

What is the effect of including online-recruited seeds within an in-person bio-behavioural study of men who have sex with men employing respondent-driven sampling?

Lal A¹, Lachowsky NJ^{1,2}, Cui Z¹, Rich A¹, Sereda P¹, Raymond HF³, McFarland W⁴, Forrest JI², Roth E⁵, Hogg R^{1,6}, Moore D^{1,2}

1. British Columbia Centre for Excellence in HIV/AIDS, Vancouver, BC
2. Faculty of Medicine, University of British Columbia, Vancouver, BC

3. University of California San Francisco, San Francisco, CA,
4. San Francisco Department of Public Health, San Francisco, CA

5. University of Victoria, Victoria, BC,
6. Simon Fraser University, Burnaby, BC

Background

- HIV research has increasingly employed Respondent-Driven Sampling (RDS) to access and recruit “hidden” populations, such as gay bisexual, and other men who have sex with men (MSM).
- Traditional RDS selects “seeds” (initial participants) in-person who then begin the peer-chain recruitment process
- We sought to identify the factors associated with having been recruited through an online seed’s recruitment chain versus in-person selected seed’s recruitment chain**

Methods

Eligibility Criteria:

- Aged 16 years or greater
- Gender identify as male
- Had sex with another man in the past 6 months
- Residing in Metro Vancouver (population of ~2.5 million)
- Understand and complete questionnaires written in English

Study Details

- Used respondent-driven sampling
- Seeds were selected online (e.g., Grindr, social media) or offline (e.g., community agency, social group)**
- Recruitment coupons were electronic or paper.**
- Participants completed a self-administered computer-based survey followed by a nurse-administered clinical questionnaire

Outcome of Interest:

- In recruitment chain of online seed VS offline seed

Explanatory Variables:

- Demographics, sexual practices and preferences, and social and community connection

Data Analysis

- All analyses were weighted given use of RDS
- Multivariate logistic regression using backward selection was used to examine independent associations with the outcome of interest (p<0.05 considered significant).

Results

- Of 719 MSM recruited (119 seeds), 80.7% were gay-identified, 74.6% were born in Canada, 74.1% had annual incomes > \$30,000 CAD, 65.7% had postsecondary education, 52.1% were employed, and 23.4% were HIV-positive. In terms of race/ethnicity, 68.1% were White, 10.4% were Aboriginal, 9.9% were Asian, and 6.9% were Latin American. The median age was 33 (Q1-Q3: 26-47).
- Of the 600 non-seeds, 283 MSM (47.2%) were in recruitment chains started by 85 online seeds (71.4%) and the remaining 317 MSM (52.8%) were in recruitment chains started by 34 offline seeds (28.6%). Online seeds had smaller network sizes than offline seeds (p<0.01).
- Factors independently associated with having been recruited within a chain started by an online seed are shown in **Table 1**.

Table 1. Descriptive statistics for recruits from an offline or online seeds’ chain, and associated multivariable factors

| | Recruits from Offline Seed's Chain (n=317, 52.8%) | | Recruits from Online Seed's Chain (n=283, 47.2%) | | AOR | 95% CI | |
|---------------------------------------|--|------|---|------|-------------|-------------|-------------|
| | n | % | n | % | | | |
| HIV Test Result | | | | | | | |
| Negative | 182 | 42.9 | 242 | 57.1 | Ref | | |
| Positive | 135 | 76.7 | 41 | 23.3 | 0.25 | 0.16 | 0.40 |
| Year Out as “Gay” | | | | | | | |
| 1--4 | 52 | 52.0 | 48 | 48.0 | Ref | | |
| 5--10 | 56 | 45.5 | 67 | 54.5 | 1.30 | 0.75 | 2.26 |
| 11--21 | 61 | 40.7 | 89 | 59.3 | 2.22 | 1.27 | 3.88 |
| 22+ | 107 | 71.8 | 42 | 28.2 | 0.93 | 0.50 | 1.72 |
| Bisexual-identified | 35 | 55.6 | 28 | 44.4 | 1.49 | 0.74 | 3.02 |
| Not out | 6 | 40.0 | 9 | 60.0 | 2.18 | 0.66 | 7.19 |
| # of Facebook Friends | | | | | | | |
| 501+ | 77 | 51.3 | 73 | 48.7 | Ref | | |
| 201--500 | 53 | 40.2 | 79 | 59.8 | 1.69 | 1.02 | 2.80 |
| 31--200 | 73 | 49.0 | 76 | 51.0 | 1.43 | 0.86 | 2.37 |
| 0--30 | 114 | 67.5 | 55 | 32.5 | 0.91 | 0.54 | 1.54 |
| Anal Sex Position Preference | | | | | | | |
| Bottom | 96 | 47.8 | 105 | 52.2 | Ref | | |
| Versatile | 98 | 59.0 | 68 | 41.0 | 0.56 | 0.35 | 0.88 |
| Top | 107 | 52.2 | 98 | 47.8 | 0.71 | 0.46 | 1.09 |
| No anal | 16 | 57.1 | 12 | 42.9 | 0.55 | 0.23 | 1.35 |
| Common Law (lived together 1 year) | | | | | | | |
| Not common law | 56 | 43.4 | 73 | 56.6 | Ref | | |
| Common Law / Married | 54 | 51.4 | 51 | 48.6 | 0.71 | 0.40 | 1.26 |
| No Regular Partner | 207 | 56.6 | 159 | 43.4 | 0.61 | 0.39 | 0.94 |

AOR = Adjusted Odds Ratio, 95%CI = 95% Confidence Interval;
Bolded text indicates statistical significance at p<0.05

Conclusion

- Innovative use of online seed selection may assist in reaching MSM who are often omitted in such studies**
- While in-person selected seeds were more productive recruiters, electronic innovations in RDS produce a more diverse set of seeds that recruit diverse chains of MSM.**

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