1.1 BACKGROUND
Funded through AusAID’s Australian Development Research Awards (2009), the Burnet Institute conducted this research to explore the sexual networks of men who have sex with both men and women in Vientiane, Lao PDR and Hanoi, Viet Nam. The research aimed to identify network characteristics that promote or block HIV transmission in this network. In Vientiane the study involved collaboration between the Centre for Population Health and the Centre for International Health at the Burnet Institute and the Centre for Population Health and the Centre for HIV, AIDS and STIs in the Lao PDR.

1.2 RATIONALE
HIV prevalence among men who have sex with men in Vientiane is much higher than among adults in the general population (5.6% as compared to approximately 0.2%). Men who report sexual contact with women and men and/or transgender people in Vientiane may constitute a bridge between ‘high-risk’ and ‘low-risk’ populations for transmission of human immunodeficiency virus (HIV) and other sexually transmissible infections (STIs).

Estimates vary widely as to the proportion of men in Asia who have ever had same sex relations ranging from 3 to 18% (Savik, 2001). p.71. A number of women, mostly married and generally considered at ‘low-risk’, are becoming infected with HIV by their husbands and spouses. Projections in the Commission on AIDS in Asia report that, by 2020, 20% of HIV infections will be transmitted through women infected by their spouses, of which a proportion will be infected by their partners who engage in male-to-male sex (2). Preventing HIV infection among this group of women starts with the prevention of HIV infection of their male sexual partners. HIV interventions which aim to address rising infections among men who have sex with men in Asia are currently inadequate due to limited coverage and lack of investment in scaling up services. Where services are provided, uptake is generally high, however most programs for men who have sex with men and transgender do not target men who also have female partners.

1.3 METHODS
There were two distinct objectives of this study that were addressed sequentially in two components:

- Conduct qualitative research to generate a rich set of qualitative data about beliefs and attitudes to sexuality, gender, and sexual and social networks of men who have sex with men and women; and
- Conduct quantitative research to describe and map the social and sexual networks of men who have sex with men and women in Vientiane, Lao PDR, and identify key risk behaviours or individuals within the network that either promote or ‘block’ HIV transmission within the network

1.3.1 Qualitative component
The qualitative research component aimed to explore the reasons why men have sex with both women and men (and kathoey, where applicable), the context in which these interactions occur (in terms of meeting partners, negotiation of sex, and where the sex act occurs) and how place and time impact on the choice of partner and or condom use (the intersection of why and where).

A range of qualitative research techniques were used to explore these questions, including mapping, pair-wise ranking, focus group discussions and key informant interviews. Participants were recruited through the social networks of peer educator groups in Lao PDR who had worked with the Burnet Institute in a previous study involving men who have sex with men. Eligibility for participation in the first wave of the study included men who reported sex (oral, anal or vaginal intercourse that resulted in ejaculation) with both men and women in the previous 12 months and who lived in Vientiane. Trained facilitators conducted the focus group discussions and led the pair-wise ranking and mapping exercise between March and June 2010. Data were translated from Lao into English for participatory thematic analysis to identify dominant themes related to the gender of sexual partners of participants.

1.3.2 Quantitative component
A cross-sectional survey using a sexual behaviour questionnaire was conducted in Vientiane with participants recruited using a modified form of respondent driven sampling. The study population was men who have sex with men and women, and their social and sexual networks. Participants were recruited between June and October 2010.

Two separate questionnaires were used (one for women, one for men and kathoey). Six trained field researchers recruited participants. Ten ‘seed’ participants, all of whom reported sex with both men and women in the previous 12 months, were drawn from the Burnet Institute’s existing network of male peer educators. The first wave of participants comprised the Vientiane Department of Health and the second wave of participants comprised the sexual partners of the nodes identified in the first wave, and so on. Three waves of participants were recruited.

Participants completed a sexual behaviour questionnaire using a personal digital assistant (PDA), and referred up to five sexual partners for participation.

Data were transferred from each PDA to a central database in Microsoft Access, managed by the Lao Research Officer at the Viennese office, and then transferred to Stata version 11 for statistical analysis. The proportions of male, female and kathoey participants were reported. The analysis presented here focuses on the sexual behaviours reported by male participants and in particular focuses on identifying different sexual behaviours of men who report bisexual, homosexual and heterosexual behaviour. The median number of lifetime partners was calculated, as were proportions of participants in each category reporting consistent condom use.

RESULTS AND DISCUSSION

1.3.3 Qualitative component findings
Seventy-three bisexual active men participated in the qualitative component of the study. The data indicate that there are different reasons why the men in the study engaged in bisexual behaviour. The study participants (bisexually active men) are not homogeneous in sexual orientation, identity or behaviour. Except in very few cases, the majority of men do not identify as being ‘bisexual’ and their sexual behaviour and choice of gender of their sexual partners does not necessarily correlate with their sexual orientation or action. There are multiple motives at play as to why the genders of sexual partners vary.

Generally it appears that equal attraction to men and women (or kathoey) is not a common opinion; only a few men reported not using condoms because they did not perceive the sex as risky, but many men reported not using condoms unless the female was a sex worker and therefore perceived to be promiscuous. Most men reported not using condoms with their long term female partners except for contraception. With casual female partners, they were unlikely to use condoms unless the female was a sex worker and therefore perceived to be promiscuous. When having sex with other males some men reported they always used condoms because they perceived the sex as risky, but many men reported not using condoms because they did not perceive a risk in having sex with other men.

The study highlighted multiple and diverse reasons why men have sex with partners of different genders. There was a large amount of variation in reported experiences and reasons given by different men for having sex with men and women. The reasons men take sexual partners of different genders at different times are complex and multifaceted. Indeed, the reasons men give for each other's influence decision making and behavioural outcomes. Some common experiences and reasons for sex with female and males (and/or kathoey) partners included desire and attraction, purely biological arousal, financial gain, coercion or pressure, ease of opportunity and availability, occupational exposure, cultural norms and expectations, experimentation and curiosity, intoxication and peer pressure.

All of these influences on choice of gender of sexual partner interplay with each other to influence the behaviours and choice of gender of sexual partner at different times in the men’s lives. The study also highlighted that the men who had long term female partners felt these females would generally be unaware that they also have male partners. Only in a few cases did the men report that female partners had expressed suspicion and/or enquired about the possibility of other sexual behaviours in the life of the male.

Reported condom use and perceptions of risk depending on the gender of the sexual partner varied among the participants. Most men reported using condoms with female and sex with kathoey but not when receiving oral sex from a kathoey. Generally kathoey were seen as the most risky sexual partner to have as they were perceived as being promiscuous. Most men did not have same sex partners with their long term female partners except for contraception. With casual female partners, they were unlikely to use condoms unless the female was a sex worker and therefore perceived to be promiscuous. When having sex with other males some men reported they always used condoms because they perceived the sex as risky, but many men reported not using condoms because they did not perceive a risk in having sex with other men.

1.3.4 Quantitative component findings
Ten seeds were initially recruited. These seeds then recruited 45 nodes in the first wave, who then nominated 148 recruited nodes in the second wave who then nominated 95 recruited nodes in the third wave. A total of 309 people were interviewed, including ten surrogates whose data are not included in the analysis presented here. Of the 298 participants included in this analysis, there were 84 female, 189 male and 25 kathoey participants. Sixty three of the 189 male participants reported bisexaul behaviour during their lifetime.

The median total number of partners reported by male participants was 16 (interquartile range 1–60). Twenty two men reported having a female (including transsexual female partners) partner only (or kathoey). Eleven men reported having a male (including same sex) partner only. One man reported having a female and male partner (including same sex). Ten men reported having a kathoey partner only. Two men reported having a partner of unknown gender only. Generally it appears that equal attraction to men and women (or kathoey) is not a common opinion; only a few men reported not using condoms because they did not perceive the sex as risky, but many men reported not using condoms unless the female was a sex worker and therefore perceived to be promiscuous. Most men reported not using condoms with their long term female partners except for contraception. With casual female partners, they were unlikely to use condoms unless the female was a sex worker and therefore perceived to be promiscuous. When having sex with other males some men reported they always used condoms because they perceived the sex as risky, but many men reported not using condoms because they did not perceive a risk in having sex with other men.
reported more regular, casual and paying partners compared to male participants who reported exclusively heterosexual or homosexual behaviour.

Men who reported exclusively heterosexual behaviour reported higher levels of consistent condom use than men who reported homosexual behaviour or bisexual behaviour. Among men who reported bisexual behaviour, the lowest reported condom use was with their male and regular partners and the greatest with kathoey and foreign partners.

Women also reported low levels of consistent condom use with less than one in five females reporting consistent condom use with their male partners. A slightly higher proportion of kathoey reported consistent condom use with their partners.

A diagrammatic representation of the sexual networks of study participants was prepared, showing the social contacts between male, female and kathoey participants in this study. The sexual network map clearly demonstrates the role of a number of key individuals who link homosexual and heterosexual networks together through their bisexual behaviour.

1.4 CONCLUSIONS AND RECOMMENDATIONS

The integration of the qualitative and quantitative findings gathered in this research provides novel and important evidence that homosexual and heterosexual sexual networks intersect in Vientiane. Our findings demonstrate that men reporting bisexual and homosexual behaviour engage in more high-risk behaviours than males reporting exclusively heterosexual behaviour. Our findings also demonstrate that homosexual and heterosexual networks are not mutually exclusive, and that they are linked via men who engage in bisexual behaviour. This suggests that HIV prevention programming among homosexual men and women should focus on gay and transgender men, such as drop-in centres, fashion and lip synch shows, may not be effective in reaching bisexual men whose identity is mainly heterosexual.

Traditional communication methods currently used to reach gay and transgender men, such as drop-in centres, fashion and lip synch shows, may not be effective in reaching bisexual men whose identity is mainly heterosexual. Outreach to sports venues, general entertainment venues, and dormitories and peer-to-peer education may be more effective in reaching these ‘gender-normative’ men.

There should be increased prevention education programs in work places where men may be offered money for sex, such as massage parlours, hotels and guest houses, and bars and discos. Condoms should be readily available in these work places.

New technology, such as mobile phones and social network sites should be piloted to assess the effectiveness of sending safe sex messages to men who would otherwise not access drop-in centres and “gay-oriented” entertainment venues. All young men and women should receive accurate information on all aspects of sexual health – anal sex, vaginal sex, oral sex. Prevention education programs for young people should emphasise the need to ALWAYS use condoms, no matter the gender of partners, when they have sex, both vaginal and anal, except for marital partners.

Ongoing sexual network analysis is being conducted to investigate the composition of sexual networks for HIV transmission in Lao PDR.