SUPPLEMENTAL DIGITAL CONTENT

Title: Feasibility of a combination HIV prevention program for men who have sex with men in Blantyre, Malawi.

Running head: Combination HIV prevention for MSM in Malawi

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The CHPI Intervention:

The Combination HIV Prevention Intervention (CHPI) was developed to reduce HIV risk behaviors among men who have sex with men (MSM) in Malawi. This intervention was informed by previous research conducted in Malawi,[1-4] formative research conducted for this intervention,[5] and systematic reviews examining appropriate packages of HIV interventions for MSM.[6] For example, our prior research had documented barriers to provision of and access to HIV testing and other prevention methods due to the social stigmatization of MSM.[1-3,5] This indicated a need to develop a method to reach MSM in a confidential and safe manner to ensure access to prevention. As a result, we developed the intervention to use a peer-educators approach to outreach and dissemination of prevention messages and materials; these peer-educators understand the issues that MSM face and has shown benefit in improving uptake of HIV testing among MSM in other settings.[7]

The CHPI program was designed to target three levels of influence to meet the identified needs of MSM, including individual, healthcare, and community levels. The CHPI intervention builds on a conceptual model that outlines key risk factors according to these levels, as identified by earlier qualitative and quantitative research, and maps intervention targets to these risk factors (Figure 1). The individual-level component of the CHPI includes outreach and education using a peer-based approach; screening for sexually transmitted infections (STI) during follow-up assessments; a behavior change intervention aimed at increasing use of condoms and condom compatible lubricants (CCLs), reducing risks in bisexual concurrency, and negotiating condom use with male partners; HIV testing and counseling (HTC) with individualized risk reduction counseling; and referral to care for HIV positive MSM. HTC is an important component to identifying unknown infections for treatment referrals as well as for provision of risk reduction counseling that aims to reduce sexual transmission risks with both male and female partners. Each CHPI participant was assigned to a peer-educator (10 peer educators were assigned to approximately 10 participants each) whom the participant could contact by cell phone and meet with in person as often as preferred. Peer educators ranged in age from 26 to 37 years, had an average of two years experiences as a peer educator, and had diverse educational backgrounds. Peer educators served as the main connection between the study team and study participants, though participants were invited to contact the study office directly if they preferred. Peer educators, who came from the MSM community, received in-depth training and refresher trainings on HIV risks and prevalence among MSM; HIV and STI prevention; mental health issues experienced by MSM; and peer counseling techniques. Peer education training curriculum was adapted from the Fenway Guide and the MSMGF-JHU guide, which is now available online.[8,9] Peer educators were provided with condoms and CCLs to distribute to CHPI participants as often as requested. They also informed MSM participants of hospital and clinics where staff had been trained on MSM health and non-stigmatizing care for MSM where MSM could access HTC and STI testing and other health services. Participants were able to meet with peer educators or come to the CEDEP study office as often as desired to receive condoms and CCLs, HIV information, as well as to receive other information on other priority physical and mental health topics (depression, substance use, coming out, sexually transmitted infection, HIV status disclosure, etc.).

The health sector-level interventions focused on improvements in knowledge of MSM health and access to and uptake of HTC and STI programs.[9] Clinical training and sensitization was offered to health care

providers (N= 25 professionals from five health facilities) to reduce barriers to appropriate HTC and STI services for MSM. The two-day training was conducted at the start of the intervention, in December 2011, and included combination training on MSM health, including physical, sexual and mental health, as well as HIV prevention, following the Fenway Guide.[9] Content included discussions on what it means to be MSM and the social implications; meaning of current laws that criminalize same sex behavior and interpretation of what this means for clinical providers serving MSM; sexual health, epidemiology and risk of HIV/STI among MSM; appropriate HIV testing and counseling and HIV/STI prevention methods for MSM; and mental health aspects related to being MSM, coping, and disclosing sexuality. Pre- and post-training evaluations found that trainees had no previous education on HIV and care for MSM, but demonstrated improvements among trainees in terms of improvements in knowledge of the epidemiology and risks of HIV among MSM in Malawi, appropriate risk reduction counseling and condom use, and methods to discuss sexual risk behaviors. Despite these improvements, however, healthcare provided did continue to express concern about potential stigma associated with providing risk counseling for a criminalized activity. MSM participants were subsequently informed of which clinics and health facilities received training.

Finally, community-level intervention focused on community capacity-building through the empowerment of CEDEP and peer educators, which aimed to increase community penetrance of HIV prevention packages, provide epidemiologic evidence to support decriminalization of homosexuality as a public health imperative; and build community social capital and improve advocacy for MSM inclusion in the Malawian National HIV strategies.

References:

1. Baral S, Trapence G, Motimedi F, et al. HIV prevalence, risks for HIV infection, and human rights among men who have sex with men (MSM) in Malawi, Namibia, and Botswana. *PLoS One.* 2009;4(3):e4997.
2. Beyrer C, Trapence G, Motimedi F, et al. Bisexual concurrency, bisexual partnerships, and HIV among Southern African men who have sex with men. *Sex Transm Infect.* 2010;86(4):323-327.
3. Fay H, Baral S, Trapence G, et al. Stigma, Health Care Access, and HIV Knowledge Among Men Who Have Sex With Men in Malawi, Namibia, and Botswana. *AIDS Behav.* 2010.
4. Wirtz A, Jumbe V, Trapence G, et al. HIV among men who have sex with men in Malawi: elucidating HIV prevalence and correlates of infection to inform HIV prevention. *J Int AIDS Soc.* 2013;16 Suppl 3:18742.
5. Wirtz A, Kamba D, Jumbe V, et al. A Qualitative Assessment of Health Seeking Practices Among and Provision Practices For Men Who Have Sex With Men in Malawi. *BMC International Health and Human Rights.* 2014.
6. Sullivan PS, Carballo-Diéguez A, Coates T, et al. Successes and challenges of HIV prevention in men who have sex with men. *The Lancet.* 2012;380(9839):388-399.
7. Safren S, O,ÄôCleirigh C, Skeer M, et al. Demonstration and Evaluation of a Peer-Delivered, Individually-Tailored, HIV Prevention Intervention for HIV-Infected MSM in their Primary Care Setting. *AIDS and Behavior.* 2011;15(5):949-958.
8. Sundararaj M, Zahn R, Mason K, Baral S, Ayala G. *Promoting the health of men who have sex with men worldwide: a training curriculum for providers.* Oakland: MSM Global Forum,Johns Hopkins University,; July 2014. Available at: http://www.msmgf.org/index.cfm/id/369/training-for-healthcare-providers/
9. Makadon H, Mayer KH, Potter J. *The Fenway guide to lesbian, gay, bisexual, and transgender health.* 2008.