

(126/1248) and at the reference laboratory using TPHA was 7.7%. Active syphilis was found in 1.6% of the samples.

**Conclusion** Midwives can conduct POC testing for syphilis for ANC clients in rural settings in Ghana even in primary level health facilities. The ability of midwives to identify, treat 75% of HTS and provide a high coverage of syphilis screening in a rural setting makes this a suitable strategy for resource-constrained settings.

The low sensitivity compared to TPHA and active syphilis, should be addressed with training, effective supervision and monitoring of health personnel and instituting quality assurance systems for testing.

## 022.2 DIRECT AND INDIRECT EFFECTS OF SCREENING FOR CHLAMYDIA TRACHOMATIS ON THE PREVENTION OF PELVIC INFLAMMATORY DISEASE: MATHEMATICAL MODELING STUDY

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**Background** Pelvic inflammatory disease (PID) results from the ascending spread of microorganisms, including *Chlamydia trachomatis*, to the upper genital tract. The timing of ascending infection is unknown. Screening can prevent PID either by identifying and treating infections before they progress (direct effect) and/or reducing chlamydia transmission (indirect effect). We did this study to examine the contributions of direct and indirect effects of a screening intervention, using different assumptions about the timing of progression from chlamydia infection to PID.

**Methods** We developed a compartmental model of chlamydia transmission in a heterosexual population of 16–25 year olds with two sexual activity classes. The model explicitly incorporates the progression from chlamydia to clinical PID. Behavioural parameters are informed by a British population-based. We studied the effects of chlamydia screening introduced at low levels but with coverage increasing to 40% after ten years. We estimated the numbers of PID cases prevented and the proportions prevented by direct and indirect effects.

**Results** At baseline, the cumulative probability of developing PID by age 25 years was 3.1%. After five years, screening prevented a total of 187 PID cases per 100,000 women. Most PID cases were initially prevented by interruption of progression to PID (direct effect). The indirect effect produced a small net increase in PID cases early on, which was outweighed by the effect of reduced chlamydia transmission after 2.2 years. The later that progression to PID occurs, the greater the contribution of the direct effect.

**Conclusion** The ratio of direct to indirect effects depends on the timing of progression from chlamydia infection to PID. Mathematical modelling has helped to understand the mechanisms of chlamydia screening programmes by showing that there are separate roles for direct and indirect PID prevention and potential harms of screening, which could not have been observed by empirical studies.

## 022.3 TEXTING IMPROVES NOTIFICATION OF SEXUALLY TRANSMITTED INFECTION RESULTS AFTER EMERGENCY DEPARTMENT VISITS

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**Background** Failure to communicate sexually transmitted infection (STI) results to emergency department (ED) patients is a barrier to appropriate STI treatment. We aimed to improve the

proportion of female adolescent ED patients who are notified of positive STI tests (gonorrhoea, Chlamydia, or trichomoniasis) using mobile phone calls and texting.

**Methods** A randomised intervention among 14–21 year-old females using a 2X3 factorial design with replication to improve patient notification, defined as the proportion of STI-positive females notified within 7 days of STI testing. We evaluated six combinations of two factors: (1) method of notification (call, text message, or call + text message) and (2) provision of an STI information card with or without an ED phone number to obtain test results. Covariates for logistic regression included age, empiric STI treatment, days until first contact and documentation of a confidential/mobile phone number.

**Results** Of 386 patients, 51% were 18–21 years, 35% were 16–17 years and 14% were 14–15 years old. Successful notification was significantly greater for call + text message vs. call only (Odds Ratio [OR] 3.1, 95% confidence interval [CI] 1.4 – 6.7). There was no significant interaction between card and method of notification. Texting only or type of STI information card was not significantly associated with patient notification. Documenting a confidential phone number was independently associated with successful notification (OR 3.3, 95% CI: 1.6–6.9). In total, 94% of those with a documented confidential phone number who received call + text message were notified of their positive STI results within 7 days of their ED visit.

**Conclusions** A combination of call + text messaging improved our ability to successfully notify adolescent women of their positive STI results after an ED visit. Documentation of a confidential phone number is also an important strategy to notify adolescent women of their STI results.

## 022.4 WHAT ARE YOUNG PEOPLE'S PERCEPTIONS OF USING ELECTRONIC SELF-TESTS FOR STIS LINKED TO MOBILE TECHNOLOGY FOR DIAGNOSIS AND CARE (ESTI2)?

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**Background** UK rates of sexually transmitted infections (STI) are sustained or rising, particularly among young people aged 16–24, despite decreases in patient waiting times within traditional services. Modern advances in communication and diagnostic technologies offers the potential of electronic self-testing and diagnosis for STIs (eSTI2), linked to Internet/mobile-App based clinical management and support, which could be accessed wherever people find convenient and safe. We aimed to explore opinions on using eSTI2 among a sample of potential users.

**Methods** Twenty-five semi-structured interviews were conducted with a purposive sample of sexually active young people aged 16–24 years enrolled in London further education colleges. Analysis was based on the Framework method.

**Results** Participants were 64% male (n = 16), 36% female (n = 9). Mean age was 19. They described their ethnicity as Black 84% (n = 21), mixed race 12% (n = 3), Asian 4% (n = 1). Including those screened via the National Chlamydia Screening Programme (NCSP), the majority of participants (92%, n = 23) had previously screened for STIs at least once. The young people in our sample were highly conversant in mobile technology but had limited experience of using it to access health-related services. Participants reported struggling between desire to access services out of concern for their sexual health and repercussions from being discovered by family and peers at testing centres. These barriers were seen to be mitigated by using eSTI2. Participants expressed the importance of