violent incidents in client homes were reported during this study. Many managers forbid home visits for safety reasons. But some workers believe these decisions are based on a double standard because public health nurses are allowed to conduct home visits (e.g., well-baby visits) but NEP workers are not because their clients are seen as violent or unpredictable. Workers who continue to do home visits, despite warnings not to, feel that their managers lack the capacity to properly assess the relative benefits of home visits.

DISCUSSION

From the perspective of NEP workers and managers, there is a clear link between the service delivery model, maintenance of a client base and disease prevention. According to workers and others,^{29,30} NEP effectiveness in reducing transmission of bloodborne pathogens is dependent in part on their ability to provide accessible and comprehensive services. This opinion is shared by others who are concerned that IDUs will not use services that do not meet their needs.^{29,30}

When compared with the magnitude of injection drug-related problems, NEPs are modest endeavours and are constrained by limited financial resources. Nevertheless, an evaluation of an NEP with a modest staff complement revealed that over a five-year period, the program will prevent at least 24 HIV infections and provide cost-savings of \$1.3 million.³¹ However, one might question how much of an impact NEPs can realistically have when one third of NEPs did not offer services in the evenings and only a small minority offered services seven days a week. It might be contended that clients should plan for their needs in advance. However, the varied daily routines of the clients,¹² difficult lives and the burden of travelling to and from

an NEP on specific days and/or at very limited times may exceed the economic resources of clients and also the perceived benefits.

Data indicate that accessibility of NEPs is also determined to a large extent by the available resources. Small staff complements impact on the ability of NEPs to offer services using varied service models and for longer periods of time. Where possible, Ontario NEPs have tried to provide varied service models to meet diverse needs and offset the disadvantages of individual models. Other studies have shown that different types of venues attract different types of injectors.^{9,30,32} Mixed model approaches may address concerns about temporal and spatial accessibility and also concerns that only one service location may lead to new injecting networks and increased rates of HIV transmission.¹⁰

This paper presents the perspectives of NEP workers, managers, and government workers who are involved with the delivery of these programs. These are important voices in the process of documenting service delivery issues and how they impact on program design and clients. An equally important voice is that of clients themselves; future research will identify how service delivery impacts program attendance and HIV prevention from their point of view.

In the future, evaluations of NEP effectiveness (i.e., prevention of the transmission of bloodborne pathogens) need to consider the inter-related factors of service delivery models and human and financial resources. Expecting, for example, two NEP workers providing fixed and mobile services to reach and convince all IDUs in a community to practice safe sex and discontinue re-use of syringes is not realistic. Evaluations that do not consider service and resource factors run the risk of concluding that NEPs are ineffective when it may be that the program works for a small proportion of IDUs whom the NEP has the resources to serve.

Process evaluations that focus on finding ways to enhance services rather than simple outcome evaluations will serve public health goals and may serve to explain the differing effects identified in studies of NEPs.

REFERENCES

- Canadian Public Health Association. Needle exchange programs in Canada. *Savoir Faire: HIV Prevention News*, 1994.
- Stimson GV, Donoghoe MC. Health promotion and the facilitation of individual change: The case of syringe distribution and exchange. In: Rhodes T, Hartnoll R (Eds.), *AIDS, Drugs and Prevention: Perspectives on Individual and Community Action*. New York, NY: Routledge, 1996.
- Millson M, Hankins C. Evaluation of Human Immunodeficiency Virus prevention programs for injection drug users in Canada. Proceedings of the Workshop on Needle Exchange and Bleach Distribution Programs. National Council and Institute of Medicine. Washington: National Academy Press, 1994.
- Heimer R, Kaplan EH, Khoshnood K, Jariwala B, Cadman ED. Needle exchange decreases the prevalence of HIV-1 proviral DNA in returned syringes in New Haven, Connecticut. *Am J Med* 1993;95:214-20.
- Hurley SF, Jolley DJ, Kaldor JM. Effectiveness of needle exchange programmes for prevention of HIV infection. *Lancet* 1997;349:1797-800.
- Des Jarlais DC, Marmor M, Paone D, Titus S, Shi Q, Perlis T, et al. HIV incidence among injecting drug users in New York City syringe-exchange programmes. *Lancet* 1996;348(9033):987-91.
- Bruneau J, Lamothe F, Franco E, Lachance N, Desy M, Soto J, Vincelette J. High rates of HIV infection among injection drug users participating in needle exchange programs in Montreal: Results of a cohort study. *Am J Epidemiol* 1997;146(12):994-1002.
- Strathdee SA, Patrick DM, Currie SL, Cornelisse PG, Rekart ML, Montaner JS, et al. Needle exchange is not enough: Lessons from the Vancouver injecting drug use study. *AIDS* 1997;11(8):f59-f65.
- Schechter MT, Strathdee SA, Cornelisse PG, Currie S, Patrick DM, Rekart ML, O'Shaughnessy MV. Do needle exchange programmes increase the spread of HIV among injection drug users? An investigation of the Vancouver outbreak. *AIDS* 1999;13(6):F45-51.
- Hankins CA. Syringe exchange in Canada: Good but not enough to stem the HIV tide. *Substance Use and Misuse* 1998;33(5):1120-146.
- Takahashi LM, Wiebe D, Rodriguez R. Navigating the time-space context of HIV and AIDS: Daily routines and access to care. *Soc Sci Med* 2001;53:845-63.
- Bourgeois P, Bruneau J. Needle exchange, HIV infection, and the politics of science: Confronting Canada's cocaine injection epidemic with participant observation. *Medical Anthropology* 2000;18:325-50.
- Des Jarlais DC, Paone D, Friedman SR, Peyser N, Newman RG. Regulating controversial programs for unpopular people: Methadone maintenance and syringe exchange programs. *Am J Public Health* 1995;85(11):1577-84.
- Strike C. Organizational Responses to Illegitimacy: The Case of Needle Exchange Programs in Ontario. University of Toronto, Ph.D. Dissertation, 2001.
- Lofland J, Lofland L. *Analyzing Social Settings: A Guide to Qualitative Observation and Analysis*, 3rd Edition. Belmont, California: Wadsworth Publishing Company, 1995.
- Strauss A, Corbin J. *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*. Thousand Oaks, California: Sage, 1998.
- Acker CJ. Stigma or legitimation? A historical examination of the social potentials of addiction disease models. *J Psychoactive Drugs* 1993;25(3):193-205.
- Broadhead RS, Van Hulst Y, Heckathorn DD. Termination of an established needle-exchange: A study of claims and their impact. *Social Problems* 1999;44:48-63.
- Cain R. Managing impressions of an AIDS service organization: Into the mainstream or out of the closet. *Qualitative Sociology* 1994;17(1):43-61.
- Elsbach KD, Sutton RI. Acquiring organizational legitimacy through illegitimate actions: A marriage of institutional and impression management theories. *Academy of Management J* 1992;35(4):699-738.
- Elsbach KD, Kramer RM. Members' responses to organizational identity threats: Encountering and countering the business week rankings. *Administrative Science Q* 1996;41:442-76.
- Goffman E. *Stigma: Notes on the Management of Spoiled Identity*. Englewood Cliffs, New Jersey: Prentice Hall, 1963.
- Meyer JW, Rowan B. Institutionalized organizations: Formal structure as myth and ceremony. *Am J Sociology* 1977;83:55-77.
- Miles RH. Organization boundary roles. In: Cooper CL, Payne R (Eds.), *Current Concerns in Occupational Stress*. New York: John Wiley and Sons Ltd., 1980.
- Oliver C. Strategic responses to institutional processes. *Academy of Management Review* 1991;16(1):145-79.

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RÉSUMÉ

Objectif : Nous avons examiné les défis de quatre modes de prestation de services (service fixe, mobile et par satellite et visites à domicile) et leurs incidences possibles sur les efforts de prévention du VIH des programmes d'échange de seringues (PES).

Méthode : Selon une démarche ethnographique modifiée, nous avons mené des entretiens semi-directifs avec 59 employés de 15 PES ontariens à propos des politiques et méthodes de ces PES, puis effectué une analyse itérative et inductive.

Résultats : Aux dires du personnel et des cadres, l'efficacité des efforts de prévention des PES dépend de l'élargissement et du maintien de leur clientèle et du mode de prestation choisi. L'accessibilité aux services, dans l'espace et dans le temps, varie selon qu'ils sont offerts au moyen d'installations fixes, mobiles ou par satellite ou lors de visites à domicile. En combinant plusieurs modes de prestation, on peut compenser leurs inconvénients respectifs.

Discussion : Les évaluations des PES qui font abstraction des différences dans les services et les ressources risquent de conclure à l'inefficacité de certains programmes, alors qu'ils peuvent donner des résultats pour la faible proportion d'utilisateurs de drogues injectables que le PES a les moyens de desservir.

26. Schein EH. Culture: The missing concept in organization studies. *Administrative Science Q* 1996;41(2):229-40.
27. Scott R. *Institutions and Organizations*. Thousand Oaks, California: Sage, 1995.
28. Stinchcombe AL. Social structure and organizations. In: March JG (Ed.), *Handbook of Organizations*. Chicago: Rand McNally, 1965.
29. Riley ED, Safaean M, Strathdee SA, Marx MA, Huettner S, Beilenson P, Vlahov D. Comparing new participants of a mobile versus a pharmacy-based needle exchange program. *J Acquired Immune Deficiency Syndromes* 2000;24(1):57-61.
30. McKegney N, Barnard M, Watson H. HIV risk-related behaviour among a non-clinical sample of injecting drug users. *Br J Addiction* 1989;84:1481-90.
31. Gold M, Gafni A, Nelligan P, Millson P. Needle exchange programs: An economic evaluation of a local experience. *CMAJ* 1997;157(3):255-62.
32. Barnard M. Needle sharing in context: Patterns of sharing among men and women injectors and HIV risks. *Addiction* 1993;88(6):805-12.

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