

#### S5.4 IDENTIFYING KNOWLEDGE GAPS IN THE EVIDENCE BASE FOR REPEAT SCREENING OF WOMEN WITH CHLAMYDIA AND GONORRHOEA: CHALLENGES TO PUBLIC HEALTH ACTION

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There is strong evidence that repeat chlamydia and gonorrhoea infections among women are associated with adverse reproductive health outcomes.

However, effective interventions to reduce re-infection are not well-articulated or well-coordinated in STD control programs. Gaps in knowledge about the immunology of chlamydial and gonococcal infections coupled with a poor understanding of adolescent and young adult sexual networks limit progress towards developing effective interventions.

This presentation will review the current epidemiology of repeat chlamydia and gonorrhoea among women and highlight the operational challenges to implementing programmatic responses to reducing the burden and impact of repeat infection, including increasing rescreening rates, use of partner delivered therapy, and other approaches to interrupt ongoing transmission in high prevalence sexual networks.

### Symposium 6: Updates and perspectives on STI and HIV issues among MSM

#### S6.1 EVOLUTION OF THE EPIDEMIOLOGY AMONG MEN WHO HAVE SEX WITH MEN (MSM) IN LOW AND MODERATE INCOME COUNTRIES

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HIV epidemic encompasses diverse scenarios among MSM around the world. Even when, prevalence and incidence data are lacking in more than 90 countries, available information shows that unprotected anal intercourse is the prominent exposure mode for HIV infection among MSM in Latin America, whereas intravenous drug use drives the epidemic in Asia. In the recent years, a previously neglected HIV epidemic has been recognised in settings where was initially thought was mainly heterosexual like in many countries in Africa. Although individual level risk factors for HIV acquisition have been clearly identified, structural level risk depends on stigma and discrimination. Promising biomedical intervention for HIV prevention depends on link to care which at the time are related to fear, denial or blackmail.

#### S6.2 DANGEROUS LIAISONS: RISK IN MSM IN DEVELOPED COUNTRIES

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Although there has been a reduction in incident HIV infection in some MSM communities in developed countries, in others new diagnoses and incident infections are increasing. Helping those who are HIV negative to remain negative remains a pressing concern. The number of men who are HIV positive is increasing because of successful ART, but the sexual health needs of positive MSM are rarely addressed. This presentation focuses on behavioural research

in the era of ART, with particular reference to continuing transmission of HIV, current risk behaviour for HIV infection, and the challenging situation with regard to established and emerging STIs in MSM.

#### S6.3 BEHAVIOURAL INTERVENTIONS AMONG MEN WHO HAVE SEX WITH MEN (MSM): WHERE DO WE GO FROM HERE?

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Over the last two and a half decades, researchers and public health agencies have invested substantial resources in developing and implementing counselling and behavioural interventions to decrease HIV transmission among men who have sex with men (MSM) in higher-income nations. Meanwhile, MSM have substantially altered their sexual risk behaviour, adapting to the HIV epidemic, as well as the technological revolution fuelled by the Internet. This presentation will review the evidence supporting the efficacy of behavioural interventions in MSM, discuss the challenges posed in bringing those interventions to scale, and suggest future research and prevention directions designed to move behavioural interventions from an efficacy to an effectiveness focus.

#### S6.4 ANTIRETROVIRAL CHEMOPROPHYLAXIS: NEW OPPORTUNITIES AND NEW CHALLENGES

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With the success of the CAPRISA 004 study of 1% tenofovir vaginal gel in South African women, and the iPrEx study of the use of oral co-formulated tenofovir-emtricitabine in an international cohort of MSM, it is clear that chemoprophylaxis may be able to enhance current HIV prevention efforts. However, multiple questions remain, including which mode of drug delivery is likely to be most effective for each population, and which drugs are the preferred ones to use. Other major questions include the feasibility of using a rectal formulation to prevent HIV transmission, and what is the most parsimonious way to dose these medications, in order to save costs and to minimise toxicities. This presentation will review the data from recently completed trials, will summarise the status of other studies underway, will discuss the gaps in our knowledge, and will discuss the responses of medical care providers and high risk populations to the news of PreP efficacy. Clearly, the field is in its infancy, but offers promises for epidemic control.

### Symposium 7: In the quest for HIV prevention Scale up: Avahan's India experience. Program approaches and emerging evaluation results

#### S7.1 ACHIEVING HIGH COVERAGE OF HIV PREVENTION SERVICES FOR MARPS: AVAHAN'S EXPERIENCE IN SIX STATES IN INDIA

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S Kumta. *Bill & Melinda Gates Foundation*

In 2003, the Bill and Melinda Gates foundation initiated "Avahan" a large scale HIV prevention program in India. The goal was to halt the HIV epidemic in India by rapidly building a scaled HIV

prevention program for core and bridge population groups across 4 Southern and 2 Northeastern states in India representing approximately 80% of India's HIV burden in 2002. Avahan offered a standardised package of known and proven prevention interventions to high-risk groups and bridge populations in the geographic areas most affected by the epidemic. The program reached 220 000 female sex workers; 80 000 High risk MSM; 18 000 Injecting drug users and 5 million men at risk. By December 2008, Avahan had achieved significant scale and coverage with over 75% of total denominator including FSW and high risk MSM contacted monthly through outreach. The presentation will include the challenges at the start of the program, Avahan approaches to rapid scale up while leveraging data to ensure focus on highest at risk through provision of a standardised package of services (known as the Common Minimum Program).

## S7.2 MEASUREMENT AND COMMUNITY MOBILISATION DO NOT HAVE TO BE MUTUALLY EXCLUSIVE: PRELIMINARY ANALYSIS FROM A SCALED PROGRAMME

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T Wheeler. Bill & Melinda Gates Foundation

Community mobilisation approaches within the HIV/AIDS landscape have rarely operated at a significant scale, or been designed with the conceptual and technical clarity necessary to be measured effectively. Measurement of community mobilisation by necessity has been undertaken through innovative qualitative approaches but these have often lacked the rigour or complementary qualitative methods to provide adequate analysis on the association with outcomes or the path to generating HIV/AIDS outcomes. Avahan may provide new insights into community mobilisation and structural interventions as an effective and replicable approach within comprehensive HIV prevention programming. The experience of retrofitting measurement into a "living" programme and developing measurement indicators and tools to work at scale provide practical examples of what can be done. The Avahan logic model, proposed measurement approach and some preliminary analysis of risk reduction and sustainability outcomes as a result of community mobilisation and structural interventions will be presented.

## S7.3 IMPACT OF THE AVAHAN INTERVENTION ON HIV/STI TRANSMISSION AMONGST HIGH AND LOW-RISK GROUPS: AN INTERIM MODELLING ASSESSMENT

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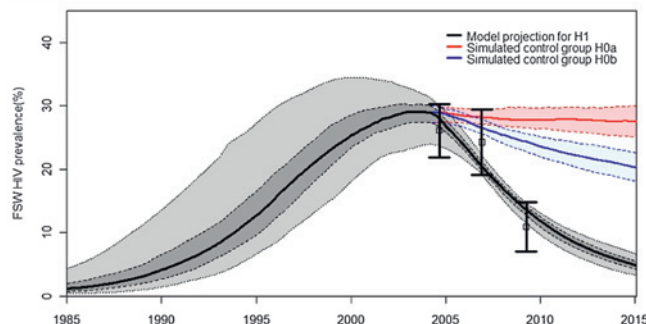
<sup>1</sup>P Vickerman, <sup>1,2</sup>M Pickles, <sup>1,3</sup>C M Lowndes, <sup>4,5</sup>B M Ramesh, <sup>4,6</sup>R Washington, <sup>5</sup>S Moses, <sup>7</sup>K Deering, <sup>5</sup>S Reza-Paul, <sup>1</sup>A Vassall, <sup>8,9</sup>J Bradley, <sup>5</sup>J Blanchard, <sup>9</sup>M Alary, <sup>2,9</sup>M C Boily. <sup>1</sup>London School of Hygiene & Tropical Medicine, UK; <sup>2</sup>Imperial College, London, UK; <sup>3</sup>Health Protection Agency, London, UK; <sup>4</sup>Karnataka Health Promotion Trust, Bangalore, India; <sup>5</sup>University of Manitoba, Winnipeg, Canada; <sup>6</sup>St. John's Medical College and Hospital, Bangalore, India; <sup>7</sup>University of British Columbia, Vancouver, Canada; <sup>8</sup>CHARME-India Project, Bangalore, India; <sup>9</sup>URESP, Centre de recherche FRSQ du CHA universitaire de Québec, Québec, Canada

**Objective** To estimate the potential HIV-impact of Avahan, the India AIDS Initiative, among targeted high-risk groups (including female sex workers (FSWs), their clients and men who have sex with men (MSM)) and the general population in different districts of Karnataka, Andhra Pradesh, Tamil Nadu and Maharashtra.

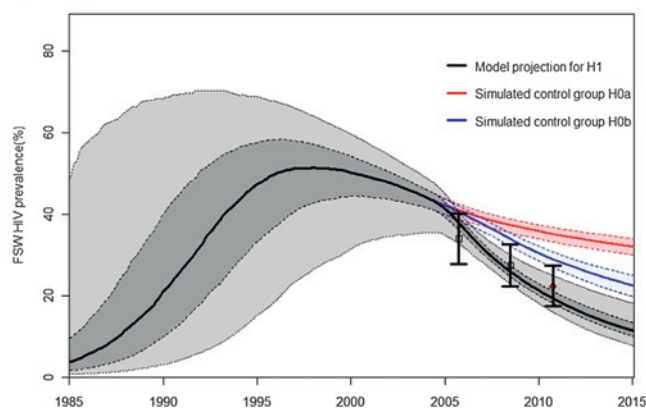
**Design** Impact evaluation involving mathematical modelling using detailed serial cross-sectional surveys on sexual behaviour and STI/HIV prevalence (IBBA) among targeted high-risk groups and the general population.

**Methods** A bespoke detailed deterministic model, parameterised with district specific IBBA data, was used to simulate HIV/HSV-2/syphilis transmission in high-risk groups and the general population in different districts. Latin hypercube sampling within a Bayesian framework was used to identify multiple parameter sets that reproduced multiple rounds of HIV prevalence data among FSWs, MSM and clients in all districts and the general population for some districts. The framework was used to test which of two hypotheses (H1 and H2) for time trends in consistent condom use (CCU)

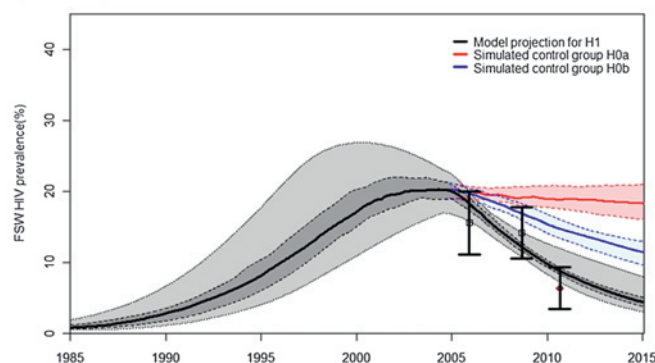
### A) Mysore



### B) Belgaum



### C) Bellary



**Abstract S7.3 Figure 1** Predicted FSW HIV prevalence over time for the most likely hypothesis (H1) and the two null hypotheses H0a and H0b used to simulate control groups (constant or slowly increasing condom use since start of Avahan) in A) Mysore, B) Belgaum, and C) Bellary districts. Shown on the graphs are the mean (dark lines black, blue and red) and the 75% credibility intervals (shaded area) for each hypothesis. The paler grey area represents the 95% credibility intervals. Also shown is the available IBBA survey prevalence data (mean and 95% CI).