

transport tube. Nucleic acid extraction and real-time PCR was performed on the BD MAX instrument using the BioGX Mycoplasma-Ureaplasma reagent. In this analysis we evaluated only the detection of MG.

**Results** Genital samples from 416 women were tested using both the AMG and BioGX reagents. The overall agreement was 99.3% ( $\kappa=0.876$ ) with 402 negative and 11 positive samples in agreement. Two samples were positive only using the BioGX reagents and one specimen was only positive with AMG.

**Conclusion** In this MG detection study, we showed good performance of BioGX reagents on the BD MAX platform. The BioGX reagents can be used with any real-time PCR system, thus expanding diagnostic capacity to many laboratories. The performance in this study was very similar to that of AMG. Reagents capable of wider testing can facilitate epidemiologic studies designed to understand the impact of MG infection.

**Disclosure** No significant relationships.

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#### TESTING AND TREATMENT STRATEGIES FOR LIMITING DRUG RESISTANCE IN *MYCOPLASMA GENITALIUM*

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**Background** *Mycoplasma genitalium* (Mg) has rapidly increased its resistance to azithromycin, which has been first-line therapy for non-chlamydial-non-gonococcal urethritis (NCNGU), a proportion of which is due to Mg, and for treating Mg specifically. New commercial nucleic acid amplification tests (NAATs) are likely to greatly increase diagnosis and treatment of Mg, potentially promoting resistance. We previously developed the first transmission-dynamic model of Mg, which we now use to examine alternative approaches to NAAT testing and treatment.

**Methods** Our model synthesises evidence from surveillance data, and epidemiological and behavioural studies, and accounts for parameter uncertainty, including the fitness-costs and benefits of drug resistance. The model incorporates resistance due to de novo mutation and transmission. We examined scenarios regarding (i)targeting of NAAT (only testing symptomatic patients and partners vs testing all patients); (ii)using NAATs detecting resistance vs only detecting Mg; (iii)choice of first-line therapy (including continuing using azithromycin except where resistance has been detected vs alternative first-line regimen).

**Results** If azithromycin continues to be first-line therapy then resistance (and incidence of sequelae) will continue to rise, exacerbated by increased NAATs-based diagnoses. If asymptomatic screening occurs then resistance will increase 3.9(95% CI:2.1–5.7) times as rapidly as if only symptomatic patients and partners are tested. Pre-treatment resistance testing mitigates but does not prevent increases in resistance, due to resistance arising from frequent de novo mutation. Long-term outcomes of alternative regimens are highly uncertain.

**Conclusion** This work supports recommendations not to screen for Mg until a better treatment regimen has been determined. NAATs should include resistance-testing but this is not a

panacea. Improved understanding of Mg's natural history is urgently required, along with better surveillance of testing, diagnosis, and treatment, to monitor clinical adherence to guidelines, quantify drug-resistance fitness costs and benefits, and reduce uncertainty in decision-making. Internet-based testing and prescribing is a grave concern and needs to be controlled.

**Disclosure** No significant relationships.

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#### OH MG! THE SYMPTOMS OF *MYCOPLASMA GENITALIUM* IN WOMEN

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**Background** While the contribution of *Mycoplasma genitalium* (MG) to symptoms in men is well described, less is known about its clinical presentation in women. Data support an association with cervicitis, but an association with pelvic inflammatory disease is contentious. We undertook a study of 1200 symptomatic and asymptomatic women to determine the prevalence of MG and macrolide resistance, and to determine its association with common genital symptoms in women to inform indications for testing.

**Methods** Women attending Melbourne Sexual Health Centre from 18th April 2017 (in progress) were tested for MG and macrolide resistance (ResistancePlusMG SpeedX, Sydney), chlamydia and gonorrhoea (Aptima Combo 2, Hologic), trichomoniasis (microscopy and culture), bacterial vaginosis (BV) and candida (microscopy). Women underwent examination and completed a questionnaire on symptoms. The prevalence of MG, macrolide-resistance, STIs and coinfection, and association with genital symptoms and signs, was determined by univariate and multivariable analysis.

**Results** Of 1054 women enrolled to date (968 symptomatic and 86 asymptomatic), 62 women (6%, 95%CI 5–7%) tested positive for MG, with macrolide-resistance detected in 54% (95%CI 41–67%). Chlamydia and gonorrhoea were detected in 8% (95%CI 6–9%) and 1% (95%CI 1–2%) of the 1054 women respectively. Of the 62 women infected with MG, 42% (95%CI 30–55) also had BV, 26% (95%CI 16–38) candida, 6% (95%CI 2–16) chlamydia and 2% (95%CI 0–9) gonorrhoea. MG prevalence did not differ between symptomatic and asymptomatic women (6% vs 5%,  $p=0.614$ ). No specific genital symptoms or signs were significantly associated with MG, in contrast to chlamydia, which was associated with post-coital bleeding (OR 1.7,  $p=0.04$ ) and cervicitis (OR 2.3,  $p=0.014$ ).

**Conclusion** MG was as common as chlamydia in our clinic population but in contrast to chlamydia was not associated with any specific clinical features that would inform testing practices. Macrolide resistance was detected in half of cases and coinfection with BV was particularly common.

**Disclosure** No significant relationships.