

## **STATISTICAL ANALYSIS PLAN**

**Title:** Brief Electronic Intervention for Heavy Drinking and Sex Risk Among Men who have sex with Men  
Seeking HIV Testing

**NCT#:** NCT03435783

**Date of document:** Last reviewed and approved by Brown IRB on 7/21/17

**Statistical analysis plan.** We hypothesized that participants using the web-based intervention would report (1) fewer new anal sex partners, (2) fewer condomless anal sex events, and (3) lower frequency of drinking, (4) lower frequency of binge drinking, and (5) a lower average number of drinks per drinking day versus the control group. These hypotheses will be evaluated using an intention-to-treat comparison of the rates of our primary outcomes at 1-, 2-, and 3-month follow-ups, using incidence rate ratios (IRRs) and 95% CI. Given the count nature of much of the data, we will use a Poisson regression covarying for key baseline covariates, and compare IRRs across the two treatment conditions at each time point. As conclusions about statistical significance will be limited due to the small sample, clinically meaningful differences in the pattern of IRRs and means (for alcohol use variables) across groups will be used to evaluate our hypotheses. However, if available data produce stable results, generalized estimating equations (GEEs) using binomial distributions and logit-link functions will also be used to explore differences in these outcomes across time and treatment condition. We will also explore the potential influence of the intervention on secondary outcomes and exploratory mediators. IRRs and descriptive data will be used to compare the groups in terms of their frequency of talking to partners about their status, whether they sought additional HIV testing, STI screening or information about PrEP. Descriptive mean comparisons and linear regressions controlling for baseline values will be used to compare whether HIV knowledge and perceived risk, peer safe sex norms, and safe sex behavioral skills differ across the groups.