cefixime, ceftriaxone, azithromycin, ciprofloxacin and penicillin were defined according to EUCAST 4.0 standards.
Results Of 2115 isolates, 91.6% of isolates were from men. The most frequently tested materials among men were urethral (92.4%) and rectal swabs (3.8%), and among women mainly endocervical swabs (80.9%). Resistance to ceftriaxone (MIC ≥0.125 mg/L) occurred only sporadically (0–0.3%) during the entire observation period (2015 and 2018), while 1.0–2.1% of isolates were resistant to cefixime (MIC ≥0.125 mg/L). Proportion of isolates resistant to azithromycin (MIC ≥ 0.5 mg/L) was 11.4% (2014), 11.3% (2015), 4.3% (2016), 3.7% (2017), 9.4% (2018). 53.4–71.7% were resistant to ciprofloxacin, and 14.2–24.3.1% were resistant to penicillin.
Conclusion Resistance to ceftriaxone and to cefixime was low, whereas azithromycin resistance showed a discontinuous presentation with partly high levels during the observation period. Rates of ciprofloxacin and penicillin resistance were very high. According to the current national guidelines, ceftriaxone 1-2g IV and azithromycin 1,5g orally are usually used in dual therapy. Shortly revised national guidelines will state that use of azithromycin should be avoided if possible if a test of cure can be guaranteed and a susceptibility test is available. Continued surveillance of NG AMR remains relevant to ensure efficient disease management.
Disclosure No significant relationships.

P672 GENETIC PATHWAY TO HIGH LEVEL AZITHROMYCIN RESISTANCE IN *NEISSERIA GONORRHOEAE*

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Background The in-vitro genetic pathways to high-level azithromycin (AZM) resistance have hitherto not been established in *Neisseria gonorrhoeae* (Ng).
Methods A Ng morbidostat that dynamically increases AZM concentrations in response to Ng growth was built according to the protocol of Toprak et al. The reference strains Ng WHO-F and WHO-X were grown in 12 mL GC broth supplemented with IsoVitaleX™ (1%) and vancomycin, colistin, nystatin, trimethoprim selective supplement for 30 days in a 6% CO_2 environment at 36°C. Depending on the turbidity and growth of the culture, 1 mL of fresh medium or AZM was added to the culture vials after each cycle of 21 minutes. The experiment started with a concentration of 20x minimal inhibitory concentration (MIC) of AZM in the drug reservoir which was increased up to 320x MIC for both strains by the end of the experiment. Samples of the cultures were taken 2–3 times a week and MICs of AZM were determined using E-tests. Whole genome sequencing will be performed using Illumina MiSeq. All experiments were run in triplicate.
Results The initial MICs of WHO-F and WHO-X were 0,125 µg/mL and 0,25 µg/mL respectively. In the first week, the MICs of WHO-F and WHO-X increased approximately 24-fold for WHO-F and 48-fold for WHO-X. After 30 days, WHO-F and WHO-X had attained MICs of 96 µg/mL and ≥296 µg/mL, respectively. The genetic pathways to resistance will be analysed and presented.
Conclusion We were able to induce high level AZM resistance in Ng within 30 days of AZM exposure using our Ng morbidostat.
Disclosure No significant relationships.

P673 *IN-VITRO* ACTIVITY OF SMT-571 AND COMPARATORS AGAINST CLINICAL ISOLATES AND REFERENCE STRAINS OF *NEISSERIA GONORRHOEAE*

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Background The emergence and spread of multidrug resistance to antibiotics used to treat gonorrhoea has resulted in a dramatic loss of effective regimens for the condition. Currently, the extended spectrum cephalosporin, ceftriaxone, is the only viable monotherapy option available, however, resistance to this last line treatment is now emerging globally. Herein, we assessed the *in vitro* activity of a novel small molecule antimicrobial with a new mechanism of action, SMT-571, against a large collection of *N. gonorrhoeae* clinical isolates and reference strains including numerous MDR and XDR gonococcal isolates.
Methods MICs (mg/L) of SMT-571 were determined by agar dilution according to current CLSI guidelines. The MICs of ceftriaxone, cefixime, azithromycin, ciprofloxacin, spectinomycin, tetracycline, and ampicillin were determined using the Etest method (AB bioMérieux, Marcy l'Etoile, France).
Results SMT-571 showed potent *in vitro* activity against all the tested *N. gonorrhoeae* isolates (n=262) with MICs ranging from 0.064 to 0.125 mg/L, and the MIC50, MIC90 and modal MIC were all 0.125 mg/L. The compound was not influenced by pre-existing resistance mechanisms with no cross-resistance or correlation between the MICs of SMT-571 and comparator agents being observed.
Conclusion This study is the first broad evaluation of the *in vitro* activities of a new mechanism, novel small molecule antimicrobial for the treatment of gonorrhoea. SMT-571 demonstrated high *in vitro* activity against a large geographically, temporally and genetically diverse collection of clinical *N. gonorrhoeae* isolates and international reference strains, including various types of high-level resistant, MDR and XDR gonococcal isolates.
Disclosure No significant relationships.

P675 TWO RECENT CASES OF EXTENSIVELY DRUG-RESISTANT (XDR) GONORRHOEA IN THE UNITED KINGDOM LINKED TO A EUROPEAN PARTY DESTINATION

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Background The development of antimicrobial resistance (AMR) to macrolides and extended-spectrum cephalosporins (ESC) in *Neisseria gonorrhoeae* (NG), is a major public health