Editorial

Developing Innovative Intervention Approaches for Methamphetamine-Using Men who have Sex with Men Not Currently in Drug Treatment[§]

Men who have sex with men (MSM) continue to be disproportionately affected by HIV and AIDS. The U.S. Centers for Disease Control and Prevention (CDC) estimates that MSM account for 48% of all men living with HIV and 53% of all new HIV infections in the United States in 2007 [1], and the number of incident cases among MSM continue to increase in the U.S. while incidence has been flat or declining for other risk groups [2]. Further, MSM are at elevated risk for HIV infection throughout the world [3].

Several U.S. studies [4-6] suggest that unprotected anal sex accounts for the acquisition of most HIV infections among MSM, and situational factors play an important role in understanding sexual risk taking. One such factor is the use of methamphetamine during sex. Methamphetamine, a central nervous system stimulant, has been consistently linked to unprotected anal sex among MSM [7] as well as to acquisition of HIV [8]. Methamphetamine use has distinct, long lasting cognitive effects that can lead to sexual disinhibition and impaired judgment, and is often associated with poor adherence to medication regimens [9-11]. Methamphetamine-using MSM are up to 4 times more likely to engage in unprotected anal sex, compared to substance-using MSM who do not use methamphetamine [10].

In a longitudinal study of more than 4000 HIV-negative MSM, Koblin and her colleagues found that prospectively, methamphetamine was an independent risk factor for HIV seroconversion [8]. HIV-positive MSM who use methamphetamine (compared to MSM who do not) are also more susceptible to acquiring other STDs and possibly infecting their sexual partners because methamphetamine also functions as an immunosuppressive drug that decreases CD4 levels while increasing viral load [12].

Although several reviews and summaries have highlighted the efficacy of HIV behavioral interventions for MSM [13-15], CDC has only identified a small number of evidence-based interventions for MSM that reduce sexual risk behavior and none target substance-using men [16]. Behavioral HIV prevention may be particularly challenging for substance-using MSM due to competing physical and emotional needs [17], as well as direct and indirect effects of methamphetamine use. Prior studies have reported on a successful intensive drug treatment model for methamphetamine users to reduce drug use and related harms [18]. In addition, a study of methamphetamine-using MSM found four different treatment-based approaches that successfully reduced sexual risk behavior and methamphetamine use from baseline, but there were no difference between groups in sexual risk reduction [19]. Thus, there remains a need for researchers to develop, implement, and evaluate the efficacy of behavioral HIV prevention interventions for substance-using MSM.

In 2006, the CDC Division of HIV/AIDS Prevention announced a scientific initiative to fund formative research and pilot testing of four interventions for methamphetamine-using MSM not currently in drug treatment (CDC PS06-007). This was partly in response to research recommendations from a CDC national consultation on methamphetamine use and risk for HIV and STD transmission [7]. The goal was to demonstrate, through pilot testing, promising interventions for reducing risk for HIV acquisition and transmission. This approach would allow for relatively rapid development, design, and preliminary testing of multiple approaches simultaneously. It was intended that the research program would identify the most promising approaches. Then, these interventions may be further tested with more costly randomized-control trials that would be separately funded by federal or non-federal funders. Four of the following five papers presented here represent interventions that were funded through this funding announcement; the fifth paper represents a seed grant partially funded by CDC.

This special issue is devoted specifically to the development and design of interventions for methamphetamine-using MSM who were not currently in drug treatment. As such, the papers focus on innovative formative research, intervention design, and preliminary testing intended to evaluate the feasibility and acceptability of the interventions for the target population, as well as pilot testing of interventions. The papers presented here are not intended to provide behavioral outcome assessments, but to focus on critical developmental work that is often not thoroughly described. We hope to underscore the importance of balancing theoretical and practical issues when designing and testing interventions for such high-risk populations.

[§]The findings and conclusions in this comment are those of the authors and do not necessarily represent the views of the U.S. Centers for Disease Control and Prevention.

1874-6136/10 2010 Bentham Open

REFERENCES

[1] CDC. HIV/AIDS Fact Sheet: HIV and AIDS among gay and bisexual men. Atlanta, GA: US Department of Health and Human Services, CDC. Available at: http: //www.cdc.gov/nchhstp/newsroom/docs/FastFacts-MSM-FINAL508COMP.pdf. [Accessed November 5, 2009].

[2] Hall HI, Byers RH, Ling Q, Espinoza L. Racial/ethnic and age disparities in HIV prevalence and disease progression among men who have sex with men in the United States. Am J Public Health 2007; 97(6): 1060-6.

[3] Baral S, Sifakis F, Cleghorn F, Beyrer C. Elevated risk for HIV infection among men who have sex with men in low- and middle-income countries 2000-2006: a systematic review. PLoS Med 2007; 4(12): e339.

[4] CDC. HIV/AIDS Fact Sheet: HIV/AIDS among men who have sex with men, 2007. Atlanta, GA: US Department of Health and Human Services, CDC. Available at: http: //www.cdc.gov/hiv/topics/msm/resources/factsheets/msm.htm. [Accessed November 5, 2009].

[5] Holtgrave DR, Crosby R, Shouse, RL. Correlates of unprotected anal sex with casual partners: a study of gay men living in the southern United States. AIDS Behav 2006; 10: 575-8.

[6] Crepaz N, Marks G, Liau A, *et al*. Prevalence of unprotected anal intercourse among HIV-diagnosed MSM in the United States: a meta-analysis. AIDS 2009; 23(13): 1617-29.

[7] Mansergh G, Purcell D, Stall R, *et al*. CDC Consultation on methamphetamine use and sexual risk behavior for HIV/STD infection: Summary and suggestions. Public Health Rep 2006; 121: 127-32.

[8] Koblin BA, Husnik M, Colfax G, *et al*. Risk factors for HIV infection among men who have sex with men. AIDS 2006; 20(5): 731-9.

[9] Mansergh G, Colfax GN, Marks G, *et al*. The Circuit Party Men's Health Survey: findings and implications for gay and bisexual men. Am J Public Health 2001; 91: 953-8.

[10] Boddiger D. Methamphetamine use linked to rising HIV transmission. Lancet 2005; 365: 1217-8.

[11] Jaffe HW, Valdiserri RO, De Cock KM. The reemerging HIV/AIDS epidemic in men who have sex with men. JAMA 2007; 298(20): 2412-4.

[12] Yeon P, Albrecht H. Crystal methamphetamine and HIV/AIDS. AIDS Clin Care 2008; 20(2): 2-4.

[13] Stall R, Purcell DW. Intertwining epidemics: a review of research on substance use among men who have sex with men and its connection to the AIDS epidemic. AIDS Behav 2000; 4: 181-92.

[14] Johnson WD, Hedges LV, Ramierez G, *et al*. HIV prevention research for men who have sex with men: a systematic review and meta-analysis. J Acquir Immune Defic Syndr. 2002; 31(Suppl): S118-S129.

[15] Herbst JH, Sherba T, Crepaz N, *et al*. A meta-analytic review of HIV behavioral interventions for reducing sexual risk behavior of men who have sex with men. J AIDS 2005; 39: 228-41.

[16] Centers for Disease Control and Prevention. Compendium of Evidence-Based HIV Prevention Interventions. 2009; Available at: http: //www.cdc.gov/hiv/topics/research/prs/evidence-based-interventions.htm [Accessed November 6, 2009].

[17] Mansergh G, Marks G, Colfax GN, Guzman R, Rader M, Buchbinder S. "Barebacking" in a diverse sample of men who have sex with men. AIDS 2002; 16(4): 653-9.

[18] Rawson RA, Marinelli-Casey P, Anglin MD, *et al*. A multi-site comparison of psychosocial approaches for the treatment of methamphetamine dependence. Addiction 2004; 99: 708-17.

[19] Shoptaw S, Reback C J, Peck JA, *et al*. Behavioral treatment approaches for methamphetamine dependence and HIV-related sexual risk behaviors among urban gay and bisexual men. Drug Alcohol Depend 2005; 78: 125-34.

Mahnaz R. Charania and David Purcell
(***Co-Authors***)

Gordon Mansergh
(***Guest Editor***)
CDC Division of HIV/AIDS Prevention
Epidemiology, 1600 Clifton Road
Mailstop E45
Atlanta
GA 30333
USA
E-mail: gcm2@cdc.gov