The emergence of decreasing N. gonorrhoeae (NG) susceptibility to the “last-line” cephalosporins and azithromycin is a public health threat. In 2012, the NG treatment guidelines in Alberta changed from cephalosporin monotherapy to combination therapy with azithromycin.

Inclusion Criteria:
- Culture positive NG cases reported by two Alberta STI Clinics between January 1, 2010 and September 30, 2013, AND
- Returned for test of cure (TOC) within 30 days of treatment.

Methods
- To examine the effectiveness of different recommended treatment regimens for different anatomical sites, different patient populations and different MICs.

Results
- A total of 1,085 isolates were reviewed among MSM (62.9%), pregnant women (1.2%), and non-MSM/non-pregnant women (35.9%).
- The site of isolate collection was evenly distributed between oropharyngeal (34.7%), anorectal (31.6%), and urogenital (33.6%, Table 1).
- <2% of isolates had reduced susceptibility to current treatment drugs.
- Follow-up TOC assessment rates at 30 days post-treatment were highest for extragenital sites (P=<0.001, Table 2).
- Fourteen TF involving cefixime 400 mg monotherapy were found: 11 among MSM and 2 among non-MSM/non-pregnant (Table 3).
- All TF isolates were fully susceptible to cefixime, ceftriaxone and azithromycin with no significant differences in median MIC values (Table 4).

Conclusions
- In contrast to cefixime monotherapy, no TF were identified with combination NG treatment.
- Our data support the 2011 Canadian STI Guidelines switch to combination treatment of NG with a cephalosporin plus azithromycin.

Acknowledgments
The authors would like to acknowledge Chris Bell for his work on the chart review.

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