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Authors

Mirzazadeh, Ali
Shokoohi, Mostafa
Navadeh, Soodabeh
[et al.](#)

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Underreporting in HIV-related high-risk behaviors: comparing the results of multiple data collection methods in a behavioral survey of prisoners in Iran

Ali Mirzazadeh^{1,2}, Mostafa Shokoohi^{2,3}, Soodabeh Navadeh^{2,1,4}, Ahmad Danesh^{5,2}, Jennifer Jain¹, Abbas Sedaghat⁶, Marziyeh Farnia⁷, and AliAkbar Haghdoost²

¹Global Health Sciences, University of California, San Francisco California; San Francisco, CA USA

²Regional Knowledge Hub, and WHO Collaborating Centre for HIV Surveillance, Institute for Futures Studies in Health, Kerman University of Medical Sciences, Kerman, Iran

³Epidemiology & Biostatistics, Schulich School of Medicine & Dentistry, The University of Western Ontario, London, Canada

⁴Department of Epidemiology and Biostatistics, School of Public Health, Tehran University of Medical Sciences, Tehran, Iran

⁵Department of Health and Community Medicine, School of Medicine, Golestan University of Medical Sciences, Gorgan, Iran

⁶HIV National Program, Center for Disease Control, Ministry of Health, Tehran, Iran

⁷Health and Treatment Office of Iranian Prisons Organization, Tehran, Iran.

Abstract

We explored the potentials of using three indirect methods including crosswise, proxy respondent method, and network scale-up (NSU) in comparison to direct questioning in collecting sensitive and socially stigmatized HIV-related risk behaviors information from prisoners (N=265).

Participants reported more sexual contact in prison for their friends than they did for themselves (10.6% vs. 3.8% in men, 13.7% vs. 0% in women). In men, NSU provided lower estimates than direct questioning, while in women NSU estimates were higher. Different data collection methods provide different estimates, and collectively offer a more comprehensive picture of HIV-related risk behaviors in prisons.

Corresponding author: Ali Mirzazadeh, Address: 550 - 16th Street, 3rd Floor, San Francisco CA 94158. ali.mirzazadeh@ucsf.edu, Telephone: 415-476-5821.

Authors' contribution

A.M., A.D., A.S. and A.H. were responsible for study concept and design. M.Sh. and A.M. performed data analysis. S.N. and J.J. produced interpretations and findings. A.M., S.N. and M.Sh. drafted the manuscript and all authors provided critical feedback and approved the final version.

Conflict of interest

None to be declared

Keywords

HIV; stigma; behavioral surveys; data collection methods; prisoners; population size estimation; Iran

Introduction:

Behavioral data, if collected and analyzed accurately, can aid in HIV prevention efforts and prevent from further transmission of HIV. Such data are regularly collected from certain key populations who are at high risk for HIV infection (e.g., injection drug users, female sex workers, and men who have sex with men) (Zablotska, Kippax, Grulich, Holt, & Prestage, 2011).

In some countries, there are other sub-populations who are disproportionately affected by the HIV epidemic. In Iran, prisoners are one of those sub-populations that are considered a high-risk group for HIV infection (Haghdoost, Mirzazadeh, Shokoohi, Sedaghat, & Gouya, 2013; Navadeh, Mirzazadeh, Gouya, & et al, 2013). HIV prevalence is about 2% and only one in eight have ever been tested for HIV and only 20% have sufficient knowledge about HIV (Navadeh, Mirzazadeh, Gouya, Farnia, et al., 2013). Globally, there are certain prevention challenges specific for inmate populations (A. Spaulding et al., 2002); lack of awareness about HIV, lack of resources for HIV testing and treatment given limited funding resources, rapid turnover among jail communities and inmate concerns about privacy and fear of stigma that prevent them to disclose their high-risk behaviors (Dolan et al., 2015; Hammett, 2006; Shahbazi, Farnia, Rahmani, & Moradi, 2014). By the way, jails and prisons continue to be potent targets for public health interventions (A. C. Spaulding et al., 2009) and there is a need to address these challenges.

Self-reported data collection is the most common data collection method in behavioral studies and is subject to underreporting when the data being collected is in regards to socially stigmatized behaviors (Mirzazadeh et al., 2013). Although, underreporting of stigmatized behaviors has been explored in previous studies, this study is the first to our knowledge to examine this paradigm among prison inmates.

We explored the potential of three indirect methods of data collection to provide the best estimates of socially stigmatized HIV-related risk behaviors among inmates in three prisons in Iran. The design of the study was to conduct questionnaire-based interviews using crosswise, proxy respondent method (PRM), and network scale-up (NSU) methods. The collected information was then compared with the findings from direct questioning.

Methods:

From August through October of 2013, 265 prisoners from three prisons (Shiraz = 70 males, Hamedan = 70 males, and Qazvin = 70 males and 55 females) were recruited into the study after obtaining informed consent. We applied a systematic random sampling method to select and recruit the participants, using the prisoner's personal identification codes as the

sampling frame. This gave us a sample proportional to the overall number of prisoners in every ward in each prison.

The trained interviewers approached the selected study participants, after obtaining informed consent. Data on risk behaviors were collected using direct and indirect methods in the order listed below:

Method 1. Close and randomly selected friends (PRM): This method involves asking the respondents about the high risk behaviors of their closest friend or randomly selected friend. Therefore, this method did not reveal personal behaviors of the respondent (Gilpin et al., 1994; Rwanda Biomedical Center/Institute of HIV/AIDS, 2012). We defined ‘close friend’ as a person with whom the respondent had close friendship, discussed personal information, and shared meals with, as well as received social support from. We asked every respondent about the HIV risk behavior of their closest friend and the degree of certainty they have in their responses and recall (as a proxy measure of information transparency). In order to randomly select a friend of the respondent, two separate lists of 45 common male and female names were provided to the respondents; one for male prisoners and one for female prisoners. Each one of the two lists was randomly grouped and listed on nine different cards. The respondents were asked to randomly select a card and check whether he/she knows anyone listed on the card. If they did not know anyone on the card they were handed, another card was selected by the respondent. This process was repeated until the respondent selected a name. If a respondent provided two or more names, the one that was considered the ‘closest friend’ to the respondent was selected. The respondents were instructed not to disclose the name of the friend that they selected. They were only questioned about the HIV risk behavior of the ‘closest friend’ selected, and the degree of certainty they had about their responses and recall.

Method 2. NSU: This method involves measuring the prevalence of HIV risk behaviors in a population using the social network of the respondents. The general concept behind this method is the equivalence of the proportion of individuals with high risky behaviors within one’s social network to the size of people with those high risky behaviors within a defined population that the individual is coming from. By asking questions about an acquaintance – a person other than the respondent – the interview takes on some anonymity allowing the responses to be honest without fear of stigma or other negative consequences for the respondent or his/her friends (Bernard et al., 2010; Johnsen, Bernard, Killworth, Shelley, & McCarty, 1995; Killworth, Johnsen, McCarty, Shelley, & Bernard, 1998). Therefore, the respondents were asked about the number of people/inmates they had known face-to-face (acquaintance), within their ward during the past six months. Then, the respondents were questioned about the number of people who they knew and were engaged in risky behaviors such as “ever used drugs”, “ever injected drugs”, and “ever had extra-marital sexual contact” in and out of prison. They were also asked about the number of people/inmates they had meal with or had mutual financial

support over the course of the past six months inside the prison and again the number of those who had risky behaviors inside and outside prisons.

Method 3. Crosswise: The concept of crosswise method is to pair one's answers on the risky behaviors with a randomly selected known proportion (here picking an envelope out of ten). The process makes it impossible to find about the individual's response to the sensitive attributes, e.g. drug injection in prison. In this method, all respondents were asked to pick one envelope from the ten provided envelopes. Only one of the envelopes had a card labeled as "no" and all the others as "yes". They were asked not to disclose the label of the selected card. Then, they were questioned about their risky behaviors. The respondents should have responded either the answer is equal to the label on the card or not. At the end of the interview, they were asked to put the card back in the envelope and slide it into the roster in a way that it could not be distinguished (Jann, Jerke, & Krumpal, 2012; YU, Tian, & Tang, 2008).

Method 4. Direct questioning: Finally, the respondents were directly questioned about their own risky behaviors. This is a common method that is used in collecting risky behaviors in behavioral surveys (Amon, Brown, Hogle, & et al, 2009; Navadeh, Mirzazadeh, Gouya, & et al, 2013; Phillips, Gomez, Boily, & Garnett, 2010).

The study protocol and procedures were reviewed and approved by the Research Review Board of the Kerman University of Medical Sciences (K/93/162). The study was piloted in for refining the method and standardizing the questionnaire.

Three groups of one field supervisor and one interviewer were trained in a one-day workshop to implement the survey. During the workshop, the direct and indirect methods of questioning were explained, and then practiced by role playing. During the implementation process and before commencing the study, every interviewer was asked to complete two to five questionnaires under the supervision of his/her supervisor.

Data Analysis

Data analysis was done using STATA (StataCorp. 2011. *Stata Statistical Software: Release 12*. College Station, TX: StataCorp LP). We defined the information transparency bias as the proportion of respondents who reported that they were not aware of their friends' or acquaintances' risky behaviors. We reported the information transparency bias for every sensitive risky behavior by sex and type of acquaintances; either the close friend or the randomly selected friend. We examined the differences between men and women in regard to the information transparency bias by Chi Square test (or Fisher exact test, if required).

In NSU method, we asked the participant about the number of inmates they knew over the past six months prior to the interview (large network). To deal with the outliers, the large network size of 10 is given to those who reported the size below 10 and 100 to those who reported the size above 100. We also asked for the number of inmates the study participant had meal with over the past six months (meal network). Any report on the meal network size as zero was replaced by one. We also replaced all reported meal networks above 30 with 30.

Using the average of reported large and meal network sizes (\bar{C}), and the number of acquaintance they knew and were engaged in any of the risky behaviors (m), we calculated the proportion of prisoners having such risky behaviors as (Eq. 1)(Killworth et al., 1998)

$$P_{NSU} = \sum_1^i \frac{m_i}{\bar{C}} \quad \text{Equation 1:}$$

The calculation was done for the large network size and for the meal network size separately. The 95% confidence intervals were calculated using bootstrap technique using 100 irritations(Shokoohi, Baneshi, & Haghdoost, 2012).

In the Crosswise method, we applied the bellow formula to estimate the proportion (π) of risk behaviors among the study participants (Eq. 2):

$$\pi = \frac{q + p - 1}{2p - 1} \quad \text{Equation 2:}$$

Here, q is the proportion of persons who gave identical answers (either Yes or No) to the pairs of sensitive and none-sensitive questions. As it is explained earlier, the none-sensitive question in each paired questions was the randomly selected card labeled as Yes or No (from a roster of 10) which we already know the amount which is 10% (p). Given the binomial distribution, we calculated the 95% CI for π . Based on the following equations, the 95% confidence intervals were estimated (Eq. 3 and 4)(Jann et al., 2012; YU et al., 2008):

$$SE_{\pi} = \sqrt{\frac{q(1-q)}{(N-1)(2p-1)^2}} \quad \text{Equation 3:}$$

$$95\%CI: \pi \pm 1.96 \times SE_{\pi} \quad \text{Equation 4:}$$

Results

Demographic of study participant and their friends

A sample of 265 participants was included in the study (210 males, and 55 females). The average age of male participants was 35.3 years (95%CI 34.1–36.6) and 33.1 years (95%CI 30.4–35.6) for the females. Male participants were serving longer prison sentences than female prisoners (2.5 vs. 1.5 years, $P < 0.01$). Moreover, the male prisoners reported “past history of incarceration” more than the females (59.2% vs. 34.5% $p < 0.01$). The female prisoners were twice more likely to be illiterate or be able to read or write than male prisoners (9.4% vs. 18.1%). Instead, one-third (32.7%) of women received a high school diploma, much higher than men (17.1%). Male and female prisoners differed significantly according to marital status. 33.2% of males were single (never married), while only 7.3% of

females had never been married. Female prisoners were more likely to be married and not living with their spouse (14.5% vs. 0.9%) or identified as a widow (18.2% vs. 1.4%). 16.2% of the males and 9.1% of the female prisoners participated in the recent bio-behavioral survey in 2013 (Table 1).

Information transparency bias

Table 2 presents the information transparency bias of every HIV risk behavior collected separated by sex and type of selected friend (closest friend or randomly selected friend). Information transparency was consistently lower in male prisoners, when they were questioned about their closest friend instead of the randomly selected friend. The difference was as low as 3.3% for “injecting drug during last incarceration” and as high as 13.3% for “extramarital sex during past 12 months”. This pattern was not observed in female prisoners.

Risk behaviors estimates by different methods

Prevalence of drug use, injection drug use, sexual risk, and history of HIV testing are given in Table 3. According to the findings, past history of drug use was the most frequent risky behaviors reported by both men and women. The behavior was consistently higher in men using both direct and indirect methods. The Crosswise method produced the lowest estimate for ever having used drugs, and higher estimates were found for ‘close’ or randomly selected friends.

In response to direct questioning, past history of injection drug use was reported by 15.3% of men and 3.6% of women. The estimates were surprisingly high using the crosswise method (21.3% in men and 41.3% in women). Drug use during last incarceration ranged between 37.5% (crosswise method) to 47.2% (NSU – large network). This was quite lower in females; between 12.7% (direct questioning) to 35.0% (crosswise method).

History of injection drug use during last incarceration varied between 0.5% (NSU – large network) to 15.0% (crosswise method). This was also quite different in female prisoners; between 0% (close friend and NSU-meal network) to 37.5% (crosswise method).

Extramarital sex in during the last year was acknowledged by 12.9% of men and 10.9% of women. Respectively, these figures increased to 19.2% using random selected friend method and to 52.8% using the NSU – meal network method. Same sex sexual contact ever, ranged from 7.0% (NSU-meal network) to 20.0% (crosswise) in men. Sexual contact within prison was reported by 3.8% men and 0% of women. The crosswise method provided the highest estimates for both men (11.3%) and women (23.8%).

Regarding the HIV testing history, although 46.1% of men reported that they own have been tested at some time for HIV, they mentioned that the prevalence of testing is higher among their friends (58.2% for close and 58.4% for a random selected friend). The same pattern was seen among women while the ever HIV testing reported as 38.1% and for their friends as 50.0% and randomly selected friend as 54.2%.

Discussion

The results indicate that there is a high level of dependency of HIV-related risk behavior estimates on the methods used for data collection. In settings like prisons, risk behaviors are vastly underreported by prisoners even if the study is completely anonymous, informed consent is verbal and no HIV tests were administered.

Overall, prisoners reported a higher level of risk behavior for their closest friends and even more for a friend selected at random rather than for themselves. This effect is called “prestige bias” or “social desirability bias” in the literature (Gregson, Zhuwau, Ndlovu, & Nyamukapa, 2002). Social desirability bias states that people are more open in discussing the stigmatized risk behaviors of their friends rather than themselves. We also observed this phenomenon among prisoners and their acquaintances in prison. This is the basic rationale for applying a proxy respondent or network scale up methods to measure risk behaviors or estimate the number of those who are engaging in such behaviors, rather than direct questioning methods.

The challenge in such indirect data collection methods is the information transparency bias. As we saw, inmates are not openly talking to their friends about their risk behaviors, especially sexual risk behaviors. Drug related behaviors are less stigmatized (Haji-Maghsoudi, Haghdoost, & Baneshi, 2014) and so the transparency biases are lower. As expected, close friends are more transparent in disclosing their HIV risk behaviors to each other. Men were more conservative than women to disclose extra marital and same-sex sexual contact than women. This might be because such heavily stigmatized behaviors are more common among men. These behaviors had a higher level of information transparency bias and were more underreported than women in our study (Mirzazadeh et al., 2013; Phillips et al., 2010). In addition, we observed in our study population that HIV status is considered to be a very personal and stigmatized issue. Only one out of three study participants knew about their ‘close friends’ HIV status. The disclosure of HIV status is also reported as very low in other settings and especially among sexual partners (Shelley et al., 2006).

In Figure 1, using a schematic diagram, we present the interaction of the two biases, social desirability and transparency, in direct and indirect questioning techniques we used to collect the HIV risk behaviors. As it is obvious, when we directly ask about the participants own behaviors, they may not disclose their truth behaviors as it’s not socially acceptable. This bias may be less when asking about their friends, close friends, random anonymous friends or their overall network. On the other hand, the transparency bias is increasing, as they might have less information about their accountancies’ (i.e. their network) risk behaviors, random friend and close friend. It should be noted that the effect of the two biases for different data collection methods may not be equal and they may not cancel out each other completely. Their magnitudes of effects need to be measured and considered carefully when interpreting the results.

Overall, the network scale-up method produced the lowest estimates of high-risk behaviors in our study population. In fact, this could be partly explained by the information transparency bias discussed (Salganik et al., 2011; Zheng, Salganik, & Gelman, 2006). The

amount of such biases reported as %40 (20–50%) in FSW(Mirzazadeh et al., 2013). Another bias that might affect the NSU estimates is that people with high risk behaviors might have fewer connections with other people in the community (degree ratio)(Salganik et al., 2011). This can lead to a significant underestimation of risk behaviors. Crude NSU estimates need to be adjusted for these two biases to provide more accurate estimates. In addition, the NSU is a complex method and difficult to clarify to participants regarding the social network and social network size. We used two definitions of the network, the overall social network and the meal network. We did not find any meaningful discrepancies between the two NSU estimates. A Rwanda NSU study concluded that using meal network size provides more accurate estimates(Rwanda Biomedical Center/Institute of HIV/AIDS, 2012). In our study we asked about the networks within prison, and discovered that the meal and overall social networks were almost comparable, no meaningful difference was found between the two.

Among the methods we used to estimate the prevalence of risk behaviors, the crosswise method provided the highest estimates that are hard to believe. Moreover, we observed a differential bias correction with crosswise among women and men. For example, ever injection was reported by 15.3% of men and using crosswise, it's estimated to be 21.3%. In females, 3.6% reported ever injection while crosswise estimate was unbelievably high as 41.3%. We observed the same pattern for injection during last incarceration. For other variables, such as ever drug use and HIV test, that the reported prevalences were considerably high, the crosswise estimates decreased. This can happen if participants randomly answered to the paired sensitive/insensitive questions. This could partly explain the high crosswise estimates of ever injection among women and the small difference with men's estimates. Such differential correction of crosswise method between men and women, or better to say rare and common variables, was also observed in a study of illicit drug use among students(Shamsipour et al., 2014). Given the complexity of this method, we had a hard time demonstrating to study participants how this method works. Unfortunately, the card game and the smart card answer technique were not effectively understood by participants, potentially leaving some room for error. This limitation has been reported partially in other studies who have applied the crosswise method(Jing, Qu, Yu, Wang, & Cui, 2014). To our knowledge, our study is the first to implement this method among prisoners.

Conclusion

HIV related risk behaviors are significantly underreported by inmate populations, especially in settings where they are still heavily stigmatized and considered illegal. Different data collection methods produce different estimates, and it's crucial to carefully understand the data collection process in terms of potential biases and also the level of complexity of the methods(Gregson et al., 2002). Findings need to be triangulated and corrected for such biases before being used for decision making.

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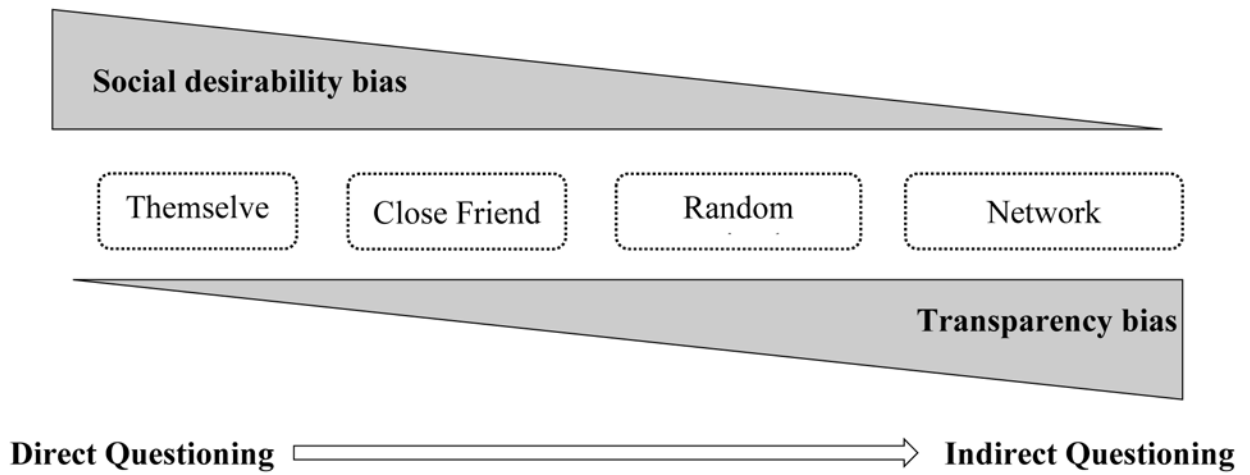


Figure 1. An illustrative graph on the trend of social desirability and transparency biases from direct questioning methods (ask people about their own behavior) to indirect techniques (asking about the behavior of their acquaintances in their network – e.g. Networks Scale Up).

Table 1:

Demographic characteristics of the study participants by sex (N=265)

Variables	Men (n=210)	Women (n=55)
Mean age (year)	35.3[34.1, 36.6]	33.1[30.6, 35.6]
Duration of current incarceration (year)	2.5[2.1, 2.9]	1.5[0.95, 2.1]
Level of education (%)		
Illiterate OR only able to read/write	9.4[5.4, 13.4]	18.1[7.8, 28.5]
Primary school	32.2[25.8, 38.5]	0.2[9.2, 30.7]
Guidance school	35.5[29.0, 42.0]	23.6[12.2, 35.0]
High school and diploma	17.1[11.9, 22.1]	32.7[20.1, 45.2]
University degree	5.6[2.5, 8.8]	5.4[0.0, 11.5]
Current marital status (%)		
Single (never married)	33.2[26.7, 39.5]	7.3[0.3, 14.2]
Married, live with spouse	47.9[41.1, 54.6]	40.0[26.8, 53.1]
Married, live without spouse	4.3[1.5, 7.0]	1.8[0.0, 5.3]
Sigheh (Temporary Marriage)	0.9[0.0, 2.2]	14.5[5.0, 23.9]
Divorced	12.3[7.8, 16.7]	18.2[7.8, 28.5]
Widower/widow	1.4[0.0, 3.0]	18.2[7.8, 28.5]
History of past incarceration (%)		
Never	40.7[34.1, 47.4]	65.4[52.7, 78.1]
At least once	59.2[52.5, 65.9]	34.5[21.8, 47.2]
Participated in the recent (2013) Bio-Behavioral Survey	32 (16.2%)	5 (9.1%)

Numbers in [] are 95% Confidence Intervals.

Table 2:

The information transparency bias in different HIV-related risk behaviors by sex (N=265)

Risk Behaviors	Men (n=210)		Women (n=55)		P-value Men vs. women	
	Close friend	A random selected friend	Close friend	A random selected friend	Close friend	A random selected friend
Drug use ever	2.3[0.3, 4.4]	5.7[2.5, 8.9]	5.4[0.0, 11.5]	1.8[0.0, 5.3]	0.36	0.31
Injection drug use ever	2.8[0.5, 5.1]	11.9[7.5, 16.3]	5.4[0.0, 11.5]	3.6[0.0, 8.6]	0.40	0.081
Drug use during last incarceration	2.8[0.5, 5.1]	6.2[2.9, 9.5]	1.8[0.0, 5.3]	0	0.99	0.077
Injection drug use during last incarceration	1.4[0.0, 3.0]	4.7[1.8, 7.6]	0	1.8[0.0, 5.3]	0.99	0.46
Extramarital sex during past 12 months	14.4[9.6, 19.2]	27.7[21.6, 33.8]	7.2[0.3, 14.2]	7.2[0.3, 14.2]	0.18	0.001
Same-sex sexual contact ever	13.3[8.7, 17.9]	24.4[18.5, 30.2]	1.8[0.0, 5.3]	7.2[0.3, 14.2]	0.013	0.005
Sexual contact during last incarceration	6.6[3.2, 10.0]	14.3[9.5, 19.1]	1.8[0.0, 5.3]	7.2[0.3, 14.2]	0.32	0.25
HIV test ever	36.1[29.6, 42.7]	45.9[39.1, 52.7]	41.8[28.6, 55.0]	36.3[23.4, 49.2]	0.43	0.22

Transparency bias = % “Do not know” response to the questions asking about the risk behaviors of the study participants’ (close or random selected) friend. Numbers in [] are 95% Confidence Intervals.

The estimates of HIV-related risk behaviors reported by prisoners about themselves or their friends by different data collection methods (N=265)

Table 3:

Risk Behaviors	The participant by direct questioning	Close friend	A random selected friend	Crosswise method	Network Scale Up	
					Large Network [‡]	Meal Network [£]
Male prisoners						
Ever used drug	74.2[68.3, 80.2]	73.1[67.1, 79.2]	77.6[71.8, 83.5]	65[55.1, 74.9]	77.2[69.7, 84.7]	63.7[53.2, 74.3]
Ever injected drug	15.3[10.3, 20.2]	10.8[6.5, 15.1]	9.7[5.4, 14.1]	21.3[7.5, 35.0]	20.1[15.1, 25]	6.9[4.6, 9.1]
Using drug during last incarceration	38.1[31.4, 33.7]	42.1[35.3, 48.9]	44.8[37.8, 51.9]	37.5[25.1, 49.9]	47.2[38.9, 55.6]	38.8[29.5, 48]
Injecting drug during last incarceration	3.8[1.2, 6.4]	0.9[0.0, 2.3]	1.0[0.2, 4]	15.0[0.8, 29.2]	0.5[0.1, 1.1]	1.0[0.4, 1.7]
Extramarital sex during past 12 months	12.9[8.3, 17.4]	13.4[8.4, 18.5]	19.2[12.8, 25.5]	17.5[3.5, 31.5]	12.1[8.4, 15.7]	11.6[7.7, 15.4]
Ever same-sex sexual contact	12.8[8.2, 17.4]	12.6[7.7, 17.5]	16.4[10.6, 22.2]	20.0[6.2, 33.8]	8.0[5.4, 10.5]	7.0[4.3, 9.7]
Sexual contact during the last incarceration	3.8[1.2, 6.4]	4.1[1.2, 6.8]	10.6[6.15, 1]	11.3[0.0, 25.7]	4.3[2.9, 5.7]	3.3[1.8, 4.8]
Ever had an HIV test	46.1[39.4, 52.9]	58.2[49.7, 66.6]	58.4[49.2, 67.6]	50.0[38.7, 61.3]	---	---
Female prisoners						
Ever used drug	47.2[33.8, 60.6]	59.6[46.1, 73.1]	57.4[44, 70.7]	33.8[8.6, 58.9]	58.4[47.4, 69.3]	50.0[34.6, 65.4]
Ever injected drug	3.6 [0.0, 8.6]	1.9[0.0, 5.7]	15.0[5.3, 24.8]	41.3[17.4, 65.1]	10.2[5.4, 15]	3.6[0.4, 6.9]
Using drug during last incarceration	12.7[3.7, 21.6]	16.6[6.5, 26.7]	30.9[18.5, 43.2]	35.0[10.1, 59.9]	22.2[10.4, 34]	18.2[6.4, 30]
Injecting drug during last incarceration	1.8[0.0, 5.3]	0.0	1.8[0.0, 5.4]	37.5[13.0, 62.0]	1.1[0.1, 2.1]	0.0
Extramarital sex during past 12 months	10.9[2.5, 19.2]	37.2[23.7, 50.7]	35.2[21.9, 48.6]	22.5[0.0, 49.3]	50.7[37.3, 64]	52.8[9.1, 96.5]
Ever same-sex sexual contact	0.0	7.4[0.3, 14.4]	17.6[7, 28.2]	22.5[0.0, 49.3]	0[0.0]	4.7[0.0, 9.7]
Sexual contact during last incarceration	0.0	5.5[0.0, 11.7]	13.7[4.1, 23.3]	23.8[0.0, 50.4]	5.6[3.2, 8.1]	3.8[0.0, 8.3]
Ever had an HIV test	38.1[25.1, 51.1]	50.0[32.2, 67.7]	54.2[37.4, 71.1]	28.8[2.9, 54.6]	---	---

Numbers in [] are 95% Confidence Intervals.

[‡] Large Network Size (C) for male prisoners was 56 and for female prisoners was 37.

[£] Meal Network Size (C) for male prisoners was ≈5 and for female prisoners was ≈ 2.