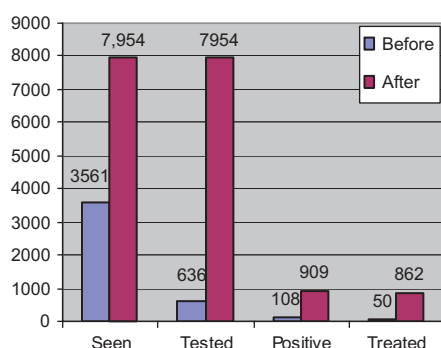


pregnant women with high titre syphilis. Although syphilis screening and treatment is a national policy and is one of the most cost effective interventions, its implementation on a large scale is limited. Lack of a simple and rapid point of care diagnostic test for syphilis has been suggested as one of the major reasons for this limitation. We implemented a demonstration project in Geita district, Tanzania to assess the feasibility of introducing a rapid diagnostic test in antenatal care services. The objectives of the project were to determine (1) the feasibility of increasing access to antenatal syphilis screening using same day testing and treatment strategy, and (2) the acceptability of introducing rapid syphilis testing to service providers and clients.

**Methods** A health facility based baseline survey was carried out using a structured questionnaire to determine syphilis uptake before rapid test introduction. A team of four district trainers and supervisors were trained on how to perform the test, on quality assurance and stock management. Health workers were also trained on how to perform the test, quality assurance and stock management. Then rapid tests were introduced in all health facilities and qualitative data were collected to assess acceptability of the test. The uptake of syphilis testing and treatment among pregnant women in 3 months before and after rapid test introduction were compared using  $\chi^2$  test.

**Results** Numbers of pregnant women tested in the 3 months after rapid test introduction were significantly higher than those tested before its introduction in the same period ( $p < 0.01$ ). Similarly a significantly higher number of syphilis positive women were treated compared to those treated before test introduction ( $p < 0.01$ ) see Abstract S2.1 figure 1. The same day testing and treatment strategy enabled 95% of women testing positive to be treated at their first visit. The rapid test was acceptable to both service providers and clients.

**Conclusions** Introduction of rapid syphilis tests has made it possible to implement national policy for screening pregnant women in Tanzania. Increasing access to screening and treatment will prevent many perinatal deaths.



Abstract S2.1 Figure 1 Number of pregnant women tested and treated at clinics before and after Rapid Test introduction in 3 months.

Abstract S2.2 Table 1 Syphilis and HIV screening progress

DSEI	# Screened / sexually active population (%)	Syphilis prevalence in sexually active population	HIV prevalence in sexually active population	Syphilis prevalence in pregnant women	HIV prevalence in pregnant women
Manaus	5.957/10.980 (54.2%)	1.51%	0.08%	3/327 (0.93%)	0/323 (0.0%)
Yanomani	1.757/4.317 (40.7%)	0.06%	0.17%	1/284 (0.35%)	2/284 (0.70%)
Leste roraima	2.666/4.038 (66.0%)	0.41%	0.08%	2/567 (0.40%)	0/472 (0.0%)
Alto solimões	19.147/25.322 (75.6%)	1.90%	0.13%	30/1.412 (2.27%)	0/1.272 (0.0%)
Parintins	2.324/4.904 (47.4%)	0.34%	0.04%	1/254 (0.39%)	0/253 (0.0%)
Alto rio Negro	4.892/19.872 (24.6%)	0.72%	0.08%	4/639 (0.72%)	0/561 (0.0%)
Médio solimões	580/9.092 (6.4%)	2.59%	0.0%	0/77 (0.0%)	0/76 (0.0%)
Médio purus	330/2.950 (11.2%)	0%	0.0%	0/20 (0.0%)	0/20 (0.0%)
Vale do javari	1.147/2.563 (44.7%)	6.10%	0.17%	3/70 (4.29%)	1/70 (1.43%)
Total	38.799/83.311 (46.6%)	594/38.799 (1.53%)	41/38.799 (0.11%)	44/3.650 (1.29%)	3/3.650 (0.09%)

## S2.2 INCREASING ACCESS TO HIV AND SYPHILIS SCREENING IN REMOTE AREAS USING RAPID TESTS

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**Background** Syphilis continues to be a public health problem in Brazil, particularly among populations with limited access to health services. Indigenous populations, who live in remote locations in the interior of the Amazon forest, are of even greater concern. Traditional laboratory tests for the diagnosis of syphilis are scarce in these regions. The objective of this presentation is to describe the implementation of rapid tests (RT) in the Amazon region.

**Methods** We trained health professionals of 9 Special Indigenous Health Districts (DSEI) to screen the sexually active population (over 10 years of age) for syphilis and HIV using RT with Quality Assurance (QA).

**Results** In total, 509 health professionals were trained and 160 units participated in the screening efforts. From a sexually active population of 83 311 indigenous people 38 799 (47%) were tested, of whom 594 (1.5%) tested positive for syphilis. 44/3650 pregnant women (1.3%) tested positive for syphilis, and 3 for HIV (0.1%). There is extensive variation between the rate of syphilis and HIV positivity between DSEIs (Abstract S2.2 table 1). The external QA performance was important in assuring correct results as initial scores were 77.1% for the HIV test and 61.5% for the syphilis test.

**Conclusions** This project has demonstrated to policy makers in Brazil the existence of syphilis and HIV among indigenous people and the feasibility of addressing it. As a result of this work, it is now government policy to use RT to screen for HIV and syphilis with QA in remote regions of Brazil. This project provided a model for the introduction of point of care tests supported by a QA programme in remote regions.

## S2.3 SCREENING HIGH-RISK POPULATIONS USING RAPID SYPHILIS TESTS: THE IMPORTANCE OF SOCIAL AND CULTURAL CONTEXTS

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**Background** Syphilis has made a dramatic resurgence in China during the past 2 decades with an increasing prevalence in high-risk groups. Screening of syphilis in the populations is critical for control of the disease.

**Methods** A rapid syphilis test (RST) was introduced into STD services among patients attending STD clinics and existing outreach services to female sex workers (FSW) in Liuzhou and Jiangmen, China to test the feasibility of same-day test and treatment (STAT) and same-day test and referral (STAR) strategies. The STAT and STAR rates were evaluated regarding the different STD providers and outreach teams, respectively.

**Results** Of 7283 patients from 3 STD clinics in Liuzhou—one public health clinic, one private reproductive health clinic and one general hospital clinic who were screened with a non-treponemal test, TRUST, and RST for syphilis, 291 (4.0%) had active syphilis, but only 69.8% of infected cases accepted the STAT. The acceptance rate was different between clinics, with 54.2% in public health clinic, 71.8% in reproductive health clinic and 100.0% in general hospital clinic. During the outreach services provided by the CDC intervention team (CIT), STD clinic team (SCT) and reproductive health clinic team (RCT), 75% of FSWs accepted to be tested with RST in sex work venues. Of 2780 FSWs screened with RST, 199 (7.2%) were positive and were referred to designated clinics for further testing and treatment. However, success in referring RST positive FSWs to designated clinics were significantly different between outreach teams. RCT had the highest referral rate (85.7%) followed by SCT (70.6%) and CIT (26.7%). Focus groups discussions among providers and high-risk populations regarding the introduction of RST indicated that social and cultural contexts were related to the successful introduction of RST among these populations. Trust of the target population in the clinics and outreach team was related to the acceptability of STAT and STAR. Belief in the results of a free RST test, confidentiality of syphilis status, social stigma, medical cost at the designated clinics for further test and treatment, and time spent for clinic visit were the main concerns of FSWs, especially in the referral advice.

**Conclusions** Feasibility in introduction of STAT and STAR among high-risk groups is encouraging but the barriers still exist. Social and cultural contexts are important and should be considered when RST is introduced as one of strategies for prevention and control of syphilis in China.

## S2.4 NEW TECHNOLOGIES TO SUPPORT STI SCREENING AND SYNDROMIC MANAGEMENT IN RESOURCE-LIMITED SETTINGS

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**Background** High quality tests for detection of STIs are available but they are neither affordable nor available to patients in resource-limited settings. For patients presenting with STI symptoms, WHO recommends the use of syndromic management in settings where laboratory services are not available. As most STI patients tend to have few or no symptoms, tests to screen for STIs is important for guiding treatment and prevention of onward transmission. However, in resource-limited settings, patients often have to travel long distances to reach a clinic with STI services, and many fail to return for test results and treatment after the initial visit.

**Methods** In recent years, increased investment in the development of novel diagnostic technologies has resulted in advances that have made it possible to provide STI-testing at all healthcare settings. The development of multiplex tests to support screening and STI syndromic management in resource-limited settings is an urgent priority.

**Results** Exciting new technologies may soon transform how STIs can be diagnosed in resource-poor settings in the next few years. Among them are duplex antigen/antibody tests that can be

used for STI syndromes and rapid lateral flow tests that can be used with oral fluid instead of blood for syphilis and HIV. Nucleic acid amplified tests that are designed as integrated platforms providing sample- in- answer-out convenience and random access will soon be available for the detection of genital chlamydial and gonococcal infections. Simple isothermal nucleic acid amplification technologies are available for detection of bacterial and viral STIs in 15–60 min, using simple equipment that can be run on solar energy or batteries. A mathematical model developed by Aledort *et al* (2006) estimated that a test for syphilis that requires no laboratory infrastructure could save more than 201 000 adjusted lives and avert 215 000 stillbirths. A similar test could save approximately 4 million DALYs, avert more than 16.5 million incident gonorrhoea and chlamydial infections and prevent more than 212 000 HIV infections.

**Conclusions** Recent investments in the development of point-of-care diagnostics for infectious diseases have produced novel technologies that can support STI screening and syndromic management in resource-limited settings. Quality assurance and implementation research are needed to ensure optimal uptake and full impact of these novel technologies in resource-limited settings.

## Symposium 3: Evaluation of large-scale and complex public health interventions

### S3.1 CHALLENGES AND KEY ISSUES IN EVALUATION OF PUBLIC HEALTH INTERVENTIONS

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Interest in evaluating the impact of large-scale public health interventions has been increasing globally over the past few years to inform effective use of public resources. Consequently some high-profile evaluations of complex public health interventions to improve population health in low- and middle-income countries have been reported recently. This increased, and desirable, focus on evaluations has helped bring attention to some major challenges that are encountered when attempting to assess the impact of large-scale public health interventions. These include the process of planning or commissioning of the evaluation, the design and analytical approaches that are both robust and feasible, and the interpretation and dissemination of findings. Examples will be used to illustrate these challenges. The key issues that need to be dealt with for improving evaluations of large-scale and complex public health interventions in low- and middle-income countries and better utilisation of the findings will be discussed.

### S3.2 THE ROLE OF COMMUNITY BASED RANDOMISED TRIALS IN THE EVALUATION OF PUBLIC HEALTH INTERVENTIONS

doi:10.1136/sextrans-2011-050102.10

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In this talk I discuss methodological issues that arise in trials in which intact communities are allocated to each of several intervention groups. The issues discussed include the choice between a randomised and non-randomised design, the need to avoid selection bias when community members are sub-sampled, and the challenges involved in maintaining study power. Ethical issues unique to community intervention trials are also discussed.