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Research paper

Peer-driven HIV interventions for drug injectors in Russia: First year impact results of a field experiment

Robert S. Broadhead [a,*], Valerii L. Volkanevsky [b], Tamara Rydanova [b], Marina Ryabkova [b], Casey Borch [a], Yael van Hulst [a], Andrew Fullerton [a], Boris Sergeyev [c], Douglas D. Heckathorn [d]

[a] *University of Connecticut, Storrs, CT, United States*
[b] *Yaroslavl Provincial HIV Prevention Centre, Yaroslavl, Russia*
[c] *University of Toronto, Toronto, Ontario, Canada*
[d] *Cornell University, Ithaca, NY, United States*

Abstract

We report impact results on the first operating year of an HIV prevention field experiment for injection drug users (IDUs) in two cities in western Russia, comparing a Standard "peer-driven intervention" (PDI) in Bragino to a Simplified-PDI in Rybinsk. The PDI relies on IDUs to educate one another in the community about HIV prevention, and recruit peers for enhanced prevention services and education. In the Standard-PDI, IDU-recruiters are offered nominal monetary rewards for both recruiting peers and educating them in a body of prevention information. In the Simplified-PDI, IDU-recruiters are similarly asked to educate and recruit their peers, but the reward for recruiting is woven into their education efforts. This modification streamlined the model's operations and made it 50% less expensive to operate in respondent fees. The overarching research question is whether the modification in the PDI's reward structure affects the model's recruitment power and educational effectiveness. First year results indicate that both PDIs achieved high baseline recruitment rates, although the Standard-PDI out-performed the Simplified-PDI by approximately 35% (493 recruits versus 365 recruits, respectively). However, the IDU-recruiters in the Simplified-PDI did a significantly better job educating their recruits at both baseline (an average knowledge test score of 5.19 versus 4.07 on an 8-point scale) and at follow-up 6 months later (an average knowledge test score of 7.21 versus 5.56 on an 8-point scale). Both PDIs demonstrated about equal and significant efficacy in reducing respondents' injection frequency, the sharing of syringes and other equipment, and rates of unprotected sex. Two additional refinements in the PDI model were also documented: an enhanced follow-up mechanism more than doubled the PDI's retention strength (to approximately 75%), and clear demonstration that IDUs are capable of educating their recruits in two different bodies of prevention information, depending on whether the recruits are new or follow-up participants.

Keywords: HIV prevention; Harm reduction; Injection drug use; Peer-driven intervention; Evaluation research

Introduction

We report on the first year impact results of an ongoing field experiment in Yaroslavl province, Russia, using a peer-driven intervention (PDI) to reduce the spread of HIV amongst injection drug users (IDUs). The experiment compares a Standard-PDI in the city of Bragino to a Simplified-PDI in the city of Rybinsk, with respect to the following measures: (1) the number of active IDUs recruited to a project office in each city by peer-recruiters for prevention services and health/risk assessment interviews; (2) recruiters' effectiveness in educating their recruits in a body of prevention information, as measured by a knowledge test administered prior to the recruits' assessment interview; (3) the re-recruitment of recruits 6 months after their initial interview for a follow-up interview–HIV-test–education session; (4) recruiters' effectiveness in educating each of their follow-up recruits in a *second* body of prevention information, as measured by a second knowledge test administered at follow-

* Corresponding author. Tel.: +1 860 486 4184.
E-mail address: robert.broadhead@uconn.edu (R.S. Broadhead).

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up; and (5) reductions in recruits' self-reported drug- and sex-related risk behaviours, assessed at baseline and follow-up using a standardized health/risk assessment instrument.

A PDI is a "chain-referral" outreach model developed in the United States in the 1990s designed as an *alternative* to the "provider–client" outreach model dominating HIV prevention efforts for IDUs (Broadhead & Heckathorn, 1994). The latter, called "traditional outreach," the "NIDA Standard model," the "Indigenous Leader" model, the "peer-educator" model, and the "Community Health Outreach Worker" (CHOW) model, relies on staffs of salaried outreach workers usually former drug users or indigenous community members with "street credentials," to interact with members of their own community *as clients* (Brown & Beschner, 1993; Feldman, n.d.; National Institute on Drug Abuse, 1992, 2000; Wiebel, 1992). They do this by working to identify and meet community members who inject drugs; educate them in the community about HIV prevention; recruit them for risk assessment interviews and other prevention services; and distribute risk reduction materials directly to IDUs in the community (Broadhead & Fox, 1990, 1993; Johnson, Williams, & Kotarba, 1990). (A website linking the key literature on variations of the provider–client outreach model is available at: http://www.cdc.gov/outreach/.)

In contrast, the PDI outreach model relies entirely on persons who currently inject drugs to carryout the following core activities that professional outreach workers perform, but as bona fide members of active drug-using networks: educate their peers about HIV prevention in the course of their own everyday interactions; recruit peers to prevention services where they are offered free HIV-test counselling, health/risk assessments, needle exchange, and further prevention education; and distribute harm reduction materials to peers such as condoms, small bottles of bleach and sterile water to aid in cleaning syringes, clean cookers and cotton filters, bandages and sterile cotton pads, and informational brochures (Broadhead et al., 1998). In a PDI, after receiving prevention services at a project office, each recruit is given three recruitment coupons and trained to educate and recruit additional IDU-peers for services. Recruitment in a PDI expands geometrically; e.g., a project that begins with, say, 3 recruiters who are each given 3 recruitment coupons can generate 9 recruits who, given 3 coupons each, can generate 27 recruits, and so on (Heckathorn, 2002). In addition, the coupons enable a project to keep track and credit each recruiter for the IDU-peers s/he recruits for services, as well as for how well s/he educates each recruit, as determined by a short knowledge test administered to each recruit when s/he comes to the project for an appointment. Each recruiter is paid a nominal cash reward for educating and successfully recruiting each peer.

The fundamental difference between a Standard- and Simplified-PDI, like the ones operating in Bragino and Rybinsk, respectively, lies in the specific rewards that IDUs are offered as incentives to participate: in Bragino's Standard-PDI, recruiters are offered monetary rewards for *both* recruiting peers for services to a project office *and* for educating them in the community in a body of prevention information. In Rybink's Simplified-PDI, recruiters are similarly asked to educate and recruit their peers for intervention services, but the specific reward for recruiting is woven into their education efforts; recruiters' rewards for educating their peers can only be collected *when* they recruit their peers to the project's office. This modification has streamlined the model's operations and made it less expensive in respondent fees by about 50%. The overarching research question is whether this modification in the model's reward structure affects the PDI's performance in recruitment power and educational effectiveness.

Background

The HIV epidemic in Russia and the Yaroslavl province

The HIV epidemic has grown steadily in the Russian Federation since the discovery of the first HIV-infected person in 1987 (Pokrovski, 1996). In 1999, it was officially reported that there were 20 HIV infections for every 100,000 people in the country (Federal AIDS Centre, 2003). Two years later, in 2001, the prevalence rate had grown six-fold to 121 HIV infections per 100,000; then up to 195 infections per 100,000 by June 2004 (Federal AIDS Centre, 2004). By November 2004, there were over 300,000 registered HIV-infected persons in the country, with IDUs composing 75% of the cases (Federal HIV-Prevention Centre, 2004; Onischenko, 2004). However, the Federal AIDS Centre (2004) estimated that the actual number of people infected with HIV was substantially higher, around 1.5 million.

Looking specifically at Yaroslavl province, a somewhat different and, in some ways, more encouraging picture emerges. With 936 cumulative cases of HIV infection registered through 2004 (see Table 1), Yaroslavl province has an HIV rate of approximately 68 infections per 100,000 residents, and it occupies 39th place in the Russian Federation in prevalence of HIV cases (Federal HIV-Prevention Centre, 2004).

Within the province, the areas most affected by HIV include Bragino and Rybinsk, the two sites of the PDI project. Both towns are located 4–5 h by train north of Moscow, on the upper Volga river, approximately 60 miles from one another. They both house large industrial plants inherited from the Soviet era, as well as residential complexes for those who (used to) work there. In the turmoil of post-Communist economic transition most of these enterprises cut their labour force; there is now considerable unemployment in both places, which has negatively affected the employment prospects of Bragino and Rybinsk youth graduating from trade schools, colleges and universities in both areas. In this environment, drug injection amongst teenagers and young adults has become quite widespread. There were 243 and 161 IDUs officially registered in 2004 in Bragino and Rybinsk, respectively (see Table 1), although narcology experts put the actual number of IDUs closer to 3000 in both cities.