Background Innovative interventions to prevent persistently high rates of STIs and pregnancy among Latino youth in the U.S. are needed. We developed *Yo Puedo* ("I can"), a sexual health intervention that combines conditional cash transfers (CCTs) and life skills, for youth in a high-risk, urban neighbourhood.
Methods *Yo Puedo* targeted small social networks of youth aged 16 to 21 (both in-school and out-of-school). CCTs were tied to completion of educational goals and use of reproductive health clinical services. We conducted feasibility research through randomization of networks to *Yo Puedo* or an observational control arm.
Results 72 social networks comprised of 162 youth enrolled in *Yo Puedo*, with 92% follow-up over six months. At baseline, participants had a mean age of 17 years and one-third were foreign-born. 80% of males and 65% of females had ever had sex ($p = 0.06$), with males reporting a higher mean lifetime number of partners (5.8 vs. 3.1, $p < 0.01$). Half (58.2%) of participants had gang-affiliated close friends. Nearly all (94%) participants reported not wanting to become pregnant or get someone pregnant, yet one-third of sexually active youth reported unprotected sex in the past six months. Social networks clustered significantly (intraclass correlations ranged from 0.31–0.92) across sociodemographic and risk profile characteristics; analyses were adjusted for network clustering. 72% of youth randomised to the intervention participated: 53% received at least one CCT payment; 66% came to at least one life skills group. The median amount earned was $30 (range $0-$200). There was little evidence that cash payments financed illicit or high-risk behaviour. A higher proportion of youth who participated, compared to those who did not, had been to a reproductive health clinic at follow-up ($p < 0.01$).
Conclusions *Yo Puedo* showed promise as a sexual health intervention for high-risk, urban youth. Targeting youth's social networks may yield sustained effects over time.

012.5 TRADITIONAL EXPLANATORY MODELS OF DISEASE AND MESSAGING AROUND HIV AND STI RISK AND PREVENTION: FINDINGS FROM AN EXPLORATORY STUDY WITH TRADITIONAL HEALTH PRACTITIONERS IN SOUTH AFRICA

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Background Research has shown that traditional medicine and Traditional Health Practitioners (THPs) represent the first line of healthcare for the majority in sub-Saharan Africa (SSA). In this context, understanding traditional beliefs is critical, if we are to design effective health messages and improve health outcomes. The aim of this study was to identify and understand how traditional knowledge and beliefs influence explanatory models of disease and patient actions to avoid risk of HIV and STI infection.
Methods An exploratory qualitative study involving THPs and their patients was conducted in 2011 at five sites in provinces Gauteng and KwaZulu-Natal. THPs (n = 54) were recruited through local forums and patients (n = 48) recruited by their THP. Diviners, herbalists, traditional birth attendants and traditional surgeons were all represented. Data were analysed using NVivo 9.
Results THPs provide a holistic 'catch all' service that would involve multiple providers within the allopathic sector. Whilst participants acknowledged allopathic risk factors and modes of transmission, beliefs around aetiology were generally located in the spiritual dimension with infection often blamed on lack of respect for/non-adherence to traditional practises resulting in 'pollution' and 'dirt in the blood'. THPs demonstrated a willingness to refer patients to clinics for diagnosis and treatment, recognised benefits of circumcision, and encouraged patients on ARVs to continue treatment. However, protective and preventive properties of traditional medicines were frequently highlighted.
Conclusion It was clear from this study that for many in South Africa traditional beliefs are often held alongside an acknowledgement of some aspects of germ theory. Given the pervasive traditional belief-based explanatory model of disease, health messaging and interactions that do not acknowledge this are likely to fail. It is critical that the allopathic/western system understands these core beliefs of patients accessing their services so as to optimise health messages, treatments, behaviours and clinical outcomes in SSA.

012.6 UNDERSTANDING EXPERIENCES AND IMPACT OF DOMESTIC VIOLENCE AND ABUSE IN GAY AND BISEXUAL MEN ATTENDING A SEXUAL HEALTH SERVICE IN THE UK

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Background Domestic violence in men who have sex with men (MSM) is common and associated with adverse health consequences. This study aims to (i) explore the nature and impact of domestic abuse in gay and bisexual men attending a UK sexual health clinic and (ii) explore men's views on routine enquiry for domestic abuse by health practitioners.
Methods A self-completion survey was implemented in the waiting rooms of sexual health clinics at a UK hospital. Men aged 18 and over, attending alone, who could read and write English were invited to participate in a male patient survey on relationships and health. The 2-part survey examined potentially abusive behaviours and health outcome including: anxiety and depression; alcohol and drug abuse; use of services; and views on routine enquiry within a health context.
Results 1,135 men completed a survey, of which 523 (46.0%) identified themselves as either gay or bisexual, 501 (95.8%) answered all questions relating to domestic violence in Part 1 of the survey. 145 (28.9%) men reported experiencing at least one abusive behaviour from a current or former partner; 81 (16.2%) men reported carrying out at least one abusive behaviour towards a current or former partner; 55 (11.0%) men reported both experiencing and perpetrating at least one abusive behaviour towards a partner. The majority of men supported the idea of health practitioners asking about domestic abuse during consultations.
Conclusion This study provides a greater understanding of domestic abuse in gay and bisexual men by including questions on impact as well as severity. The survey also examines the impact of these behaviours on men's health and the role of sexual health practitioners in responding to gay and bisexual men affected by domestic abuse.

O.13 - Epidemic appraisal and strategic planning

013.1 THE USE OF RAPID EPIDEMIC APPRAISALS FOR PLANNING AND SCALING UP FOCUSED HIV PREVENTION PROGRAMMES FOR FEMALE SEX WORKERS IN NIGERIA

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Background The HIV epidemic in Nigeria is complex with substantial heterogeneity in its distribution across different regions and

diverse factors that drive the epidemic. Therefore, it is critical that HIV prevention programmes and strategies match the local context and that resources are allocated to interventions with the greatest impact. Nigeria's National Agency for the Control of AIDS (NACA) is coordinating a large-scale initiative to conduct rapid epidemic appraisals across most states, including the mapping and size estimates of female sex workers (FSWs). Seven states have completed the appraisal of FSWs, and are now planning programmes accordingly.

Methodology Mapping was done using a two-level process of identifying and validating locations where FSWs solicit and/or meet clients. The first level involved conducting interviews with secondary key informants to collect information on the location and profile of hotspots, size estimates and typology of FSWs. The second level was done by interviewing primary key informants (FSWs themselves) at each hotspot to validate the information collected and generate more detailed information.

Results A total of 10,233 hotspots were identified across the states and 126,489 FSWs {Hotel/Lodge (29.6%) Bar/Nightclub (30%), Home based (4.1%), Brothel (14.6%) and Street based (16.6%)} were mapped. There was substantial variability in the population density of FSWs (per thousand adult men) across the states ranging from 17 in Abuja to 2 in Anambra. Furthermore, there were clear differences in the density of FSWs per spot with the mean number of FSWs/spot ranging from 17 in Abuja to 8 in Ondo.

Conclusion The FSW population in Nigeria is large and diverse, with substantial differences between and within states with respect to the population size, density and organisational typologies of sex work. This information is central to Nigeria's planning process for scaling up focused HIV prevention programmes and services.

O13.2 CAN THE UNAIDS MODES OF TRANSMISSION MODEL BE IMPROVED? A COMPARISON OF THE ORIGINAL AND REVISED MODEL PROJECTIONS USING DATA FROM NIGERIA

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Mathematical modelling has increased our understanding of the HIV epidemic and played a key role in decision making. The UNAIDS Modes of Transmission (MoT) model has been used by 29 countries to analyse their HIV epidemics, with the results helping to guide and focus interventions. However, the simplistic compartmentalisation of the population within the model has raised concerns over its reliability.

We compared the MoT model projections for Cross River, Nigeria, with a revised MoT model that incorporates additional heterogeneity (including subgroups for sero-discordant partnerships and individuals engaging in transactional sex) and updated parameters. We categorised population subgroups into 'high-risk', representing core groups, their bridging partners and sero-discordant partnerships; 'medium-risk', who are regular partners of 'high-risk' individuals; and 'general population', who are not linked to 'high-risk' or 'medium-risk' groups. Sensitivity analyses were undertaken and model projections assessed which population categories generated the highest incidence of HIV.

The original MoT model projections suggest 73% of HIV infections occur in general population subgroups and 21% amongst 'high-risk' groups. Following revisions to the MoT, model projections estimate 76–94% (95%CrI) of new HIV infections are expected to occur in high-risk groups, who make up just 23% of the population, compared to 6–24% amongst general population subgroups. Changes in the distribution of infections result from the introduction of sero-discordant partnerships and 'transactional sex' groups (a relatively large subset of the population, often ignored in modelling analysis) in the model, which are classified as 'high-risk'.

The UNAIDS MoT remains an accessible and potentially useful model that can help inform intervention priorities. However, our findings strongly suggest that the current model may produce misleading findings, especially in more concentrated HIV epidemic settings. Results from this study indicate the need for UNAIDS to conduct a formal review of the MoT, and for further revisions to be made.

O13.3 ESTIMATING THE EPIDEMIOLOGICAL IMPACT OF ANTIRETROVIRAL TREATMENT ON HETEROSEXUAL HIV EPIDEMICS IN SOUTH INDIA: A MODELING STUDY

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Background In south India, where intensive condom-based targeted interventions (TIs) for female sex workers (FSWs) have been successful, the potential impact of past, current, and proposed universal antiretroviral treatment (ART) eligibility criteria on concentrated HIV epidemics, remains unknown.

Methods We developed a mathematical model of heterosexual HIV transmission to simulate the HIV epidemic in three south Indian districts, using district-specific epidemiological data. The model was calibrated to HIV prevalence by risk groups (low-risk, clients, FSWs), population size, and ART coverage. Assuming that condom-based TIs, HIV testing and treatment access, and retention in HIV-care are sustained at current levels, we compared the following scenarios against no ART: (a) continue with the previous eligibility criteria (CD4 ≤ 250 cells/μL) from the start of each district's ART programme; (b) expand from previous to current eligibility (CD4 ≤ 350 cells/μL) after November 2011; and (c) expand to early ART at any CD4 cell count after January 2013.

Results Without ART, the three districts achieve local elimination between the years 2040 and 2082, and by 2035–2063 under the current ART programme (eligibility criteria: CD4 ≤ 250 cells/μL prior to November 2011, CD4 ≤ 350 cells/μL thereafter). By January 2013, the current ART programme has potentially averted 7.8–11.0% of HIV infections, and saved 32–44 life-years per 100-person years on ART, in addition to gains achieved by local TIs. By 2023, the additional fraction of HIV infections averted by ART(compared to sustained TIs without ART) under scenarios A, B, and C are 21–42%, 33–57%, and 43–69%, respectively, and the incremental gains in life-years per 100-person years on ART are 120–140, 68–111, and 40–91, respectively.

Conclusions In declining HIV epidemics with sustained TIs, current ART programmes and proposed ART expansion could provide additional epidemiological impact. The medium-term incremental gains become smaller as eligibility expands but access and retention in care remain constant.

O13.4 AN ETHNOGRAPHIC MAPPING STUDY OF "MONEY BOYS" AND THE MALE SEX TRADE INDUSTRY IN CHENGDU, SOUTH WEST CHINA

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