

Figure S1. Geometric mean azithromycin minimum inhibitory concentrations (MICs) by year and region among men who have sex with men and men who report having sex only with women, Gonococcal Isolate Surveillance Project, 2005-2013

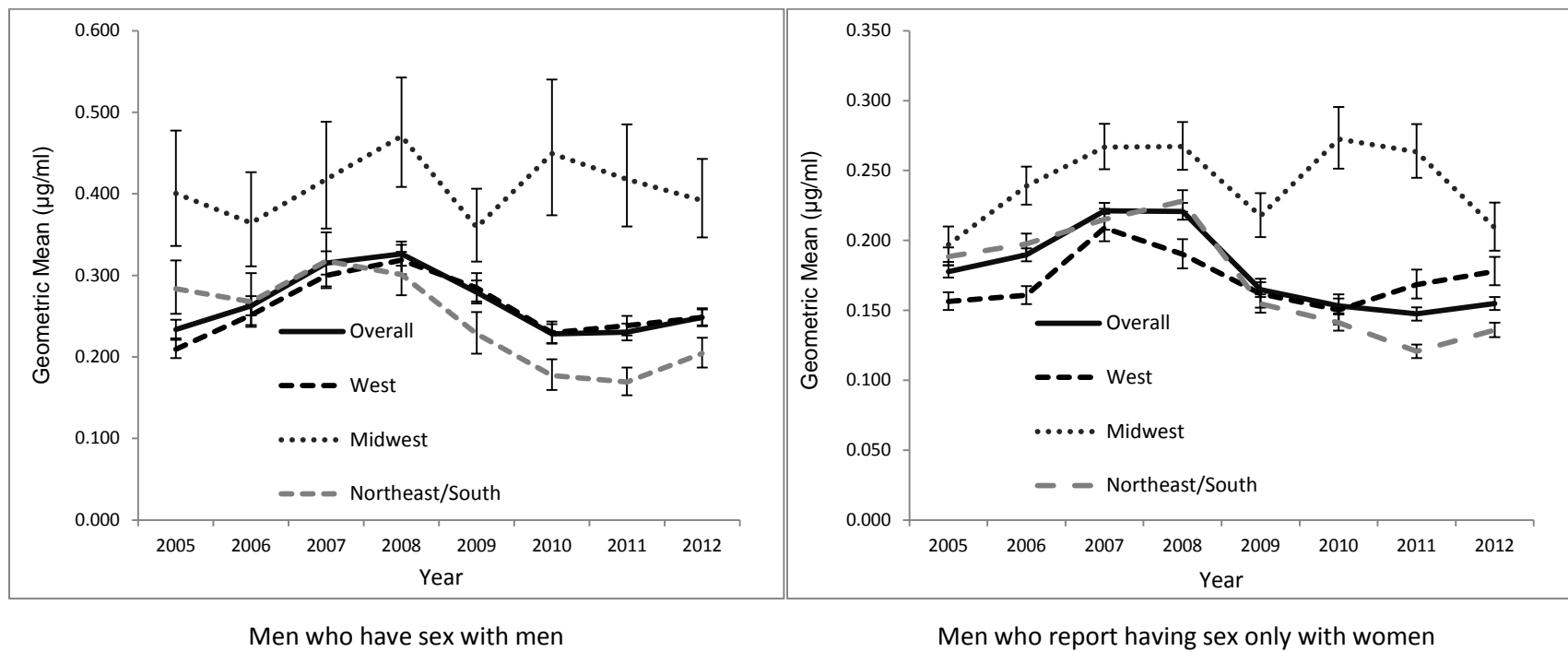
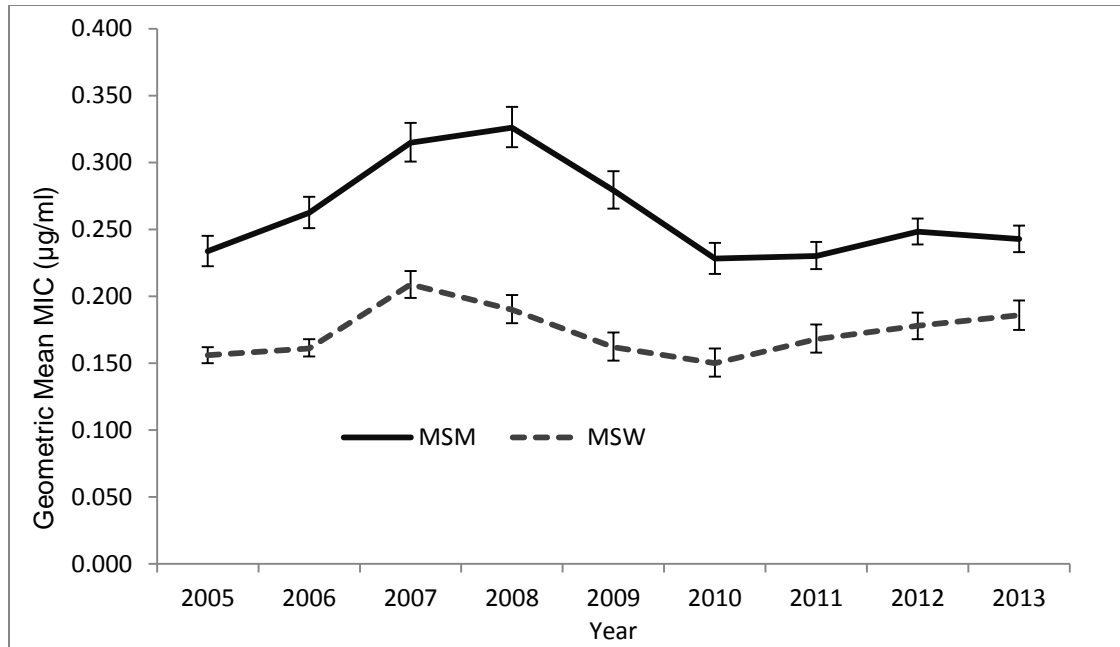
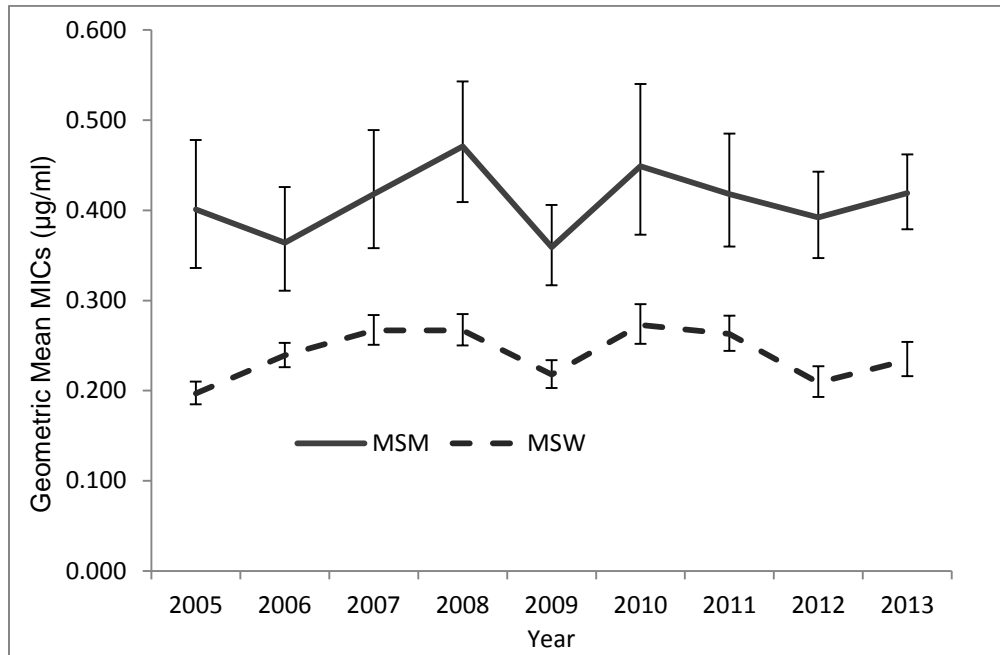


Figure S2. Geometric mean azithromycin minimum inhibitory concentrations (MICs) by year and sex of sex partner among continuously participating sites, Western United States, 2005-2013



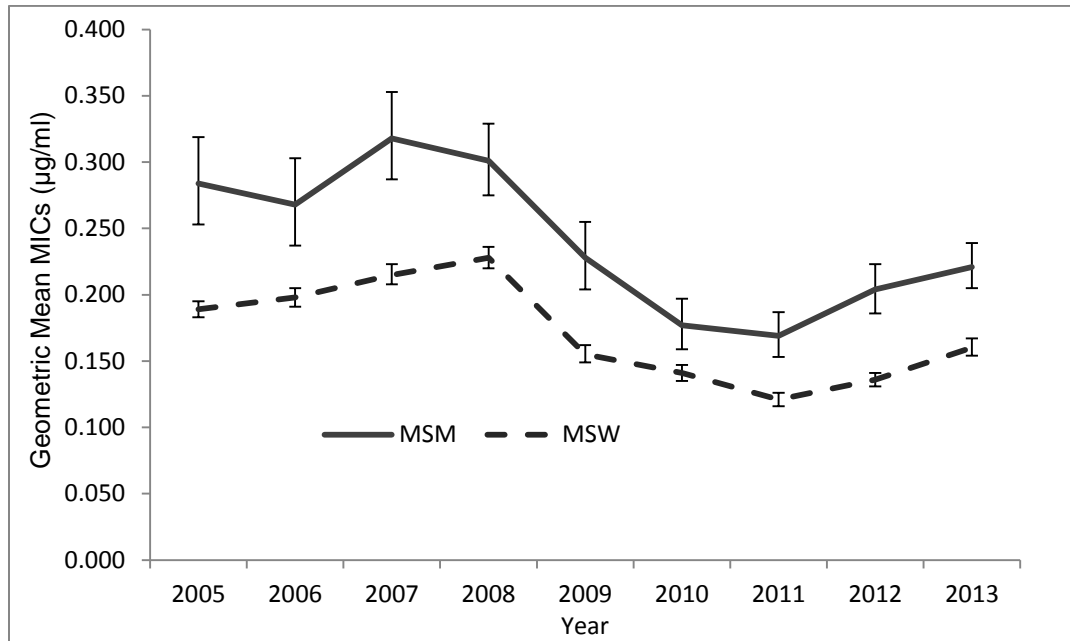
MSM=men who have sex with men; MSW=men who have sex exclusively with women

Figure S3. Geometric mean azithromycin minimum inhibitory concentrations (MICs) by year and sex of sex partner among continuously participating sites, Midwestern United States, 2005-2013



MSM=men who have sex with men; MSW=men who have sex exclusively with women

Figure S4. Geometric mean azithromycin minimum inhibitory concentrations by year and sex of sex partner among continuously participating sites, Northeastern and Southern United States, 2005-2013



MSM=men who have sex with men; MSW=men who have sex exclusively with women

Table S1. Percentage of *Neisseria gonorrhoeae* isolates with reduced azithromycin susceptibility (MICs ≥ 2 $\mu\text{g/ml}$) by region and sex of sex partner among continuously participating sites, Gonococcal Isolate Surveillance Project, United States, 2005–2013

| Year | Overall | | Region | | | | | | Sex of sex partner | | | |
|-------|---------|------------|--------|------------|---------|------------|-----------------|-------------|--------------------|-------------|-----|-------------|
| | % | 95% CI | West | | Midwest | | Northeast/South | | MSM | | MSW | |
| | % | 95% CI | % | 95% CI | % | 95% CI | % | 95% CI | % | 95% CI | % | 95% CI |
| 2005 | 0.6 | (0.4, 0.8) | 0.7 | (0.4, 1.1) | 1.0 | (0.4, 1.9) | 0.4 | (0.2, 0.7) | 1.6 | (1.0, 2.4) | 0.3 | (0.1, 0.5) |
| 2006 | 0.3 | (0.1, 0.4) | 0.5 | (0.2, 0.8) | 0.1 | (0.0, 0.7) | 0.1 | (0.01, 0.3) | 0.8 | (0.4, 1.5) | 0.1 | (0.03, 0.3) |
| 2007 | 0.5 | (0.3, 0.7) | 1.0 | (0.7, 1.6) | 0.4 | (0.1, 1.1) | 0.0 | (0.0, 0.2) | 0.9 | (0.5, 1.6) | 0.4 | (0.2, 0.6) |
| 2008 | 0.2 | (0.1, 0.3) | 0.3 | (0.1, 0.7) | 0.3 | (0.0, 0.8) | 0.1 | (0.0, 0.3) | 0.2 | (0.02, 0.7) | 0.2 | (0.1, 0.4) |
| 2009 | 0.3 | (0.1, 0.5) | 0.6 | (0.3, 1.0) | 0.2 | (0.0, 0.9) | 0.0 | (0.0, 0.2) | 0.7 | (0.3, 1.3) | 0.1 | (0.02, 0.3) |
| 2010 | 0.6 | (0.4, 0.8) | 1.0 | (0.6, 1.5) | 1.0 | (0.3, 2.5) | 0.1 | (0.03, 0.4) | 1.2 | (0.8, 1.9) | 0.2 | (0.1, 0.5) |
| 2011 | 0.3 | (0.2, 0.5) | 0.6 | (0.3, 1.1) | 0.2 | (0.0, 1.1) | 0.0 | (0.0, 0.2) | 0.6 | (0.3, 1.1) | 0.2 | (0.1, 0.4) |
| 2012 | 0.3 | (0.2, 0.5) | 0.3 | (0.1, 0.7) | 0.6 | (0.1, 1.7) | 0.2 | 0.1, 0.5) | 0.6 | (0.3, 1.0) | 0.1 | (0.04, 0.3) |
| 2013 | 0.6 | (0.4, 0.9) | 0.6 | (0.3, 1.0) | 1.2 | (0.5, 2.5) | 0.5 | (0.2, 0.9) | 0.8 | (0.5, 1.3) | 0.5 | (0.3, 0.8) |
| Total | 0.4 | (0.3, 0.5) | 0.6 | (0.5, 0.7) | 0.5 | (0.3, 0.7) | 0.1 | (0.1, 0.2) | 0.8 | (0.7, 1.0) | 0.2 | (0.2, 0.3) |

Note: West included Albuquerque (New Mexico), Denver (Colorado), Honolulu (Hawaii); Las Vegas (Nevada), Los Angeles, Orange County, San Diego and San Francisco (California), Phoenix (Arizona), Portland (Oregon), and Seattle (Washington); Midwest included Chicago (Illinois), Cleveland (Ohio), and Minneapolis (Minnesota); and Northeast/South included Atlanta (Georgia), Baltimore (Maryland), Birmingham (Alabama),

Dallas (Texas), Greensboro (North Carolina), Miami (Florida), New Orleans (Louisiana), Oklahoma City (Oklahoma), and Philadelphia (Pennsylvania).

MIC=minimum inhibitory concentration; MSM=men who have sex with men; MSW=men who have sex exclusively with women

Table S2. Percentage of *Neisseria gonorrhoeae* isolates with reduced azithromycin susceptibility (MICs ≥ 2 $\mu\text{g/ml}$) by site, Gonococcal Isolate Surveillance Project, United States, 2005–2013 (continued)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Site | n (%) | n (%) | n (%) | n (%) | n (%) | n (%) | n (%) | n (%) | n (%) |
| Philadelphia | 1 (0.3) | 1 (0.3) | 0 | 1 (0.4) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 1 (0.3) | 1 (0.3) |
| Phoenix | 0 (0.0) | 0 (0.0) | 0 (0.0) | 2 (0.8) | 2 (0.9) | 4 (2.0) | 4 (1.3) | 1 (0.3) | 3 (1.0) |
| Portland | 0 | 1 (0.6) | 2 (1.4) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 3 (1.8) | 1 (0.9) | 2 (1.6) |
| San Diego | 4 (1.4) | 0 (0.0) | 1 (0.5) | 0 (0.0) | 5 (2.9) | 5 (2.4) | 2 (1.0) | 0 (0.0) | 1 (0.6) |
| San Francisco | 3 (1.0) | 1 (0.3) | 1 (0.3) | 1 (0.5) | 0 (0.0) | 1 (0.4) | 1 (0.5) | 0 (0.0) | 1 (0.4) |
| Seattle | 2 (0.8) | 1 (0.4) | 1 (0.5) | 0 (0.0) | 0 (0.0) | 1 (0.4) | 1 (0.6) | 0 (0.0) | 0 (0.0) |

Note: Percentages represent the percentage of isolates with reduced susceptibility among isolates contributed by each site for a particular year.

Table S3. Comparison of men infected with urethral *Neisseria gonorrhoeae* with azithromycin minimum inhibitory concentrations (MICs) < 2 µg/ml to those infected with *N. gonorrhoeae* with reduced azithromycin susceptibility (MIC ≥2 µg/ml), Gonococcal Isolate Surveillance Project, 2005–2013

| Characteristic | Azithromycin | Azithromycin | p |
|--|----------------|---------------|--------|
| | MICs < 2 µg/ml | MICs ≥2 µg/ml | |
| | n=43,969 | n=175 | |
| Region, n (%) | | | <0.001 |
| West | 18,842 (42.9) | 118 (67.4) | |
| Midwest | 5,709 (13.0) | 29 (16.6) | |
| Northeast/South | 19,418 (44.2) | 28 (16.0) | |
| Age, median (IQR) | 27 (22-35) | 29 (24-36) | 0.013 |
| Race/Ethnicity, n (%) | | | <0.001 |
| American Indian | 157 (0.4) | 2 (1.1) | |
| Asian/PI | 881 (2.0) | 6 (3.4) | |
| Black (non-Hispanic) | 28,010 (63.7) | 45 (25.7) | |
| Hispanic/Latino | 5,232 (11.9) | 36 (20.6) | |
| White (non-Hispanic) | 8098 (18.4) | 73 (41.7) | |
| Other | 897 (2.0) | 9 (5.1) | |
| Unknown | 694 (1.6) | 4 (2.3) | |
| Reported sex of sex partner, n(%) | | | <0.001 |
| Female only | 30,644 (69.7) | 68 (38.9) | |
| Male only | 10,565 (24.0) | 97 (55.4) | |
| Male and female | 1,958 (4.5) | 7 (4.0) | |
| Unknown | 802 (1.8) | 3 (1.7) | |

Table S3. Comparison of men who were infected with urethral *Neisseria gonorrhoeae* with azithromycin minimum inhibitory concentrations (MICs) < 2 µg/ml to those infected with *N. gonorrhoeae* with reduced azithromycin susceptibility (MIC ≥2 µg/ml), 2005–2013 (continued)

| Characteristic | Azithromycin MICs | | p | |
|--------------------------------------|-------------------|-----------------------|-----------|-------------------|
| | Total n=44,144 | < 2 µg/ml n=43,969 | | ≥2 µg/ml n=175 |
| Isolate resistance phenotypes | | | | |
| Penicillin | 5,626 (12.7) | 5,583 (12.7) | 43 (24.6) | <0.001 |
| Tetracycline | 9,642 (21.9) | 9,572 (21.8) | 70 (40.0) | <0.001 |
| Ciprofloxacin | 6,356 (14.4) | 6,314 (14.4) | 42 (24.0) | <0.001 |
| Cefixime (MIC ≥0.25µg/ml)* | 273 (0.8) | 271 (0.8) | 2 (1.4) | 0.4 |

IQR=interquartile range, MIC = Minimum inhibitory concentration, PI=Pacific Islander

* 34,255 tested for cefixime susceptibility (cefixime susceptibility testing not performed during 2007 and 2008)

Note: limited to sites that participated continuously during 2005–2013