

Does Size Really Matter? A Sensitivity Analysis of Number of Seeds in a Respondent-Driven Sampling Study of Gay, Bisexual and Other Men who Have Sex with Men in Vancouver, Canada

How successful is respondent-driven sampling at accessing hard-to-reach populations?

What is the importance of this study?

- While there is an estimate of the number of gay, bisexual and other men who have sex with men (GBM) in Vancouver, it is difficult to get a diverse and representative sample.
- Previous researchers have found certain sub-populations may be underrepresented in research data.

FACT BOX

Respondent-driven sampling, which leverages social networks, is an effective and robust way to recruit more representative samples of gay, bisexual and other men who have sex with men.

Respondent-driven sampling (RDS) is a research technique using the social networks of initial participants' (who are called 'seeds') to recruit more individuals. Seeds are first selected then given RDS coupons to distribute within their social network to recruit eligible study participants, leading a recruitment chain. This is a useful tool for accessing more difficult to reach populations.

How was this study conducted?

- Participants completed a computer-based questionnaire.
- The questionnaire was anonymous and collected information on demographics, sexual and social behaviour and attitudes.
- Three different RDS statistical methods were implemented and an analysis was done to compare the population estimates the surveys produced.
- BC-CfE researchers assessed whether removing seeds who did not recruit other participants changed the population estimates produced.

What are the key study findings?

- A recruitment chain is started by a seed who recruits at least one participant. If that new participant then recruits additional participants, they are also added on to the chain, and so on.
- Of the 119 seeds, 69 were productive—meaning able to start a recruitment chain by recruiting at least one participant.



- Newly recruited participants from one individual are referred to as a 'recruitment wave'. The largest number of recruitment waves was 16.
- Population estimates did not differ much based on different RDS statistical methods used or when seed participants who were unproductive recruiters were removed.

What do these findings mean?

- Despite RDS being a costly and time-consuming method of recruitment, it allows for desired sample size by introducing additional seeds.
- However, assumptions based on these findings should not be made for other regions or populations with characteristics differing from those of the study's sample population.
- The findings were not affected by a large number of unproductive seeds.

What is the BC-CfE Momentum Health Study?

Evidence from British Columbia and elsewhere has demonstrated the expansion of access to antiretroviral HIV treatment (ART) can result in population-level reductions in HIV incidence. This is the concept behind the made-in-BC Treatment as Prevention[®] strategy, or TasP[®], which aims to expand early HIV testing and treatment to improve patients' health and curb the spread of HIV. Gay, bisexual and other men who have sex with men (GBM) represent the most affected HIV risk group, both in BC and Canada. The BC-CfE Momentum Health Study is designed to measure changes in HIV risk behaviour, attitudes toward TasP[®] and the proportion of HIV-positive GBM with unsuppressed viral load over time in the Vancouver region. The study uses respondent-driven sampling (RDS) to obtain a more representative sample reflecting the diversity of the GBM population in Vancouver.

Full paper available online:

<https://bmcmredsmethodol.biomedcentral.com/articles/10.1186/s12874-016-0258-4>

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