# Abstracts

## Oral abstracts

### O1 PROGRESS TOWARDS THE 48 HOUR WAITING TIMES TARGET: A LONG WAY TO GO

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**Background:** Poor access to sexual health services is one factor contributing to increasing STIs. A waiting time target is being used to monitor sexual health services in England.
**Methods:** Periodic cross sectional survey of new patients attending GUM clinics.
**Results:** See table. Further analyses will be presented on trends by appointment time and patient age and sex.
**Discussion:** There has been a general improvement in waiting times over this 18 month period, but this is not sufficient to be on track to meet the 100% target by 2008. Additional resources made available through Choosing Health and other initiatives must be appropriately invested to address this crisis.

### O2 IN THE PRESENCE OF THE NEW PROPOSED FUNDING STRUCTURE CAN GENITOURINARY MEDICINE SERVICES AFFORD TO BE A SYMPTOMATIC SERVICE ONLY?

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**Background:** The Department of Health (DH) have encouraged primary care trusts to develop Local Enhanced Services (LES). Sexual Health Strategy has encouraged asymptomatic patients to be screened outside of a GUM clinic. As of April 2006 a new financial reform (Payment by Results – PbR) will be introduced for all genitourinary medicine (GUM) attendances.
**Aim:** To identify the ratio of asymptomatic to symptomatic new patients needed in order to reach financial balance with PbR.
**Method:** Cost analysis of a new asymptomatic patient and a symptomatic patient was undertaken. Costings were taken from four GUM clinics from one Strategic Health Authority and pro-rata'd. The costings were calculated using the methodology of the Expert Working Group in GUM – Health Resource Group (HRG).
**Results:** See table.
**Conclusion:** PbR relies on historical budgets. GUM services need to negotiate local settlements as PbR rate payments for services may not be appropriate, depending on their current asymptomatic/symptomatic ratio. If LES take on all asymptomatic screening then GUM services will not be financially viable under the current tariff rate. Further work needed to establish LES costings in order to establish cost effectiveness.

### O3 SEXUAL HEALTH PROVISION IN LONDON: WHERE WOULD YOU PLACE ADDITIONAL SERVICES?

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**Background:** The UK ''sexual health crisis'' disproportionably affects London. The capital has 32 KC60 reporting clinics, across five strategic health authorities (SHAs), serving 4.164 million people between 15–49 years of age. This equity of sexual health service provision was assessed.
**Methods:** Population details from the 2004 National Census per borough were matched to primary care trust (PCT) and SHA boundaries. Sexual health screen numbers from 31 clinics (excluding Moorfields Eye Hospital) in 2004 were calculated from the sum of KC60 codes S1+S2. Clinic opening times were determined from the BASHH clinical directory and/or by contacting the clinics. The mean (±SEM) percentage of patients seen within 48 hours by PCT and GU clinics were obtained from the HPA waiting time survey 2005. Patients per clinic hour were calculated for each SHA from the population divided by clinic hours open.
**Results:** See table.

Abstract O1

| Region | % of patients seen within 48 hours (unadjusted for day of week) | | | | Absolute change in % from May 04 to Aug 05 | % of emergency appts seen within 48 hours (Aug 05 only) |
|---|---|---|---|---|---|---|
| | May 04 | Nov 04 | May 05 | Aug 05 | | |
| East of England | 28 | 33 | 33 | 32 | 4% | 54% |
| East Midlands | 42 | 43 | 42 | 44 | 2% | 78% |
| London | 54 | 57 | 58 | 60 | 4% | 91% |
| North East | 21 | 27 | 25 | 29 | 8% | 76% |
| North West | 28 | 30 | 26 | 34 | 8% | 79% |
| South East | 37 | 40 | 43 | 47 | 10% | 91% |
| South West | 42 | 40 | 39 | 41 | −1% | 75% |
| West Midlands | 28 | 28 | 26 | 30 | 2% | 82% |
| Yorks/ Humber | 27 | 33 | 31 | 33 | 6% | 92% |
| England | 38 | 41 | 40 | 43 | 5% | 81% |

Abstract O2

| Costing | Symptomatic | Asymptomatic | Comments |
|---|---|---|---|
| Diagnostics - investigations | 77.00 (47.00–91.00) | 47.00 near patient testing | Full STI screen |
| Workforce | 55.00 | 33.00 | Direct + non-direct patient contact |
| Therapies | 14.00 (0.00–65.00) | 0.0 | |
| Surgical and non | 10.00 (3.50–12.00) | 3.50 | |
| Stationary | 4.00 | 4.00 | |
| Total | 160.00 | 87.50 | |
| Trust overheads | 32.00 | 17.50 | Average 20% |
| Cost per patient | 192.00 | 105.00 | |
| PbR | 64.00 above | 23.00 below | Current rate £128.00 |

Ratio 2.75 asymptomatic:1 symptomatic patient—to remain in financial balance, range 2–3 asymptomatic.

**Conclusion:** Additional services are mostly required in North East and South London.

## O4 CAN PATIENT DELIVERED PARTNER THERAPY HELP US REGAIN CONTROL OF SEXUALLY TRANSMITTED INFECTIONS IN THE UK?

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**Aim:** The UK has inadequate GUM clinic capacity, which, together with limited STI testing in primary care, is failing to meet demand for STI treatment. This results in increased transmission, and a sustained high demand for treatment. As well as substantially increased capacity, more efficient treatment strategies are needed. Patient delivered partner therapy (PDPT)—treating sexual partners of people with curable STIs without requiring those partners' clinical evaluation—can increase the proportion of all gonorrhoea and chlamydial infections treated, at modest cost. However, receiving medication from partners may deter some individuals from seeking clinic care, who would otherwise have done so; then they cannot be tested for other infections, and their partners cannot be traced.
**Methods:** We developed an individual based network simulation model of gonorrhoea and chlamydia, incorporating heterogeneity in sexual partner change rates, partnership durations, concurrency, and treatment seeking behaviour, including response to PDPT. Sexual behaviour data came from the UK, PDPT delivery data from the USA.
**Results:** PDPT can substantially reduce the incidence and prevalence of chlamydia and gonorrhoea (for example, by increasing the proportion of partners treated by 10–20%, PDPT reduces the prevalence of chlamydial infection by one quarter to one half over 2–3 years).
**Discussion:** PDPT can make an important contribution to bringing improved health and cost savings. By increasing the number of infections treated per clinic consultation, PDPT increases the efficiency of STI control—and, by reducing onward transmission, it reduces future costs of treatment. The magnitude of its impact depends on how it is delivered and the response of UK recipients to PDPT.

## O5 NATIONAL REVIEW OF GENITOURINARY MEDICINE SERVICES: EARLY THEMES

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**Background:** A review is being undertaken of all GUM clinics and services in England. The purpose of the review is to undertake a multidisciplinary assessment of each GUM service in England, highlighting practice both facilitating and obstructing their ability to offer a prompt and high quality of service and to offer recommendations for service improvement and modernisation.
**Results:** To date 46 visits have been undertaken and clear themes are emerging around service provision, contracts, modernisation, and allocation of White Paper money. All clinics are struggling to improve their 48 hours access with long waiting times the introduction of restricted booking and few walk in services available. It will be important when delivering the Sexual Health Strategy to have an idea of local demand and capacity but there is no consensus about how this can be measured for GUM.
**Discussion:** PCTs are increasingly focusing on their Sexual Health Strategy but often there is a lack of clarity regarding the role of GUM in the emerging strategy and pathways between providers and services are not clear. Contracting GUM services is often a complete mystery with the GUM element of services lost in historical financial envelopes. These are often block contracts with little understanding of the true costs of the GUM services, with clinical leads often not involved in contract negotiations for the service. Payment by results (PBR) will focus attention in the future on the real cost of providing GUM services however many Trusts have not yet carried out such exercises. White Paper allocations are not always spent on Sexual Health and in many instances are being used to offset PCTs' current overspends.

## O6 THE EPIDEMIOLOGICAL INTERACTION BETWEEN HERPES SIMPLEX VIRUS TYPES 1 AND 2: INSIGHTS FROM MATHEMATICAL MODELLING

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**Background:** Infection with HSV-1 may afford some degree of cross protection against acquisition of genital herpes due to HSV-2. Changes in the prevalence of HSV-2 could therefore be partly explained by the effect of changing behaviours which alter the pattern of HSV-1 infection.
**Aim:** To investigate the role of HSV-1 in the epidemiology of HSV-2.
**Methods:** A mathematical model of the heterosexual transmission of HSV-1 and HSV-2 was developed.
**Results:** We find that cross immunity against HSV-2 as a result of prior HSV-1 infection could have a substantial influence on HSV-2 due to high HSV-1 prevalence and early exposure to oral HSV-1. In our model the odds of HSV-2 are higher in those infected with HSV-1 than in uninfected individuals when there is no cross protection due to there being two routes to the dual infected state, and common sexual risk behaviours associated with acquisition of both viral types. By comparing our model odds under a range of values of cross protection with the odds from seroprevalence surveys we predict that previous HSV-1 infection decreases susceptibility to HSV-2 by 30–40%. Cross protection provided only by genital HSV-1 infections is likely to have a very small impact on HSV-2 because cases of genital HSV-1 are much fewer in number than oral HSV-1, and are less likely to precede HSV-2 exposure.
**Discussion:** Our findings suggest that previous HSV-1 infection provides partial protection against HSV-2. The relative contribution of HSV-1 to the transmission of HSV-2 should be considered in assessing the potential impact of interventions against genital herpes.

## O7 REAL-TIME MULTIPLEX PCR FOR THE DIAGNOSIS OF SYPHILIS AND CHANCROID

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**Introduction:** *Treponema pallidum* and *Haemophilus ducreyi* are causes of genital ulcer disease (GUD) within the United Kingdom. Although an accurate diagnosis of these pathogens is essential for appropriate therapy, antibody testing for *T pallidum* in primary syphilis is insensitive and culture for *H ducreyi* is often not available and lacks sensitivity. It was the aim of this study to evaluate a multiplex real-time PCR (M-PCR) for *T pallidum* and *H ducreyi* that also includes a HSV target for differential diagnosis.
**Methods:** 143 ulcer swab specimens taken at 23 GUM centres throughout the UK were tested using M-PCR.

Abstract O3

| SHA | Clinics | Total hours open | Population 15–49 yrs (thousands) | Sexual Health Screens 2004 | Mean % seen <48 hrs by PCT (±SEM) | Mean % seen <48 hrs by GU clinic (±SEM) | Patients per clinic hour open *(difference)* |
|---|---|---|---|---|---|---|---|
| North Central | 6 | 171.2 | 699 | 44,982 | 58.2 (±4.7) | 51.6 (±8.6) | 4081 *(baseline)* |
| North West | 9 | 250.5 | 1056 | 77,094 | 61.3 (±1.4) | 53.8 (±8.9) | 4216 *(+3%)* |
| North East | 8 | 176.5 | 837 | 22,454* | 68.7 (±5.5) | 67.0 (±11.0) | 4742 *(+16%)* |
| South West | 5 | 140.5 | 735 | 43,401 | 66.6 (±4.9) | 72.8 (±5.9) | 5231 *(+28%)* |
| South East | 5 | 183.5 | 837 | 33,355* | 51.0 (±5.9) | 57.8 (±13.9) | 4561 (+12%) |

*No S1+S2 codes were reported for one clinic.

**Results:** Of the 143 swabs examined; 37 (26%) were *T palladium* positive, one (0.7%) specimen was *H ducreyi* positive, 53 (37%) were HSV positive, six (4.2%) specimens showed evidence of dual infection with HSV and another aetiological agent, 45 (31.4%) specimens were found to be negative for all three agents, and one specimen was inhibited. For those specimens where dark ground microscopy data were available (78): there was complete concordance between positive microscopy results and M-PCR. However M-PCR did detect an additional six cases of *T palladium*, which were dark ground negative. Where HSV culture data were available (47 specimens) complete concordance was found between culture positive specimens and M-PCR. The M-PCR assay also detected an additional five HSV specimens, which were culture negative.
**Conclusions:** This is the first use of M-PCR for GUD within the UK and results demonstrates that in this sample set M-PCR has advantages over more conventional diagnostic methods.

## O8 THE EFFECT OF CONCOMITANT HIV INFECTION ON THE CLINICAL MANIFESTATIONS OF SYPHILIS

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**Background:** Limited data exist regarding the effect of HIV co-infection on the clinical presentations of early syphilis.
**Aim:** To determine the impact of HIV infection on the manifestations of early syphilis.
**Design:** A retrospective study of 435 consecutive patients presenting with early syphilis from January 1999 to May 2004. 88 patients were excluded from the study mostly due to an unknown HIV status (60). The HIV seropositive group formed 36.5% of the study population.
**Results:** HIV co-infected individuals were more likely to present with ulcer disease (55.2% (74)) than those HIV negative group (44.8% (60), $p=0.009$). HIV seropositive patients were also found to present more commonly with rashes and complications of early syphilis ($p<0.001$ and $p=0.006$ respectively). A trend was recognised among HIV seropositive subjects towards presentation with secondary syphilis ($p=0.068$). RPR and TPHA/TPPA values at presentation were found to be independent of the HIV status ($p=0.926$ and $p=0.359$ respectively). No difference was observed in the manifestations of early syphilis in those HIV positive individuals with CD4+$\leqslant$200 compared toCD4+>200, though there were only 18 patients with CD4+$\leqslant$200.
**Conclusions:** The manifestation of early syphilis infection is affected by co-infection with HIV with syphilitic chancres, rashes and complications observed more frequently. Since chancres facilitate the bidirectional transmission of HIV, the above results would suggest that this co-infection group forms a high risk group for the transmission of HIV (and syphilis) and this has significant public health implications.

## O9 PROGRESSING TOWARDS NATIONAL COVERAGE: AN UPDATE ON THE PHASED IMPLEMENTATION OF THE NATIONAL CHLAMYDIA SCREENING PROGRAMME IN ENGLAND

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**Background:** The National Chlamydia Screening Programme (NCSP) began in April 2003 and now covers over 25% of PCTs in England. Implementation is being accelerated, with total coverage by March 2007. PCTs will monitor achievement of national target for increased screening volumes. We present results to date and progress towards national coverage.
**Methods:** Opportunistic screening for *Chlamydia trachomatis* is offered to young people aged <25 years attending a variety of non-GUM settings. Treatment, partner notification, and follow up are provided predominantly by community based services. Data collected from 26 programme areas were analysed; positivity by key demographic and behavioural characteristics was calculated.
**Results:** Over 127 000 screens were performed between April 2003 and September 2005, increasing from 17 000 in year 1 to 47 000 for the first six months of year 3. Screening was primarily performed in family planning clinics (48%), youth clinics (20%), and general practices (11%). Screens were mostly female (87%) and of white ethnicity (71%). Chlamydia positivity among women was 10.6% (10.4–10.8) and 11.5% (11.0–12.0) among men, with peak positivity among 16–19 year old women and 20–24 year old men and in those reporting a new partner and multiple partners. Men were tested by urine samples (99%); women by urine (47%) and self-taken vulva-vaginal swabs (36%). Over 95% of positive cases were treated; 0.6 partners per case were contacted and 70% of these treated.
**Conclusions:** Screening volume has expanded rapidly over the first 30 months of the NCSP, with one in 10 screens positive. Monitoring of epidemiological and behavioural trends is critical in evaluating the NCSP and its impact on chlamydia prevalence.

## O10 THE ASSESSMENT OF CHLAMYDIAL LOAD IN URINE AND VULVO-VAGINAL SWABS IN A COMMUNITY SETTING USING QUANTITATIVE REAL-TIME PCR

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**Introduction:** The Chlamydia Screening Study (CLaSS) was undertaken to determine the prevalence of chlamydia in the community. We took frozen vulvo-vaginal swabs (VVS) and first-catch urine (FCU) from ClaSS to determine chlamydia load in VVSs and male and female FCUs.
**Methods:** Nucleic acids were extracted from FCU or VVS and quantitative PCR undertaken using an Applied Biosystems-7500. Statistics were undertaken using SPSS. Genomic copies/ml were converted to $\log^{10}$. Groups were compared using *t* tests.
**Results:** There was a significant difference between the number of genomic copies/ml recovered from female FCU and VVS samples at visit 1 ($n=31$, *t* test: $p=0.013$, the mean for FCU, 2.69, SD, 1.26; mean for VVS, 3.56, SD, 1.77) and visit 2 ($n=31$ *t* test: $p<0.001$, the mean for FCU, 2.31, SD, 1.27; mean for VVS, 3.61, SD, 1.27). We compared the load between male ($n=32$) and female ($n=76$) FCU specimens. The male FCU sample load was greater than the female FCU but this was only significantly different for visit 2 (visit 1: *t* test: $p=0.451$, mean for male load, 2.84, SD, 1.7; mean for female load, 2.52, SD, 1.27, visit 2: *t* test: $p=0.005$, mean for male load, 3.37, SD, 1.22; mean for female load, 2.22, SD, 1.24).
**Discussion:** This study observed an increased chlamydial load in VVSs compared to FCU, and in male FCUs compared to women. These data are consistent with previous observations and with the hypothesis that female FCU perform less well than either VVS in women or FCU in men because there is less chlamydia present.

## O11 TREATING ASYMPTOMATIC CHLAMYDIA IN ISOLATION: HOW OFTEN WOULD GONORRHOEA BE MISSED?

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**Background:** Some Boots pharmacies are offering chalmydia testing to asymptomatic people aged 16–24 years. Those testing positive for chlamydia may be offered antibiotic treatment without further testing for gonorrhoea.
**Aim:** To assess in a nearby GUM clinic population, the number of asymptomatic women attenders aged 16–24 years who were simultaneously co-infected with gonorrhoea and chlamydia and who were not known to have been in contact with gonococcal infection.
**Method:** A retrospective case notes review of women aged 16–25 years attending a GUM clnic, who were simultaneously co-infected with chlamydia and gonorrhoea between 1 October 2004 and 30 September 2005, was performed. Chlamydia had been diagnosed on an endocervical swab using BDProbeTecET SDA (Beckton Dickinson) and gonorrhoea was diagnosed by direct culture.
**Results:** Between 1 October 2004 and 30 September 2005, 552 diagnoses of chlamydial infection were made in women aged 16–25 years. Of these 39 women were co-infected with gonorrhoea. 10 of 39 co-infected women were asymptomatic or minimally symptomatic. From their notes three of these women knew that they were at specific risk of gonorrhoea.
**Conclusion:** If the prevalence of asymptomatic gonorrhoea in the women being screened and treated in local Boots pharmacies does not exceed that in the women attending the GUM clinic, only a small number of gonococcal infections will be overlooked. However the potential complications of failing to diagnose gonococcal co-infection include severe pelvic inflammatory disease and life threatening septicaemia.

## O12 IS IT COST EFFECTIVE TO DO ROUTINE PHARYNGEAL SWABS FOR *CHLAMYDIA TRACHOMATIS* IN PATIENTS WHO PRACTICE UNPROTECTED ORAL SEX?

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**Background:** Pharyngeal carriage of *Chlamydia trachomatis* (CT) is well known. However few studies have assessed the value of routine pharyngeal swabs for chlamydia in patients practicing unprotected oral sex.
**Aim:** To identify the prevalence of pharyngeal carriage and the cost effectiveness of screening for CT in this group of patients.
**Method:** A retrospective review of case notes of patients over a period of 18 months from 01.10.03, who had pharyngeal swab for CT analysed by Roche Cobas Amplicor PCR test.
**Results:** Of 1581 pharyngeal swabs taken over this period, 19 (1.2%) patients were found to be positive for CT—12 males and 7 females. In 7 patients CT was detected at one or more additional sites (urethra/cervix/rectum/eye). 58% of male patients with CT positive pharyngeal swabs were MSM. 63% (12/19) patients would have received treatment irrespective of the pharyngeal isolation as CT was detected at another site or was a contact of CT or had NGU on urethral microscopy. Only 7 of 1581 (0.4%) screened for pharyngeal CT would have been missed had pharyngeal swabs not been taken.
**Conclusion:** Prevalence of pharyngeal carriage of Chlamydia in this group is low. To detect an extra case of CT, 224 pharyngeal swabs need to be taken. This equates to a cost of £1344 per additional case treated excluding the cost of doctor, nurse or laboratory technician's time. We conclude that routine screening for CT with pharyngeal swabs in those who practice unprotected oral sex is not cost effective.

## O13 DOES SELF-TREATMENT INFLUENCE THE TRANSMISSION OF ACUTE SEXUALLY TRANSMITTED INFECTIONS?

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**Objectives:** (1) To determine self-treatment patterns in symptomatic STI clinic attenders. (2) To describe the role of self-treatment in delayed treatment and onward transmission of acute STIs.
**Methods:** 4160 consecutive new attenders in six sexual health clinics in England completed a written questionnaire October 2004 to January 2005. Questionnaire data were linked to clinic data.
**Results:** Questionnaire data were linked to clinic data for 90.8% of 4160 respondents to obtain diagnosis status and further demographics. 33.8% of 769 women and 21.1% of 917 men attending due to symptoms had self-treated. Increasing age was associated with higher rates of self-treatment. 67.6% of men and 71.4% of women who first attended their GP had self-treated, by contrast with 32.4% of men and 28.6% of women coming directly to clinic ($p<0.001$). 20.4% of self-treating men and 15.3% of women were diagnosed with an acute STI (gonorrhoea, chlamydia, NSU, primary warts, primary herpes, or syphilis) at the visit. However, there was no association between self-treatment and the presence of acute STI, nor with previous STI. Longer time from symptom onset to first seeking any health care was associated with higher self-treatment rates (median 5, IQR 1–20 for self-treating males, median 3, IQR 1–14 for non-self-treating males). However, despite variation in median time from contacting a clinic to appointment (0–20 days), there was no significant variation in self-treatment rates between clinics, nor was longer waiting time associated with higher self-treatment rates.
**Conclusion:** Self-treatment is common among individuals with genital symptoms, particularly those who delay the initiation of health care, or who see a GP first. Such individuals may delay or avoid testing and treatment and remain infectious for unnecessarily long periods, thus increasing the prevalence of infection within the population. Given policy moves towards STI management in primary care, and the prominence of personal responsibility for self-care in health promotion, the need for early appropriate diagnosis of genital symptoms needs to be publicised in the interest of STI control.

## O14 ABNORMAL VAGINAL FLORA AND PREGNANCY OUTCOME IN WOMEN UNDERGOING ASSISTED CONCEPTION

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**Introduction:** We previously reported first trimester outcome in relation to vaginal flora in women undergoing assisted conception, here we report the full pregnancy outcomes.
**Methods:** Consecutive women undergoing assisted conception had vaginal smears at the time of oocyte collection. Those who became pregnant were followed through to completion of their pregnancy.
**Results:** 231 women were enrolled, 59 had BV, 34 intermediate, and 138 normal flora. The total pregnancy loss or preterm delivery rate was 39.8%. There were 38 preclinical miscarriages; 28 miscarriages/preterm births between 6–32 weeks; 25 preterm births between 33–36 weeks and 139 term births. The rate of pregnancy loss or preterm delivery <37 weeks was 51.6% with abnormal flora (BV + intermediate) and 32% with normal flora; OR 2.37 (95% CI 1.21 to 4.63). At <33 weeks the rates were 37.6% and 23.2% respectively; OR 2.00 (95% CI 1.08 to 3.71). The attributable risk for pregnancy loss or preterm birth associated with abnormal vaginal flora at conception was 19.8%. The multiple pregnancy rate was 22.5%, 18.3% of women with abnormal flora and 25.4% of those with normal flora had multiple pregnancies. The preterm birth rate in the women with multiple pregnancies was 64.7% in those with abnormal flora and 37.1% in those with normal flora; OR 3.10 (95% CI 0.80 to 12.47).
**Conclusions:** Abnormal flora at the time of conception significantly increased the risk of pregnancy loss or preterm birth before 33 and 37 weeks gestation. Approximately one fifth of such outcomes are attributable to the abnormal vaginal flora.

## O15 MONITORING LOCAL DELIVERY PLANS: HOW CAN WE ESTIMATE RATES OF GONORRHOEA BY AREA OF RESIDENCE?

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**Background:** Local delivery plans (LDPs) for improving sexual health include a target for reducing gonorrhoea rates. There is currently no systematic method for most PCTs and SHAs to monitor rates of infection in their residents, as data are only routinely collected by GUM clinic of diagnosis.
**Method:** Diagnoses of gonorrhoea made in GUM clinics (KC60) were assigned to area of residence using residence profiles of attendees taking part in the GUM clinic Waiting Times Survey. Residence information on laboratory reports was used to assign area of residence to diagnoses made outside GUM clinics. Rates per 100 000 were estimated.
**Results:** Approximately 83% of gonorrhoea diagnoses in England in 2004 were made in GUM clinics and area of residence was estimated for 90% of these cases. Approximately 10% of diagnoses were seen in general practice: area of residence was known for 77% of these cases and GP post code for a further 11%. Detailed results by PCT/SHA will be presented. The top five highest estimated rates by PCT are shown in the table.
**Discussion:** This simple method uses existing data sources to estimate rates of gonorrhoea by area of residence. It requires validation and further refinement before it could be used routinely but may be a useful tool to support the monitoring of LDP lines until direct methods of surveillance by area of residence are available.

Abstract O15

| SHA | PCT | Estimated rate band/100,000 |
|---|---|---|
| SE London | Lambeth | 200–219 |
| | Southwark | 180–199 |
| NE London | City and Hackney | 180–199 |
| NC London | Islington | 160–179 |
| NE London | Tower Hamlets | 140–159 |

## O16 FINDINGS FROM THE GONOCOCCAL RESISTANCE TO ANTIMICROBIALS SURVEILLANCE PROGRAMME: THE DISPROPORTIONATE BURDEN OF GONORRHOEA IN ENGLAND AND WALES

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**Background:** The Gonococcal Resistance to Antimicrobials Surveillance Programme (GRASP) is a sentinel surveillance programme giving a representative sample of gonococcal isolates in England and Wales. Using these data we describe the changing epidemiology of gonorrhoea, presenting trends in the prevalence of resistance over time and identifying risk groups with a high burden of infection
**Methods:** Gonococcal isolates from consecutive patients attending 26 GUM sentinel clinics were collected annually (June–August) for susceptibility testing at a central laboratory. Laboratory, demographic, and behavioural data were analysed for the five year period 2000–04.
**Results:** A total of 10 741 isolates of *Neisseria gonorrhoeae* were collected. The number of isolates decreased by 25% between 2001 and 2004. The proportion of isolates fully sensitive to therapeutic antimicrobials decreased from 61% in 2000 to 52% in 2004, with significant increase in ciprofloxacin resistance. Gonorrhoea infection was concentrated within ethnic minorities (43% of diagnoses), in particular black Caribbeans (24%). However, black Caribbeans were significantly less likely to be infected with a resistant strain ($p<0.01$). The proportion of isolates from MSM significantly increased from 21% to 28% in 2004 ($p<0.001$). HIV status first collected in 2004, where known, revealed 32% of MSM with gonorrhoea were HIV positive. MSM in 2004 were significantly more likely to have a gonococcal infection with resistance to ciprofloxacin ($p<0.01$).
**Discussion:** Although the incidence of gonorrhoea within GRASP has recently declined, a disproportionate burden of infection remains within MSM and ethnic minorities, with significant variation in resistant strain distribution. These findings highlight challenges for further reductions in incidence.

## O17 LYMPHOGRANULOMA VENEREUM IN THE UK: CLINICAL AND EPIDEMIOLOGICAL CHARATERISTICS

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**Background:** Lymphogranuloma venereum (LGV) was rarely diagnosed in the UK before 2004. Since then there has been a large outbreak in men who have sex with men (MSM).
**Methods:** In October 2004 the HPA established a diagnostic and surveillance system.
**Results:** To the end of December 2005, 292 cases of LGV had been diagnosed in the UK. Surveillance forms had been received for 80% of these. Cases are concentrated in London (71%) and Brighton (14%) with the rest widely distributed across the UK. Clinical features: proctitis was found in 95%, of whom 81% had rectal discharge, 64% pain, 56% rectal bleeding, and 27% tenesmus; 30% had systemic symptoms. 3% had urogenital symptoms, and 3% were asymptomatic. Time from symptoms to presentation ranged from less than a day to 19 months, median 13 days; four men had been symptomatic for over a year. There were high levels of coinfection with STI: 86% had HIV infection, 11 (13%) of which were newly diagnosed; less than half were on HAART. 19% had HCV, 26% had one or more additional STI. Epidemiological features: cases presenting in 2004 were more likely than later cases to report contacts in the Netherlands (20% compared with 3%). The majority reported unprotected receptive anal intercourse, and over half reported meeting partners at sex on premises venues or sex parties.
**Discussion:** There is a sustained outbreak of LGV in MSM in the UK. The overlap with HIV and other STI suggests transmission in a very densely connected sexual network. Interventions will be discussed.

## O18 COMPARISON OF LYMPHOGRANULOMA VENEREUM PROCTITIS AND NON-LGV RECTAL CHLAMYDIAL INFECTION SEEN AT A LONDON GENITOURINARY MEDICINE CLINIC IN MEN WHO HAVE SEX WITH MEN

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**Introduction:** A recent outbreak of lymphogranuloma venereum (LGV) proctitis among UK men who have sex with men resulted in over 30 cases of the disease being diagnosed within our service. This prompted routine screening for rectal chlamydial infection among patients attending our dedicated after hours gay men's clinic. We compared the clinical and laboratory features in over 70 cases of both LGV and non-LGV rectal chlamydial infection seen across our service since October 2004.
**Results:** Men with LGV were more likely to be older, HIV positive, and to have anorectal symptoms and these were of much longer duration before diagnosis than men with non-LGV infection. Microscopy slides from rectal swabs in LGV cases showed more inflammatory cells and serological tests for chlamydiae were more likely to be positive and at a higher titre. Treatment of both types of infection with doxycycline achieved clearance of infection and symptomatic resolution.
**Conclusion:** Though not completely distinguishable without specific serovar typing, LGV and non-LGV rectal chlamydial infection displayed different patterns of disease among our MSM cohort.

## O19 STRATEGIES FOR VACCINATING AGAINST HUMAN PAPILLOMAVIRUS

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**Background:** Ongoing phase III trials of two candidate human papillomavirus (HPV) vaccines have shown promising results in terms of the effectiveness in preventing transient and persistent HPV infection and associated precancerous lesions. However, there remain important questions about the design of any HPV vaccination strategy. Mathematical models provide a framework in which we can explore these questions.
**Methods:** A compartmental deterministic model of single type HPV 16 infection and progression to cervical cancer was developed and parameterised for Finland.
**Results:** Vaccinating younger adolescents (12 years) delays the predicted decrease in high grade dysplasia following immunisation compared to vaccinating older individuals (18 or 21 years). However in the long term the annual proportion of cases prevented is much higher when younger adolescents are targeted (0.72 for 12 year olds *v* 0.26 when 21 year olds are targeted with 70% coverage). Vaccinating males as well as females has more impact on the proportion of cases prevented when vaccinating at younger ages. Catch-up vaccination at the start of a programme also has more impact when the programme is aimed at younger individuals. However, more than six years catch-up has very little additional benefit.
**Conclusions:** Vaccinating against high risk HPV 16 is more beneficial if it is carried out before sexual debut and before the peak age of incidence. Implementing catch-up vaccination at the start of a vaccination programme would increase the speed with which a decrease in HPV incidence is observed, but extending the age range beyond six years generates diminishing returns.

## O20 SEXUAL BEHAVIOUR OF PEOPLE WITH HIV AND THE IMPLICATIONS FOR STI/HIV TRANSMISSION

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**Objective:** To examine the sexual behaviour of people with diagnosed HIV and the implications for STI/HIV transmission
**Methods:** HIV patients receiving treatment and care in outpatient clinics in North East London were asked to complete a confidential, self-administered questionnaire in 2004–05. Respondents were asked about unprotected sex with sexual partners in the previous three months, type (main or casual) and HIV status of their partner(s).
**Results:** 1687 patients with diagnosed HIV returned a completed questionnaire (response rate 73% of eligible patients) including 480 black African heterosexual women, 224 black African heterosexual men, and 758 gay/bisexual men. Between 12–14% of black African men and women as well as gay men reported unprotected sex (vaginal/anal) only with their main partner. Very often the main partner was also

HIV positive. A further 9% of gay men and 1–2% of black African men and women ($p<0.001$) reported unprotected sex only with a casual partner who like themselves was HIV positive. While this does not present a risk of HIV transmission to an uninfected person, it does present an STI risk for casual partners. In addition, 15% of HIV positive gay men, but only 1–2% of black African men and women, reported unprotected sex with a casual partner of unknown or discordant HIV status ($p<0.001$). This presents a risk of HIV transmission to an uninfected person.

**Conclusion:** Behavioural research in 2004–05 among people with diagnosed HIV indicates that gay men continue to be the group at greatest risk of acquiring HIV infection in the UK.

## O21 COMMUNITY HIV TESTING FOR MEN WHO HAVE SEX WITH MEN: WILL IT DECREASE UNDIAGNOSED INFECTION?

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**Introduction:** One of the principle aims of the National Sexual Health Strategy is to decrease diagnosed HIV. The anonymous sero-prevalence programme estimates 24% of infections in MSM remain undiagnosed.

**Methods:** Since October 2004 a weekly, open access, nurse-led HIV testing clinic for MSM has been delivered in local THT premises, using the Abbott Determine HIV1/2 test kit.

**Results:** 327 men attended the service over 14 months; 316 HIV tests were undertaken. The median age was 32 years (range 19–73), 82.9% lived locally, 77.1% were white-British. Among all testers 17.2% had never had a sexual health screen, although 27.7% had sex with a man known to have HIV and 76% disclosed UAI in the last 12 months. 23.9% had not previously tested for HIV—these men were significantly younger, more likely to identify as bisexual rather than gay, and had fewer partners in the last year. The most common reason for not previously testing was ''I've been too afraid of the result being positive'' in 42%. Almost half (48.4%) chose the service as the result was available that evening, while 36% cited the convenience of the service (evening clinic, open-access) as important. Nine men tested HIV positive (prevalence 2.8%); *all* subsequently attended HIV services for ongoing care. This compares to 105/2882 MSM (3.6%) diagnosed in the GUM clinic over the same time period.

**Conclusions:** Delivering satellite HIV testing services at community sector venues is feasible and highly acceptable to service providers and MSM. Given the high risk profile of this population testing for other STIs should also be considered.