**Title:** Heterosexual network structure and experiences of sexual discrimination among men who have sex with men in Seattle, Washington State

**Abstract:**Men who have sex with men (MSM) continue to bear a disproportionate burden of HIV infection and risk, accounting for 56 percent of the estimated 1.1 million people living with HIV in the United States. Although unprotected anal intercourse is the primary driver for HIV transmission among MSM, heterosexual transmission networks between MSM and women offer pathways for HIV spread in concentrated HIV epidemics, where transmission is typically observed within key populations. Sexual networks that describe relationships between HIV key populations and the general population remain relatively uninvestigated. We further explore if experiencing sexual discrimination and a hesitancy of being open with their sexual orientation, are cognitive drivers of heterosexual relationships among MSM. The analysis proposed in this study assesses network dynamics using an egocentric sample collected from the Mobile Study Survey, a 2014 demographic study aimed at investigating HIV risk behavior and migration patterns of MSM in Seattle. From 339 Seattle MSM respondents, 152 (45%) reported having sexual intercourse with women in their lifetime, with eight being the mean number of female partners. The female partner distribution ranged between 1 and 150 and displayed power law characteristics, where most respondents had one or two female partnerships, but some respondents had many. Exponential random graph models will be used to describe sexual networks of MSM-only, using respondents who reported a total number of lifetime male partnerships (n = 275); and between MSM and women, using respondents who have reported having had sexual intercourse with women, and reported a total number of lifetime female partnerships (n = 146). Inputs for the model include demographic characteristics and responses to questions pertaining to prior experience of sexual discrimination, obtained from the Mobile Study Survey. Comparisons will be assessed between the MSM/women sexual network model and the MSM-only model for differences in discrimination experience and sexual network parameters (e.g. degree distribution, clustering coefficient, and homophily). Given that effective disease surveillance and prevention is dependent on elucidating current HIV transmission trends, the results of our analysis may offer a unique perspective on sexual networks that bridge multiple population groups.