

**Sexually
Transmitted
Disease
Surveillance
2020:
Gonococcal Isolate Surveillance
Project Profile**

**Division of STD Prevention
August 2022**

**U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION
NATIONAL CENTER FOR HIV, VIRAL HEPATITIS, STD, AND TB PREVENTION
DIVISION OF STD PREVENTION
ATLANTA, GEORGIA 30329-4027**

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Web Site

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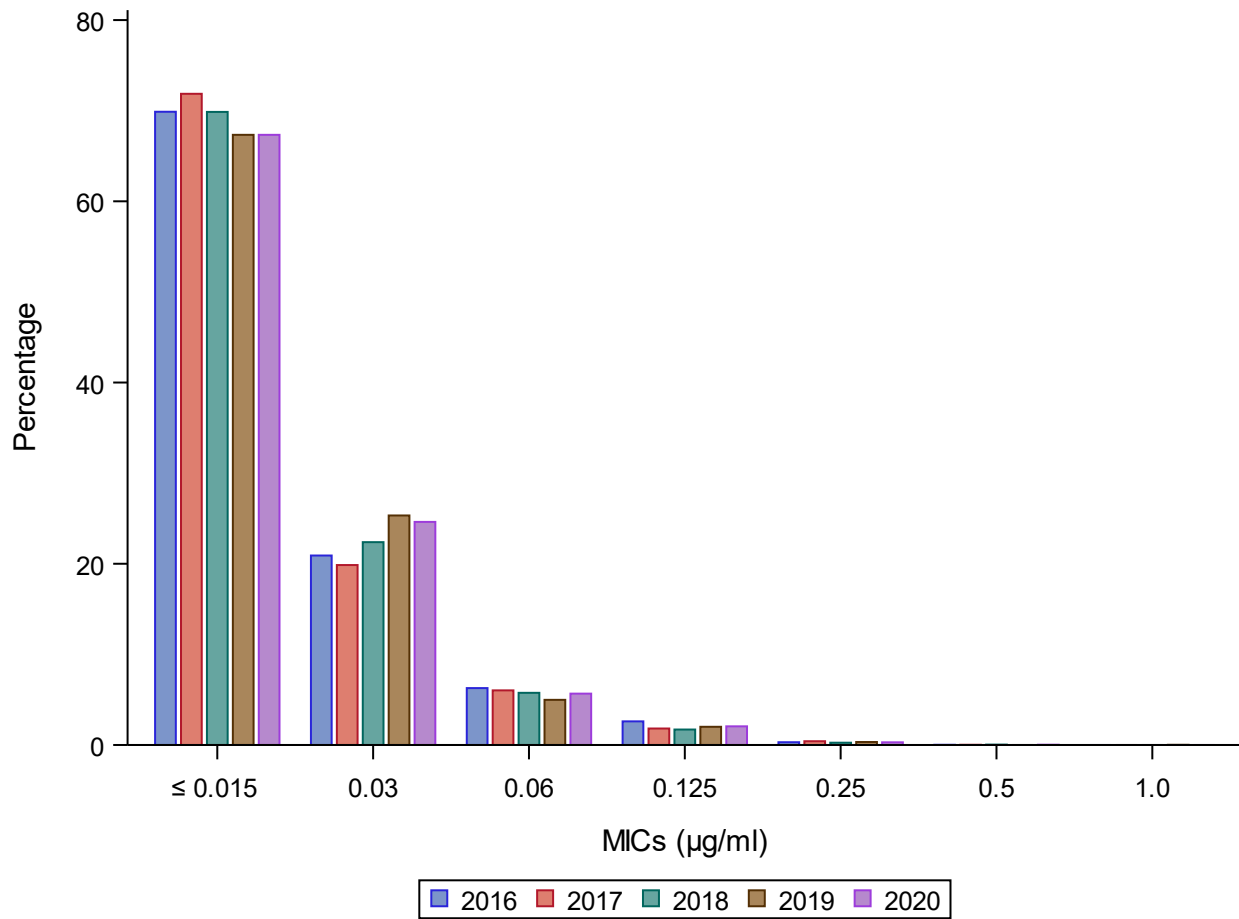
2020 Gonococcal Isolate Surveillance Project Clinical Sites and Years Participated

Albuquerque, New Mexico (1987–2020)	Greensboro, North Carolina (2002–2020)	New York, New York (2006–2020)
Anchorage, Alaska (1987–2003, 2018–2020)	Honolulu, Hawaii (1987–2020)	Orange County, California (1991–2020)
Birmingham, Alabama (1987–2020)	Indianapolis, Indiana (2013–2020)	Philadelphia, Pennsylvania (1987–2020)
Baltimore, Maryland (1987–2013, 2019–2020)	Jackson, Mississippi (2018–2020)	Phoenix, Arizona (1987–2020)
Buffalo, New York (2014–2020)	Kansas City, Missouri (1999–2001, 2007–2020)	Pontiac, Michigan (2012–2020)
Camden, New Jersey (2019–2020)	Las Vegas, Nevada (2002–2020)	Portland, Oregon (1987–2020)
Chicago, Illinois (1996–2020)	Los Angeles, California (2003–2020)	San Diego, California (1987–2020)
Cleveland, Ohio (1991–2020)	Miami, Florida (1998–2013, 2018–2020)	San Francisco, California (1987–2020)
Columbus, Ohio (2012–2020)	Milwaukee, Wisconsin (2018–2020)	Seattle, Washington (1987–2020)
Dallas, Texas (1999–2020)	Minneapolis, Minnesota (1992–2020)	Tripler Army Medical Center, Hawaii (2001–2020)
Denver, Colorado (1987–2013, 2018–2020)	New Orleans, Louisiana (1987–2020)	Washington, District of Columbia (2018–2020)

2020 Gonococcal Isolate Surveillance Project Regional Laboratories

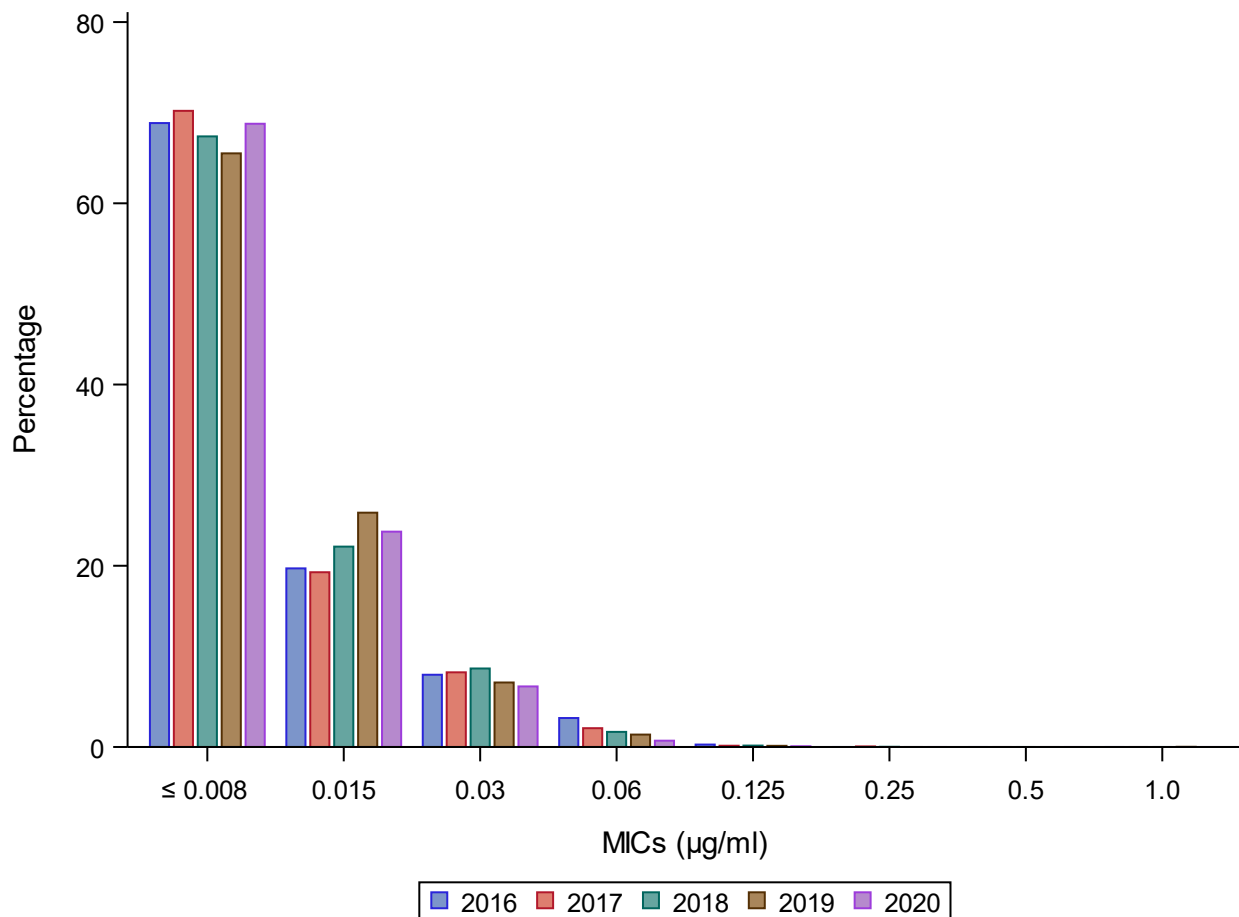
Maryland Department of Health and Mental Hygiene <i>Baltimore, Maryland</i>
Tennessee Department of Health <i>Nashville, Tennessee</i>
Texas Department of State Health Services <i>Austin, Texas</i>
Washington State Department of Health <i>Seattle, Washington</i>

Figure 1. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), 2016-2020



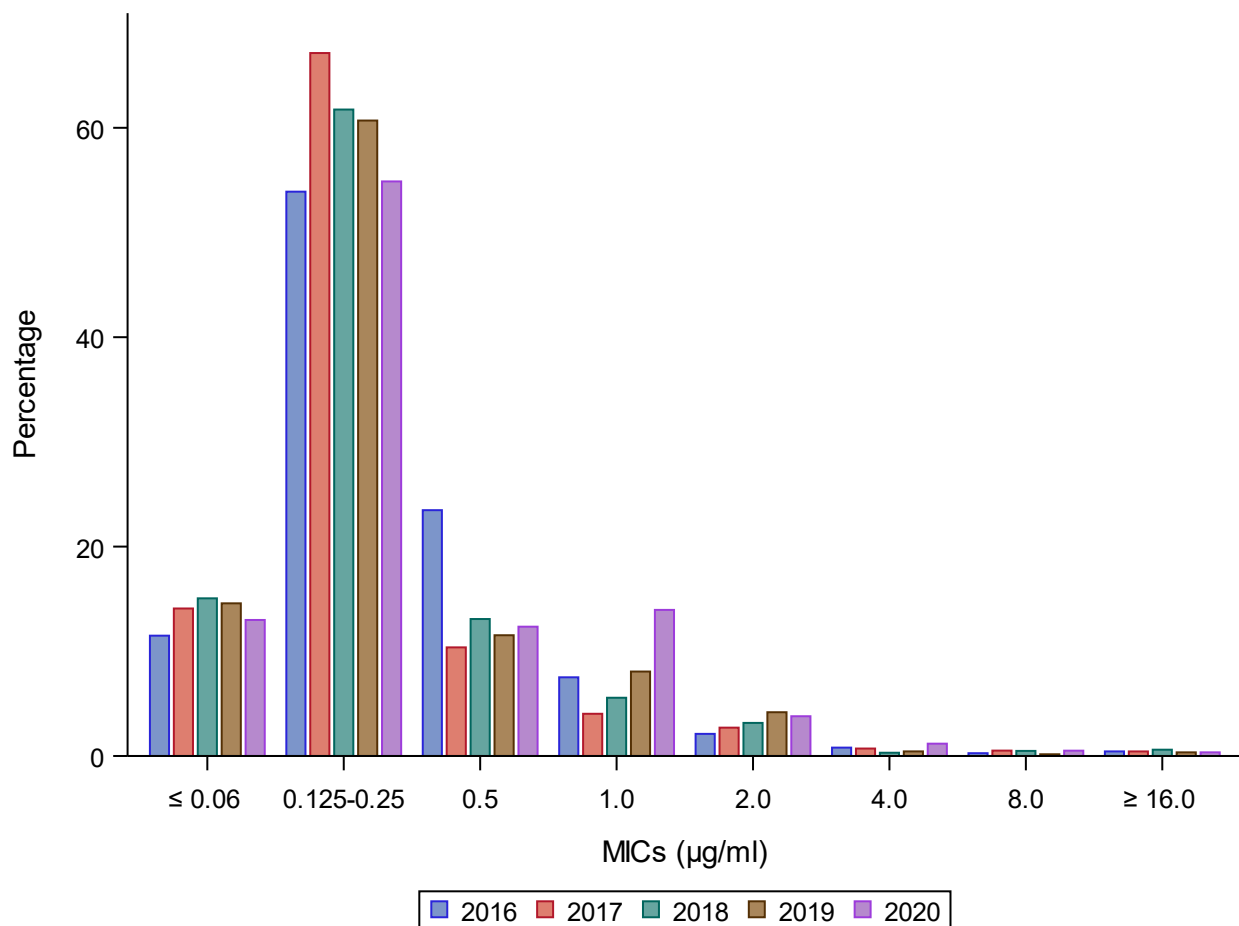
Year	≤ 0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2016	3673 (69.9)	1099 (20.9)	330 (6.3)	137 (2.6)	16 (0.3)	1 (0.0)	0 (0.0)	5256
2017	3637 (71.9)	1005 (19.9)	305 (6.0)	92 (1.8)	21 (0.4)	1 (0.0)	0 (0.0)	5061
2018	3605 (69.9)	1155 (22.4)	297 (5.8)	88 (1.7)	13 (0.3)	2 (0.0)	0 (0.0)	5160
2019	3690 (67.3)	1388 (25.3)	273 (5.0)	110 (2.0)	18 (0.3)	0 (0.0)	1 (0.0)	5480
2020	2519 (67.3)	921 (24.6)	212 (5.7)	77 (2.1)	11 (0.3)	1 (0.0)	0 (0.0)	3741

Figure 2. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), 2016-2020



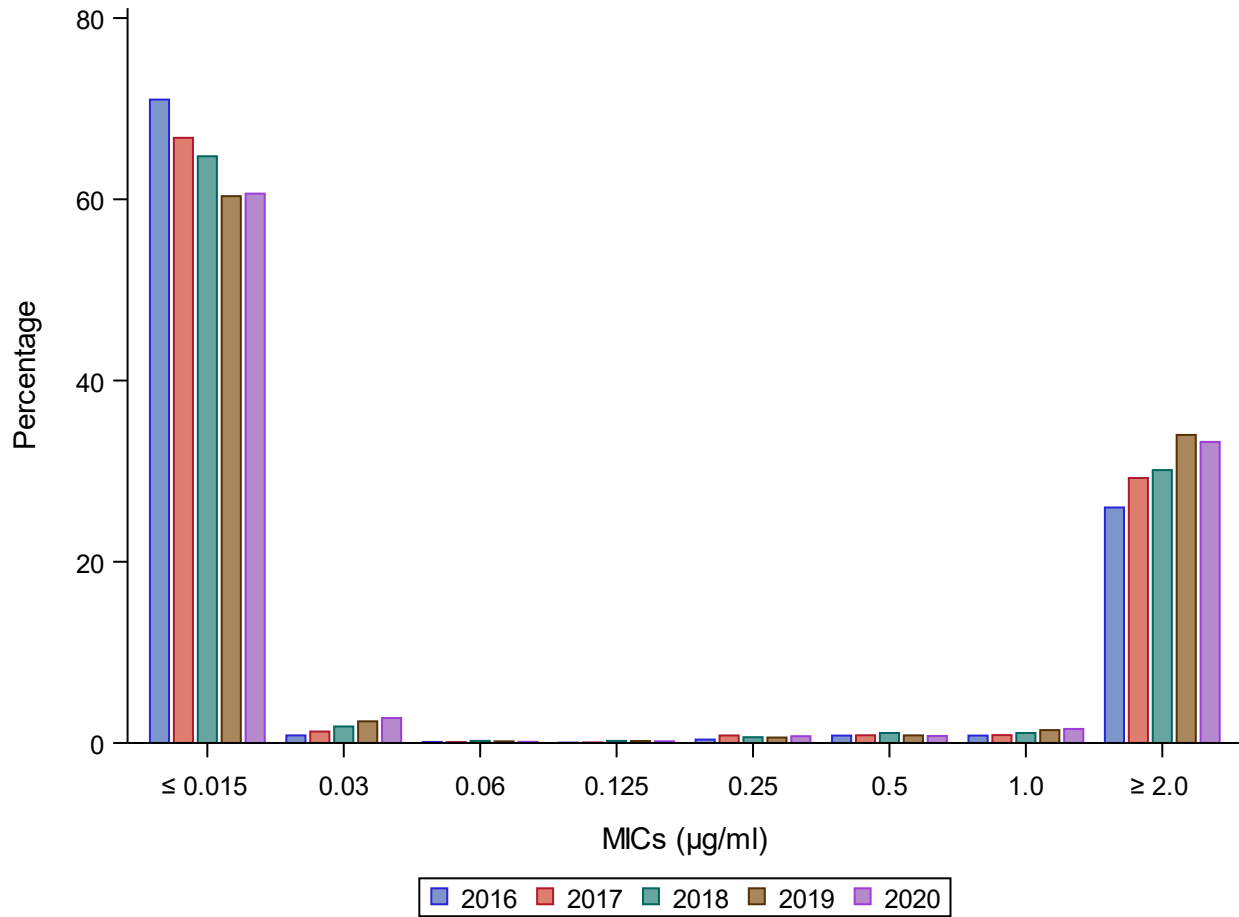
Year	≤ 0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2016	3619 (68.9)	1036 (19.7)	419 (8.0)	168 (3.2)	14 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)	5256
2017	3553 (70.2)	976 (19.3)	417 (8.2)	105 (2.1)	7 (0.1)	3 (0.1)	0 (0.0)	0 (0.0)	5061
2018	3477 (67.4)	1141 (22.1)	447 (8.7)	86 (1.7)	8 (0.2)	1 (0.0)	0 (0.0)	0 (0.0)	5160
2019	3590 (65.5)	1417 (25.9)	390 (7.1)	75 (1.4)	7 (0.1)	0 (0.0)	0 (0.0)	1 (0.0)	5480
2020	2573 (68.8)	889 (23.8)	250 (6.7)	26 (0.7)	3 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	3741

Figure 3. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), 2016-2020



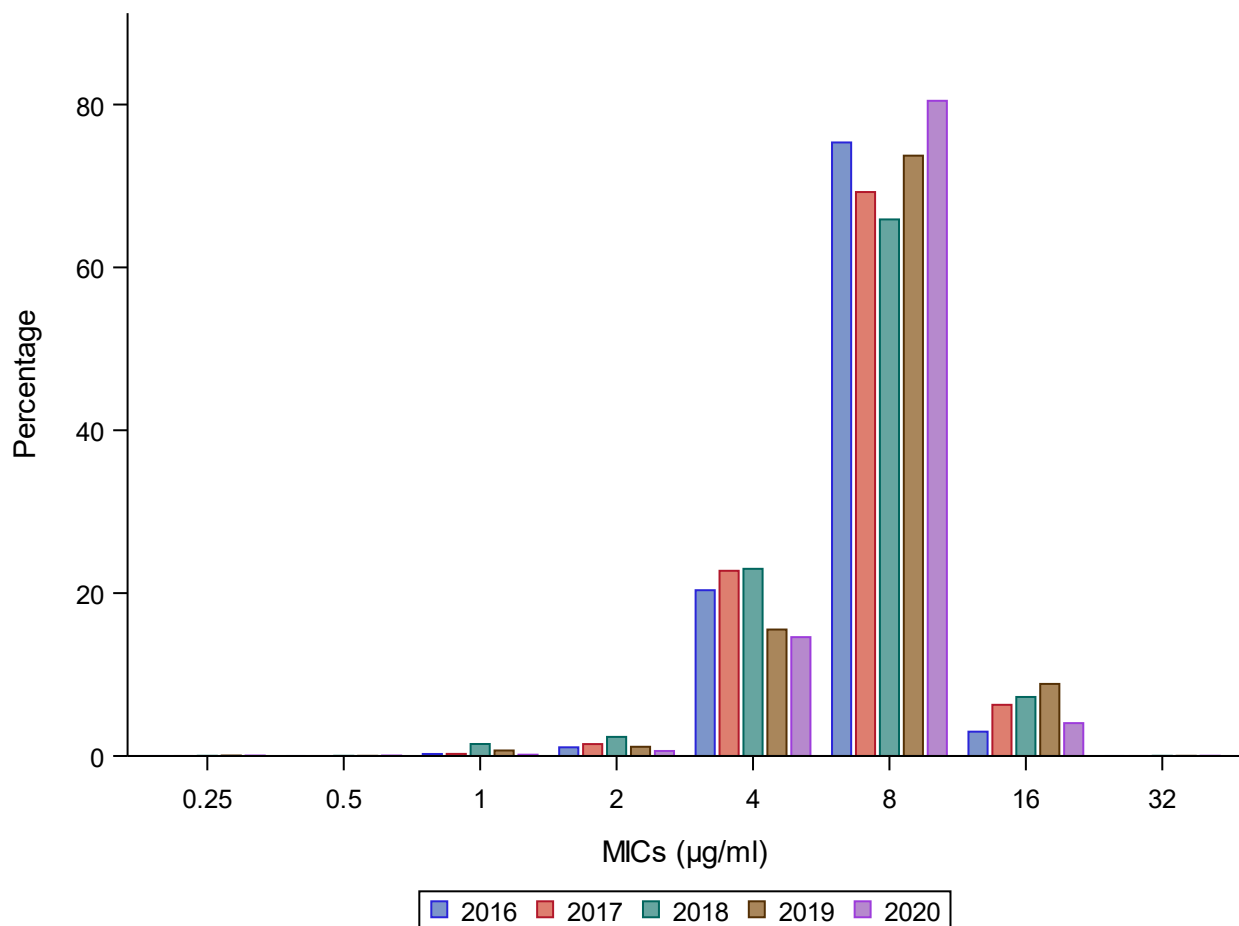
Year	≤ 0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥ 16.0 n (%)	Total
2016	604 (11.5)	2833 (53.9)	1234 (23.5)	395 (7.5)	111 (2.1)	42 (0.8)	14 (0.3)	23 (0.4)	5256
2017	713 (14.1)	3398 (67.1)	525 (10.4)	204 (4.0)	137 (2.7)	36 (0.7)	26 (0.5)	22 (0.4)	5061
2018	777 (15.1)	3186 (61.7)	675 (13.1)	287 (5.6)	163 (3.2)	16 (0.3)	25 (0.5)	31 (0.6)	5160
2019	799 (14.6)	3326 (60.7)	632 (11.5)	442 (8.1)	229 (4.2)	24 (0.4)	9 (0.2)	19 (0.3)	5480
2020	486 (13.0)	2053 (54.9)	462 (12.3)	522 (14.0)	142 (3.8)	44 (1.2)	19 (0.5)	13 (0.3)	3741

Figure 4. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), 2016-2020



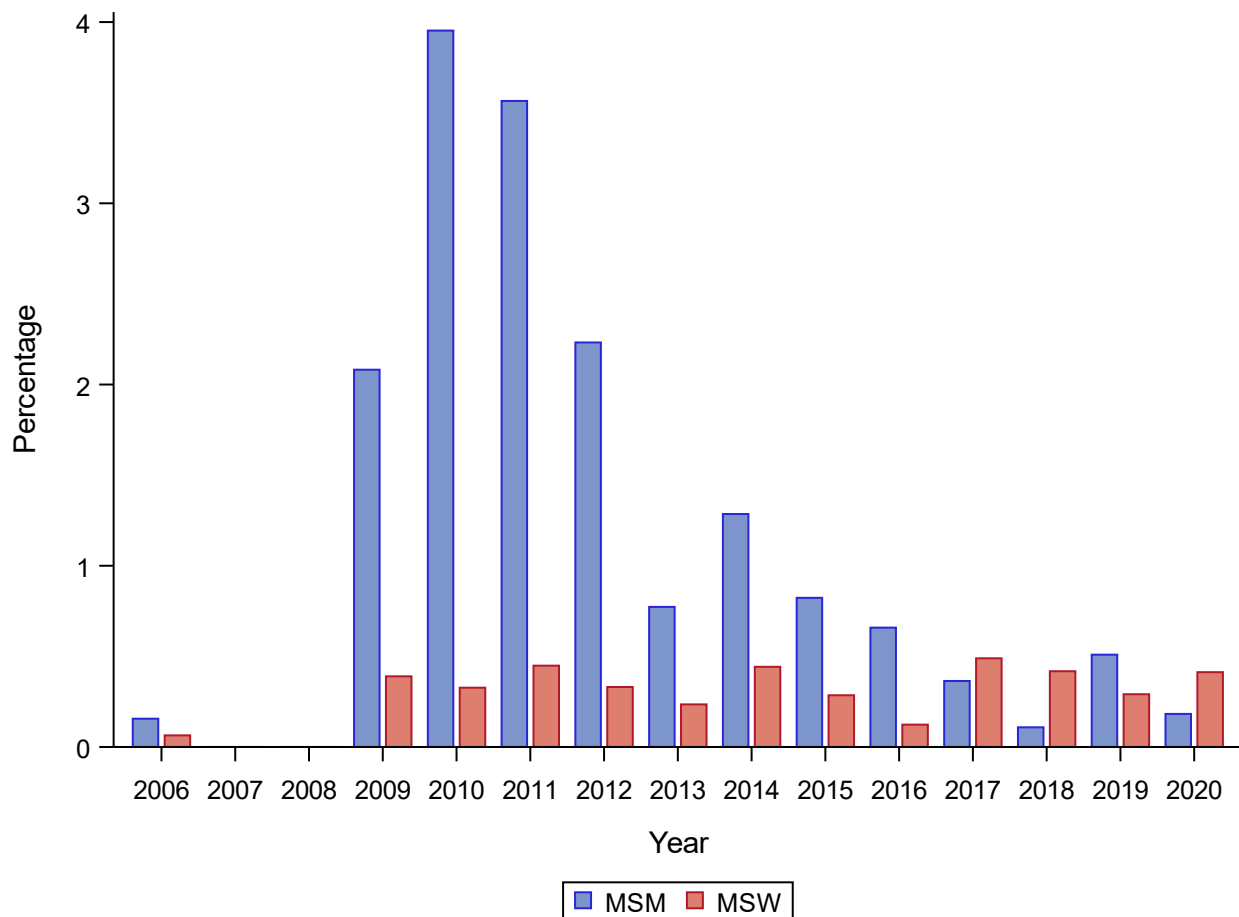
Year	≤ 0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	≥ 2.0 n (%)	Total
2016	3732 (71.0)	44 (0.8)	6 (0.1)	2 (0.0)	20 (0.4)	43 (0.8)	43 (0.8)	1366 (26.0)	5256
2017	3380 (66.8)	64 (1.3)	5 (0.1)	3 (0.1)	42 (0.8)	43 (0.8)	44 (0.9)	1480 (29.2)	5061
2018	3341 (64.7)	94 (1.8)	12 (0.2)	12 (0.2)	33 (0.6)	57 (1.1)	57 (1.1)	1554 (30.1)	5160
2019	3307 (60.3)	131 (2.4)	10 (0.2)	12 (0.2)	33 (0.6)	46 (0.8)	78 (1.4)	1863 (34.0)	5480
2020	2268 (60.6)	103 (2.8)	5 (0.1)	7 (0.2)	28 (0.7)	29 (0.8)	58 (1.6)	1243 (33.2)	3741

Figure 5. Distribution of Gentamicin Minimum Inhibitory Concentrations (MICs) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), 2016-2020



Year	0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	16.0 n (%)	32.0 n (%)	Total
2016	0 (0.0)	0 (0.0)	13 (0.2)	56 (1.1)	1070 (20.4)	3960 (75.3)	157 (3.0)	0 (0.0)	5256
2017	0 (0.0)	0 (0.0)	13 (0.3)	74 (1.5)	1151 (22.7)	3505 (69.3)	318 (6.3)	0 (0.0)	5061
2018	1 (0.0)	1 (0.0)	76 (1.5)	121 (2.3)	1186 (23.0)	3400 (65.9)	374 (7.2)	1 (0.0)	5160
2019	3 (0.1)	1 (0.0)	37 (0.7)	62 (1.1)	851 (15.5)	4040 (73.7)	485 (8.9)	1 (0.0)	5480
2020	2 (0.1)	2 (0.1)	6 (0.2)	23 (0.6)	546 (14.6)	3010 (80.5)	151 (4.0)	1 (0.0)	3741

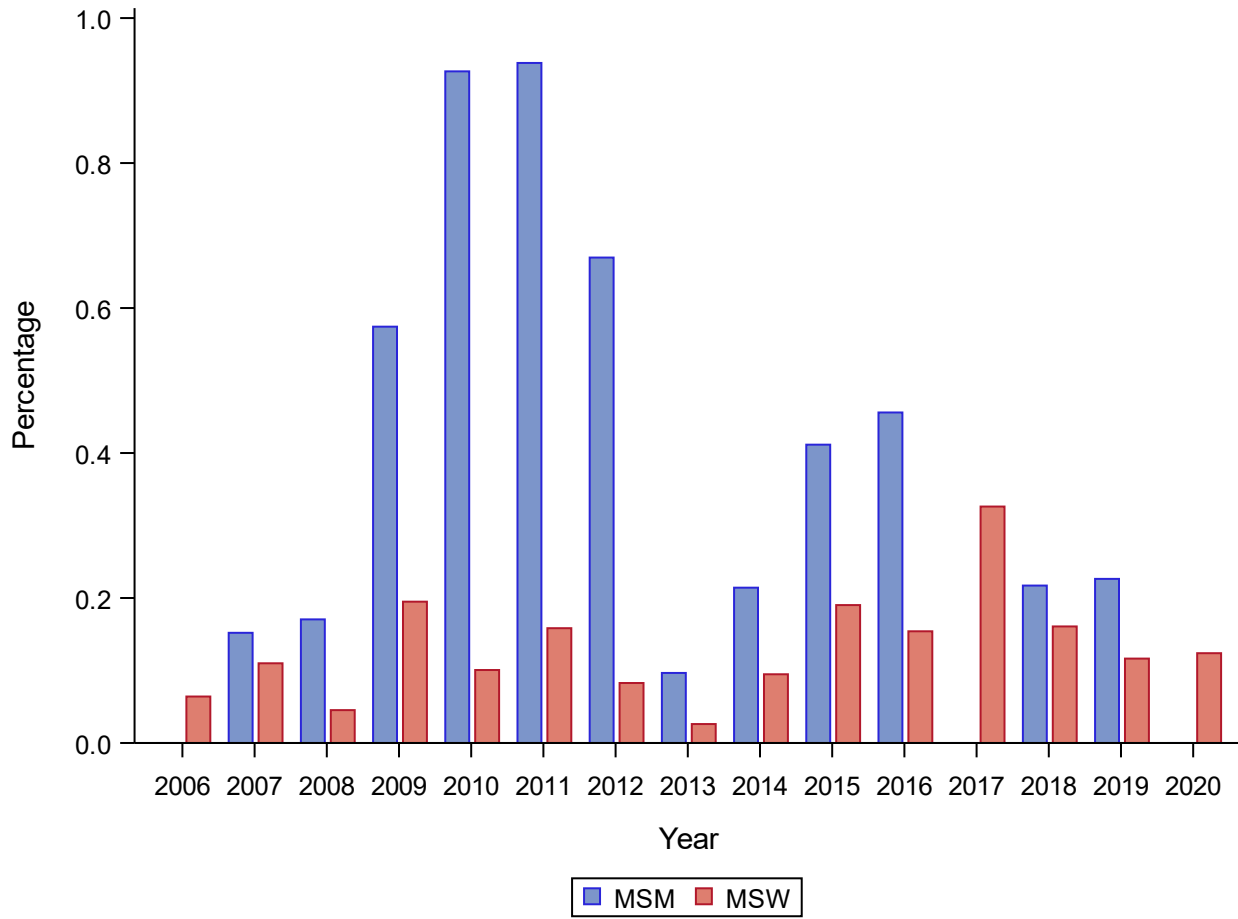
Figure 6. Percentage of *Neisseria gonorrhoeae* Isolates with Elevated Minimum Inhibitory Concentrations (MICs) to Cefixime by Reported Gender of Sex Partners, Gonococcal Isolate Surveillance Project (GISP), 2006-2020



Gender of Sex Partners	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)
MSM	2 (0.2)	N/A	N/A	29 (2.1)	64 (4.0)	57 (3.6)	40 (2.2)	16 (0.8)	24 (1.3)	16 (0.8)	13 (0.7)	7 (0.4)	2 (0.1)	9 (0.5)	2 (0.2)
MSW	3 (0.1)	N/A	N/A	16 (0.4)	13 (0.3)	17 (0.4)	12 (0.3)	9 (0.2)	14 (0.4)	9 (0.3)	4 (0.1)	15 (0.5)	13 (0.4)	10 (0.3)	10 (0.4)

Note: MSM = Gay, bisexual, and other men who have sex with men; MSW = Men who have sex with women only. Isolates were not tested for cefixime susceptibility in 2007-2008. Cefixime elevated MICs ≥ 0.25 $\mu\text{g/ml}$.

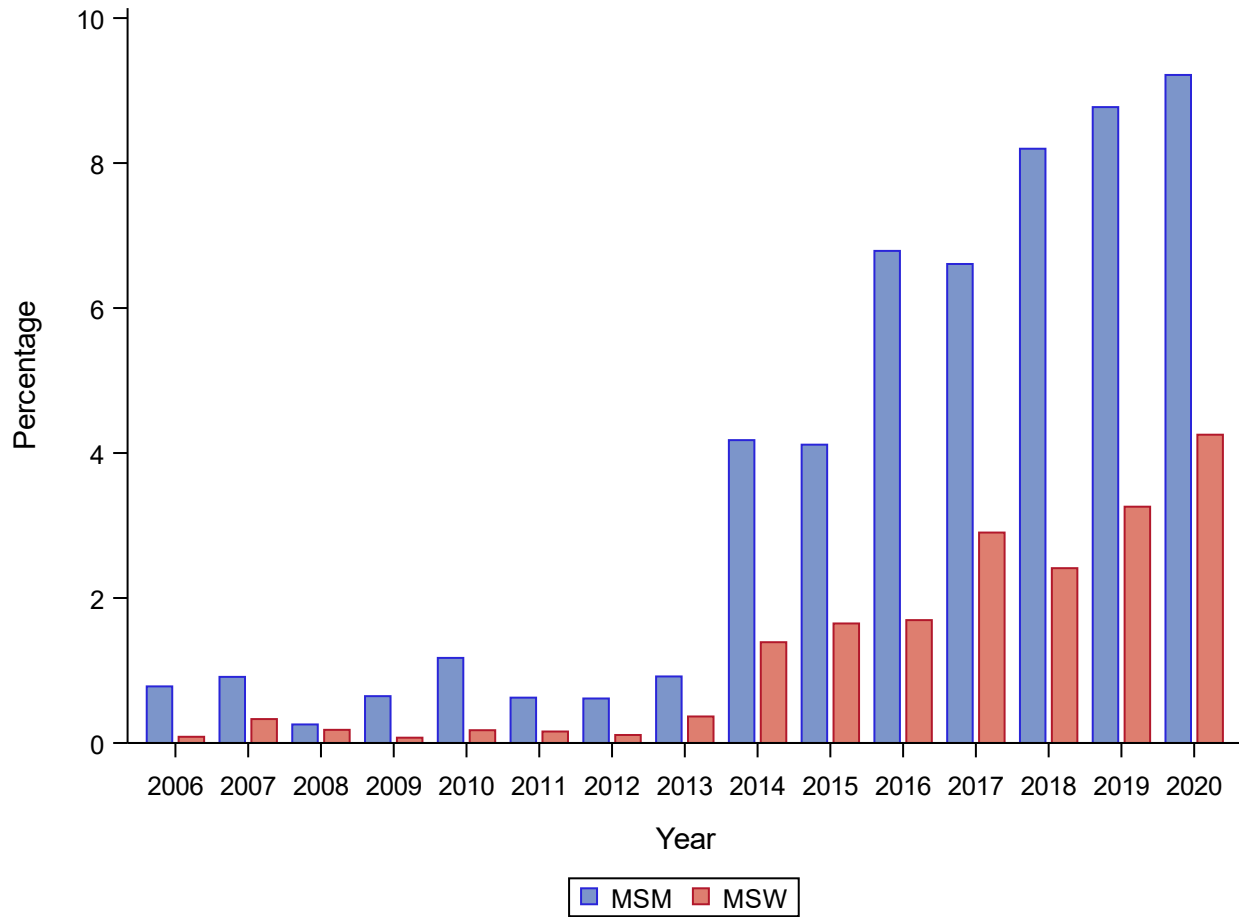
Figure 7. Percentage of *Neisseria gonorrhoeae* Isolates with Elevated Minimum Inhibitory Concentrations (MICs) to



Gender of Sex Partners	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)
MSM	0 (0.0)	2 (0.2)	2 (0.2)	8 (0.6)	15 (0.9)	15 (0.9)	12 (0.7)	2 (0.1)	4 (0.2)	8 (0.4)	9 (0.5)	0 (0.0)	4 (0.2)	4 (0.2)	0 (0.0)
MSW	3 (0.1)	5 (0.1)	2 (0.0)	8 (0.2)	4 (0.1)	6 (0.2)	3 (0.1)	1 (0.0)	3 (0.1)	6 (0.2)	5 (0.2)	10 (0.3)	5 (0.2)	4 (0.1)	3 (0.1)

Note: MSM = Gay, bisexual, and other men who have sex with men; MSW = Men who have sex with women only. Ceftriaxone elevated MICs $\geq 0.125 \mu\text{g/ml}$.

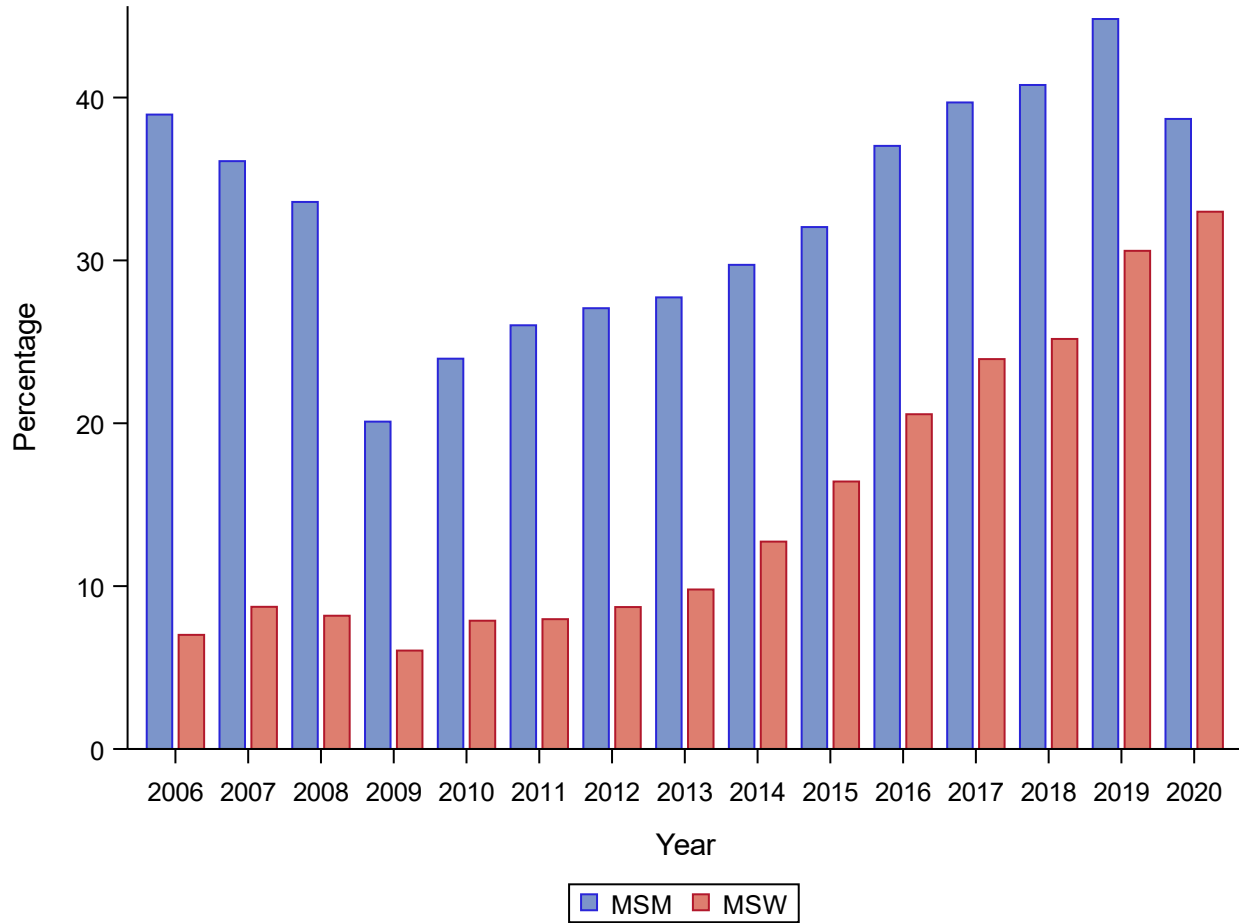
Figure 8. Percentage of *Neisseria gonorrhoeae* Isolates with Elevated Minimum Inhibitory Concentrations (MICs) to Azithromycin by Reported Gender of Sex Partners, Gonococcal Isolate Surveillance Project (GISP), 2006-2020



Gender of Sex Partners	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)
MSM	10 (0.8)	12 (0.9)	3 (0.3)	9 (0.6)	19 (1.2)	10 (0.6)	11 (0.6)	19 (0.9)	78 (4.2)	80 (4.1)	134 (6.8)	127 (6.6)	151 (8.2)	155 (8.8)	101 (9.2)
MSW	4 (0.1)	15 (0.3)	8 (0.2)	3 (0.1)	7 (0.2)	6 (0.2)	4 (0.1)	14 (0.4)	44 (1.4)	52 (1.6)	55 (1.7)	89 (2.9)	75 (2.4)	112 (3.3)	103 (4.3)

Note: MSM = Gay, bisexual, and other men who have sex with men; MSW = Men who have sex with women only. Azithromycin elevated MICs ≥ 2.0 $\mu\text{g/ml}$.

Figure 9. Percentage of *Neisseria gonorrhoeae* Isolates that are Ciprofloxacin-Resistant by Reported Gender of Sex Partners, Gonococcal Isolate Surveillance Project (GISP), 2006-2020



Gender of Sex Partners	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)
MSM	499 (39.0)	475 (36.1)	394 (33.6)	280 (20.1)	388 (24.0)	416 (26.0)	485 (27.1)	574 (27.7)	555 (29.7)	623 (32.0)	731 (37.0)	763 (39.7)	751 (40.8)	792 (44.8)	424 (38.7)
MSW	328 (7.0)	397 (8.7)	361 (8.2)	248 (6.0)	313 (7.9)	302 (8.0)	316 (8.7)	375 (9.8)	403 (12.7)	518 (16.4)	667 (20.6)	734 (23.9)	783 (25.2)	1051 (30.6)	799 (33.0)

Note: MSM = Gay, bisexual, and other men who have sex with men; MSW = Men who have sex with women only. Ciprofloxacin resistance MICs ≥ 1.0 $\mu\text{g/ml}$.