

Linking HIV-Infected Persons of Color and Injection Drug Users to HIV Medical and Other Services: The California Bridge Project

FRED MOLITOR, Ph.D.,¹ CHRISTINA KUENNETH, M.P.H.,²
JENNY WALTERMEYER, B.A.,¹ MARISOL MENDOZA, M.A.,¹ ARTHUR AGUIRRE, M.A.,¹
KAMA BROCKMANN, Ph.D.,³ and CAROL CRUMP, M.F.T.³

ABSTRACT

Our objectives were to describe the strategies and successes in linking out-of-treatment HIV-infected persons of color and injection drug users (IDUs) to a comprehensive HIV care, treatment, and prevention program and other community services. Peer-based outreach staff at 21 sites throughout California provided assessments and referrals to 1453 persons living with HIV but without routine care. A linkage was defined as the receipt of a referred service. Half (49.7%) of persons of color and 41.6% of IDUs received services at a California Early Intervention Program (EIP) site after the date of first contact with peer staff; 58.1% of clients referred to EIP were linked to the program. IDUs were less likely to link to EIP. However, IDU clients were less likely to be referred to EIP, and more likely to be referred and linked to other community programs. Interventions such as the California Bridge Project can effectively link HIV-infected persons from marginalized populations to care, treatment, and prevention services. Programs that address immediate needs such as housing are more appealing to IDUs than programs offering HIV medical care.

INTRODUCTION

BETWEEN 42% and 59% of persons living with HIV in the United States do not receive regular HIV-related care.¹ In addition to being disproportionately affected by HIV,² persons of color in the United States have a history of inequitable access to HIV care and treatment. African Americans have not participated in clinical trials, or have been offered or received antiretroviral therapy or experimental medications, to the same extent as whites.³⁻⁹ Delay in

receiving protease inhibitors was found for African Americans in analyses that controlled for patient and providers characteristics.¹⁰ Almost 9 in 10 providers in this nationally representative sample considered patient adherence to be very important in their decision to prescribe protease inhibitors. Among these providers, African Americans and Latinos were found to receive protease inhibitors later than whites, regardless of HIV risk or health, mental health status, health insurance coverage, or other important patient factors.¹⁰ These

¹ETR Associates, Sacramento, California.

²Center for Health Services Research in Primary Care, University of California Davis, Davis, California.

³California Department of Health Services, Office of AIDS, Sacramento, California.

findings suggest that subtle racial or ethnic biases may play a part in physicians' assessment of patients' potential to adhere to HIV medical treatments. Finally, African Americans and Latinos with HIV have been less likely than whites to obtain timely medical care.¹¹ The California Bridge Project was developed specifically to address these problems by engaging HIV-infected persons of color into an HIV care, treatment, and prevention program.

The Bridge Project was conducted at 21 California Department of Health Services, Office of AIDS, Early Intervention Program (EIP) sites. EIP is a state-funded multidisciplinary program that offers medical, psychosocial, case management, health education, and HIV transmission risk reduction services for persons with HIV/AIDS in California. EIP sites are required to assess clients on each of these five core services every 6 months. The primary goal of the Bridge Project was to decrease the amount of time HIV-positive persons of color are without comprehensive HIV care, treatment, and prevention services. The project objectives were to engage people in HIV medical care and other needed services and to get people who had dropped out of EIP back into the program. The primary focus of the project was to link persons to EIP services; however, program staff could refer clients to non-EIP organizations when other community services were more appropriate to the clients' needs.

The objectives of this study were to describe the Bridge Project and its success in linking HIV-positive persons to HIV care, treatment, and prevention services. Particular attention in our analyses was given to clients with a history of injection drug use. Researchers have noted that injection drug users (IDUs) have been less likely to be offered zidovudine, participate in clinical trials, and obtain primary care soon after being diagnosed with HIV than non-IDUs,¹¹⁻¹⁴ and the hope was that our findings would provide insight into strategies for engaging IDUs in medical care.

MATERIALS AND METHODS

The target population for the Bridge Project was persons of color. However, the primary cri-

teria for eligibility were HIV-positive status and lack of routine care and treatment services, not race or ethnicity.

Program staff had strong social and cultural ties to their communities; they brought to the project personal attributes and life experiences that contributed to their ability to recruit, assess, refer, and link marginalized persons to needed services. Forty of the 42 Bridge Workers were persons of color, 59.5% spoke fluent Spanish, more than one third (35.7%) disclosed at project meetings their HIV-positive status, and almost one fourth (23.8%) were former substance users. Bridge Workers were required to have specific skills or background in at least three of the following areas: street-based outreach, HIV counseling and testing, prevention case management, psychotherapy or counseling, health education, or HIV-based case management. Once hired, Bridge Workers received training to become certified by the California Statewide Treatment Education Program as HIV treatment educators.

Clients were recruited directly by the Bridge Workers or via referrals. Bridge Workers assessed and addressed the personal and environmental factors that were potential barriers to entry into available community programs. Through nonstructured discussions, Bridge Workers identified clients' risk behaviors and physical and mental health status, and the reasons why former EIP clients had left the program. With the information, Bridge Workers determined the type of services within the community that would be most beneficial to each client and provided referrals accordingly.

Soon after initial contact with an individual recruited for or referred to the project, Bridge Workers completed and faxed a form to the evaluation team. Fax forms were used to identify client characteristics and unique EIP identification numbers for former EIP clients who had dropped out of the program. EIP identification numbers are the basis by which EIP clients are identified and the services they receive are transmitted on an ongoing basis to the OA. EIP identification numbers for new EIP clients were communicated to the project evaluators as Bridge Workers enrolled them into the program. Bridge Workers also updated the evaluation form as clients were referred and

linked to non-EIP services. Bridge Workers accompanied clients to initial service appointments by traveling with them on public transport or driving them to agencies, or they met with clients at the referral sites to provide support and assist with enrollment procedures and paperwork. Linkages to non-EIP sites were also verified by the Bridge Worker contacting the service providers to ensure that the client had begun to receive services. Linkages to EIP were established by matching OA EIP identification numbers with those reported by the Bridge Workers and identifying types of services received. As such, a linkage to non-EIP or EIP service meant that the client was enrolled and had received services at the referral site.

Bridge Workers' assessments of clients' risk behaviors (sex with men, sex with women, or shared needles) were based on observations, discussions with the client, reports from other staff, or client records. These data were combined with gender to create risk categories. The percent of clients referred and linked to EIP and non-EIP services was calculated for all clients and by race/ethnicity and risk categories. Linkage rates were based on the total number of clients, and on number of clients who were referred to non-EIP agencies. Statistical comparisons by race/ethnicity and risk categories were conducted using χ^2 tests.

RESULTS

From March 2001 to December 2003, Bridge Workers recruited 1453 clients. Most (40.4%) clients came to the Bridge Project by referral from EIP staff, 32.4% were referred by staff at community-based organizations, and 19.0% were recruited by Bridge Workers through street outreach or at HIV counseling and testing sites.

The majority (75.8%) of clients were males (Table 1). A greater percent of Bridge clients were females (22.3%) than the percent of EIP clients who are female (18.4%),¹⁵ and the percent of HIV cases in California among females (14.0%).¹⁶ African Americans and Latinos represented 37.9% and 36.1% of Bridge clients, respectively, and were oversampled compared to their combined share of California HIV cases

TABLE 1. CHARACTERISTICS OF BRIDGE CLIENTS (n = 1453)

	n	%
Gender		
Male	1102	75.8
Female	324	22.3
Transgender	27	1.9
Race/ethnicity		
African-American	551	37.9
Latino/Hispanic	525	36.1
White	315	21.7
Asian	14	1.0
Mixed/other	25	1.7
Missing/unknown	23	1.6
Risk Category		
MSM/IDU	80	5.5
MSM	627	43.2
Female IDU	188	12.9
Male IDU	105	7.2
Female heterosexual	211	14.5
Male heterosexual	183	12.6
Unknown/other	59	4.1
Type of Bridge client		
Former EIP client	662	45.6
Not former EIP client	785	54.0
Not identified	6	0.4

MSM, men who have sex with men; IDU, injection drug user; EIP, California Early Intervention Program.

(44.9%).¹⁶ The risk category with the greatest number of clients was men who had sex with men (MSM) (43.2%). Female and male IDUs represented 12.9% and 7.2% of clients, respectively. Females who have sex with men were 14.5% of clients; 12.6% of clients were identified as male heterosexual. A total of 662 Bridge clients were former EIP clients who had stopped showing up for scheduled appointments and 785 persons who were initially contacted by the Bridge Workers had never been enrolled in EIP. The average length of time since last documented EIP service among former EIP clients was 6.0 months. Bridge Workers asked nonformer EIP clients the date that they were first diagnosed with HIV. These clients had been HIV-positive for 3.9 years, on average; 41.4% of these clients also reported never having any prior HIV-related medical care. Type of Bridge client did not differ by race/ethnicity or risk categories (both $p > 0.05$).

The process of matching unique EIP ID numbers revealed that 47.5% of Bridge clients received at least one EIP core service after the date of first contact with a Bridge Worker

(Table 2). Most of these clients (604 of 690; 41.6% of all clients) had documented medical care; 86 clients received case management, health education, psychosocial, and/or HIV transmission risk reduction services, but had yet to receive medical care. A total of 325 clients (22.4) were linked to community agencies providing social services. Bridge Workers also reported linking 8.4% of clients to low-income housing or transitional living facilities.

It was not uncommon for a number of contacts to occur before the Bridge Worker referred a client to services. Establishing trust and making a proper assessment took time, and not all clients were willing to consider enrolling in needed services right away. On average, 3.2 contacts between the Bridge Worker and client occurred before the first referral. Bridge Workers documented at least one contact with 266 clients, but no referral was ever made because the client declined to cooperate, or because the Bridge Worker could not locate the client or left the project after the initial contact. Considering only clients referred to services, 58.1% were linked to EIP, 26.6% were linked to social services, and 9.7% were linked to housing.

As seen in Table 2, 50.1% of African American, 49.3% of Latino, and 38.4% of white clients received EIP services. Subsequent comparisons found that persons of color were significantly more likely to obtain EIP services than were whites (49.7% versus 38.4%, $p < 0.001$). MSM/

IDU, female IDU, and male IDU clients were less likely than clients from the other risk categories to have received EIP services. In fact, the EIP linkage rate was significantly lower among clients with a history of injection drug use (41.6%) compared with non-IDU clients (48.6%, $p = 0.023$). Further analyses revealed that the discrepancy between nonwhites and whites for linkage to EIP services appears to be due to a greater percentage of whites reporting a history of injection drug use. That is, 42.9% of white clients had a history of injecting drugs, while 26.3% of African American and 15.2% of Latino clients were identified as IDUs ($p < 0.001$). Thus, whites were less likely to have received EIP services because they were more likely to have injected drugs.

One might suspect that the reason behind these findings is that IDUs had a greater tendency to reject referrals or subsequent services. Yet, female and male IDU clients had the highest referrals rates for social services and housing, and linkage rates of those referred for social services. Differences between Bridge clients with (including MSM/IDU clients) and without a history of injection drug use were significant for both referral and linkages to social services and housing (all four $p < 0.001$). Success in linking IDUs to social services and housing required greater effort: Bridge Workers reported significantly more contacts on average with IDU than non-IDU clients (13.3 versus 9.0, $p = 0.002$).

TABLE 2. PERCENT OF CLIENTS LINKED TO EIP AND NON-EIP SERVICES BY RACE-ETHNICITY AND RISK CATEGORY

	EIP		Social services		Housing		
	% Linked of total	% Referred	% Linked of referred	% Linked of total	% Referred	% Linked of referred	% Linked of total
Overall	47.5	29.5	76.0	22.4	12.3	68.2	8.4
Race/ethnicity							
African American	50.1	30.1	76.5	23.0	14.9	58.5	8.7
Latino	49.3	26.1	71.5	18.7	7.6	67.5	5.1
White	38.4	35.6	81.3	28.9	15.2	83.3	12.7
Risk category							
MSM/IDU	40.0	28.8	65.2	18.8	15.0	66.7	10.0
MSM	49.1	23.0	72.2	16.6	7.2	60.0	4.3
Female IDU	40.4	51.6	84.5	43.6	22.9	72.1	16.5
Male IDU	43.8	43.8	84.8	37.1	21.0	68.2	14.3
Female heterosexual	54.5	30.8	72.3	22.3	12.3	69.2	8.5
Male heterosexual	46.4	21.3	76.9	16.4	12.6	78.3	9.8

MSM, men who have sex with men; IDU, Injection Drug User; EIP, California Early Intervention Program.

DISCUSSION

The Bridge Project demonstrates that nearly half of HIV-positive persons without routine care, treatment, and prevention services can be linked to comprehensive HIV services when approached by peers. This outcome was found for a population at acute risk for delayed HIV care: Bridge clients had stopped showing up for service appointments, or were identified by Bridge Workers, EIP staff, or persons from community organizations as having socioeconomic, lifestyle, or other characteristics that made them unlikely to access timely HIV services through traditional mechanisms. Some clients had such severe distrust of service providers or the benefits of HIV care, or denial of their diagnosis, that they refused the Bridge Workers' assistance. Other clients' lives were so chaotic that they could not be located by the Bridge Worker after expressing an initial interest in the project. There was also a number of Bridge Workers who left the project during the 34-month evaluation period, with months elapsing before they were replaced. As such, some clients never received a thorough assessment and referral for service after an initial contact with a Bridge Worker. When the relationship with the client did progress to a point where a referral was provided, Bridge Workers were successful in linking almost 6 of 10 clients to EIP services.

The intervention had greater success in linking persons of color to EIP, which is explained by a smaller proportion of non-white than white clients reporting a history of injection drug use. IDUs were less likely to receive EIP services because they were less likely to be referred to EIP. Community agencies offering social services may have been more appealing than comparable services (e.g., case management) or medical care through EIP among clients with a history of injection drug use. IDUs may have perceived that EIP staff would restrict services for clients who continued to use drugs, while other organizations within the community would be more accepting of their drug use. Bridge Worker referrals may have been based on IDUs' requests to assist them in obtaining services that they perceived as being more important than those offered through

EIP. That is, basic needs such as housing had to be addressed before IDU clients would consider services to address their physical and mental health, as offered through EIP. In fact, IDUs were more likely to be referred to social services ($p < 0.001$) or housing ($p = 0.017$), at the exclusion of EIP services, than Bridge clients without a history of injecting drugs. Thus, IDUs may not be necessarily more resistant or unwilling to access HIV services, but they may be more likely to engage in services at organizations that are more tolerant of their drug use, or more likely to agree to services, such as case management in general or housing in particular, that address their immediate needs. These findings are consistent with the harm reduction approach to treatment which is more accepting of continued drug use,¹⁷⁻¹⁸ and the results of a recent prevention case management intervention based on the harm reduction model that found basic needs had to be addressed before high-risk HIV-positive clients would consider changing their risk behaviors.¹⁹

Working directly with clients represented a portion of Bridge Workers' job responsibilities. Bridge Workers were charged with educating fellow EIP staff and individuals at community agencies about the project. With almost one third of clients coming to the Bridge Project via referral from staff at non-EIP sites, Bridge Workers were successful in promoting the project within the community. Once a referral was received, Bridge Workers used formal client records or informal tips from staff to locate potential clients. Information from friends, relatives, and acquaintances were used to track down persons who had since moved from the address on record. Individuals were also intercepted at community service organizations or HIV counseling and testing sites by staff notifying the Bridge Workers that someone eligible for the project was on the premises. After the initial client contact, the process from recruitment to linkage was time consuming and lengthy. Bridge Workers averaged over three contacts before making the first referral. Almost 11 contacts per client overall were recorded by Bridge Workers, yet some of these contacts included assisting clients after they had been linked to services. Bridge Workers re-

ported driving EIP-linked clients to appointments, for example, because they felt personally responsible for ensuring that the clients received ongoing services. As such, the greater number of contacts recorded for IDUs were required because these clients were more difficult to locate, recruit, and link to EIP and non-EIP services, and because Bridge Workers were also more likely to continue to assist some IDU clients after a documented linkage because ongoing services required their continued support.

Documentation of ongoing service use represents a shortcoming of the evaluation of the Bridge Project. Although a linkage was delineated as the receipt of a referred service and not solely enrollment into a program, we do not know to what degree clients continued to receive services. If African American or Latino Bridge clients perceive discrimination by EIP staff, they would likely be more prone to drop out of care.²⁰ The behavioral risk categories that the referral and linkage outcomes were compared were not developed from responses to a standardized questionnaire, but from Bridge Workers' observations or discussions with clients, or from reports from other staff or client records. Because these data were not collected in a systematic manner, behaviors such as injection drug use were likely underreported. Moreover, the degree to which these categories represent HIV exposure or current behaviors is unknown. As previously noted, the Bridge Project suffered from staff turnover. Linkage comparisons across the race/ethnicity and risk categories are biased to the extent that Bridge Workers made dissimilar rates of referrals to clients within these groups before leaving the project. Linkage rates overall are also underreported as a result of staff turnover: Clients referred were only recognized as linked to non-EIP services when Bridge Workers subsequently communicated this information to the evaluation team. Similarly, receipt of EIP services could only be established when the evaluation team had received an EIP identification number from the Bridge Worker that matched the OA EIP service use database. An unknown number of linkages occurred at both non-EIP and EIP sites after the referring Bridge Workers left the

project. Moreover, 15.3% of EIP identification numbers initially reported by the Bridge Workers did not match the OA database, and could not be rectified at a later date in the absence of the departed Bridge Workers.

As HIV incidence increases among marginalized populations,²¹ the traditional means by which HIV-infected persons connect to care, treatment, and prevention services become less effective. The Bridge Project represents an intervention to engage such individuals in needed services. Bridge Workers can be valuable members of an HIV service team at agencies that provide HIV medical care. Bridge Workers must be given permission to spend a substantial amount of time out of the clinic, and the flexibility to refer clients to any community agency that is appropriate for and acceptable to the client. Similar programs can expect that clients with a history of injection drug use will be less receptive to comprehensive HIV services. Yet, linking IDUs to ancillary services may be an important first step towards engaging them into medical care. Ideally, Bridge Workers would maintain ongoing relationships with IDU clients for the purposes of continuing to promote HIV medical care and eventually link them to comprehensive services.

ACKNOWLEDGMENTS

The Bridge Project was initially funded by the Centers for Disease Control and Prevention in 2001 through a Prevention for HIV-Infected Persons Project (PHIPP) grant. The project was expanded in 2002 with state general funds and support from the Health Resources and Services Administration (HRSA) Minority AIDS Initiative.

REFERENCES

1. Fleming PL, Byers RH, Sweeney PA, Daniels D, Karon JM, Janssen RS. HIV Prevalence in the United States, 2000. Paper presented at 9th Conference on Retroviruses and Opportunistic Infections; Oral abstract, session 5, presentation 11. Seattle, WA: February 24–28, 2002.
2. Centers for Disease Control and Prevention. A Glance at the HIV Epidemic. www.cdc.gov/nchstp/od/news/At-a-Glance.pdf. (Last accessed March 17, 2004).

3. Stein MD, Piette J, Mor V, et al. Differences in access to zidovudine (AZT) among symptomatic HIV-infected persons. *J Gen Intern Med* 1991;6:35–40.
4. Stone VE, Mauch MY, Steger K, Janas SF, Craven DE. Race, gender, drug use, and participation in AIDS clinical trials. Lessons from a municipal hospital cohort. *J Gen Intern Med* 1997;12:150–157.
5. Diaz T, Chu SY, Sorvillo F, et al. Differences in participation in experimental drug trials among persons with AIDS. *J Acquir Immune Defic Syndr Hum Retrovirol* 1995;10:562–568.
6. Moore RD, Stanton D, Gopalan R, Chaisson RE. Racial differences in the use of drug therapy for HIV disease in an urban community. *N Engl J Med* 1994;330:763–768.
7. Andersen R, Bozzette S, Shapiro M, et al. Access of vulnerable groups to antiretroviral therapy among persons in care for HIV disease in the United States. *Health Serv Res* 2000;35:389–416.
8. Gifford AL, Cunningham WE, Heslin KC, et al. Participation in research and access to experimental treatments by HIV-infected patients. *N Engl J Med* 2002;346:1373–1382.
9. Palacio H, Kahn JG, Richards TA, Morin SF. Effect of race and/or ethnicity in use of antiretrovirals and prophylaxis for opportunistic infection: A review of the literature. *Public Health Rep* 2002;117:233–251.
10. Wong MD, Cunningham WE, Shapiro MF, et al. Disparities in HIV treatment and physician attitudes about delaying protease inhibitors for nonadherent patients. *J Gen Intern Med* 2004;19:366–374.
11. Turner BJ, Cunningham WE, Duan N, et al. Delayed medical care after diagnosis in a US national probability sample of persons infected with human immunodeficiency virus. *Arch Intern Med* 2000;160:2614–2622.
12. Samet JH, Freeberg KA, Stein MD, et al. Time from testing positive for HIV to presentation for primary care. *Arch Intern Med* 1998;158:734–740.
13. Stein MD, Piette J, Mor V, et al. Differences in access to zidovudine (AZT) among symptomatic HIV-infected persons. *J Gen Intern Med* 1991;6:35–40.
14. Stone VE, Mauch MY, Steger K, Janas SF, Craven DE. Race, gender, drug use, and participation in AIDS clinical trials. Lessons from a municipal hospital cohort. *J Gen Intern Med* 1997;12:150–157.
15. Crump C, Brockmann K, Molitor F. Prevention with positives in California: The Early Intervention Program, The HIV Transmission Prevention Project and the Bridge Project. Presented at 2003 National HIV Prevention Conference. Atlanta, GA: July 27–30, 2003.
16. California Department of Health Services, Office of AIDS. California HIV case surveillance report: cases reported through September 30, 2004. www.dhs.ca.gov/ps/ooa/Statistics/pdf/Stats2004/sep04HIVmerged.pdf (Last accessed March 17, 2004).
17. Denning P. Harm reduction psychotherapy: An innovative alternative to classical addictions theory. *Am Clin Lab* 2002;21:16–18.
18. Marlatt G, Witkiewitz K. Harm reduction approaches to alcohol use: health promotion, prevention and treatment. *Addict Behav* 2002;27:867–886.
19. Molitor F, Mendoza M, Wagler D, Kuenneth C. The HIV Transmission Prevention Project (HTPP) and Risk Reduction among HIV-Negative and HIV-Positive Persons at High-Risk for HIV Transmission. www.preventioncasemanagement.org/HTPP2004.pdf (Last accessed March 17, 2004).
20. Bird ST, Bogart LM, Delahanty DL. Health-related correlates of perceived discrimination in HIV care. *AIDS Patient Care STDS* 2004;18:19–26.
21. Blair JM, Fleming PL, Karon JM. Trends in AIDS incidence and survival among racial/ethnic minority men who have sex with men, United States, 1990–1999. *J Acquir Immune Defic Syndr* 2002;31:339–347.

Address reprint requests to:

Fred Molitor, Ph.D.

ETR Associates

2210 21st Street

Sacramento, CA 95818

E-mail: fredm@etr.org

Copyright of AIDS Patient Care & STDs is the property of Mary Ann Liebert, Inc. and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.