FROM RESEARCH TO COMMUNITY-BASED PRACTICE—WORKING WITH LATINO RESEARCHERS TO TRANSLATE AND DIFFUSE A CULTURALLY RELEVANT EVIDENCE-BASED INTERVENTION: THE MODELO DE INTERVENCIÓN PSICOMÉDICA (MIP) EXPERIENCE

Gisele Pemberton, Jonny Andía, Rafaela Robles, Charles Collins, Nelson Colón-Cartagena, Omar Pérez Del Pilar, and Teresa Soto Vega

Efforts to translate, package, and diffuse HIV/AIDS research into practice have gained momentum with the Centers for Disease Control and Prevention’s (CDC’s) launch of three projects: the Prevention Research Synthesis Project, which identifies evidence-based interventions studies; the Replicating Effective Programs Project, which supports the translation of evidence-based interventions into materials suitable for use in local prevention programs; and the Diffusion of Effective Behavioral Interventions Project, which moves behavioral interventions into full-scale practice across the United States. This article describes the CDC’s fast-track process of translation, packaging, and diffusion of an HIV intervention for Hispanic/Latino injection drug users, the Modelo de Intervención Psicomédica conducted by the Diffusion of Effective Behavioral Interventions Project in collaboration with a CBA organization and the original researchers.

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HIV infection and AIDS have long been associated with injection drug users (IDUs) and other drug-related risk categories (Holmberg, 1996). Hispanic/Latino drug injectors, both in the U.S. mainland and in Puerto Rico, have been shown to have higher rates of HIV infection (Colón et al., 2001a; Deren et al., 2001). Environmental, cultural, and behavioral factors have been found to be related to HIV risk for Hispanic/Latinos IDUs. Factors such as a lack of access to health services, needle exchange programs, and drug treatment increase risk. Other factors related to HIV risk for Hispanic/Latino IDUs are frequency of injection; sharing injection equipment and systems of support; norms of injection peers; pooling money to buy drugs, or caballos; and migration (Andía, Deren, Robles, & Colon, 2008; Colón et al., 2001b; Cortès et al., 2003; Deren, Kang, Colón, Andia, & Robles, 2004; Robles et al., 2006).

Robles and colleagues were funded to develop an HIV risk reduction intervention for Hispanic/Latino IDUs that combines counseling and case management with motivational interviewing strategies (Miller & Rollnick, 2002). The intervention, Modelo de Intervención Psicomédica (MIP), engaged IDUs in drug treatment and health care and enhanced self-efficacy to reduce injection-related HIV risk behaviors (Robles et al., 2004). The Centers for Disease Control and Prevention (CDC) identified MIP as meeting the criteria of best evidence of efficacy (Lyles et al., 2007) and included it in the CDC’s compendium of evidence-based HIV prevention interventions (CDC, 2008a; Lyles et al., 2007). MIP consists of seven sessions—six individualized counseling and case management sessions aimed at reducing drug and sex-related HIV risk behaviors and facilitating access to health and human services, including drug treatment, and one booster session that reviews and reinforces the participants’ accomplishments throughout the intervention period and provides additional resources to support and sustain positive behavioral changes. The MIP counseling sessions are (a) Induction, (b) Taking Care of Your Health, (c) Readiness for Entering Drug Treatment, (d) Relapse Prevention, (e) Reducing Drug-Related HIV Risk, (f) Reducing Sex-Related HIV Risk, and (g) Booster Session. The induction and booster counseling sessions are sequential sessions that must be delivered first and last, respectively. Sessions 2–6 are flexibly scheduled sessions that can be delivered in a nonlinear sequence on the basis of the participant’s needs. Case management services accompany each of the seven scheduled sessions.

The portfolio of interventions disseminated by the CDC’s Diffusion of Evidence-Based Interventions (DEBI) Project lacked culturally and linguistically appropriate interventions for Hispanic/Latino IDUs. Based on experiences from CDC’s Division of HIV/AIDS Prevention translation into practice and dissemination projects (Replicating Effective Programs [REP] project and DEBI), a new approach was used to package the MIP intervention. This new approach involves collaboration among CDC behavioral scientists, a training and health education expert and a program consultant (called a Diffusion Team), a capacity-building assistance organization experienced in the cultural sensitivities of Hispanic/Latino drug users, and the original intervention researchers. CDC’s systematic process for identifying, translating, and diffusing evidence-based interventions (EBIs) in the United States has been well documented (Collins, Harshbarger, & Sawyer, 2006; Kegeles et al., 2000; Kraft, Mezoff, Sogolow, Neumann, & Thomas, 2000; Neumann & Sogolow, 2000).

The identification process starts with the Prevention Research Synthesis (PRS) Project, which involves reviewing and applying criteria to published research literature to identify interventions that have demonstrated significant reductions in risk behaviors for HIV transmission (Lyles et al., 2007). Currently, the CDC has identi-
fied 63 evidence-based HIV prevention interventions for multiple populations and risk categories (CDC, 2008a). The process continues with the REP project, which creates user-friendly packages of information and training materials. Finally, the DEBI project develops and implements a strategic plan to disseminate efficacious HIV interventions as program practice among health departments and community-based organizations throughout the nation (Collins et al., 2006).

After the DEBI project began disseminating HIV/AIDS interventions in 2003, implementing agencies began providing feedback on materials and protocols for target populations (Collins, Johnson, & Lyles, 2007). Furthermore, successful implementation required that these agencies modify their existing internal structures and processes and fine tune key characteristics of the intervention to fit the capacities of their agencies and staff. It also required that agencies facilitate implementation of the intervention and encourage ownership and acceptability to the intervention by target populations from other regions and conditions other than that original tested study (Collins et al., 2007). One modification included adjusting the original model of “technology transfer” (Neumann & Sogolow, 2000) to “technology exchange” (Collins et al., 2006; Eke, Neumann, Wilkes, & Jones 2006; Wingood & DiClemente, 2008). Incorporating community partners in the translation of research is not new and is a component of the REP and DEBI processes. Community-based participatory research models have been found to influence translations from controlled to applied settings (Glasgow & Emmons, 2007; Glasgow, Lichtenstein, & Marcus, 2003; Leung, Yen, & Minkler, 2004; Miller & Shinn, 2005; Saul et al., 2008). Eke et al., 2006) stated that “there are a number of other partners within and outside of the CDC whose input could enhance the transfer of REP interventions into prevention practice by helping make materials more user-friendly, such partners may include a wider range of community providers and capacity-building assistance providers.”

A three-pronged group, the MIP working group, was created to help translate, package, and diffuse the MIP intervention. The group’s goal was to quickly translate and package the intervention for both Spanish and English speaking IDUs in preparation for additional HIV prevention funds that the CDC planned to award to Puerto Rico and the U.S. Virgin Islands in 2008. A second goal was to determine if a community-based organization grantee that specializes in HIV prevention capacity building for Hispanic/Latino populations could play a major role in the packaging process and build working relationships with the original intervention researchers.

**PROCESS OF SELECTING A COMMUNITY PARTNER TO WORK ON THE MIP PACKAGING**

The DEBI Project works with multiple dissemination partners (e.g., Capacity-building assistance [CBA], prevention training centers [PTCs], Community-Based Organizations [CBOs], and health departments [HDS] to move EBIs into HIV prevention practice. The CBA grantee system imparts culturally and linguistically appropriate knowledge, skills, and technology that enhance the abilities of persons, organizations, and communities to develop and sustain effective HIV prevention (CDC, 2004). The Puerto Rican Organization for Community Education and Economic Development, Inc. (PROCEED, Inc.), the CBA partner agency selected to help package and diffuse the MIP intervention, has more than 20 years of experience working with Latino populations in New Jersey. PROCEED, Inc. has been a provider of technical assistance and training to CBOs for more than 10 years. It also provides DEBI train-
ings for three interventions: VOICES/VOCES (O’Donnell, O’Donnell, San Doval, Duran, & Labes, 1998), Real AIDS Prevention Project (Lauby, Smith, Stark, Person, & Adams, 2000), and Safety Counts (Rhodes, Wood, & Hershberger, 2000). The organization has prior experience writing curricula and developing training tools on topics such as case management, street outreach, and motivational interviewing strategies (CDC, 2004). PROCEED, Inc.’s expertise in bilingual, English and Spanish training capabilities also was considered an asset. An initial meeting with the intervention researchers was convened in Puerto Rico to assess their interest in the translation process. Discussions focused on the role of each participant group under the DEBI paradigm of diffusion of innovations and technology exchange (Table 1).

PROCEED, Inc.’s main task was to translate the research manuals and protocols provided by Dr. Robles and colleagues and provide feedback about the new DEBI protocols from the perspective of a community-based organization. PROCEED, Inc., provided a subcontract with the original researchers for their involvement in the translation process and offered programmatic expertise on DEBI implementation, training materials, curricula writing, and diffusion of the intervention. Under the guidance of the Diffusion Team, the process of translation, packaging, and diffusion began. The MIP working group discussed procedures for testing curricula (walk through and pilot trainings) and pedagogical reviews. In addition, the original intervention researchers provided all original study manuals, protocols, and forms to be revised and reviewed by the MIP working group. The original researchers also provided a review of the fidelity of the new materials. The Diffusion Team ensured that new products met specifications established for all DEBI dissemination products and provided quality control of products and pilots.

THE PROCESS

The MIP working group established processes for translating and producing protocols that would result in feasible implementation with optimal community utility (Glasgow & Emmons, 2007) by organizations serving IDU populations, and ensure that the packaged MIP intervention maintained fidelity to the original research while considering practical implementation realities. A key document was the original MIP intervention operation manual and training protocol developed during the original study, which provided a road map for replicating the intervention (Robles, 2000). PROCEED, Inc., translated the original MIP manual into English so that other stakeholders would have access to the document. This resulted in both a Spanish and English version of the DEBI MIP protocols to enhance the dissemination process.

Miller and Shinn (2005) asserted that one way to bridge the gap from research to practice is for researchers to isolate the “active ingredients” of an intervention, discard the components that have limited function, and support modifications that will facilitate successful implementation at the community level. Therefore, the Diffusion Team’s first step was to develop a dialogue with the intervention scientists to identify the core elements of the intervention and determine which aspects cannot be changed and which aspects might be adapted by other implementing agencies. The Diffusion Team provided guidance for the DEBI protocols, definitions, training formats, and procedural outlines. The Diffusion Team provided an intervention package, Safety Counts, for study of the format because the Safety Counts interven-
### TABLE 1. Modelo de Intervención Psicomédica Partnership Grid

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<th>MIP Working Group Characteristics</th>
<th>Role</th>
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<td><strong>Universidad Central del Caribe, Centro de Estudios en Adicción</strong></td>
<td>Key Roles: Develop and provide original intervention protocols and manuals. Expert consultation on EBI. Consultant and reviewer. Share research data and materials with work group. Provide curriculum developers with expert consultation. Identify intervention characteristics, including core elements, key characteristics, and staffing and capacity requirements. Make decisions on program features that require adjustments for application in a practice setting. Review documents and share key recommendations. Monitor curriculum content to ensure fidelity to the research.</td>
<td>Lead Researcher/Principal investigator Research evaluator Implementing researcher</td>
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<tr>
<td><strong>Community Partner—CBA Community service provider (PROCEED, Inc.)</strong></td>
<td>Key Roles: Write translated protocols following EBI/CDC procedures. Review and translate data from original research to an intervention package for community use. Ensure that the original research protocol, implementation steps, and core elements are accurately captured. Develop curricula that will train service providers to prepare for and implement MIP in their respective settings. Consult with the original research team throughout translation process. Modify products on the basis of UCC and CDC feedback. Identify and secure expert consultants as needed. Conduct the logistics for scheduled meetings.</td>
<td>Executive director Program director CBA trainers Director of clinical services Expert consultants (bilingual translation, editing) Support staff</td>
</tr>
<tr>
<td><strong>CDC—DHAP/CBB</strong></td>
<td>Behavioral science theory and application EBI technical expertise and guidance on DEBI product development &amp; diffusion. Capacity building for community organizations. Programmatic monitoring and evaluation</td>
<td>Key Role: Provide technical guidance and EBI products and protocols, behavioral science theory and application. Reviewer and Quality Control and Assurance. Provide administrative oversight of the project. Act as a liaison and facilitator for the partnership. Review and provide feedback on the translated research. Provide expert consultation and guidance on the development of the curriculum package in the CDC DEBI format. Facilitate the review and approval of the curriculum package. Provide consultation on the development of MIP Training Curricula.</td>
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*Note. MIP = Modelo de Intervención Psicomédica; EBI = evidence-based interventions; CBA = capacity-building assistance; UCC = Universidad Central del Caribe, Escuela de Medicina, Puerto Rico; CDC = Centers for Disease Control and Prevention; DHAP = Division of HIV/AIDS Prevention; CBB = Capacity Building Branch; DEBI = Diffusion of Evidence-Based Interventions.*
tion had been tested in the field with over 400 implementing agencies and was a multisession drug-related intervention similar to MIP in regard to some intervention components (CDC, 2006, Safety Counts Implementation Manual).

Work groups developed the causative or internal logic model, core elements and key characteristics, implementation plan, intervention sessions, and evaluation tools. The intervention researchers provided reviews and feedback. The Diffusion Team and PROCEED, Inc. staff reviewed the feedback and translated it into user-friendly implementation formats. The work groups created an environment that promoted active group participation, shared decision making and colearning, and a commitment to integrating research findings with HIV prevention community experience (Brown, Holtby, Zahand, & Abbott, 2005; Faridi, Grunbaum, Gray, Franks, & Simoes, 2007; Israel, Schulz, Parker, & Becker, 1998).

Table 2 compares intervention characteristics in the original MIP Research with characteristics in the MIP DEBI package and shows the program modifications made to package MIP for community implementation. Key characteristics of the intervention were modified to fit the conditions adopting agencies would encounter, such as the inclusion of various groups of IDUs, delivery options, staff credentials, and training; risk assessment and eligibility criteria; and budget variance at multiple implementing sites.

TARGET POPULATION

The original target population of Hispanic/Latino IDUs was expanded to include IDUs from all races and ethnic backgrounds because of theoretical, programmatic, and diffusion considerations. The intervention had potential for broader applicability to other groups of IDUs other than Spanish speakers. Similar counseling models that use motivational interviewing strategies have been demonstrated to assist substance users reduce HIV risk behaviors (Wolitski, 2006). Accessing and utilizing health-related services and drug treatment programs, self-efficacy regarding risk reduction behaviors, and social support factors have all been associated with reductions in HIV risk behaviors among IDUs of various races and ethnicities (Booth & Weibel, 1992; Des Jarlais et al., 1995; McCoy, Metsch, Chitwood, Shapshak, & Cormer, 1998; Rhodes et al., 1990; Watters et al., 1990). The intervention researchers considered the risk determinants addressed to be broadly applicable to current IDUs, and the principles and approaches of risk reduction used in the intervention were used in multiple models elsewhere (Bandura, 1986; Miller et al., 2002; Prochaska & DiClemente, 1986; R. Robles, personal communication, March 2007). Implementation mechanisms were considered to be broadly applicable across health care and HIV intervention providers who serve a target population of IDUs of multiple races, ethnicities, languages, and geographic locations. PROCEED, Inc. and the Diffusion Team recognized that once the intervention was disseminated, implementers would adapt the intervention. It was more cost efficient to consider a broader linguistic and cultural target population during the packaging process. Further research efforts need to be considered to evaluate the effectiveness of broadening the target population for other non-Hispanic/Latino IDUs.
INTERVENTION DURATION

After the efficacy paper was published, Robles and her colleagues worked with drug injecting couples and found that a booster session could further increase risk reduction behaviors and self-efficacy for protective behaviors and lead to a sense of closure for program participants (R. Robles, personal communication, November 2007). Thus the additional booster session was included in the package.

DELIVERY/STAFF

Fidelity to the intervention’s core elements was maintained despite modifications to the suggested staffing patterns in the original MIP research to create the MIP intervention package. The original MIP intervention team consisted of a supervisor, a counselor (or a registered nurse [RN]), and two case managers/community educators (Robles et al., 2004). The MIP working group decided that in the MIP intervention package, trained counselors rather than RNs would conduct the MIP counseling sessions. This decision was made after considering the responsibilities of each MIP team.
member—the supervisor, counselor, and case manager/community educator—and realizing that the skills needed to conduct the MIP counseling sessions were more in line with the skills of persons trained as drug abuse counselors on the United States. Although RNs in Puerto Rico conduct community outreach and case management as part of their duties, in the United States, non-RNs such as counselors, outreach workers, or case managers, overwhelmingly perform these activities. RNs also were used in the original research to address the participants' health-care information and referral needs. In the MIP package, these needs are addressed during the MIP counseling session “Taking Care of Your Health” and the case management follow-up session. During the aforementioned session, the counselor obtains the participant’s health history and encourages the participant to take control of his or her health, primarily by working with the case manager to make appropriate medical appointments to ensure the participant’s access and utilization of health care services. Another factor that supports the use of counselors rather than RNs to implement MIP is resources. Given the salary range for registered nurses in the United States and the typical estimated funding award for HIV prevention programs, many programs funded by CBOs and HDs would be unable to afford a full-time RN and still have adequate funding to implement MIP successfully.

ELIGIBILITY CRITERIA

During the packaging process, the MIP group considered the issue of eligibility of IDUs, as determined by the last time the user injected drugs. The original research criterion for an IDU to be eligible was the use of injected drugs during the last 30 days. Thirty days is a well established timeframe used in research to decrease recall bias, but for the intervention package, the eligibility time frame was increased to 90 days to make the intervention more widely available to persons at risk for HIV infection. This criterion also was used in the Safety Counts intervention (CDC, 2006, Safety Counts Implementation Manual), another intervention for IDUs disseminated through the DEBI project.

INTERVENTION BUDGET RECOMMENDATIONS

As discussed by Collins (2008), DEBI interventions are not inexpensive because they include staffing criteria, skill building, and other staff training activities and the provision of intensive risk reduction activities and client incentives (e.g., provision of retention coupons). PROCEED, Inc. suggested that the implementation package contain regional cost in addition to fringe and overhead estimates. Although the cost of implementing a DEBI intervention can vary from region to region, the CBA partner provided an example of a EBI budget in the materials.

OUTCOMES: MIP PROGRAM IMPLEMENTATION MANUAL, TRAINING-OF-FACILITATORS CURRICULUM AND DEBI TRAININGS

Table 3, illustrates the time line from translation to diffusion of MIP. The translation, packaging, and diffusion of the MIP intervention occurred during a period of 2½ years. The MIP work group conducted two pilots—one in the U.S. mainland
and another in Puerto Rico—and produced a training of facilitators for new CDC grantees in Puerto Rico on schedule.

Two key deliverables were produced in both English and Spanish: the MIP Program Implementation Manual and the Training-of-Facilitators curriculum. Fifteen participants from HDs, substance abuse treatment facilities, and CBOs serving IDUs attended the training held in the United States. Under Program Announcement PS08-803- HIV Prevention Projects for the Commonwealth of Puerto Rico and the United States Virgin Islands, the CDC funded two CBOs in Puerto Rico to implement MIP in their respective communities. A total of 18 participants, which included staff from the two funded CBOs in Puerto Rico and other local health department funded grantees, attended the Spanish MIP pilot training.

The collaboration among the MIP partners was substantial since this project was conceived as a project among CDC behavioral scientists, the original intervention researchers, and a capacity-building assistance provider. Clear roles and responsibilities, as well as respect for the expertise of other contributing partners, facilitated the development of the technology exchange package. The involvement of PROCEED, Inc. was important because this project provided them with a new experience in the movement of research to practice. Participation of the Diffusion Team allowed us to “fast track” an intervention from research to practice using a model developed and refined by the REP project over the last 10 years. Not only was there technology exchange in terms of a particular behavioral intervention, but there was also technology exchange between the REP process and the fast-track process. PROCEED, Inc., became involved in MIP process, mastering aspects of the intervention implementation and thus becoming the primary diffusion agency for this intervention. As we have found in the DEBI process, material creation, trainings, and capacity building to community partners is a public health investment and moves the field of HIV prevention toward evidence-based practices. The experience gained during the packaging process by PROCEED, Inc., in the design and implementation and implementation of the diffusion process provides a sense of ownership of the product.

CHALLENGES AND RECOMMENDATIONS

This article has outlined and chronicled the experience gained during the MIP technology exchange framework, and the partnership a CBA provider, the original intervention researchers, and CDC behavioral scientists developed to translate, package, and diffuse the MIP intervention. The MIP technology exchange experience combined two well-defined processes of translating research into practice from CDC’s Division of HIV/AIDS Prevention: The process of translation and packaging, which the REP Project has refined over the last 9 years, and the process of diffusion, which the DEBI Project has refined over the last 7 years. The participation of a CBA provider was critical to addressing the programmatic implementation and cultural factors that could enhance or hinder intervention diffusion. Many of the important issues that PROCEED, Inc., proposed, discussed, and considered were programmatic in essence and were related to issues regarding identification, recruitment, and retention of the target population; delivering the intervention with fidelity; staff selection and training; and developing a realistic intervention budget. In addition, the translation of materials from Spanish to English and from English to Spanish was made possible by using the expert committee review model (Cortés et al., 2007). The two pilots of

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*Note. MIP = Modelo de Intervención Psicomédica; CDC = Centers for Disease Control and Prevention; DEBI = Diffusion of Evidence-Based Interventions.*
the intervention, one conducted in English and the other in Spanish, validated the intervention materials developed (MIP Program Implementation Manual and MIP training-of-facilitators curriculum) under real-world conditions. Finally, the partnership and framework that was followed helped generate a sense of ownership of the intervention and *confianza* (trust) between technology exchange partners. This resulted in commitment to the diffusion process and pride in the newly developed products. During the DEBI diffusion process, rigorous knowledge and experience of an EBI by dissemination partners, such as trainers and technical assistance providers, was a way to provide effective training and technical assistance sessions.

Another factor to consider involves future funding mechanisms for a collaborative technology exchange process. During the REP project, information and examples and further capacity building is provided to the original intervention researchers as they develop the package. However, PROCEED, Inc. was required to provide ongoing training and technical assistance as a CBA provider while simultaneously developing an intervention diffusion package. As implemented, 11 face-to-face meetings among the partners were organized and conducted. The purpose of these meetings, in part, was to provide capacity building and technical assistance to the original MIP researchers and PROCEED, Inc., and to pilot test the training curriculum and the dissemination process. Furthermore, these meetings provided a forum to discuss assigned topics and review process. The REP process does not require many face-to-face meetings, primarily because the packaging grantee is often the researcher or an organization already familiar with the intervention. The CBA partner complete commitment to see the completion of this technology exchange process and to move the intervention “out in the field” was related to their programmatic experience diffusing HIV/AIDS and sense of ownership gained during the MIP process. Yet a number of lessons were learned that could be useful to others embarking on a similar project of technology exchange.

- The process of translating evidence-based interventions to applied settings is iterative in nature and requires cooperation and flexibility to develop a product reflective of community needs and program implementation realities.
- To ensure an optimal environment for the translation process, a technology exchange approach that uses researchers and CBA community representatives who work collaboratively with CDC scientists and other experts, such as a diffusion team of experts from multiple disciplines, should be established.
- Create a collaborative effort to invest in building *confianza*, clarify roles and responsibilities, denote clear goals and objectives, and share ownership and pride in the final products.
- The CBA provider’s contribution to the translation process is integral to developing the programmatic design and structural components of intervention packages that are appropriate for future implementers. Their involvement is critical because they are often funded to implement the interventions and provide technical assistance and training to implementing agencies.

The intervention package must address organizational infrastructure and the population-based HIV prevention needs of CBOs. The process of translating the MIP intervention into program practice was a success. The MIP package currently is being used by field practitioners to guide program implementation and prevent HIV among Hispanic/Latino IDUs. Although it is still too early to evaluate the effects of
the DEBI MIP intervention curriculum, as translated and in the field with clients, the responsiveness of community practitioners to the intervention has been positive.

CONCLUSION AND FUTURE DIRECTIONS

Research transfer is only one step in ensuring health service providers have the appropriate tools to serve their communities. As acknowledged by the CDC and others (Lyles et al., 2007; McKleroy et al., 2006; Wingood et al., 2008), gaps still remain in the availability of EBIs for populations at risk for HIV. There remains a great need for EBIs to address the needs of Hispanic/Latino heterosexual men, couples, men who have sex with men, drug users other than IDUs, and persons with limited English proficiency. Once interventions such as MIP are available for national diffusion, investment in training, technical assistance, and capacity-building support must continue to ensure that organizations have the capacity to implement these interventions as intended and thus increase the likelihood of preventing future HIV/AIDS cases and building stronger, healthier communities.

REFERENCES


