



HIV and Sexual Mixing among Greek Men Who Have Sex With Men

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Background

- Though many HIV epidemics globally have declined or plateaued, outbreaks can occur in response to social or political shock.
- In 2011, austerity measures in Greece lead to an increase in homelessness and an HIV epidemic among people who inject drugs (PWID). The appearance of HIV strains unique to the PWID population in the men who have sex with men (MSM) population indicates the epidemic continues to spread.
- Evidence confirms the social determinacy of HIV transmission and the utility of targeting larger social units.
- A public health strategy that targets networks that are major drivers of HIV epidemics would be the optimum prevention model in a post-austerity environment.
- MSM populations continue to be a major driver of HIV epidemics internationally. Evidence shows MSM network bridging position is associated with HIV status.

Specific Aims

- Characterization of Greek MSM, their sexual behaviors, and MSM sexual network mixing patterns.
- Identification of MSM profiles for targeted prophylaxis, a cost-effective HIV/AIDS prevention strategy

Methods

Eligibility

- (1) identified as male sex
- (2) resident of Athens
- (3) 18 years of age and older
- (4) sexual intercourse with a man in past year
- (5) spoke Greek or English
- (6) planned to remain in Athens for 12 months
- (7) informed consent



Recruitment (2 sites)

- Seeds
- Recruits (Respondent-Driven Sampling)



2-hour in-person interview

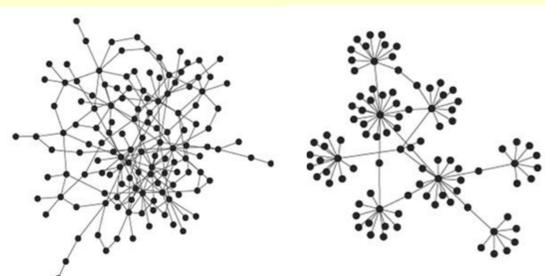
- HIV testing/counseling
- Sociodemographic information
- Behavioral information
- Sex network assessment



Analysis

Disassortative Mixing

Research has demonstrated that higher levels of disassortative mixing (high-risk groups mixing with low-risk groups) are a major contributor to higher STI rates.

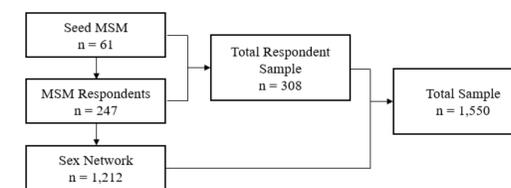


Checkpoint Athens



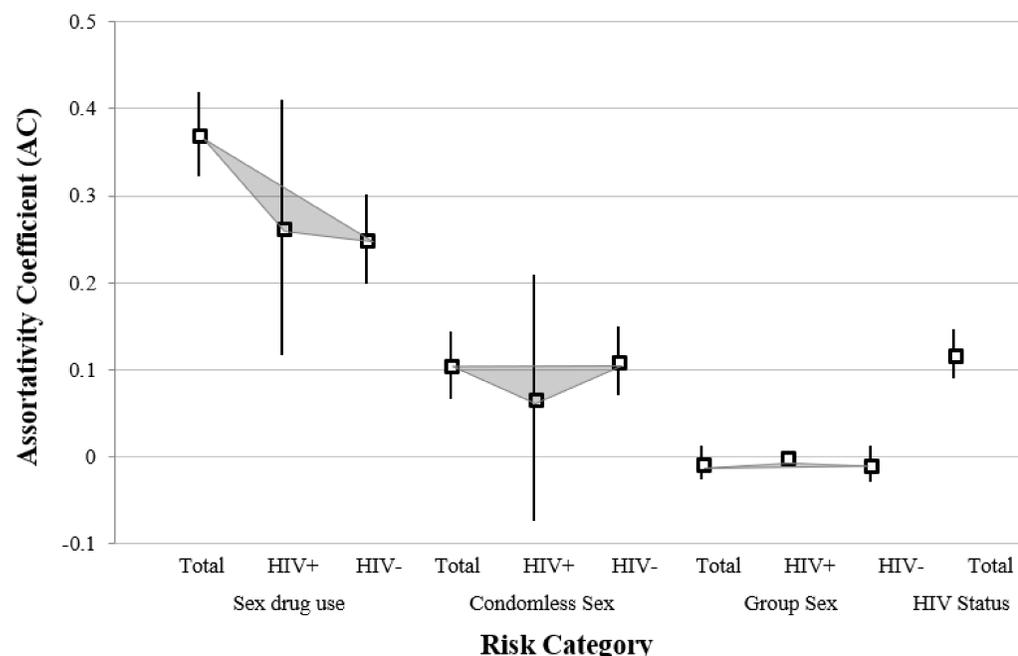
Results

- Mixing of sexual network members with regards to serostatus displayed random mixing ($r = 0.12$, $\sigma_r = 0.09-0.15$).



Assortativity Coefficients

Mixing within a Sexual Network*



Results

- Mixing of sexual network members who reported sex-drug use was assortative (like with like) ($r = 0.37$, $\sigma_r = 0.32-0.42$).
- Mixing of sexual network members with regards to the other measured risk behaviors displayed random mixing of respondents and sexual network members who reported condomless sex ($r = 0.11$, $\sigma_r = 0.07-0.14$) and group sex ($r = 0.00$, $\sigma_r = -0.02-0.01$).

Conclusion

- Serostatus and behavioral heterophily are surprising because sexual ties have been shown to be based on shared risk behaviors.
- Homophilic findings indicate respondents intentionally engage in sex-drug use only with sexual partners who also use drugs to enhance sex.
- Suggestion of strong preference and protective behavior for only one risk behavior is inconsistent with previous strategic mixing^{1,2}.

Limitations

- Possibility of residual influences on the MSM population by the PWID epidemic and economic crisis cannot be ignored.
- Influx of people into Greece has under-investigated ramifications on the epidemiological landscape.
- Egocentric network analysis data were self-reported and thus susceptible to projection bias.

References

- Schneider JA, Cornwell B, Ostrow D, et al. Network mixing and network influences most linked to HIV infection and risk behavior in the HIV epidemic among black men who have sex with men. *Am J Public Health*. Jan 2013;103(1): e28-36.
- Doherty I, Schoenbach V, et al. Sexual Mixing Patterns and Heterosexual HIV transmission among African Americans in the Southeastern United States. *J Acquir Immune Defic Syndromes*. 2009; 52(1): 114-120.

Acknowledgements

- Checkpoint Athens
- Positive Voice
- National and Kapodistrian University of Athens
- Clovis Sarmiento
- Dr. Brian Callender