P174 A NOVEL NOMOGRAM TO IDENTIFY MSM AT HIGH RISK OF SYPHILIS INFECTION IN CHINA: RESULTS FROM A SERIAL CROSS-SECTIONAL STUDY

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Background The purpose of this study was to develop a nomogram to identify men who have sex with men (MSM) at high risk of syphilis infection using a relatively large dataset in Southern China.

Methods A serial cross-sectional dataset of 2184 MSM from 2017 to 2019 was used to develop and validate the nomogram. All eligible MSM were randomly assigned into the training and validation datasets. Factors included in the nomogram were determined by multivariate logistic regression analysis. We used the receiver operating characteristic (ROC) curves to assess the accuracy and discriminative ability of the nomogram.

Results A total of 2184 MSM were recruited in this study. The overall syphilis prevalence was 18.1% (396/2184). The multivariate logistic regression found that MSM who were older age, sought sexual partners through non-internet route, had not consistently used condom in the last 6 months, had commercial sex with men in the last 6 months and had infected STD in the past year were more likely infected with syphilis.

We generated the nomogram to identify MSM at high risk of syphilis infection in the training cohort (C-index 0.80 [95% CI 0.76–0.84], sensitivity 86.9%, specificity 64.0%); in validation cohort (0.79 [0.75–0.84], 86.0%, 63.8%). When the total score is >46.5, MSM should be considered at high risk of syphilis infection.

Conclusions A nomogram for early risk assessment of syphilis infection among MSM has been developed and validated, which is easy to use and identifies MSM who are at higher risk. The proposed nomogram shows good assessment performance.

P175 WHEN RESISTANCE TESTS FAIL: DNA NEGATIVE MYCOPLASMA GENITALIUM DETECTED BY RNA ASSAYS

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The clinical significance DNA negative *Mycoplasma genitalium* (MG) detected by RNA assay is unknown. Macrolide resistance rates in the UK are high. When using resistance guided therapy, in the absence of a resistance result, empirical therapy of DNA negative MG is usually Moxifloxacin based therapy.

A retrospective case notes review for all patients tested for MG between January–December 2019 at a large London sexual health service was carried out. Hologic™ Aptima® transcription mediated amplification (TMA) MG positive samples were confirmed at Public Health England an in-house multiplex real-time PCR incorporating 2 targets (MgPa and gap). DNA negative samples were identified. Information on demographics, rationale for testing, treatment and outcome was collected.

2346 patients were tested for MG during the period. 536/2346 (23%) patients tested RNA positive. 125/536 (23%) were macrolide sensitive, 227/536 (42%) were macrolide resistant. Insufficient DNA for resistance test was reported in 184/536 (34%). 114/184 (62%) were DNA negative on two targets.

The majority of DNA negative samples were urine (81/114, 71%); from heterosexuals (92/114, 81%); who were symptomatic (76/114, 67%). 29/114 (25%) did not have a valid indication for testing. The majority of patients (71/114, 62%) had Moxifloxacin based therapy of whom 45/71 (63%) had a negative test of cure (TOC) by TMA. 25/71 (35%) had no TOC, 1/71 (1%) had a persistent DNA negative result.

When using RNA assays for MG testing, DNA negative MG is common and may represent cleared infection, cross reactivity with other *Mycoplasma* spp., or clinically insignificant/non-pathogenic carriage and the risks outweigh the benefits for treatment with Moxifloxacin. Clinico-pathological outcome data on DNA negative MG is required to inform interpretation of these results.

P179 ACCESS TO, AND USAGE OF, ONLINE POSTAL SEXUALLY TRANSMITTED INFECTION SELF-SAMPLING SERVICES: A SCOPING REVIEW

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Background Increasing service user demand and rising incidence of key sexually transmitted infections (STIs), alongside developments in diagnostics and digital health provision, at a time when services have faced fragmentation and reduction in funding, have resulted in a huge expansion in online postal sexually transmitted infection (STI) self-sampling services across some parts of the UK. This review aimed to explore who is accessing and using online postal self-sampling services in the UK, the acceptability of these services and whether they are exacerbating sexual health inequalities.

Methods Following the PICO (Population Intervention Comparators Outcome) framework, a systematic search was conducted in nine databases in June 2020. Included studies were published between 01/2010–06/2020, in the English language, based on pre-agreed inclusion/exclusion criteria. A second reviewer carried out abstract and full text screening. 15 studies were included. Extracted data were analysed using descriptive statistics and thematic analysis.

Results Study designs were heterogeneous, including quantitative, qualitative and mixed method analysis, and were therefore appraised using the Mixed Methods Appraisal Tool. Overall, studies were of good quality. However, the majority were either evaluating a single site/testing provider, were exploratory or observational. Few studies collected comprehensive demographic data. Individuals accessing online postal STI self-sampling services tended to be asymptomatic, white, women, over 20s, and from less deprived areas. These services tended to increase overall STI testing demand and access. There were varied results on whether services reduced time to treatment. Services were deemed highly acceptable if they were trustworthy, reliable, convenient, and improved patient choice.