

S3.3 USE OF TRANSMISSION DYNAMICS MODELS TO DESIGN AND EVALUATE THE IMPACT OF LARGE SCALE HIV/STI PREVENTION INTERVENTION: HOW, WHY AND WHEN?

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When HIV or STI prevention programmes (eg, large core group intervention, human papillomavirus vaccination programme) are being scaled up to entire populations, it often becomes difficult to conduct randomised experiments to evaluate their impact. In this talk, I will discuss some of the challenges often present when evaluating large scale interventions and how and why transmission dynamics models, in combination with surveillance data, should be used to address some of these issues and to help estimate the intervention impact more objectively. Mathematical models should also be used at an early stage, not only to choose the most optimal prevention package, but to optimally design and validate evaluation studies in a cost-effective manner.

S3.4 MULTI-LEVEL STRATEGIES TO EVALUATE THE IMPACT OF HIV PREVENTION PROGRAMMES IN ZIMBABWE

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Zimbabwe has experienced one of the largest and most rapid declines in HIV prevalence in sub-Saharan Africa. This presentation will describe the range of evidence that has been assembled and examined to distinguish the contribution of HIV prevention programmes to this decline from the effects of the natural dynamics of the epidemic, spontaneous responses to high AIDS mortality, and changes in socio-economic context. Some of the practical challenges, advantages and limitations of the different methods of evaluation used—observational studies, mathematical modelling, randomised trials—will be discussed.

S3.5 SCALING UP NOVEL BIOMEDICAL HIV PREVENTION STRATEGIES: EVIDENCE FOR ACTION

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Randomised controlled trial results can provide the scientific rationale for implementing new biomedical HIV prevention strategies but are not sufficient. Generalisability of trial findings, good participatory trial conduct, acceptability studies, demand creation, costing and impact studies, human resource constraints, supply chain management, risk compensation, gender implications, opportunity costs, regulatory issues, and sociopolitical considerations also influence policy makers and programme planners considering adoption and implementation. Knowledge translation examples drawn from male circumcision, tenofovir gel microbicide, and oral pre-exposure prophylaxis will be presented to illustrate the evidence to be considered in scale-up.

Symposium 4: Speeding up elimination of congenital syphilis with rapid syphilis testing: progress and challenges (sponsored by WHO)

S4.1 CHALLENGES IN GLOBAL ESTIMATES OF SYPHILIS IN PREGNANCY

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Background Estimates of the current number of pregnant women infected with syphilis (maternal syphilis) are necessary for the global Elimination of Congenital Syphilis initiative such that advocacy, program implementation, and monitoring are based on a clear understanding of the current situation. In addition to understanding morbidity in pregnant women, an accurate estimate of maternal syphilis is also the cornerstone of calculations of the burden of adverse outcomes associated with syphilis in pregnancy.

Methods A MEDLINE search from January 2003 to September 2010 was conducted to identify studies of syphilis prevalence in women attending antenatal care with the following inclusion criteria: sample size of at least 100, use of both reagenic and non-reagenic tests, English language, and no apparent selection bias. Methods are similar to those used by Schmid *et al* in 2007 to estimate maternal syphilis, except that current estimates include Europe and North America, and will be compared with syphilis seropositivity data reported by countries through the WHO HIV Universal Access reporting system for 2008 through 2010 (reported data may or may not use both reagenic and non-reagenic tests). Global and regional estimates will be based on country data where available, and where not available, a regional pregnancy-weighted mean based on live births (per United Nations Population Division) and known country seropositivity will be used. Country and regional estimates will be validated by WHO regional advisors to assess if estimates are reasonable.

Results Studies on approximately 35 of 193 countries (18%) met the inclusion criteria for the MEDLINE search, and 96 countries (50%) reported seropositivity in either 2008 or 2009; additional reported data for 2010 will be available in May 2011, at which time estimates will be completed.

Conclusions Data on maternal syphilis are available in recent published literature for only a small proportion of countries. Therefore, global and regional estimates of maternal syphilis must rely on alternative data sources such as the WHO HIV Universal Access reporting system. Increased efforts are required globally to highlight the importance of having sufficient high-quality data to guide implementation of congenital syphilis elimination efforts.

S4.2 INTRODUCTION OF RAPID SYPHILIS TESTING STRENGTHENS HEALTH SYSTEMS AND HEALTH WORKER CAPACITY TO PROVIDE INTEGRATED PMTCT SERVICES

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Background In partnership with Ministries of Health of Uganda and Zambia, we piloted the introduction of rapid syphilis testing (SD Bioline) in large scale PMTCT programs. Both countries provide PMTCT services within integrated maternal newborn child health programs. Point of care (PoC) testing for HIV, malaria and haemoglobin are routine. While Uganda did not have routine access to syphilis testing prior to the study, Zambia was using RPR as part of the standard package of antenatal care (ANC) services although access was inconsistent and not available in remote clinics.

Methods A mixed method study using both qualitative and quantitative indicators was used to assess acceptability, feasibility and affordability of the rapid syphilis testing. Ongoing engagement of Ministries of Health and clinic staff was used to assess health system ability to integrate rapid syphilis testing within PMTCT programs.

Results The use of rapid syphilis testing in ANC was acceptable, feasible and cost effective see Abstract S4.2 table1 with statistically significant increases in same day testing and treatment and high