Transhealth Information Project: A Peer-Led HIV Prevention Intervention to Promote HIV Protection for Individuals of Transgender Experience

Omar Martinez, Nikki Lopez, Tatyana Woodard, Sheilla Rodriguez-Madera, and Larry Icard

Individuals of transgender experience (ITE) in the United States face an elevated risk of HIV infection. Several conditions have been attributed to the high HIV incidence and prevalence within this group, including experiences of discrimination, unemployment, incarceration, stigma, and elevated rates of sexual risk and substance use. In response to these needs, the Gay and Lesbian Latino AIDS Education Initiative and Prevention Point Philadelphia, two local community-based organizations in Philadelphia, developed the Transhealth Information Project (TIP). TIP is a peer-led six-session hybrid individual- and group-based intervention emphasizing leadership, social and structural interventions, and HIV risk reduction that incorporates other evidence-based practices for HIV prevention and care. Since 2003, TIP has served over 1,500 ITE and linked them to HIV prevention and care services. TIP has an established record of reaching ITE and linking them to HIV prevention services and HIV primary care. TIP's utilization speaks to the need for interventions to respond to the complex, interacting syndemic factors that cumulatively determine HIV vulnerability among ITE.

KEY WORDS: *community-based participatory action research; HIV/AIDS; implementation science; men and women of transgender experience; peer-led HIV prevention interventions*

Individuals of transgender experience (hereinafter ITE), particularly women of trans experience, are disproportionately affected by HIV. In a meta-analysis of HIV prevalence studies in the United States, among those whose serostatuses were laboratory-confirmed, nearly 28 percent of women of trans experience overall, and 56 percent of African American women of trans experience, were HIV-positive (Herbst et al., 2008). A systematic review and meta-analysis of studies that assessed HIV infection burdens among transgender women found the pooled HIV prevalence was 19.1 percent in 11,066 transgender women worldwide. The study concluded that transgender women are a very high burden population for HIV and are in urgent need of prevention, treatment, and care services. The meta-analysis showed remarkable consistency and severity of the HIV disease burden among transgender women (Baral et al., 2013). Men of trans experience are also disproportionately affected by HIV (Clements-Nolle, Marx, Guzman, & Katz, 2001; Herbst et al., 2008), and research suggests that men of

trans experience who have sex with men are at increased risk for HIV acquisition (Reisner & Murchison, 2016; Rowniak, Chesla, Rose, & Holzemer, 2011). A recent study with HIV-positive men of trans experience in the United States highlighted significant unmet social and health care needs. Approximately half the sample of men of trans experience were living in poverty and only 60 percent had sustained viral suppression (Lemons et al., 2018). Additional research is needed to understand the HIV risk behavior among women and men of trans experience and develop evidence-based HIV interventions to address their needs. It is also important to consider HIV risk and protective factors among non-binary ITE, who have received minimal attention to date in research and programmatic interventions.

Syndemics theory has been proposed to describe the synergistically related epidemics that cluster and arise from harmful conditions (Singer, 1994). Over the past two decades, it has been used to explain and analyze the burden of HIV/AIDS among sexual and gender minorities (Parsons, Antebi-Gruszka,

Millar, Cain, & Gurung, 2018; Stall et al., 2003). In the context of transgender populations, several syndemic conditions have been theorized as contributing to the high HIV incidence and prevalence within this group, including experiences of discrimination and social exclusion, stigma, health care providers' insufficient competence, and elevated rates of sexual risk and substance use (De Santis, 2009; Garofalo, Deleon, Osmer, Doll, & Harper, 2006; Herbst et al., 2008; Kenagy, 2005; Sevelius, Reznick, Hart, & Schwarcz, 2009; Stotzer, 2009; Xavier, Hannold, & Bradford, 2007). In particular, many ITE lack resources and encounter prejudices and inconsistencies in care (Gridley et al., 2016). As such, a complex syndemic of psychosocial factors affect engagement in HIV risk behaviors, access to care, and utilization of care services if and when they are accessible.

Despite the growing evidence on the effectiveness of HIV risk reduction interventions for other marginalized groups, very few biobehavioral approaches to reduce HIV risk and transmission among women of trans experience have been developed and tested, and none exist for men or nonbinary ITE. According to a recent review of the literature on behavioral interventions to prevent HIV transmission and acquisition for women of trans experience, only five U.S.-based HIV prevention interventions have been published in the peer-reviewed literature, all of which are early-phase nonrandomized interventions (Taylor, Bimbi, Joseph, Margolis, & Parsons, 2011). Culturally grounded, theory-driven HIV prevention interventions for ITE should adopt comprehensive approaches that incorporate inclusive health care, stable housing, sexual empowerment, and trauma support, and respond to the impact of stigma, discrimination, and social marginalization on HIV risk.

Existing interventions have drawn on community strengths to develop appropriate interventions (Garofalo et al., 2012; Nuttbrock et al., 2013). Engaging women of trans experience in the development and implementation of interventions has shown particular promise. The Life Skills intervention, grounded in socioecological theory, was developed by and for young women of trans experience (Garofalo et al., 2012). Life Skills took a multifaceted approach that emphasized safer sex practices and confronted the stigmatizing experiences that leave many women of trans experience with limited employment opportunities and decreased sexual agency. It is important to note that the research

and practitioner team collaborated with young participants to develop and refine the Life Skills intervention. Participants suggested incorporating more information concerning gender confirmation surgeries and ensuring cultural fluency. Training peer health advisers among sexual and gender minority communities has improved engagement in HIV prevention and care of at-risk populations. Studies suggest that lay health adviser interventions reach large numbers of at-risk community members and may benefit populations disproportionately affected by HIV (Rhodes et al., 2015; Sun et al., 2015). Peer-led interventions have also been found successful in combating depression and transphobic experiences that promote risk behaviors in younger transgender populations (Nuttbrock et al., 2013).

This article extends the previous work on implementation science to address the needs of ITE by presenting and discussing the Transhealth Information Project (TIP), a peer-led six-session hybrid individual- and group-based HIV risk reduction intervention for ITE. Two community-based organizations in Philadelphia, the Gay and Lesbian Latino AIDS Education Initiative (GALAEI) and Prevention Point Philadelphia, launched the intervention in 2003. TIP remains the only multi-service, trans-specific HIV prevention intervention in the three HIV epicenters in the northeastern U.S. corridor comprising Philadelphia; Camden, New Jersey; and Trenton, New Jersey; and it is led and staffed by ITE. In the following sections, we provide an overview of TIP's theoretical framework and approach for promoting and reinforcing a combination of biomedical, behavioral, and social and structural intervention components to promote HIV prevention and care; identify strategies for engagement of multiple stakeholders, including prison systems, in the provision of services for ITE; and demonstrate the scope and reach of this peer-led intervention in regard to linkage to social services that address behavioral factors and social and structural determinants of health.

MATERIALS AND METHOD

Theoretical Underpinnings of TIP

The intervention incorporates core components of other HIV prevention interventions that have shown efficacy with individuals of trans experience and other marginalized populations such as men who have sex with men and racial or ethnic minorities. Such interventions include Choosing

Life: Empowerment, Actions, Results (CLEAR); Comprehensive Risk Counseling Services; routine HIV testing and HIV care; and peer delivery of services. The theoretical bases of TIP are those of CLEAR: cognitive-behavioral therapy (CBT) and social action theory (SAT) (Lightfoot, Rotheram-Borus, & Tevendale, 2007; Rotheram-Borus et al., 2004). CLEAR applies cognitive-behavioral techniques to maintaining health, reducing the risk for HIV and other sexually transmitted infection (STI) transmission or reinfection, and improving the quality of life of youths and adults living with HIV/AIDS. Strategies in the intervention include role-playing as a means of learning new skills and improving old ones, building client's belief that he or she can change a behavior (self-efficacy); and instilling the belief that changing behaviors will result in a desired outcome (response efficacy). In the context of this intervention, CBT is intended to help the person reconceptualize his or her understanding of traumatic experiences, including transphobia and gendered violence, as well as his or her understanding of himself or herself and his or her ability to cope. SAT asserts that a person's ability to change behaviors that endanger his or her health is influenced by the individual's cognitive capability (ability to think, reason, imagine, and so on), and environmental factors and social interactions that encourage or discourage the change process. SAT incorporates the principles that are expressed in traditional sociocognitive models of health behavior change. These models include sociocognitive theory, the health belief model, the transtheoretical model (stages of change), and theories related to social context, interpersonal relationships, and environmental influences.

The peer-navigator model is another core element of the intervention. Peer-led programs and interventions are led and conducted by people from the communities most affected by the disease or condition, and operate through organizations established and governed by these communities (Brown et al., 2018). TIP's peer-led model includes peer activities ranging from peer service delivery (such as peer-led rapid HIV testing or referral to peer-led needle and syringe program) to peer health promotion (such as peer-developed and peer-implemented stigma reduction campaigns or community development, including the Trans March in Philadelphia) and peer leadership (such as peers taking leadership roles in their community, their sector, or participating in

policy and law reform). Building from this peer-led model, TIP is fully staffed by men and women of transgender experience. In addition, the staff is diverse in terms of race and ethnicity.

Overall, this study is guided by community-based participatory action research approaches. The term "ITE" emerged in our community advisory board meetings (a total of four for this particular project) composed of more than 15 ITE. A thorough reflection and discussions emerged regarding how best to refer to individuals within these communities. Some advisory board members emphasized that individuals who meet the definition of "transgender" do not always like or identify with this term. Moreover, whereas calling a woman who was assigned male at birth a "transgender woman" centers her transness, calling her a "woman of transgender experience" centers and reflects her womanhood.

TIP's Content

TIP is designed around three major priorities: leadership, structural interventions, and HIV risk reduction. Additional details are provided in Appendix 1.

The priorities of leadership, structural intervention, and HIV risk reduction are embedded in the intervention sessions. Although every session is delivered to every client, the order is not fixed but rather determined by individuals' needs, goals, and readiness to participate. Overall, TIP focuses on reinforcing short-term and lifelong goals, engagement in problem-solving behaviors, and identifying triggers related to sexual risk and substance use. Since its original development, the intervention has been adapted and modified by community leaders in collaboration with other agency providers. These community members have refined TIP to include six sessions that seek to maximize potential of achieving long-term behavior change. Session details are provided in Appendix 2.

RESULTS

Participant and Client Characteristics

Since its launch in 2003, TIP has provided services to more than 1,500 transgender individuals. In 2016, TIP provided 230 individual sessions to 56 ITE, including 11 HIV-positive individuals and 45 who faced an elevated risk of infection, representing a 31 percent increase compared with clients served in 2015. During the 2017 fiscal year, TIP provided services to a total of 80 ITE. There were also noteworthy changes in the demographics of the population served. More specifically, there has been

an increase in ITE from Puerto Rico who were displaced by the recent hurricane disaster and now reside in the Philadelphia metropolitan area. In 2017, 97 percent of TIP clients self-identified as black or Latino.

Participant Engagement and Intervention Delivery

Participants are recruited from local HIV/AIDS service organizations, social media (for example, Facebook, Twitter), and through established partnerships, including local AIDS service organizations in the northeast corridor and the Philadelphia prison system. TIP peer-navigators approach ITE and speak to them about the TIP intervention, highlighting the comprehensive social and health services available, including employment support, legal aid, and HIV prevention and care services. TIP peer-navigators distribute business cards and encourage potential participants to reach out for more information. For online engagement, TIP peer-navigators use a passive approach by posting health information and community resources, including health fairs and employment opportunities, and reaching out to those who send private messages or post comments on the main page.

At enrollment, all clients are assessed by a TIP peer-navigator based on their self-identified and self-prioritized needs for hormone therapy, housing assistance, substance abuse treatment, sexual risk reduction, sterile syringe exchange, mental health services, domestic violence intervention, medical care, partner services, and screening for STIs, including viral hepatitis and HIV. Once initial assessment is completed, TIP clients are scheduled for the intervention sessions. TIP peer-navigators provide the intervention on-site or at other facilities where ITE clients obtain services and where TIP has developed rich professional relationships, such as the Morris Home, the LGBTQ Home for Hope (formerly the Divine Light LGBTQ Wellness Center), the Addiction Recovery Program, and the Philadelphia prison system.

HIV counseling and testing are offered to all TIP clients. TIP peer-navigators are certified HIV testers and can administer the test themselves. Clients reported feeling safe and affirmed having the test administered by someone who reflects their own lived experience. All clients who test negative are informed of and referred or linked to pre-exposure prophylaxis (PrEP). All clients who test positive for HIV are referred to a health facility of

their choice. GALAEI has a strong working relationship with Drexel Medicine's Partnership Comprehensive Care Practice, and clients can typically access same-day medical care after being diagnosed.

TIP also encompasses an online component. Online content is shared through an active Facebook page. The online component of the intervention intends to provide up-to-date information on clinical components of transgender care, HIV/AIDS information, sexual health, social justice activism and involvement, trans health empowerment content, and community mobilization. See Figures 1–4 for more information on online intervention content.

DISCUSSION

TIP has an established record of reaching and promoting service utilization beyond HIV prevention and care among ITE. TIP's utilization speaks to community interest and investment in comprehensive care, including services responsive to multiple syndemic factors, among ITE (including individuals who are also members of racial or ethnic minorities). The intervention's approach to preventing HIV among the uninfected and addressing it among the infected in this highly vulnerable population is grounded in the deployment of comprehensive services, including legal aid and housing in addition to medical care and gender-affirming support.

All of TIP's clients are ITE from the northeast corridor, including Philadelphia; Camden, New Jersey; and Trenton, New Jersey, who are currently living with HIV or are at risk for HIV infection. Inter-agency and interdisciplinary collaboration for the

Figure 1: Online Engagement Material Promoting the Intervention and Community Social Justice Initiatives

Figure 2: Online Engagement Material Promoting Community-Driven Initiatives

Figure 3: Trans-Affirming Intervention Content Promoted through Transhealth Information Project Online Social Networks

promotion of health and wellness for ITE have been essential and instrumental in the growth of TIP. TIP's success in establishing community collaborations builds from trust and community activism. In particular, our Philadelphia prison system collaboration, building on educational collaborations and mutual interest in serving the needs of ITE, resulted

Figure 4: Trans-Affirming Intervention Content for Men of Trans Experience Promoted through Transhealth Information Project Online Social Networks

in TIP being delivered in the prison system. To our knowledge this is one of the few interventions in the country being delivered in the prison system.

TIP peer-navigators continue to work to prevent HIV transmission among hard-to-reach, at-risk ITE including those who are homeless, engage in survival sex work, use illicit substances, or inject silicone or hormones without medical supervision or reliable access to clean syringes. The program has a strong record of reaching such high-risk populations and linking them to HIV counseling, testing, and referrals; HIV primary care; and HIV prevention services, including access to biomedical prevention tools such as PrEP. The peer-leader approach of the TIP intervention, grounded in leveraging assets of the community and training and retaining well-trained peer leaders from the community itself, has contributed to TIP's impact in reaching high-risk populations.

Other aspects of the TIP intervention address social and economic needs, including those that have been linked with physical and mental welfare. The leadership development emphasis of the intervention allows employment-specific skills training such as résumé writing and job interviewing, referrals to housing, and linkage to other community-based services and supports such as food and utility

assistance. The leadership development emphases emerged from a conscious effort to embed the best and most relevant components of HIV prevention strategies within a holistic approach that focuses on affirming, safe, trans-led programming that addresses the numerous structural barriers and challenges faced by transgender individuals every day. TIP peer-navigators actively maintain an extensive knowledge of resources throughout the northeast corridor and provide referrals for a wide range of needs on a daily basis for transgender clients.

The greatest strengths of TIP, both of which may be adapted and replicated elsewhere, concern its commitments to peer leadership and individualized prevention plans. TIP was designed by and for ITE and is implemented by and for ITE. Peer-navigators work with clients to develop an individualized prevention plan that coincides with identified short-term and life goals. Goals can include, but are not limited to, increased condom, PrEP, or treatment-as-prevention use; increased behaviors that promote healthier feelings, thoughts, and behaviors; consistent daily routines to stay healthy; consistent emotional regulation; and effective coping with challenges of daily living. The intervention continues to reach considerable numbers of ITE who might otherwise lack access to care and other resources.

Glaring gaps exist in the current intervention arsenal available to reduce HIV transmission, improve HIV care continuum outcomes among HIV-positive individuals, and buffer the impact of syndemics among ITE. TIP was directly informed by syndemics literature, and its comprehensive approach reflects an understanding that HIV infection and transmission are affected by numerous factors including discrimination and stigma, access to medical care, housing, employment, and more.

The TIP intervention is promising; the community-based approach for recruitment and engagement building on inclusion and service provision has enabled the increase in the number of ITE being served. Despite TIP's reach and engagement, its efficacy is yet to be tested. A pilot grant was recently secured through an academic partnership to obtain feasibility and acceptability data. If TIP is proven to be efficacious, the intervention can then be replicated in various communities to provide support, increase service utilization, and facilitate behavior change.

Limitations to this research must be acknowledged. First, this pilot study lacks a control or comparison

group, so observed findings must be interpreted with caution. A randomized trial of TIP's intervention can determine the efficacy of the intervention. Second, findings are restricted to linkage-to-service provision. TIP is housed at a local AIDS service organization staffed by five full-time community health workers and social services providers. The agency lacks the funding and infrastructure to implement pre- and postassessments, rigorous evaluation procedures, and thorough analysis of data. However, TIP's success in reaching, engaging, and linking ITE to comprehensive services to address social determinants of health is well documented here. Third, TIP does not systematically collect information from all individuals who receive services from the intervention, and therefore we lack comprehensive information about the participation rate, measures, and characteristics of participants. Fourth, attrition and follow-up are challenges for intervention delivery. Some of the participants do not have contact information given their lack of housing stability and financial constraints. Larger investments in HIV prevention and treatment for this population are warranted, including investments in building the capacity of AIDS service organizations and community-based organizations to design, implement, and evaluate theory-based programs that respond to the needs of ITE.

CONCLUSION

ITE continue to be disproportionately affected by HIV/AIDS. These disparities in HIV/AIDS are attributed to a set of behavioral characteristics and social determinants of health, including discrimination, stigma, incarceration, and lack of access to comprehensive health care. These intertwined syndemics are complex and should be given priority to reduce HIV-related health disparities among ITE. TIP serves as an innovative and culturally appropriate home-grown intervention that effectively delivers care along the HIV continuum for HIV-positive and HIV-negative ITE. TIP has established a track record of reaching and engaging high-risk populations, and then linking them to comprehensive social services and HIV prevention and treatment. **HSW**

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APPENDIX 1: MAJOR PRIORITIES OF THE TRANSHEALTH INFORMATION PROJECT (TIP) INTERVENTION

Leadership

- Peer-led programming: One-on-one sessions, group sessions, skills development, and advocacy are delivered by members of the transgender community
- Trans-individual leadership development: Each TIP client is encouraged to develop his or her own leadership potential and make a positive impact on other members of the transgender community
- Health and wellness empowerment (including HIV prevention and risk reduction): TIP clients are able to express their needs, present their concerns, devise strategies for involvement in decision making, and act to meet those needs
- Knowledge and skill-building: The goal of TIP is that clients leave the intervention with the knowledge, self-awareness, and skills to stay negative or prevent further transmission

Structural Interventions

- Employment skills development including resume writing, interviewing techniques, job search, and job coaching
- Trans-focused health care, including access to safe hormones
- Housing counseling and referrals
- Legal services that support name and gender marker change

HIV Risk Reduction

- Adapting HIV prevention interventions that have proven effective in other populations to meet the needs and experiences of trans women and men
- Delivering services in a holistic, safe, relationship-based environment that supports health and

wellness among individual trans women and trans men, and the broader community of trans women in Philadelphia

- Risk reduction and biomedical prevention tools (for example, pre-exposure prophylaxis) approached as key strategies

APPENDIX 2: SESSIONS IN THE TRANSHEALTH INFORMATION PROJECT (TIP) INTERVENTION

Getting to Know Each Other

- Understand the purpose of TIP and what to expect from sessions; peer-led approach expedites therapeutic rapport and promotes comfort in clients who relate to the interventionists
- Create and make a commitment to ground rules that define expectations for behaviors and interactions in sessions
- Introduce the Feel-Think-Do framework
- Introduce two of the major techniques employed through TIP: the feeling thermometer and goal setting
- Personalize HIV risk behavior (for example, understanding sexual risk in the context of sex work) and introduce goal identification
- Explore new biomedical approaches to HIV prevention (for example, pre-exposure prophylaxis [PrEP] and HIV self-testing kits)

Creating a Vision for the Future

- Introduce the concept of the ideal self and have each client describe characteristics of his or her ideal self
- Assist the client in developing a life goal to motivate positive behavior (for example, accessing PrEP)
- Teach a new relaxation technique

Stressors and Self-Management and Recovery Training (SMART) Problem Solving

- Introduce TIP thinking to counter unhelpful thoughts and replace them with helpful thoughts
- Introduce the concept of transgender stress
- Explore the concept of stigma and its effects
- Use SMART Problem Solving to find solutions to problem situations (for example, how to negotiate condom usage if engaging in sex work with a client who demands condomless sex)

Exploring Different Types of Communication

- Learn key components of assertive communication and identify differences between aggressive, assertive, and passive communication
- Practice using assertive communication through role-plays
- Learn and practice a relaxation technique

Putting It All Together

- Motivate behavior change through future-oriented vision
- Assist the client in identifying his or her own prevention goals and developing an individualized prevention plan
- Generate a plan for connection to ongoing care, including making appointments for monitored hormone replacement therapy, silicone use, or reviewing community resources to consolidate progress toward health goals

Support Group

- TIP counselors co-facilitate a support group
- Trans women converse with peers about self-pride and self-care, identifying and maintaining supportive social networks, coping strategies, skills for negotiating safer sex, and distinguishing between healthy and unhealthy relationships

LINEAR

REGRESSION ANALYSIS

Assumptions and Applications

John P. Hoffmann and Kevin Shafer

Linear Regression Analysis: Assumptions and Applications is designed to provide students with a straightforward introduction to a commonly used statistical model that is appropriate for making sense of data with multiple continuous dependent variables. Using a relatively simple approach that has been proven through several years of classroom use, this text will allow students with little mathematical background to understand and apply the most commonly used quantitative regression model in a wide variety of research settings. Instructors will find that its well-written and engaging style, numerous examples, and chapter exercises will provide essential material that will complement classroom work. *Linear Regression Analysis* may also be used as a self-teaching guide by researchers who require general guidance or specific advice regarding regression models, by policymakers who are tasked with interpreting and applying research findings that are derived from regression models, and by those who need a quick reference or a handy guide to linear regression analysis.

Social work and other social and behavioral science students and researchers need to have a suite of research tools to conduct studies. This book offers a conceptual and software-driven approach to understanding linear regression analysis, with only a slight familiarity with algebra required even for self-study.

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