

limitations including low participation rates and high costs. Social networking sites, commonly used for communication by young people, present a unique opportunity for innovative recruitment modalities.

Method This is part of a larger feasibility study assessing use of Facebook to recruit subjects for a novel prospective health study, the Young Female Health Initiative (YFHI). Women aged 16 to 25 years, living in Victoria, Australia were eligible to participate. An advertisement was placed on Facebook between May—and October 2010 and was visible to a random sample of eligible women. Women clicking on the advertisement were redirected to our website (<http://www.yfhi.org>) and invited to provide their contact details. They were contacted by a researcher and asked to complete a survey at the YFHI study site, or to complete the questionnaire online. The survey contained demographic questions, plus sensitive questions about sexual history, experience and knowledge of *Chlamydia trachomatis*, human papillomavirus (HPV) and HPV vaccines.

Results 551 women responded to the advertisement (recruitment could be scaled up or down by changing the advertising frequency). We enrolled 426 respondents, of whom 278 completed the survey within the time available (50% at the study site, 50% online). Respondents' age and geographical distribution (urban, regional, rural) was representative of the target population; women over 18 years were 37% more likely to enrol and complete the survey than 16–17-year olds ($p < 0.05$). Despite the sensitive nature of some questions, over 98% of participants found the survey not at all, or only slightly, embarrassing. Overall, 63% had heard of HPV: of these, 73% knew that HPV is sexually acquired and 94% knew that it causes cancer. 78% had heard of chlamydia: those who were sexually active were more likely to know of chlamydia than virgins ($p < 0.01$), while 63% knew it could cause chronic pelvic pain, and 86% that it could cause infertility. This recruitment method also was cost-effective (\$USD 20 per compliant participant).

Conclusions Results demonstrate excellent potential for such information and communication technologies (ICT) to engage young women in health research, including those from regional and rural communities, and support the use of ICT in future population-based studies, including sexual health research.

P1-S4.33 EFFECTIVENESS OF RESPONDENT DRIVEN SAMPLING AMONG UNDOCUMENTED CENTRAL AMERICAN IMMIGRANT WOMEN IN HOUSTON, TEXAS, 2010

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Background Respondent driven sampling (RDS) is a social research method that uses participants' social networks (SNs) to access members of hidden populations for which there is no sampling frame. RDS is widely used for HIV behavioural research among sex workers, drug users, and other hidden populations. However, it has had minimum application in migrant populations. We used RDS to conduct an HIV behavioural survey among undocumented Central American immigrant women in Houston, Texas (specifically, Guatemalan, Honduran, and El Salvadoran females, ages 18–50 years, residing in Houston without a valid US visa or residency papers). Here we describe the effectiveness of RDS to recruit members of this population.

Methods Formative research indicated that social ties are mainly formed by country of origin, age, and number of years living in the USA. Measures of effectiveness were survey duration, participants' adoption of the recruitment system, SN density, homophily, and attainment of equilibrium. SN density is the average number of social ties per participant. Homophily is the likelihood that

individuals recruit individuals like themselves; scores range from -1 to 1 , where $1=100\%$ within-group recruitment and $0=100\%$ random recruitment. Equilibrium is the stable sample composition that indicates independence from initial non-randomly selected participants.

Results Beginning with three initial participants, we recruited a sample of 230 immigrant women over 16 weeks. Participants adopted the recruitment system with reasonable ease (46% recruited ≥ 1 peers) and SNs were dense (mean SN size= 20). Homophily (H) was moderate by country of origin (Guatemalans: $H=0.52$; El Salvadorans: $H=0.42$) and low by age and number of years in the USA ($H \leq 0.25$). Equilibrium was attained for all demographic and sexual behaviour characteristics.

Conclusions This study is the first to evaluate RDS in a migrant population. SNs in this population were dense, allowing recruitment to be sustained. While recruitment was moderately influenced by country of origin, women did not affiliate exclusively with those like themselves. This sociometric diversity allowed the sample to attain an equilibrium composition independent of initial participants. Overall, RDS was easy to implement, attained a large sample in a relatively short period of time, and reached an otherwise hidden population. RDS is an effective method for recruiting undocumented Central American immigrant women for HIV behavioural surveys in Houston.

P1-S4.34 CAN RDS BE USED TO RECRUIT UNBIASED SAMPLES FROM THE SAME POPULATION WITH REPEATED SAMPLING?

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Background Respondent Driven Sampling (RDS) is a modified snowball sampling method that allows for recruitment of a probability sample, even when we cannot enumerate the population of interest. The National HIV Behavioural Surveillance project, designed to assess trends in risky behaviours, used RDS to recruit injection drug users (IDU) and heterosexuals at high risk of HIV infection (HET). In order to examine changes in behaviours over time, the sampling method must recruit homogeneous populations, so that observed differences across cycles can be attributed to changes in behaviour, rather than to errors in recruitment. This analysis was designed to determine if crude and adjusted measures within and between the IDU and HET cycles, are homogeneous on basic demographic characteristics. Our goal to assess if the samples may be considered to be from the same target population.

Methods Data are from the Houston Texas site of NHBS-IDU 1 and 2 (2005, 2009), and HET 1 and 2 (2006, 2010). Adjusted population prevalence estimates are calculated using RDSAT, adjusting for design effect and sampling characteristics. Estimates were compared using the Mantel Haenszel test for heterogeneity.

Results Comparing IDU1 to IDU2, we found similar population estimates (p for heterogeneity > 0.05) for age 40–49 years; Black race; had current health insurance; and currently homeless. The populations differed (p for heterogeneity < 0.05) by the proportion that: graduated from high school; were arrested in the last year; and visited a doctor in the last year. Comparing HET1 and HET2, we found similar population estimates for the proportions that: had health insurance; visited a doctor in the last year; were arrested in the last year; graduated from high school; and were aged 30–49. The populations differed in the percent: Black; currently homeless; and aged 18–29.

Conclusion Using RDS to assess behaviour changes over time will be difficult if the study samples do not represent a fixed population. We