tested positive for chlamydia compared to 8 in the Clinic Group, and the rate of reinfection was 12.9% in the Home Group and 14.6% in the Clinic Group (p=0.8).

Conclusions Use of home-based, self-obtained vaginal swabs resulted in a significant increase in rescreening rates compared to rescreening in the clinic. Our findings indicate a role for home-based specimen collection as an alternative to clinic-based rescreening for chlamydia in women.

Clinical sciences oral session 4: Treatment: Chlamydia, Gonorrhoea and related syndromes O3-S4.01 THE NEW SUPERBUG NEISSERIA GONORRHOEAE MAKES GONORRHOEA UNTREATABLE?—FIRST HIGH-LEVEL CEFTRIAXONE RESISTANCE WORLDWIDE AND PUBLIC HEALTH IMPORTANCE

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Background The first *Neisseria gonorrhoeae* strain (H041) worldwide that is highly resistant to the extended-spectrum cephalosporin (ESC) ceftriaxone, which is the last remaining option for empirical treatment of gonorrhoea, has now been identified! This is a large public health problem and the era of untreatable gonorrhoea may now have been initiated. The present study completely characterised H041, phenotypically and genetically, to confirm the finding, comprehensively examine its antimicrobial resistance (AMR) and in detail elucidate the resistance mechanisms. Finally, public health actions for preventing and/or detaining global spread of ceftriaxone-resistant and untreatable gonorrhoea will be discussed.

Methods H041 was examined using seven species-confirmatory tests, antibiograms (30 antimicrobials) with Etest and agar dilution (only for ESCs), porB sequencing, *N gonorrhoeae* multi-antigen sequence typing (NG-MAST), multilocus sequence typing (MLST) and sequencing of ESC resistance determinants (penA, mtrR, penB, ponA and pilQ). Transformation, using appropriate recipient strains, was performed to confirm the ESC resistance determinants.

Results H041 was assigned serovar Bpyust, MLST ST7363 and the new NG-MAST ST4220. H041 proved highly resistant to ceftriaxone (2–4 mg/l, which is 4-8-fold higher than any previously described isolate) and all other cephalosporins, as well as most other antimicrobials tested. A new penA mosaic allele, containing only four not previously described amino acid alterations, caused the ceftriaxone resistance, which was all proven using several transformation experiments.

Conclusions The new superbug *N* gonorrhoeae has now developed also ceftriaxone resistance and an era of untreatable gonorrhoea may have been initiated. A reduction in global gonorrhoea burden by enhanced disease control activities combined with wider strategies for general AMR control and enhanced understanding of mechanisms of emergence and spread of AMR, which need to be monitored globally, is crucial. Furthermore, a public health response plan (including sustainable clinical, microbiological and epidemiological components) for a global perspective is essential. Ultimately, new drugs are essential to develop for efficacious gonorrhoea treatment.

03-S4.02 IS SINGLE DOSE AZITHROMYCIN ADEQUATE FOR ASYMPTOMATIC RECTAL CHLAMYDIA?

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Background Azithromycin is the recommended first-line therapy for asymptomatic rectal chlamydia. However a recent European study reported significant numbers of treatment failures, with higher failure rates in HIV positive men. In 2009, the Sydney Sexual Health Centre instituted a 6 week re-test policy for all cases of asymptomatic rectal chlamydia to assess the extent of azithromycin treatment failures.

Methods We conducted a retrospective audit of all men who have sex with men (MSM) diagnosed with asymptomatic rectal chlamydia in 2009. MSM with anal symptoms were excluded from this analysis, due to the possibility of lymphogranuloma venereum. We then categorised the infections present at re-testing as probable reinfections (men reported ongoing sexual activity with an untreated partner) or probable treatment failures (men did not have any obvious ongoing exposure, either because they did not report any further anal sex with any existing partners or because condoms were used consistently with all partners).

Results In the 12-month period there were 116 asymptomatic MSM treated for rectal chlamydia with 1 gram azithromycin as a single dose. Fourteen (12%) of the men were HIV positive. The median age was 33 years (range 20–64 years). Of the 116 men, 85 (73%) returned at varying times; median time of 10 weeks (78 days, range 21–372 days. Of the 85 men who returned, 11 (13%) were persistently positive and the median time to re-test was 11 weeks (78 days, range 47–209 days). Six of the 11 men were classified as probable re-infection and five as probable treatment failures, equating to an efficacy of 94%. None of the men classified as probable treatment failures were HIV positive.

Conclusions Interpreted conservatively, the azithromycin treatment failure rate could have been as high as 13% in our study. However most of these cases could be explained by re-infection suggesting an actual treatment failure rate of 6%. There was no evidence azithromycin is an ineffective first-line therapy for asymptomatic rectal chlamydia in MSM, but prospective studies would be welcome.

03-S4.03 SAFETY AND EFFICACY OF WC2031 VS VIBRAMYCIN FOR THE TREATMENT OF UNCOMPLICATED UROGENITAL CHLAMYDIA TRACHOMATIS INFECTION

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Background Recent studies report that treatment failure rates for single-dose azithromycin for urogenital chlamydia in females may be as high as 8%. There has been sparse research investigating new antibiotics for chlamydia, especially those that may reduce adherence difficulties with the CDC recommended doxycycline regimen (100 mg orally twice daily for 7 days).

Methods The safety and efficacy of WC2031 (doxycycline hyclate delayed-release 200 mg tablet) orally once daily for 7 days vs