

# Implementing Electronic Coupons Within Respondent-Driven Sampling to Improve Recruitment of Men Who Have Sex With Men in Vancouver, British Columbia

Sankey RI<sup>1</sup>, LaLA<sup>1</sup>, Lachowsky NJ<sup>1,2</sup>, Cui Z<sup>1</sup>, Rich A<sup>1</sup>, Sereda P<sup>1</sup>, Raymond HF<sup>3</sup>, McFarland W<sup>4</sup>, Forrest JJ<sup>2</sup>, Roth E<sup>5</sup>, Hogg R<sup>1,6</sup>, Moore D<sup>1,2</sup>

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).
- Within RDS, participants are provided with a limited number of coupons for onward recruitment of their peers. Traditionally, these are paper coupons.
- We sought to identify the factors associated with having been recruited through an electronic versus paper coupon**

## 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:

- Redeemed electronic coupon VS paper coupons

### 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 with 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 less than \$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 600 participants recruited from seeds within the study, 93 redeemed electronic coupons (15.6%) and 503 redeemed paper coupons. Four participants had missing data on coupon type.
- Men who redeemed online coupons were more likely to have been within a recruitment chain started by an online seed (91.4%) compared with men who redeemed paper coupons (84.4%; OR=1.97 95% CI:1.18,3.27).
- Descriptive statistics and factors independently associated with redeeming an electronic coupon are shown in **Table 1**.

**Table 1. Descriptive statistics and multivariable model for redeeming an electronic coupon VS paper coupon**

	Redeemed e-Coupon (n=93, 15.6%)			Redeemed Paper Coupon (n=503, 84.4%)			AOR	95% CI
	n	%	RDS %	n	%	RDS %		
<b>Currently Employed</b>								
No	18	7.7	6.4	216	92.3	93.6	Ref	
Yes	75	20.7	16.7	287	79.3	83.3	<b>3.10</b>	<b>1.46 – 6.59</b>
<b>Current Housing</b>								
House/residence	83	16.4	12.4	422	83.6	87.6	Ref	
Temporary housing	6	13.6	9.7	38	86.4	90.3	1.70	0.61 – 4.79
Homeless	2	15.4	25.9	11	84.6	74.1	<b>6.48</b>	<b>1.39 – 30.25</b>
In-care	2	9.5	2.4	19	90.5	97.6	0.44	0.03 – 6.07
<b>Year Out as “Gay”</b>								
1–4	17	17.0	17.4	83	83.0	82.6	Ref	
5–10	24	19.5	15.8	99	80.5	84.2	0.48	0.20 – 1.13
11–21	33	22.4	15.3	114	77.6	84.7	<b>0.40</b>	<b>0.17 – 0.91</b>
22+	11	7.4	3.9	138	92.6	96.1	<b>0.10</b>	<b>0.03 – 0.31</b>
Bisexual-identified	5	8.1	7.5	57	91.9	92.5	0.54	0.17 – 1.70
Not out	3	20.0	17.8	12	80.0	82.2	4.31	0.72 – 25.77
<b>Out to workplace</b>								
No	10	10.3	6.4	87	89.7	93.6	Ref	
Yes	79	18.2	15.8	356	81.8	84.2	<b>3.88</b>	<b>1.44 – 10.45</b>
<b>Out to male parent/guardian</b>								
No	19	11.7	6.0	144	88.3	94.0	Ref	
Yes	68	17.4	15.2	323	82.6	84.8	<b>2.53</b>	<b>1.14 – 5.62</b>
<b>Read Gay Media, P6M</b>								
No	15	13.9	7.8	93	86.1	92.2	Ref	
Yes	78	16.0	12.9	410	84.0	87.1	<b>2.61</b>	<b>1.18 – 5.75</b>
<b>Anal Sex Position Preference</b>								
Bottom	30	15.0	9.2	170	85.0	90.8	Ref	
Versatile	18	10.9	9.2	147	89.1	90.8	0.82	0.36 – 1.89
Top	39	19.2	15.4	164	80.8	84.6	1.69	0.82 – 3.50
No anal	6	21.4	15.6	22	78.6	84.4	<b>4.97</b>	<b>1.37 – 18.01</b>
<b>Common Law</b>								
No	19	14.8	6.9	109	85.2	93.1	Ref	
Common Law / Married	18	17.3	16.7	86	82.7	83.3	<b>3.00</b>	<b>1.12 – 8.00</b>
No regular partner	56	15.4	11.9	308	84.6	88.1	2.19	0.93 – 5.17
<b>Asks Partner’s HIV Status</b>								
<50% of time	45	17.1	14.2	218	82.9	85.8	Ref	
>50% of time	27	13.6	7.7	171	86.4	92.3	<b>0.47</b>	<b>0.23 – 0.97</b>
100% of time	21	15.6	11.8	114	84.4	88.2	0.78	0.37 – 1.62
<b>HIV Test, ever</b>								
No	4	11.8	3.2	30	88.2	96.8	Ref	
Yes	89	15.8	12.4	473	84.2	87.6	<b>5.88</b>	<b>0.93 – 37.17</b>

AOR = Adjusted Odds Ratio, 95%CI = 95% Confidence Interval; P6M = past six months  
Bolted text indicates statistical significance at  $p < 0.05$

## Conclusion

- Participants recruited through electronic vouchers vary on some socio-demographic factors and appear to have different connections to gay identities and communities than those recruited in person.
- Innovative use of recruitment e-coupons parallels changes in online gay communities and MSM networking. It assisted in reaching a more diverse group of MSM within our RDS sample

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BRITISH COLUMBIA  
CENTRE for EXCELLENCE  
in HIV/AIDS



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