Conclusions Socioeconomic factors were associated with female CT and GC rates at the census tract level in San Francisco. Further exploration as to the potential etiologic role of community-level factors, as well as innovative means to modify the environment to improve sexual health, are warranted.

Social and behavioural aspects of prevention oral session 4 - STI and HIV Risk Reduction Strategies: Considerations of cost, cost-effectiveness and potential impact

O2-S4.01 EFFICIENCY VS EQUITY IN SCREENING: CONSIDERATIONS IN THE SCALE-UP OF RAPID SYPHILIS TESTING IN RURAL TANZANIA

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Background The burden of congenital syphilis remains high in many low-income countries, despite the availability of preventive therapy. Rapid syphilis tests (RSTs) could improve access to and cost-effectiveness of syphilis screening programs in low resource settings. The objective of this study was to inform programs how best to use RSTs based on relative efficiency, cost-effectiveness and access considerations.

Methods Incremental costs for RST screening in existing antenatal care settings in Tanzania were collected from nine health facilities varying in size, remoteness, and scope of services provided. The number of DALYs averted was modelled from project outputs. Economic costs per: woman tested, treated, and DALY were calculated for each facility. A sensitivity analysis was constructed to determine the impact of parameter and model uncertainty.

Results In surveyed facilities a total 6362 women were tested with RSTs over a costing period of 9 months, as compared with just 224 tested with RPR over a similar time period the previous year. Total economic costs for RST screening ranged from $1758 to $6375. Unit costs ranged from $1.90 to $6.06 per woman screened, $17.76–$63.19 per woman treated, and $1.20–$4.26 per DALY. Larger facilities had lower unit costs, suggesting that economies of scale exist in screening services. Results were sensitive to assumptions regarding supply wastage, frequency of supervision, and program duration.

Conclusion RST screening costs fall well below the WHO threshold for 'highly attractive' cost-effectiveness. Although RST costs are slightly higher than those for RPR, the number of women reached by screening services was increased under RSTs. Results suggest that RSTs can overcome critical barriers to antenatal syphilis testing and treatment. Through removal of supply chain barriers, RSTs enable the realisation of economies of scale in screening services. This suggests that larger facilities will benefit from implementation of RSTs. RSTs further allow for screening where a lack of infrastructure prevents consistent RPR testing. Therefore, in the effort to increase equity in access to screening, roll-out is also recommended in facilities not able to provide RPR screening. RSTs are currently being expanded throughout the country in the effort to increase access to syphilis screening in antenatal care. This could facilitate control of congenital syphilis and prevent countless unnecessary fetal and infant deaths.

O2-S4.02 COST-EFFECTIVENESS OF SCREENING FOR *CHLAMYDIA TRACHOMATIS* IN DUTCH PREGNANT WOMEN

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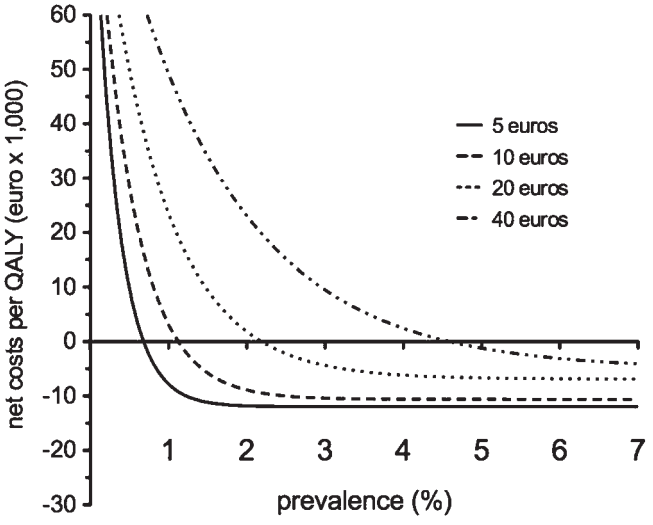
Background *Chlamydia trachomatis* infections may have serious consequences for women, their offspring and pregnancy outcomes, but are largely asymptomatic. Prevention is therefore based on screening. Screening for Chlamydial infections during pregnancy is not part of routine antenatal care in many countries, as in the Netherlands.

Objective Cost-effectiveness analysis of *C trachomatis* screening during pregnancy.

Methods A health-economic decision analysis model was designed, which included not only potential health outcomes of *C trachomatis* infection for women, partners and infants, but included also premature delivery. The cost-effectiveness was estimated from a societal perspective using recent prevalence data from a population-based prospective cohort study among pregnant women in the Netherlands. The prevented costs were calculated by linking health outcomes with health care costs and productivity losses. Cost-effectiveness was expressed as net costs per major outcome prevented and was estimated in a base-case analysis as well as a sensitivity- and scenario analysis.

Results In the base-case analysis (current base-case test cost €12), the costs to detect 1000 pregnant women with *C trachomatis* were estimated at €378 300. Cost savings on complications were estimated at €924 600 resulting in net cost savings. Sensitivity analysis showed that net cost savings remained for a broad range of variation in underlying assumptions such as test costs (up to €32), proportion of complications that can be averted (between 25% and 75%), risk for PID (0.4% to 40%), and any other parameter within plausible ranges (between + to −25%). Cost savings were most sensitive to preterm delivery, but remained when preterm delivery was excluded (making the model comparable to other cost-effectiveness analyses). Scenario analysis showed even more cost savings with targeted screening for women's age (≥20 years, 26–30 years, and <30 years) or pregnancy rate (first pregnancies only). At base-case costs, screening appeared cost-saving in populations with a chlamydial prevalence beyond 1.7%. At the extremes, with test costs as low as €5 cost savings would already occur beyond a prevalence of 0.6% and with test costs as high as €40 cost savings would occur beyond a prevalence of 4.7% see Abstract O2-S4.02 figure 1.



Abstract O2-S4.02 Figure 1 Costs per QALY gained by prevalence when using different test costs for *Chlamydia trachomatis* screening in pregnant women.

Conclusions *C trachomatis* screening of pregnant women in the Netherlands is cost-saving.

O2-S4.03 THE COST-EFFECTIVENESS OF HUMAN PAPILLOMAVIRUS VACCINATION OF FEMALES OVER AGE 12 YEARS IN THE USA

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Background Although the recommended age for Human Papillomavirus (HPV) vaccination of females is 11 to 12 years in the USA, catch-up" vaccination is recommended for females aged 13–26 years who have not been previously vaccinated. The objective of this study was to evaluate the cost-effectiveness of catch-up vaccination strategies for females aged 13–30 years in the USA.
Method We revised and updated a previously-published, spreadsheet-based model of HPV vaccination to estimate the costs and benefits of female HPV vaccination. The health outcomes we included were: cervical intraepithelial neoplasia, genital warts, recurrent respiratory papillomatosis, and HPV associated cancers (cervical, vaginal, vulvar, anal, oropharyngeal, and penile). We examined the cost-effectiveness of catch-up vaccination for three age groups: ages 13–21 years, ages 21–26 years, and ages 27 to 30 years. We examined a 100-year time horizon. Routine vaccination of 12 year olds was assumed to occur in all 100 years, with coverage set at 20%, 30%, or 75%. The annual probability of receiving catch-up vaccination was 5% for ages 13 to 18 years and 1.25% for ages 19 years and older. The duration of the catch-up vaccination program was varied from 1 to 20 years.
Results Catch-up vaccination generally became less cost-effective as routine coverage increased and as the duration of the catch-up program increased. When vaccine coverage and the duration of the catch-up program were varied (and all other parameters were set to their base case values), the incremental cost per QALY gained by extending the duration of catch-up vaccination ranged from $5000 to $40 000 for ages 13 to 21, from $50 000 to $85 000 for ages 21 to 26, and was >$140 000 for ages 27 to 30 years. The relatively favourable cost-effectiveness ratios for vaccination of ages 13 to 21 years and the relatively unfavourable cost-effectiveness ratios for vaccination of ages 27 to 30 years were consistent regardless of routine vaccine coverage and the duration of the catch-up vaccine program.
Conclusion Our preliminary findings support the current recommendations of the Advisory Committee on Immunisation Practices (ACIP) for female vaccination. However, although catch-up vaccination for ages 21 to 26 years might be considered cost-effective now, the cost per QALY gained by catch-up vaccination may increase as time goes by and as vaccine coverage increases.

O2-S4.04 THE COST OF EXPEDITED PARTNER THERAPY COMPARED TO THE COST OF STANDARD PARTNER REFERRAL FOR THE TREATMENT OF CHLAMYDIA OR GONORRHOEA

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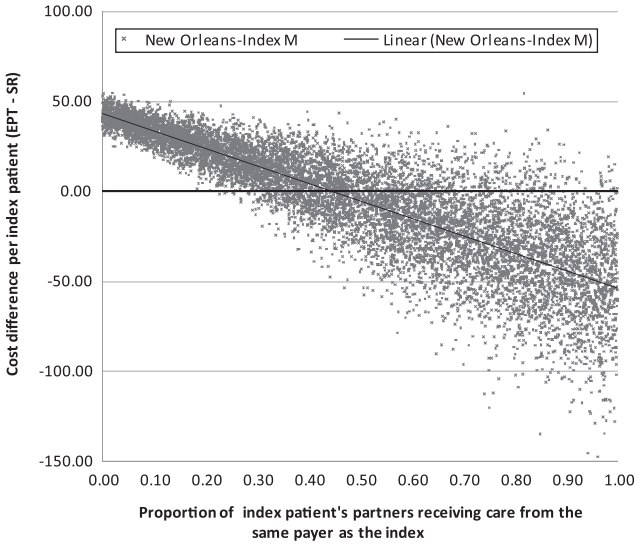
Background Partner treatment is an important component of sexually transmitted disease (STD) control. Several randomised controlled trials (RCTs) have compared expedited partner treatment (EPT) to unassisted standard partner referral (SR). All of these trials found that EPT significantly increased partner treatment over SR, and some found that EPT significantly lowered re-infection rates in index patients.
Methods We collected cost data to assess the payer-specific, health care system, and societal-level cost of EPT and SR. We used data on partner treatment and index patient re-infection rates from two RCTs examining EPT and SR for patients diagnosed with chlamydia or gonorrhoea. Additional elements were estimated or drawn from the literature, such as the likelihood of progression to and QALY impact of sequelae. We used a Monte Carlo simulation (10 000 iterations) to assess the impact on cost and effectiveness of varying several variables simultaneously, and calculated threshold values for selected variables at which EPT and SR costs per patient were equal. Sensitivity analyses assessed the impact of varying settings in which EPT might be employed, such as one in which no patient counselling or data entry costs were incurred when employing either EPT or SR.
Results From a health care system or societal perspective, EPT was less costly and treated more partners than SR. From the perspective of an individual payer, EPT was less costly than SR if ≥ 40%–45% of male index patients' female partners or ≥38% of female index patients' male partners received care from the same payer. The Abstract O2-S4.04 figure 1 shows the Monte Carlo results for New Orleans and depicts the relationship between the cost difference between EPT and SR and the proportion of partners of the index patient who receive care from the same payer as the index. Negative values in the figure indicate EPT is less costly per patient. In sensitivity analyses, EPT was less costly than SR from all payer perspectives when counselling and data entry costs were eliminated; when counselling costs were applied to EPT alone, the payer-perspective cost of EPT was greater than SR for index women, but the additional cost was less than $2600 per QALY gained over SR.
Conclusions EPT has a lower cost from a societal or health care system perspective than SR and treats more partners. Individual payers may find EPT to be more costly than SR, depending on how many of their patients' partners receive care from the same payer.



Abstract O2-S4.04 Figure 1 Payer-perspective cost difference per index patient: Expected partner therapy (EPT)-standard referal (SR).

O2-S4.05 SEROSORTING BEHAVIOURS AND BELIEFS AMONG MSM AT AN URBAN LGBT HEALTH CENTER

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Background Serosorting, preferentially engaging in unprotected anal intercourse (UAI) with partners of the same HIV status, is practiced by some MSM as a risk reduction strategy.