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 6 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.

O13.3
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 2055–2065 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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Background
In China, the male sex trade industry is largely comprised of ‘money boys’ (MBs), who perform nongender-specific sexual acts in return for payment. Given the high prevalence of HIV among MBs and their clients, this study, conducted in Chengdu, South China aims to provide an in-depth understanding of the contexts and mechanisms that drive HIV transmission in this population.

Methodology
A qualitative study was conducted in Chengdu, South West China, involving 54 narratives. Data were analyzed thematically to examine (1) the contexts and mechanisms that drive HIV transmission in the male sex trade industry; (2) key interventions to prevent HIV transmission within the male sex trade industry; and (3) the role of the media in shaping public attitudes towards this population and discussions focused on HIV prevention and care.

Results
The study found that the male sex trade industry in Chengdu is largely comprised of MBs aged 18–35 years, who engage in nongender-specific sexual acts in return for payment. There are several key interventions to prevent HIV transmission within the male sex trade industry, including condom use, HIV testing, and peer education. The media plays a significant role in shaping public attitudes towards this population, and discussions focused on HIV prevention and care.

Conclusions
The study highlights the importance of targeted HIV prevention and care interventions for MBs and their clients, as well as the need for increased public health education and awareness campaigns to reduce stigma and discrimination towards this population.
Background HIV prevalence studies have found that male sex workers (MSWs) in China have high HIV prevalence, ranging from 5% to 9%. These “money boys” have been identified as a particularly vulnerable population, and it is imperative to develop effective programmes for HIV prevention in this population.

Objectives The study had 4 objectives: (1) to describe the operation of the male sex work industry; (2) to identify the environmental and structural factors that shape the risk practices of MSWs; (3) to map solicitation venues and estimate the size of the MSW population to guide programme design and focus.

Method Ethnographic and geo-mapping techniques were combined to locate, enumerate and contextualise different aspects of the male sex trade industry. MSWs, network operators and brothel owners provided size estimates of MSWs for specific hotspots. Participant observation and key informant interviews were employed to understand the risk practices described by participants.

Results According to the ethnographic findings, MSWs are often recruited from rural villages via labour markets and from the urban gay community; they had high client volumes and were mobile within the city and between cities throughout China. Thirty MSW venues were mapped and 23 venues were validated. Systematic review and validation of gay websites revealed 46 brothels. Local prevention programmes reached only 16 venues. Five public toilets, 4 bathhouses and 7 parks, where MSWs frequented, were also mapped. The majority of venues were located within the commercial core, with easy access to public transportation. The MSW population was estimated between 375 and 1200. Some MSWs (n = 97) advertised on gay websites and through cell phone applications.

Conclusion Despite criminalization, there is a thriving male sex trade in Chengdu. Local efforts to reach these communities need to be scaled up to address programme coverage gaps.

013.5 THE HIV MODES OF TRANSMISSION MODEL: A SYSTEMATIC REVIEW OF ITS FINDINGS AND ADHERENCE TO GUIDELINES


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Background The HIV Modes of Transmission model (MOT) estimates the annual percentage distribution of new HIV infections (PNI) by key risk groups. It was designed to guide country-specific HIV prevention policies. To determine if the MOT produced context-specific recommendations, we analysed the MOT results by regions and epidemic types and explored the factors (e.g. data inputs, adherence to guidelines) influencing the differences.

Methods We systematically searched MEDLINE, EMBASE, UNAIDS reports, and contacted UNAIDS country directors for published MOT results from 2005 (1st published MOT).

Results We included 4 journal articles and 20 UNAIDS reports covering 29 countries. The largest PNI was among the low-risk group (one heterosexual partner) in 15 countries [range 26–68%], and increased with low-risk population size. The estimated PNI among female sex workers (FSWs) was universally low [median 1.8%, range 0.04–14.4%], and showed little variability by region and epidemic type despite variation in sexual behaviour e.g. number of partners. In India and Thailand, where FSWs play an important role in transmission, the PNI among FSWs was 2% and 4% respectively. In contrast, the PNI among men who have sex with men (MSM) varied across regions [MSM, range 0.1–89%] and increased with MSM population sizes. The PNI among people who inject drugs (PWID) [range 0–82%] was largest in ‘early-phase’ epidemics with low overall HIV prevalence. Most MOT studies are being conducted and reported as per guidelines. However, many countries (n = 29) reported data limitations - especially on high-risk groups - when parameterising the MOT.

Conclusion Although countries are generally performing the MOT as per guidelines, results showed little variation in MOT outputs (except MSM and PWID) by regions and epidemic types. Homogeneity in MOT outputs for FSWs, clients and low-risk population may limit the utility of MOT for guiding country-specific interventions in heterosexual HIV epidemics.

013.6 FOCUSING THE DELIVERY OF THE ENGLISH NATIONAL CHLAMYDIA SCREENING PROGRAMME: EXPLORING OPPORTUNITIES TO EXPAND TESTING WITHIN LOCAL SERVICES


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Background The National Chlamydia Screening Programme (NCSP) seeks to increase rates of chlamydia diagnosis amongst young people aged 15–24 across the 326 English Local Authorities (LA). 68% of screens and 79% of diagnoses are made in the community sexual health, general practise, pharmacy, termination of pregnancy (TOP) and genitourinary medicine (GUM) services that take part in the NCSP. These ‘Core Services’ are central to the delivery of the programme but not all clinics screen for chlamydia. This study was undertaken as part of a project to inform optimum services configuration to increase diagnostic rates to improve chlamydia detection and infection control.

Methods Diagnoses of genital chlamydia recorded in data from sexually transmitted disease clinics and NCSP surveillance datasets for 2011 were aggregated to LA level. Overall diagnostic rates (outcome) were calculated using Office of National Statistics (ONS) population estimates for the 15–24 year age group. This information was analysed together with the total testing at each Core Service and ONS area classification. Data were analysed using multivariable negative binomial poison regression and spatial mapping techniques.

Results Overall chlamydia diagnostic rates were associated with increased rates of testing in community health services (RR = 1.02; p < 0.0001), general practise (RR = 1.01; p = 0.0176) and GUM (RR = 1.03; p < 0.0001) but not pharmacy or TOP. Diagnostic rates varied by geographic location (p < 0.0001), lower rates being seen in ‘Central London’ (RR = 0.63; 95% CI = 0.50–0.80), ‘London Suburbs’ (RR = 0.77; 95% CI = 0.61–0.96) ‘Southern England’ (RR = 0.63; 95% CI = 0.51–0.78) and ‘Outer London’ (RR = 0.64; 95% CI = 0.50–0.81). Diagnostic rates also increased as the range of service types contributing to testing increased (p = 0.0427).

Conclusions The analysis highlights the importance of community based testing and the provision of a range of services to achieving high rates of chlamydia detection. The study is being extended to investigate patient flow and service attendances within and between LAs in relation to gender, age group, ethnicity and service type.

0.14 - Clinical syndromes

014.1 BACTERIAL VAGINOSIS-ASSOCIATED BACTERIA (BVAB) AND NON-GONOCOCAL URETHRITIS (NGU)


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Background Traditional cultivation approaches have not identified additional pathogens responsible for the 45% of non-gonococcal