

Sexually Transmitted Disease Surveillance January–July 2024: Gonococcal Isolate Surveillance Project Profile

Division of STD Prevention
September 2025

NOTE: The Gonococcal Isolate Surveillance Project (GISP) ended on July 31, 2024. On August 1, 2024, CDC began the Combatting Antimicrobial Resistant Gonorrhea and Other STIs (CARGOS) project. The activities conducted under GISP were incorporated into CARGOS and any antimicrobial resistant gonorrhea data collected after August 1, 2024 will be reported in CARGOS Profiles.

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NATIONAL CENTER FOR HIV, VIRAL HEPATITIS, STD, AND TB PREVENTION
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Acknowledgments

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Publication of this report would not have been possible without the contributions of all participating state and local health departments, sexually transmitted disease clinics, public health laboratories, and regional laboratories. Contributions from eight locations were received through the Strengthening the United States Response to Resistant Gonorrhea (SURRG) project led by Emily Learner and Kerry Mauk, Behavioral Science and Epidemiology Branch, Division of STD Prevention, National Center for HIV, Viral Hepatitis, STD, and TB Prevention, Centers for Disease Control and Prevention.

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Suggested Citation

Centers for Disease Control and Prevention. *Sexually Transmitted Disease Surveillance January-July 2024: Gonococcal Isolate Surveillance Project National Profile*. Atlanta: U.S. Department of Health and Human Services; 2025.

Web Site

The online version of this report is available at <https://www.cdc.gov/sti-statistics/gisp-profiles/>.

Technical Note

Antimicrobial susceptibility data presented in this report are based on criteria established by the Clinical & Laboratory Standards Institute (CLSI) and the FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria (FDA-STIC).

2024 Gonococcal Isolate Surveillance Project Clinical Sites and Years Participated

Albuquerque, New Mexico (1987–2024)	Greensboro, North Carolina (2002–2024)	Orange County, California (1991–2024)
Anchorage, Alaska (1987–2003, 2018–2024)	Honolulu, Hawaii (1987–2024)	Philadelphia, Pennsylvania (1987–2024)
Baltimore, Maryland (1987–2013, 2019–2024)	Indianapolis, Indiana (2013–2024)	Phoenix, Arizona (1987–2024)
Birmingham, Alabama (1987–2024)	Kansas City, Missouri (1991–2001, 2007–2024)	Pittsburgh, Pennsylvania (2022–2024)
Buffalo, New York (2014–2024)	Las Vegas, Nevada (2002–2024)	Pontiac, Michigan (2012–2024)
Camden, New Jersey (2019–2024)	Los Angeles, California (2003–2024)	Portland, Oregon (1987–2024)
Chicago, Illinois (1996–2024)	Milwaukee, Wisconsin (2018–2024)	San Diego, California (1987–2024)
Columbus, Ohio (2012–2024)	Minneapolis, Minnesota (1992–2024)	San Francisco, California (1987–2024)
Dallas, Texas (2000–2024)	New Orleans, Louisiana (1987–2024)	Seattle, Washington (1987–2024)
Denver, Colorado (1987–2013, 2018–2024)	New York, New York (2006–2024)	Washington, District of Columbia (2018–2024)

2024 Gonococcal Isolate Surveillance Project Regional Laboratories

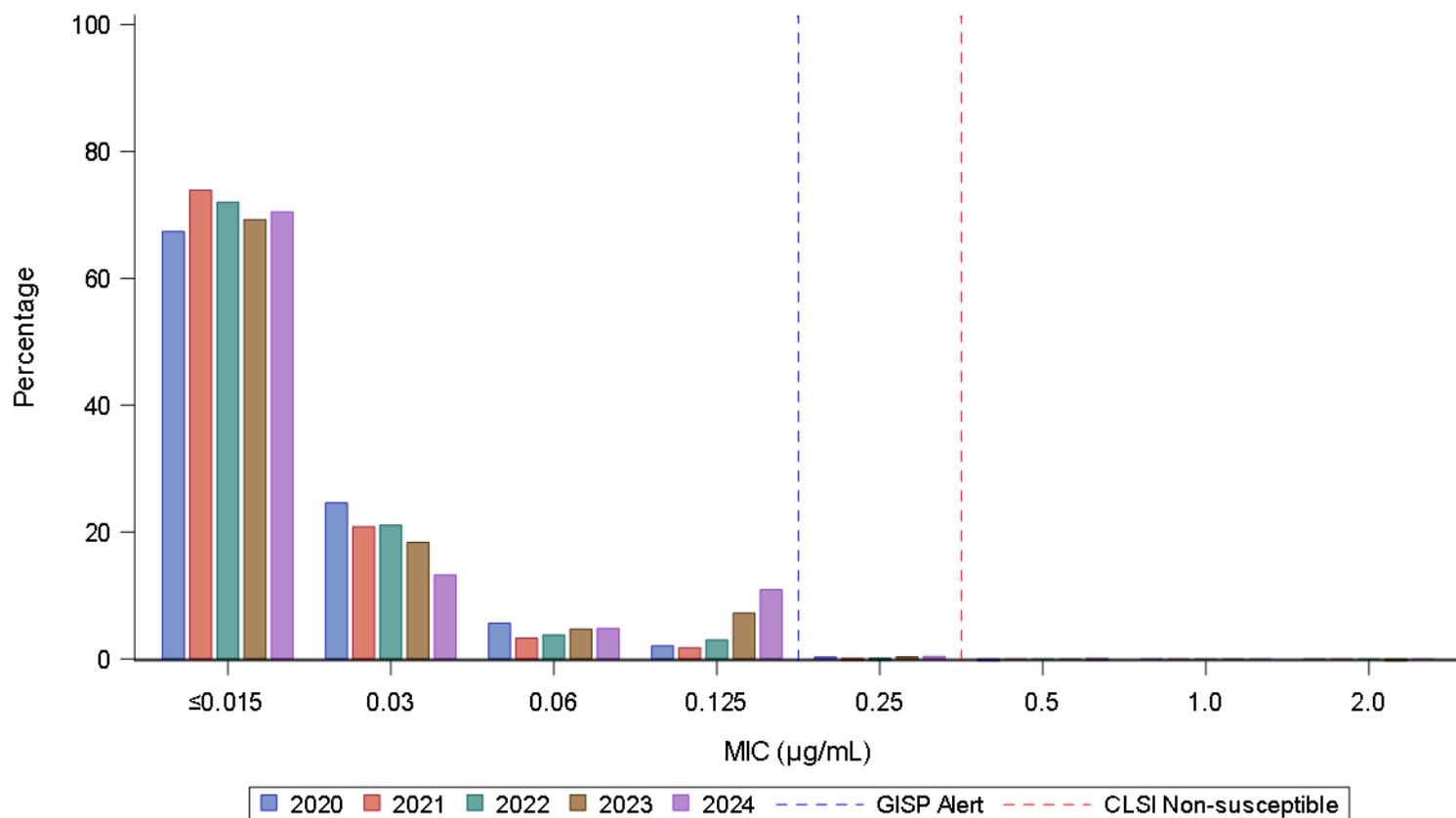
Maryland Department of Health and Mental Hygiene <i>Baltimore, Maryland</i>
Tennessee Department of Health <i>Nashville, Tennessee</i>
Utah Department of Health <i>Salt Lake City, Utah</i>
Washington State Department of Health <i>Seattle, Washington</i>

2024 Gonococcal Isolate Surveillance Project Profiles

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Figure 1. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), January 1, 2020-July 31, 2024



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
2020	2520 (67.4)	921 (24.6)	211 (5.6)	77 (2.1)	11 (0.3)	1 (0.0)	0 (0.0)	0 (0.0)	3741
2021	2826 (73.9)	798 (20.9)	126 (3.3)	68 (1.8)	5 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	3823
2022	2653 (72.0)	777 (21.1)	139 (3.8)	110 (3.0)	5 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	3684
2023	2425 (69.2)	645 (18.4)	165 (4.7)	254 (7.3)	12 (0.3)	0 (0.0)	0 (0.0)	1 (0.0)	3502
2024	1283 (70.5)	241 (13.2)	88 (4.8)	199 (10.9)	7 (0.4)	2 (0.1)	0 (0.0)	0 (0.0)	1820

GISP Alert Value = cefixime MIC ≥ 0.25 µg/mL; CLSI Non-susceptible = cefixime MIC ≥ 0.5 µg/mL.

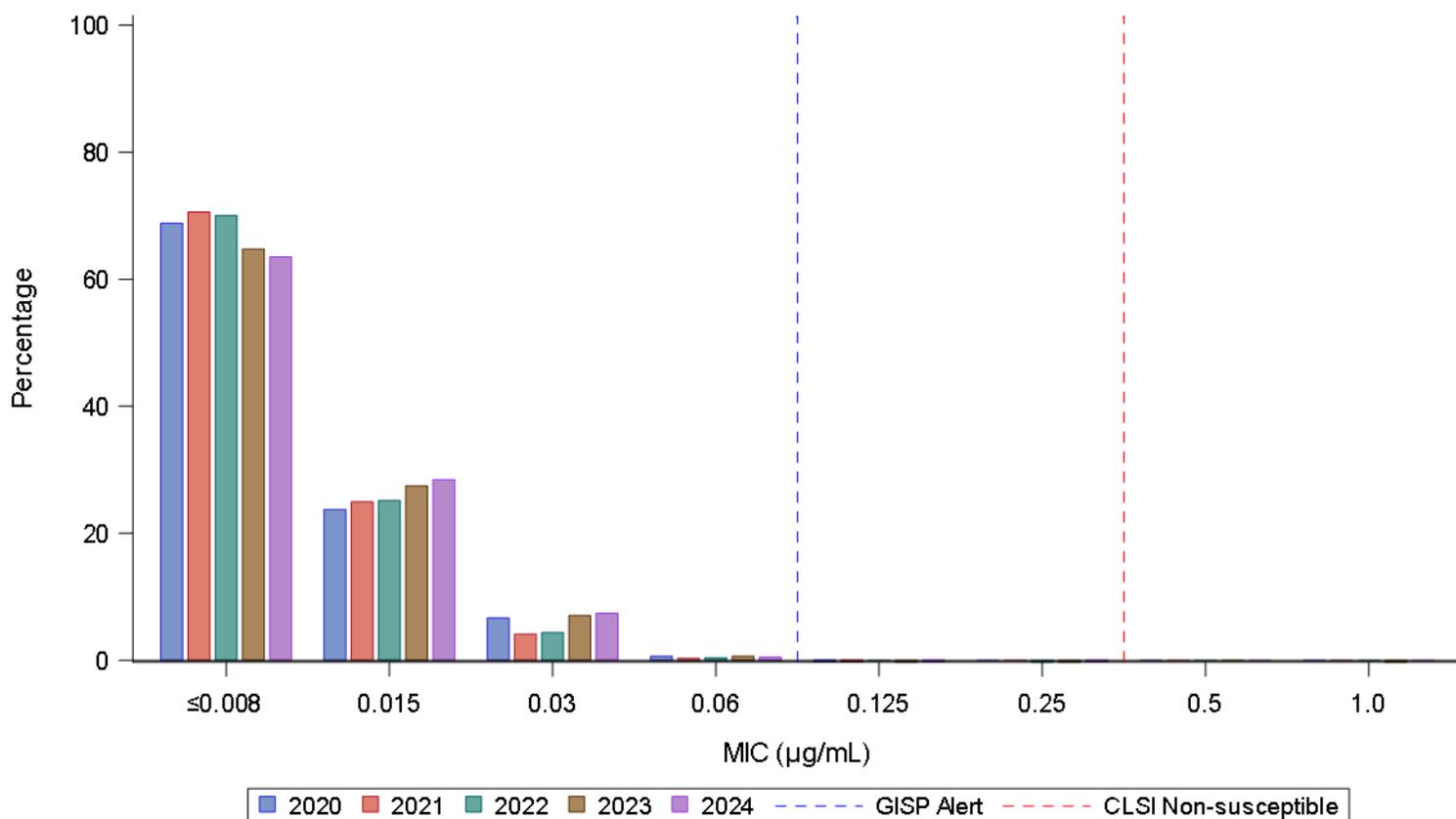
CLSI = Clinical & Laboratory Standards Institute.

Non-susceptible = Category used for isolates when only a susceptible breakpoint has been designated and the MIC is above the susceptible breakpoint.

As of publication, the CLSI has not established a cefixime resistance breakpoint for *N. gonorrhoeae*.

Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Figure 2. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), January 1, 2020-July 31, 2024



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
2020	2574 (68.8)	889 (23.8)	250 (6.7)	25 (0.7)	3 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	3741
2021	2697 (70.5)	954 (25.0)	158 (4.1)	11 (0.3)	3 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	3823
2022	2579 (70.0)	927 (25.2)	162 (4.4)	15 (0.4)	0 (0.0)	1 (0.0)	0 (0.0)	0 (0.0)	3684
2023	2267 (64.7)	962 (27.5)	247 (7.1)	23 (0.7)	1 (0.0)	1 (0.0)	0 (0.0)	1 (0.0)	3502
2024	1156 (63.5)	518 (28.5)	135 (7.4)	9 (0.5)	1 (0.1)	1 (0.1)	0 (0.0)	0 (0.0)	1820

GISP Alert Value = ceftriaxone MIC ≥ 0.125 µg/mL; CLSI Non-susceptible = ceftriaxone MIC ≥ 0.5 µg/mL.

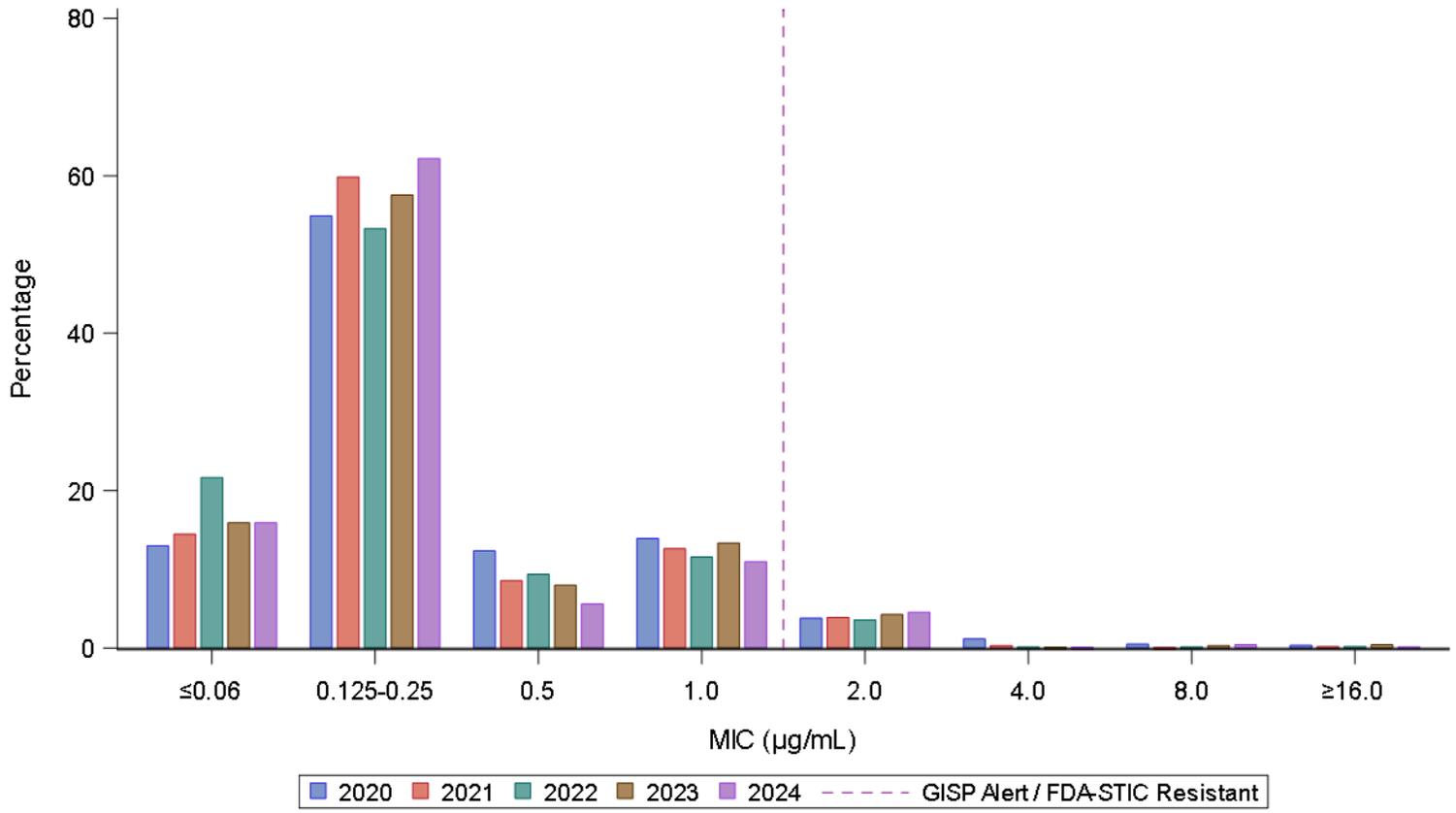
CLSI = Clinical & Laboratory Standards Institute.

Non-susceptible = Category used for isolates when only a susceptible breakpoint has been designated and the MIC is above the susceptible breakpoint.

As of publication, the CLSI has not established a ceftriaxone resistance breakpoint for *N. gonorrhoeae*.

Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Figure 3. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), January 1, 2020-July 31, 2024



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
2020	486 (13.0)	2054 (54.9)	462 (12.3)	521 (13.9)	142 (3.8)	44 (1.2)	19 (0.5)	13 (0.3)	3741
2021	553 (14.5)	2287 (59.8)	327 (8.6)	483 (12.6)	149 (3.9)	12 (0.3)	4 (0.1)	8 (0.2)	3823
2022	798 (21.7)	1963 (53.3)	345 (9.4)	426 (11.6)	132 (3.6)	6 (0.2)	6 (0.2)	8 (0.2)	3684
2023	558 (15.9)	2016 (57.6)	280 (8.0)	467 (13.3)	150 (4.3)	5 (0.1)	11 (0.3)	15 (0.4)	3502
2024	290 (15.9)	1132 (62.2)	102 (5.6)	200 (11.0)	83 (4.6)	2 (0.1)	8 (0.4)	3 (0.2)	1820

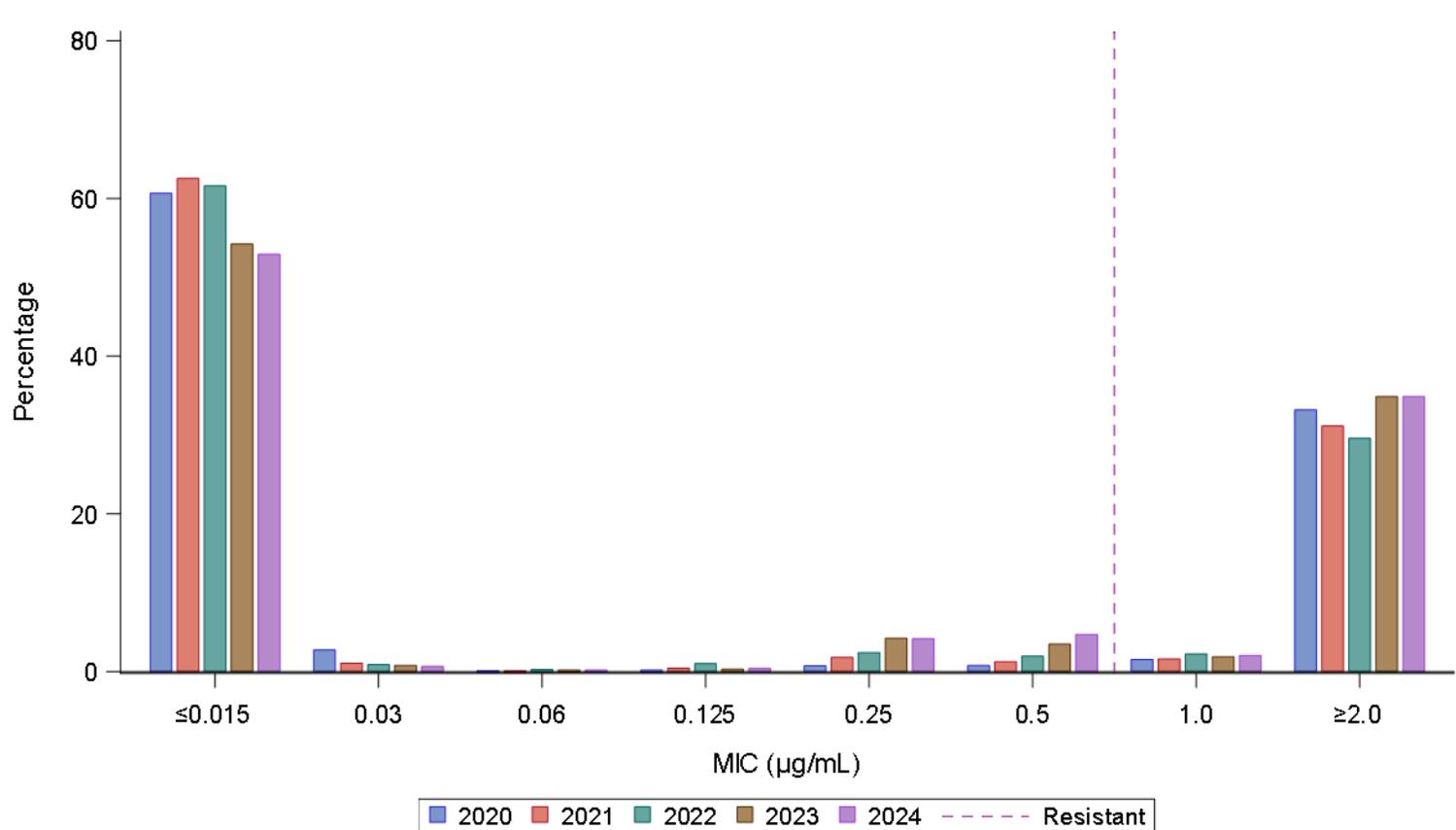
GISP Alert Value: azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; FDA-STIC Resistant = azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$.

FDA-STIC = FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria.

In 2025, azithromycin resistance was established as ≥ 2.0 $\mu\text{g/mL}$ (FDA-STIC).

Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Figure 4. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), January 1, 2020-July 31, 2024

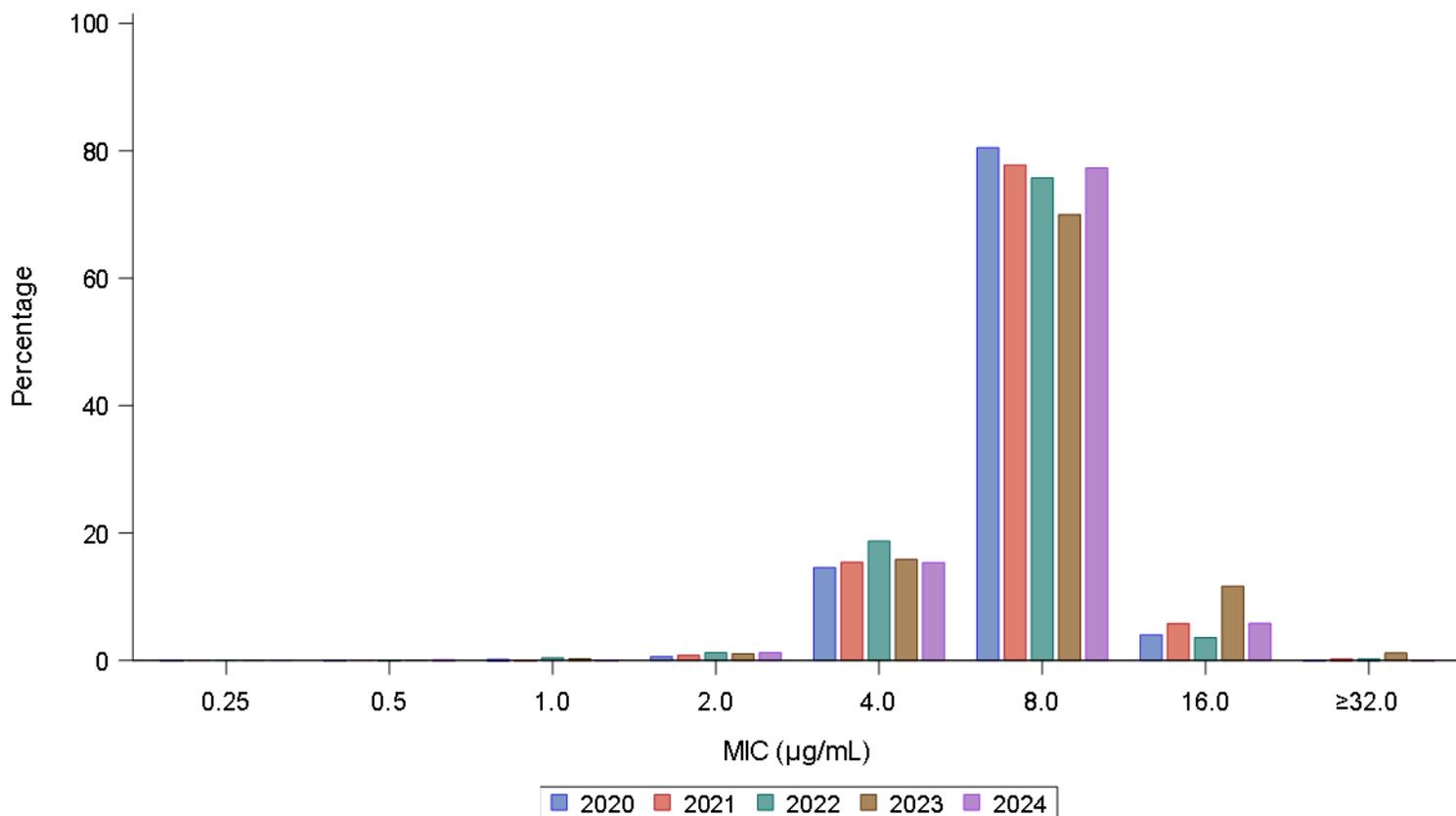


Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	≥2.0 n (%)	Total
2020	2269 (60.7)	103 (2.8)	5 (0.1)	7 (0.2)	28 (0.7)	29 (0.8)	58 (1.6)	1242 (33.2)	3741
2021	2390 (62.5)	41 (1.1)	5 (0.1)	17 (0.4)	69 (1.8)	48 (1.3)	62 (1.6)	1191 (31.2)	3823
2022	2269 (61.6)	33 (0.9)	10 (0.3)	38 (1.0)	89 (2.4)	72 (2.0)	83 (2.3)	1090 (29.6)	3684
2023	1899 (54.2)	28 (0.8)	7 (0.2)	11 (0.3)	148 (4.2)	122 (3.5)	66 (1.9)	1221 (34.9)	3502
2024	963 (52.9)	12 (0.7)	4 (0.2)	7 (0.4)	76 (4.2)	86 (4.7)	37 (2.0)	635 (34.9)	1820

Ciprofloxacin resistance MIC ≥1.0 µg/mL.

Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Figure 5. Distribution of Gentamicin Minimum Inhibitory Concentrations (MICs) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), January 1, 2020-July 31, 2024

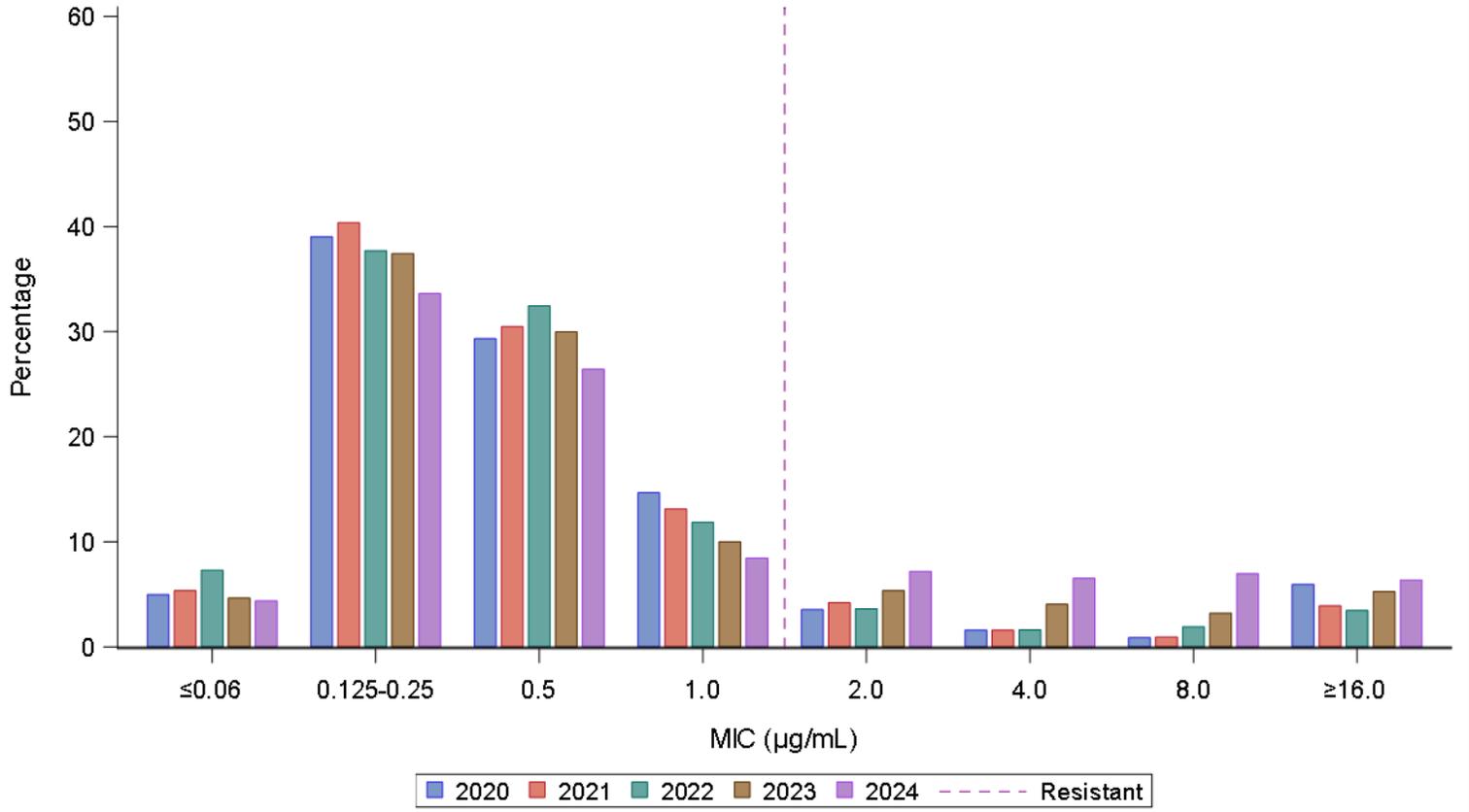


Year	0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	16.0 n (%)	≥32.0 n (%)	Total
2020	2 (0.1)	2 (0.1)	6 (0.2)	23 (0.6)	546 (14.6)	3010 (80.5)	151 (4.0)	1 (0.0)	3741
2021	0 (0.0)	0 (0.0)	1 (0.0)	31 (0.8)	589 (15.4)	2973 (77.8)	221 (5.8)	8 (0.2)	3823
2022	0 (0.0)	2 (0.1)	16 (0.4)	46 (1.2)	690 (18.7)	2790 (75.7)	132 (3.6)	8 (0.2)	3684
2023	0 (0.0)	0 (0.0)	9 (0.3)	37 (1.1)	555 (15.8)	2451 (70.0)	409 (11.7)	41 (1.2)	3502
2024	0 (0.0)	2 (0.1)	1 (0.1)	23 (1.3)	280 (15.4)	1407 (77.3)	106 (5.8)	1 (0.1)	1820

As of publication, the Clinical & Laboratory Standards Institute (CLSI) criteria for susceptibility and resistance to gentamicin have not been established for *N. gonorrhoeae*. A GISP alert value for gentamicin has not been determined.

Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Figure 6. Distribution of Penicillin Minimum Inhibitory Concentrations (MICs) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), January 1, 2020-July 31, 2024

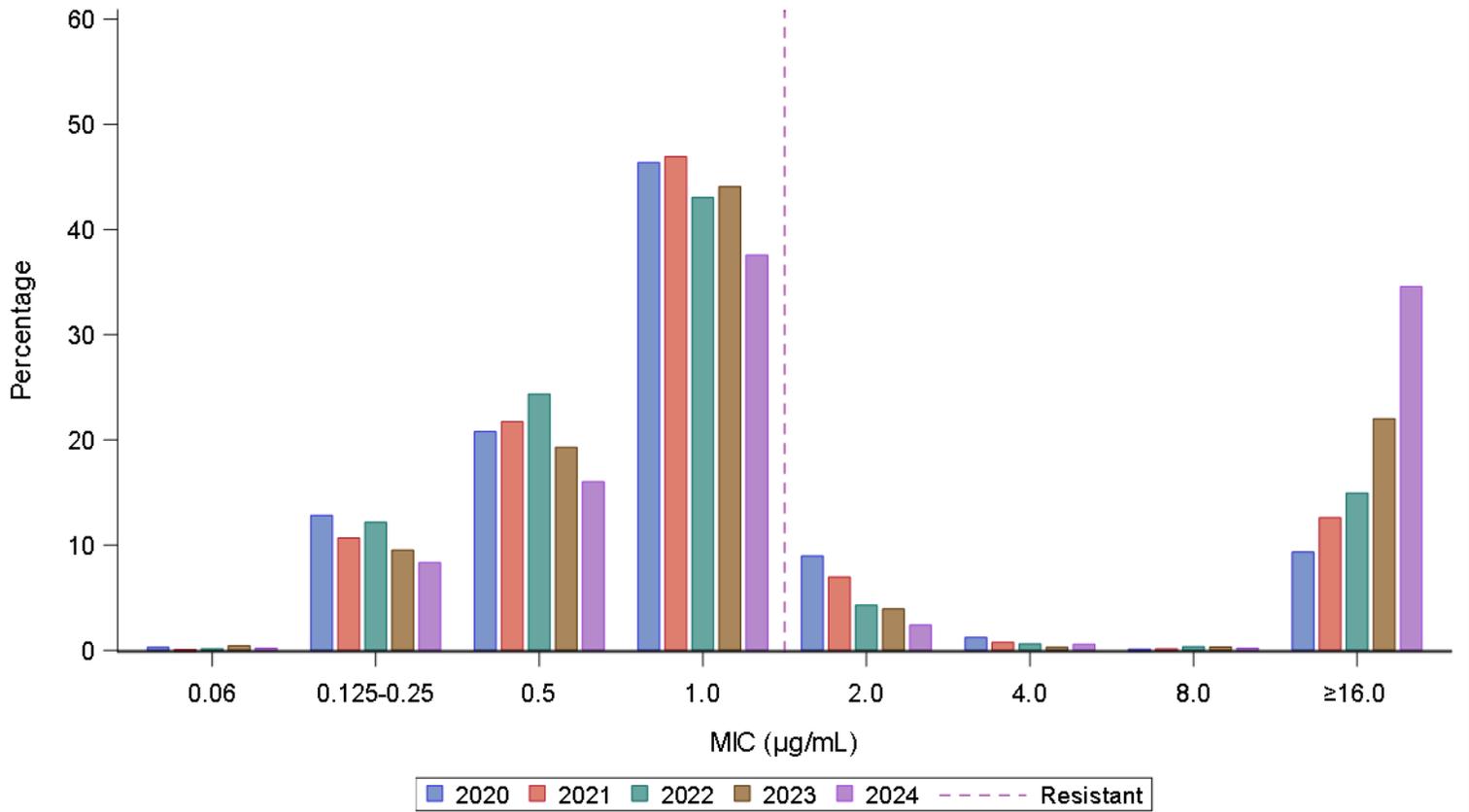


Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2020	186 (5.0)	1460 (39.0)	1097 (29.3)	549 (14.7)	133 (3.6)	60 (1.6)	33 (0.9)	223 (6.0)	3741
2021	205 (5.4)	1543 (40.4)	1165 (30.5)	502 (13.1)	161 (4.2)	61 (1.6)	36 (0.9)	150 (3.9)	3823
2022	269 (7.3)	1389 (37.7)	1196 (32.5)	437 (11.9)	134 (3.6)	60 (1.6)	71 (1.9)	128 (3.5)	3684
2023	163 (4.7)	1311 (37.4)	1050 (30.0)	350 (10.0)	188 (5.4)	142 (4.1)	113 (3.2)	185 (5.3)	3502
2024	80 (4.4)	612 (33.6)	481 (26.4)	154 (8.5)	131 (7.2)	119 (6.5)	127 (7.0)	116 (6.4)	1820

Penicillin resistance based on Clinical & Laboratory Standards Institute (CLSI) MIC criteria only (MIC ≥2.0 µg/mL). Additional data on β-lactamase positivity are not depicted.

Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Figure 7. Distribution of Tetracycline Minimum Inhibitory Concentrations (MICs) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), January 1, 2020-July 31, 2024



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
2020	11 (0.3)	480 (12.8)	778 (20.8)	1735 (46.4)	336 (9.0)	46 (1.2)	5 (0.1)	350 (9.4)	3741
2021	4 (0.1)	408 (10.7)	831 (21.7)	1794 (46.9)	267 (7.0)	30 (0.8)	6 (0.2)	483 (12.6)	3823
2022	6 (0.2)	449 (12.2)	898 (24.4)	1586 (43.1)	158 (4.3)	23 (0.6)	13 (0.4)	551 (15.0)	3684
2023	16 (0.5)	334 (9.5)	676 (19.3)	1544 (44.1)	138 (3.9)	11 (0.3)	12 (0.3)	771 (22.0)	3502
2024	4 (0.2)	152 (8.4)	292 (16.0)	684 (37.6)	44 (2.4)	11 (0.6)	4 (0.2)	629 (34.6)	1820

Tetracycline resistance MIC ≥2.0 µg/mL.

Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table 1: Antimicrobial Minimum Inhibitory Concentration Parameters
by 5-Year Periods in the Gonococcal Isolate Surveillance Project (GISP), January 1, 2000-July 31, 2024

1A. Cefixime

Time Range	MIC 50* (µg/mL)	MIC 90** (µg/mL)	Min MIC (µg/mL)	Max MIC (µg/mL)	% with MIC ≥0.25	% with MIC ≥0.5
2000-2004	0.008	0.03	0.001	0.5	0.1	<0.1
2005-2009	0.015	0.03	0.001	0.5	0.3	<0.1
2010-2014	0.015	0.03	0.002	1.0	1.0	<0.1
2015-2019	0.015	0.03	0.002	1.0	0.4	<0.1
2020-2024	0.015	0.03	0.002	2.0	0.3	<0.1

1B. Ceftriaxone

Time Range	MIC 50* (µg/mL)	MIC 90** (µg/mL)	Min MIC (µg/mL)	Max MIC (µg/mL)	% with MIC ≥0.125	% with MIC ≥0.5
2000-2004	0.004	0.015	0.001	0.25	0.1	0
2005-2009	0.008	0.015	0.001	0.25	0.1	0
2010-2014	0.008	0.015	0.001	0.5	0.2	<0.1
2015-2019	0.008	0.03	0.001	1.0	0.2	<0.1
2020-2024	0.008	0.015	0.001	1.0	<0.1	<0.1

1C. Azithromycin

Time Range	MIC 50* (µg/mL)	MIC 90** (µg/mL)	Min MIC (µg/mL)	Max MIC (µg/mL)	% with MIC ≥1.0	% with MIC ≥2.0	% with MIC ≥16.0
2000-2004	0.125	0.25	0.004	8.0	0.5	0.2	0
2005-2009	0.25	0.5	0.008	16.0	4.9	0.3	<0.1
2010-2014	0.25	0.5	0.015	64.0	4.3	0.8	<0.1
2015-2019	0.25	0.5	0.008	32.0	10.0	4.1	0.4
2020-2024	0.25	1.0	0.008	16.0	17.6	4.9	0.3

*MIC 50: lowest concentration of an antimicrobial that inhibits the growth of 50% of the isolates.

**MIC 90: lowest concentration of an antimicrobial that inhibits the growth of 90% of the isolates.

All MICs reported in GISP for each antimicrobial were combined for the noted time period.

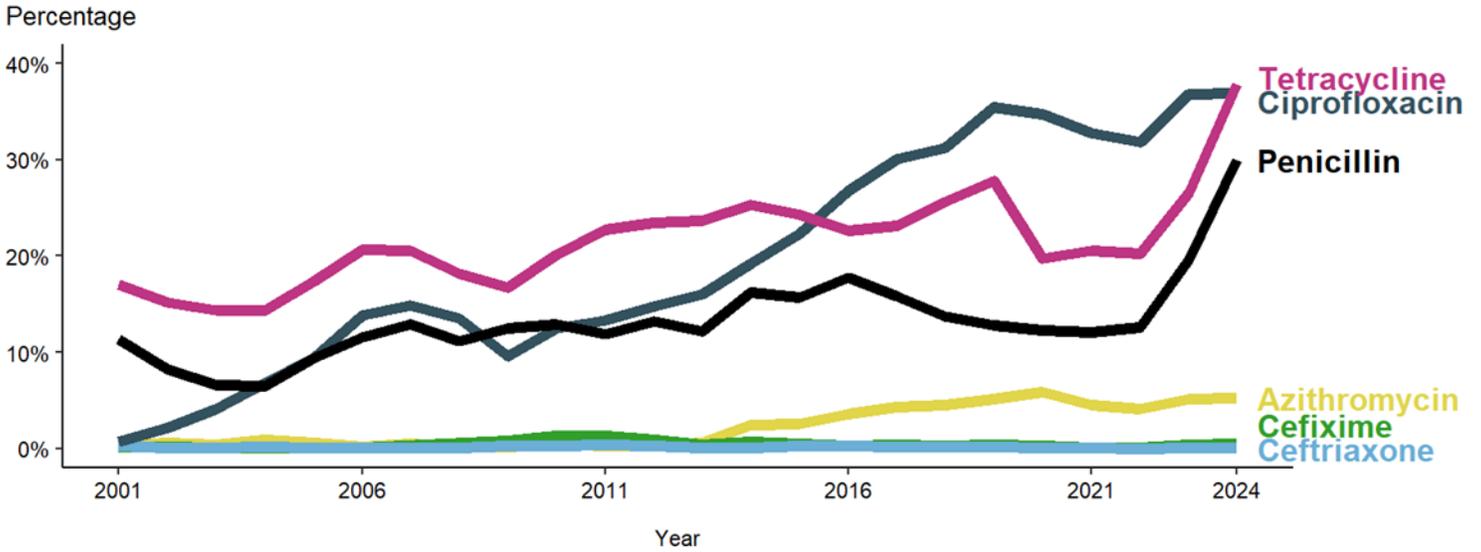
Cefixime susceptibility was not tested in 2007 and 2008.

Azithromycin alert MIC changed from 1.0 µg/mL to 2.0 µg/mL starting in 2005 due to a media change.

In 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria).

Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Figure 8. Percentage of Tetracycline, Penicillin, Ciprofloxacin, or Azithromycin Resistance* or Elevated Cefixime or Ceftriaxone Minimum Inhibitory Concentrations (MICs)[†], by Year — Gonococcal Isolate Surveillance Project (GISP), January 1, 2001-July 31, 2024

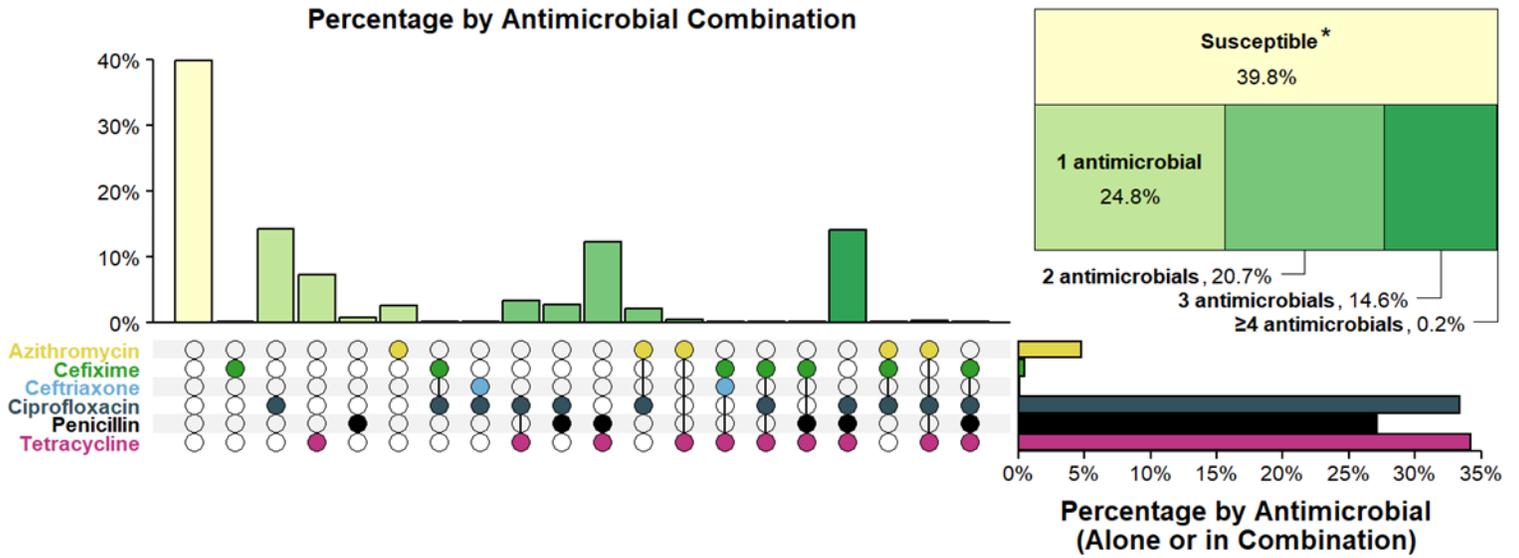


Antimicrobials	2001 n (%)	2002 n (%)	2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
Azithromycin	15 (0.3)	33 (0.6)	26 (0.4)	57 (0.9)	35 (0.6)	14 (0.2)	27 (0.4)	11 (0.2)	12 (0.2)	27 (0.5)	16 (0.3)	15 (0.3)
Cefixime	12 (0.2)	9 (0.2)	4 (0.1)	6 (0.1)	6 (0.1)	5 (0.1)	N/A	N/A	45 (0.8)	77 (1.4)	74 (1.4)	52 (0.9)
Ceftriaxone	16 (0.3)	7 (0.1)	3 (0.0)	9 (0.1)	8 (0.1)	3 (0.0)	7 (0.1)	4 (0.1)	16 (0.3)	19 (0.3)	21 (0.4)	15 (0.3)
Ciprofloxacin	38 (0.7)	116 (2.2)	270 (4.1)	429 (6.8)	581 (9.4)	843 (13.8)	891 (14.8)	775 (13.5)	542 (9.6)	709 (12.5)	726 (13.3)	809 (14.7)
Penicillin	622 (11.4)	441 (8.2)	434 (6.6)	411 (6.5)	581 (9.4)	702 (11.5)	776 (12.9)	639 (11.2)	702 (12.5)	733 (12.9)	647 (11.8)	725 (13.2)
Tetracycline	931 (17.0)	814 (15.2)	942 (14.4)	909 (14.4)	1073 (17.3)	1256 (20.6)	1233 (20.5)	1010 (18.2)	941 (16.7)	1149 (20.2)	1245 (22.8)	1288 (23.4)

Antimicrobials	2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
Azithromycin	33 (0.6)	125 (2.5)	133 (2.6)	190 (3.6)	221 (4.4)	235 (4.6)	281 (5.1)	218 (5.8)	173 (4.5)	152 (4.1)	181 (5.2)	96 (5.3)
Cefixime	25 (0.4)	38 (0.7)	25 (0.5)	17 (0.3)	22 (0.4)	15 (0.3)	19 (0.3)	12 (0.3)	5 (0.1)	5 (0.1)	13 (0.4)	9 (0.5)
Ceftriaxone	3 (0.1)	7 (0.1)	14 (0.3)	14 (0.3)	10 (0.2)	9 (0.2)	8 (0.1)	3 (0.1)	3 (0.1)	1 (0.0)	3 (0.1)	2 (0.1)
Ciprofloxacin	955 (16.1)	978 (19.2)	1149 (22.3)	1409 (26.8)	1524 (30.1)	1611 (31.2)	1941 (35.4)	1300 (34.8)	1253 (32.8)	1173 (31.8)	1287 (36.8)	672 (36.9)
Penicillin	725 (12.2)	826 (16.2)	809 (15.7)	934 (17.8)	800 (15.8)	707 (13.7)	699 (12.8)	461 (12.3)	460 (12.0)	466 (12.6)	687 (19.6)	545 (29.9)
Tetracycline	1410 (23.7)	1287 (25.3)	1248 (24.2)	1187 (22.6)	1169 (23.1)	1322 (25.6)	1522 (27.8)	737 (19.7)	786 (20.6)	745 (20.2)	932 (26.6)	688 (37.8)

* Resistance: ciprofloxacin: MIC ≥1.0 µg/mL; penicillin: MIC ≥2.0 µg/mL or β-lactamase positive; tetracycline: MIC ≥2.0 µg/mL.; azithromycin: MIC ≥2.0 µg/mL
[†] Elevated MICs: ceftriaxone: MIC ≥0.125 µg/mL; cefixime: MIC ≥0.25 µg/mL.
 Cefixime susceptibility was not tested in 2007 and 2008.
 Azithromycin alert MICs changed from 1.0 µg/mL to 2.0 µg/mL starting in 2005 due to a shift in MICs caused by culture media change.
 In 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria).
 Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Figure 9. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns of *Neisseria gonorrhoeae* Isolates to Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), January 1-July 31, 2024



Total # Antimicrobials	Azithromycin	Cefixime	Ceftriaxone	Ciprofloxacin	Penicillin	Tetracycline	Isolate Count	% Total Isolates
0*							724	39.8
1	✓						46	2.5
1		✓					1	0.1
1				✓			259	14.2
1					✓		14	0.8
1						✓	131	7.2
2	✓			✓			37	2.0
2	✓					✓	7	0.4
2		✓		✓			1	0.1
2			✓	✓			1	0.1
2				✓	✓		48	2.6
2				✓		✓	60	3.3
2					✓	✓	223	12.3
3	✓	✓		✓			1	0.1
3	✓			✓		✓	5	0.3
3		✓	✓			✓	1	0.1
3		✓		✓		✓	1	0.1
3		✓			✓	✓	1	0.1
3				✓	✓	✓	256	14.1
4		✓		✓	✓	✓	3	0.2

* Susceptible category includes isolates with penicillin (or β-lactamase negative), tetracycline, ciprofloxacin, and azithromycin MIC values that are not considered resistant (i.e., susceptible and intermediate resistant) based on Clinical & Laboratory Standards Institute criteria or FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria and isolates with ceftriaxone or cefixime MIC values that are not considered elevated based on GISP “alert” values. In 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria).

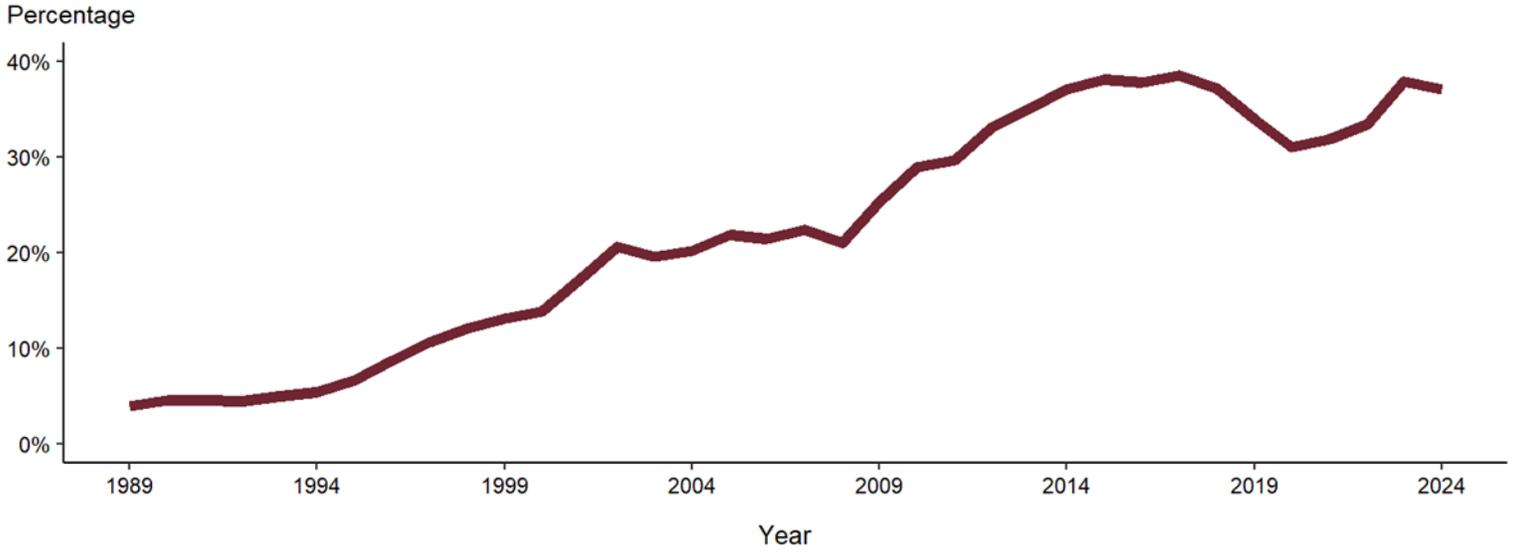
Elevated MICs = ceftriaxone: MIC ≥0.125 µg/mL; cefixime: MIC ≥0.25 µg/mL;

Resistance = azithromycin: MIC ≥2.0 µg/mL; tetracycline: MIC ≥2.0 µg/mL; ciprofloxacin: MIC ≥1.0 µg/mL; penicillin: MIC ≥2.0 µg/mL or β-lactamase positive.

In the figure or table, respectively, a filled circle or check mark reflects resistance or an elevated MIC to a specific antimicrobial; only antimicrobial combinations with non-zero percentages are shown.

Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Figure 10. Percentage of Isolates Obtained from MSM Attending Participating STD Clinics, Gonococcal Isolate Surveillance Project (GISP), January 1, 1989-July 31, 2024



1989 n (%)	1990 n (%)	1991 n (%)	1992 n (%)	1993 n (%)	1994 n (%)	1995 n (%)	1996 n (%)	1997 n (%)	1998 n (%)	1999 n (%)	2000 n (%)	2001 n (%)	2002 n (%)	2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)
174 (3.9)	191 (4.6)	221 (4.6)	228 (4.5)	239 (5.0)	248 (5.4)	305 (6.7)	389 (8.7)	441 (10.7)	503 (12.0)	613 (13.1)	690 (13.8)	896 (17.2)	1069 (20.6)	1253 (19.6)	1202 (20.2)	1335 (21.9)	1281 (21.5)

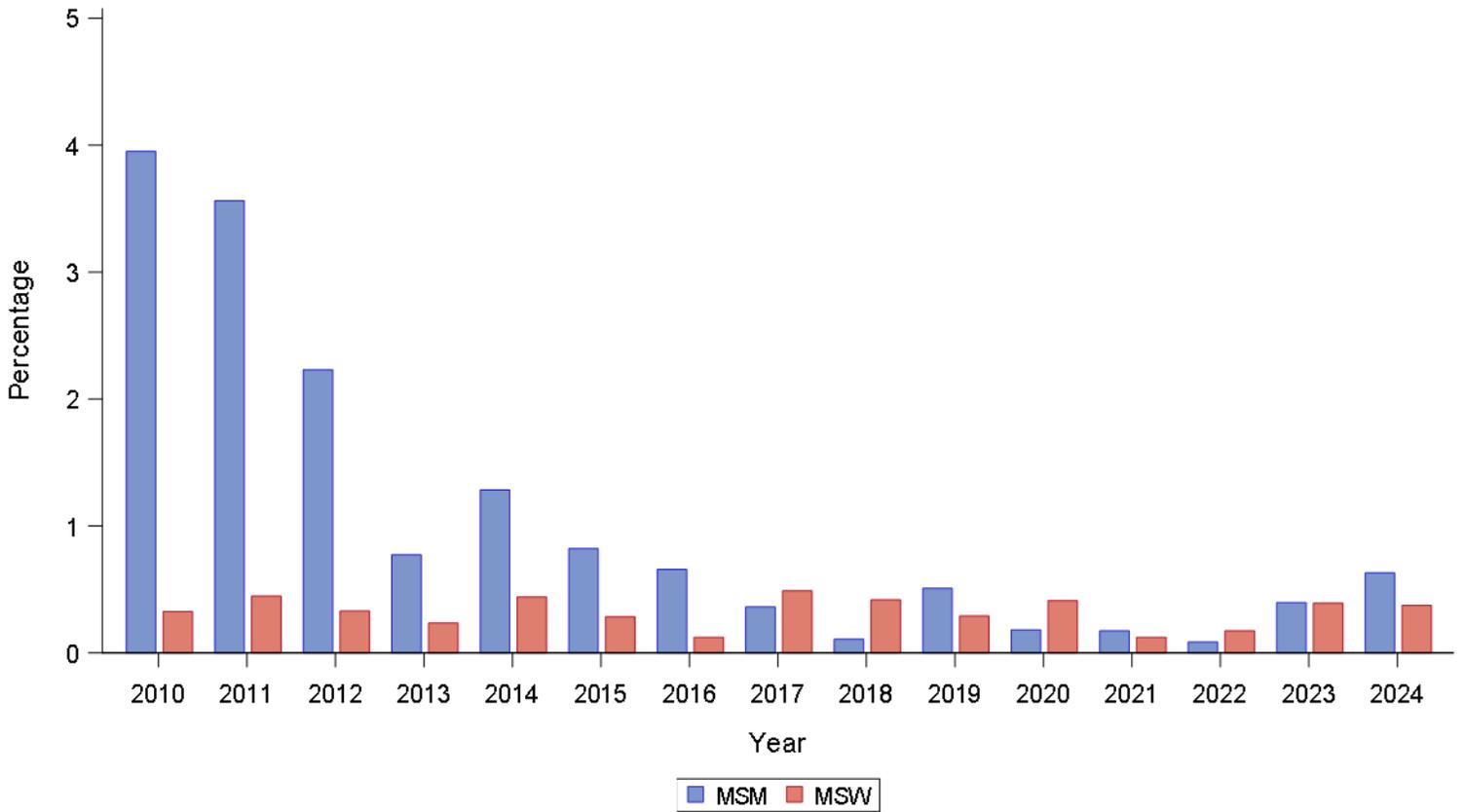
2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
1316 (22.4)	1173 (21.0)	1393 (25.3)	1619 (28.9)	1599 (29.7)	1792 (33.1)	2070 (35.1)	1867 (37.1)	1944 (38.1)	1974 (37.8)	1922 (38.5)	1842 (37.2)	1767 (33.9)	1096 (31.1)	1143 (31.9)	1152 (33.4)	1258 (38.0)	633 (37.1)

MSM = Men who have sex with men.

Results for 2023 are based on data obtained from participants in all participating GISP jurisdictions except for Cleveland due to missing data.

Results for 2022 and 2024 are based on data obtained from participants in all participating GISP jurisdictions except for Pittsburgh due to missing data.

Figure 11. Percentage of *Neisseria gonorrhoeae* Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime by Reported Sex of Sex Partners, Gonococcal Isolate Surveillance Project (GISP), January 1, 2010-July 31, 2024



Sex of Sex Partners	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
MSM	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)	2 (0.2)	1 (0.1)	5 (0.4)	4 (0.6)
MSW	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)	3 (0.1)	4 (0.2)	8 (0.4)	4 (0.4)

MSM = Men who have sex with men; MSW = Men who have sex with women only.

Isolates were not tested for cefixime susceptibility in 2007-2008.

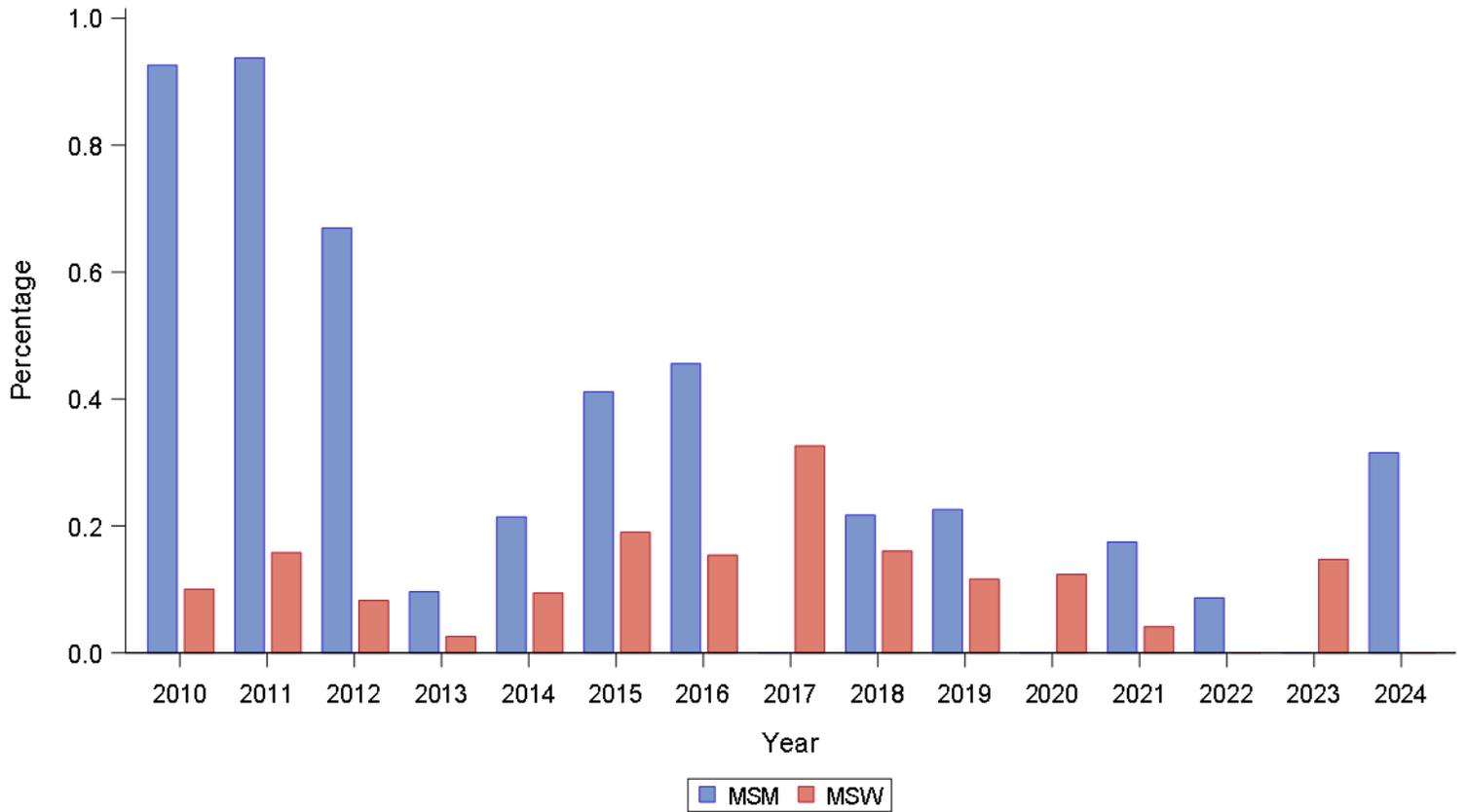
Cefixime elevated MIC ≥ 0.25 $\mu\text{g/mL}$.

Results for 2023 are based on data obtained from participants in all participating GISP jurisdictions except for Cleveland due to missing data.

Results for 2022 and 2024 are based on data obtained from participants in all participating GISP jurisdictions except for Pittsburgh due to missing data.

Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Figure 12. Percentage of *Neisseria gonorrhoeae* Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone by Reported Sex of Sex Partners, Gonococcal Isolate Surveillance Project (GISP), January 1, 2010-July 31, 2024



Sex of Sex Partners	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
MSM	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)	2 (0.2)	1 (0.1)	0 (0.0)	2 (0.3)
MSW	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)	1 (0.0)	0 (0.0)	3 (0.1)	0 (0.0)

MSM = Men who have sex with men; MSW = Men who have sex with women only.

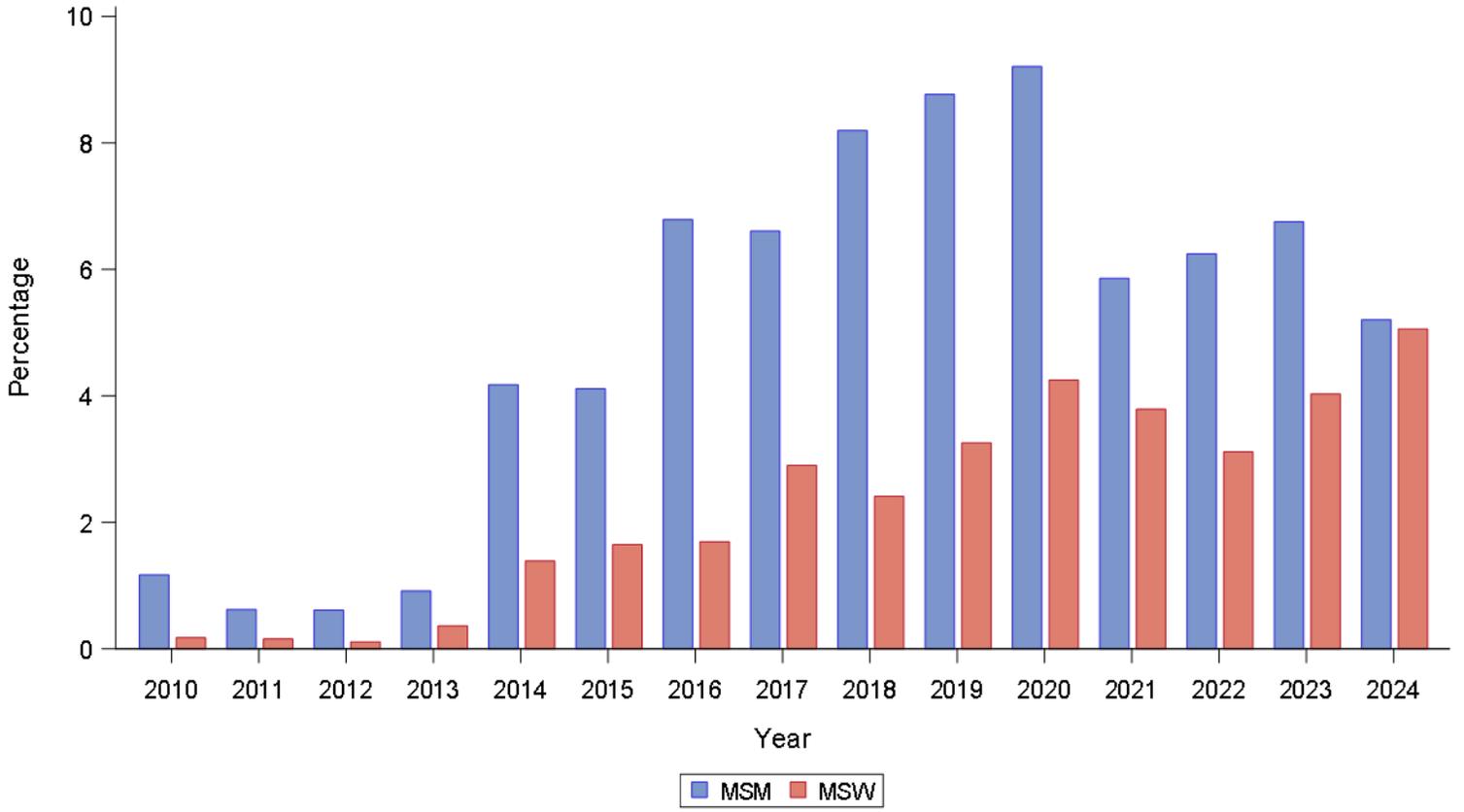
Ceftriaxone elevated MIC ≥ 0.125 $\mu\text{g/mL}$.

Results for 2023 are based on data obtained from participants in all participating GISP jurisdictions except for Cleveland due to missing data.

Results for 2022 and 2024 are based on data obtained from participants in all participating GISP jurisdictions except for Pittsburgh due to missing data.

Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Figure 13. Percentage of *Neisseria gonorrhoeae* Isolates with Resistance to Azithromycin by Reported Sex of Sex Partners, Gonococcal Isolate Surveillance Project (GISP), January 1, 2010-July 31, 2024



Sex of Sex Partners	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
MSM	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)	67 (5.9)	72 (6.2)	85 (6.8)	33 (5.2)
MSW	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)	92 (3.8)	71 (3.1)	82 (4.0)	54 (5.1)

MSM = Men who have sex with men; MSW = Men who have sex with women only.

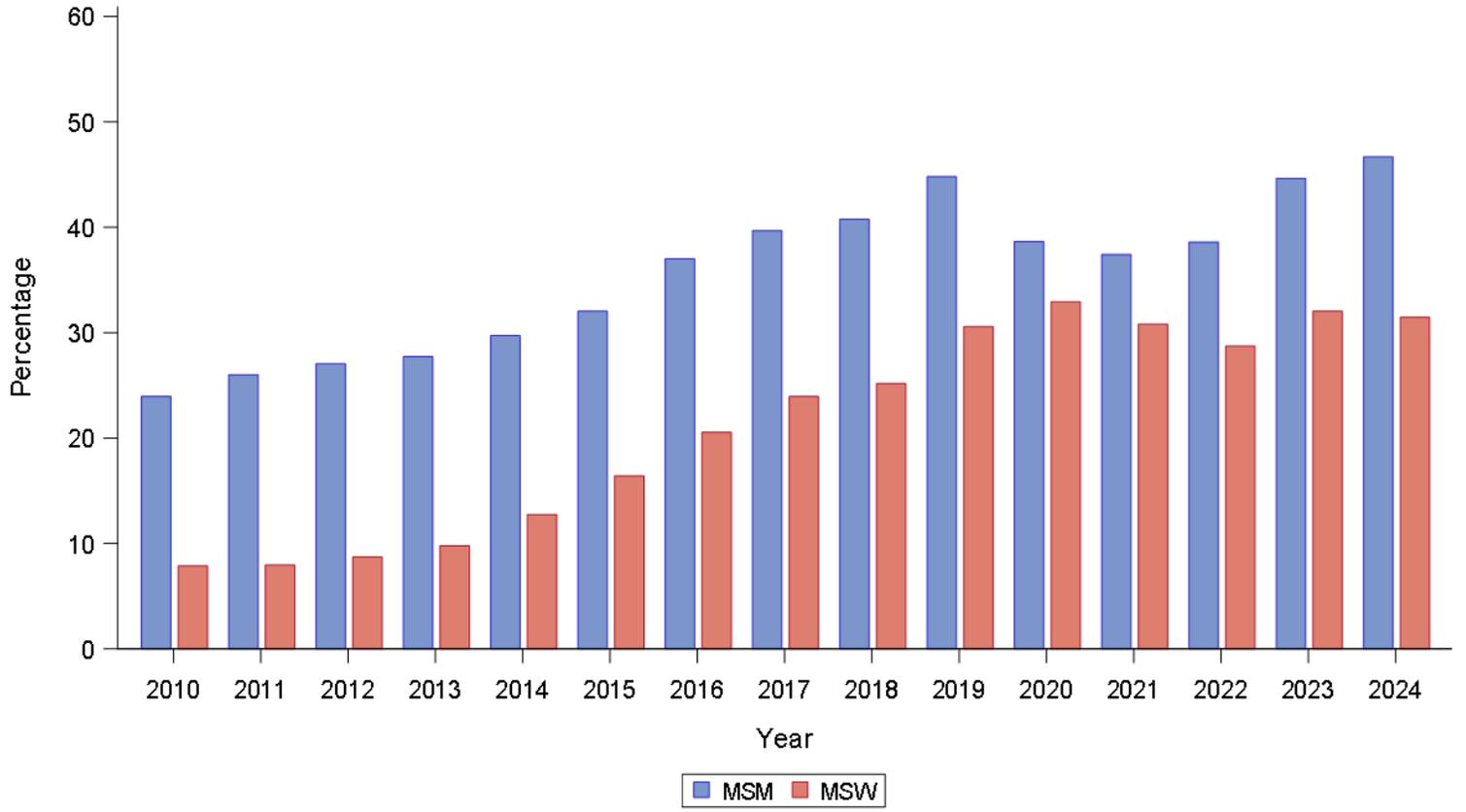
In 2025, azithromycin resistance was established as ≥ 2.0 $\mu\text{g/mL}$ (FDA-STIC).

Results for 2023 are based on data obtained from participants in all participating GISP jurisdictions except for Cleveland due to missing data.

Results for 2022 and 2024 are based on data obtained from participants in all participating GISP jurisdictions except for Pittsburgh due to missing data.

Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Figure 14. Percentage of *Neisseria gonorrhoeae* Isolates with Resistance to Ciprofloxacin by Reported Sex of Sex Partners, Gonococcal Isolate Surveillance Project (GISP), January 1, 2010-July 31, 2024



Sex of Sex Partners	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
MSM	388 (24.0)	416 (26.0)	485 (27.0)	574 (27.7)	555 (29.7)	623 (32.0)	731 (37.0)	763 (39.7)	751 (40.7)	792 (44.8)	424 (38.7)	428 (37.4)	445 (38.6)	562 (44.6)	296 (46.7)
MSW	313 (7.9)	302 (8.0)	316 (8.7)	375 (9.8)	403 (12.7)	518 (16.4)	667 (20.5)	734 (23.9)	783 (25.2)	1051 (30.6)	798 (32.9)	748 (30.8)	655 (28.7)	652 (32.0)	336 (31.5)

MSM = Men who have sex with men; MSW = Men who have sex with women only.

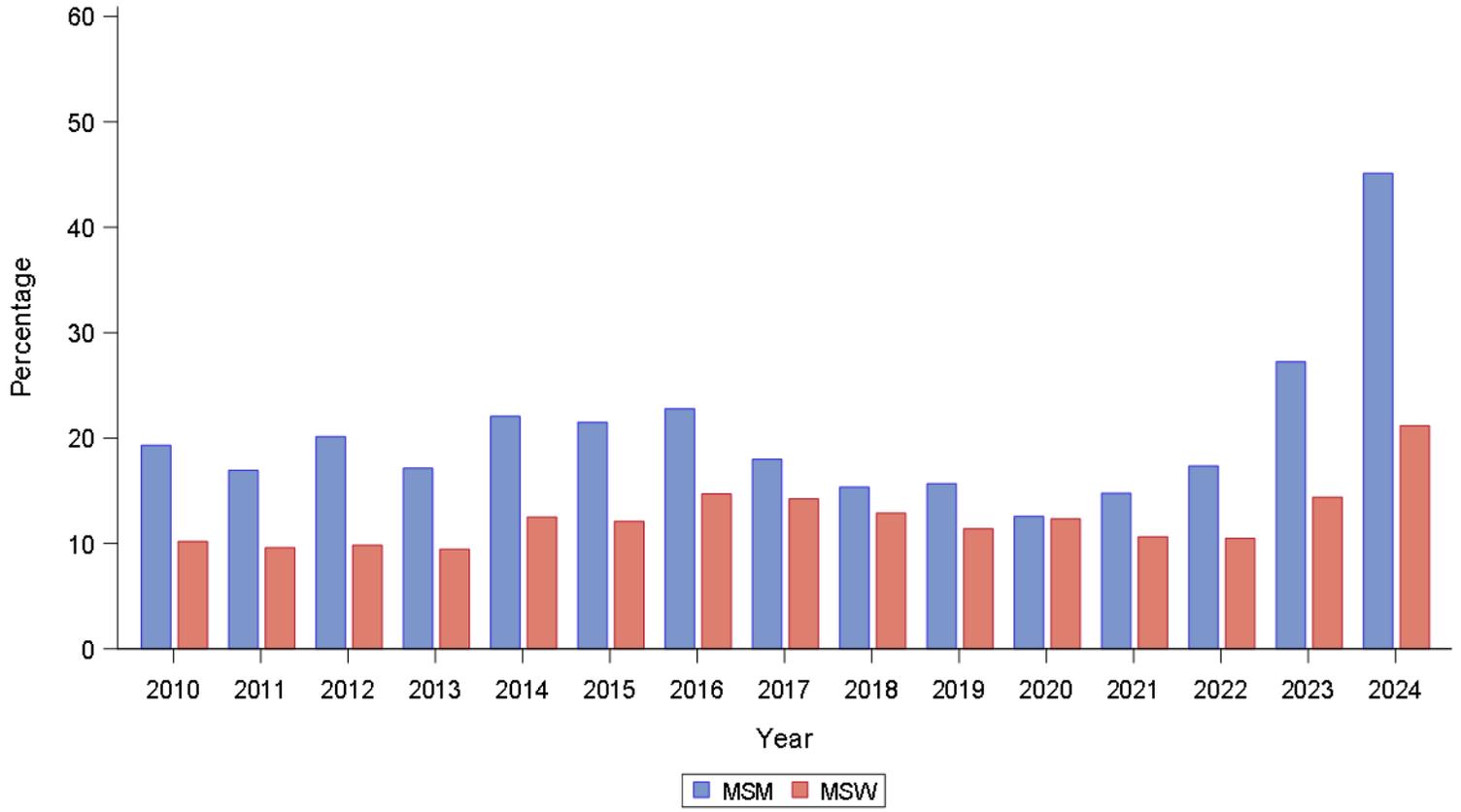
Ciprofloxacin resistance MIC ≥1.0 µg/mL.

Results for 2023 are based on data obtained from participants in all participating GISP jurisdictions except for Cleveland due to missing data.

Results for 2022 and 2024 are based on data obtained from participants in all participating GISP jurisdictions except for Pittsburgh due to missing data.

Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Figure 15. Percentage of *Neisseria gonorrhoeae* Isolates with Resistance to Penicillin by Reported Sex of Sex Partners, Gonococcal Isolate Surveillance Project (GISP), January 1, 2010-July 31, 2024



Sex of Sex Partners	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
MSM	313 (19.3)	271 (16.9)	361 (20.1)	355 (17.1)	412 (22.1)	418 (21.5)	450 (22.8)	346 (18.0)	283 (15.4)	277 (15.7)	138 (12.6)	169 (14.8)	200 (17.3)	343 (27.2)	286 (45.1)
MSW	405 (10.2)	364 (9.6)	357 (9.8)	362 (9.5)	396 (12.5)	382 (12.1)	477 (14.7)	437 (14.2)	401 (12.9)	392 (11.4)	299 (12.3)	258 (10.6)	239 (10.5)	293 (14.4)	226 (21.2)

MSM = Men who have sex with men; MSW = Men who have sex with women only.

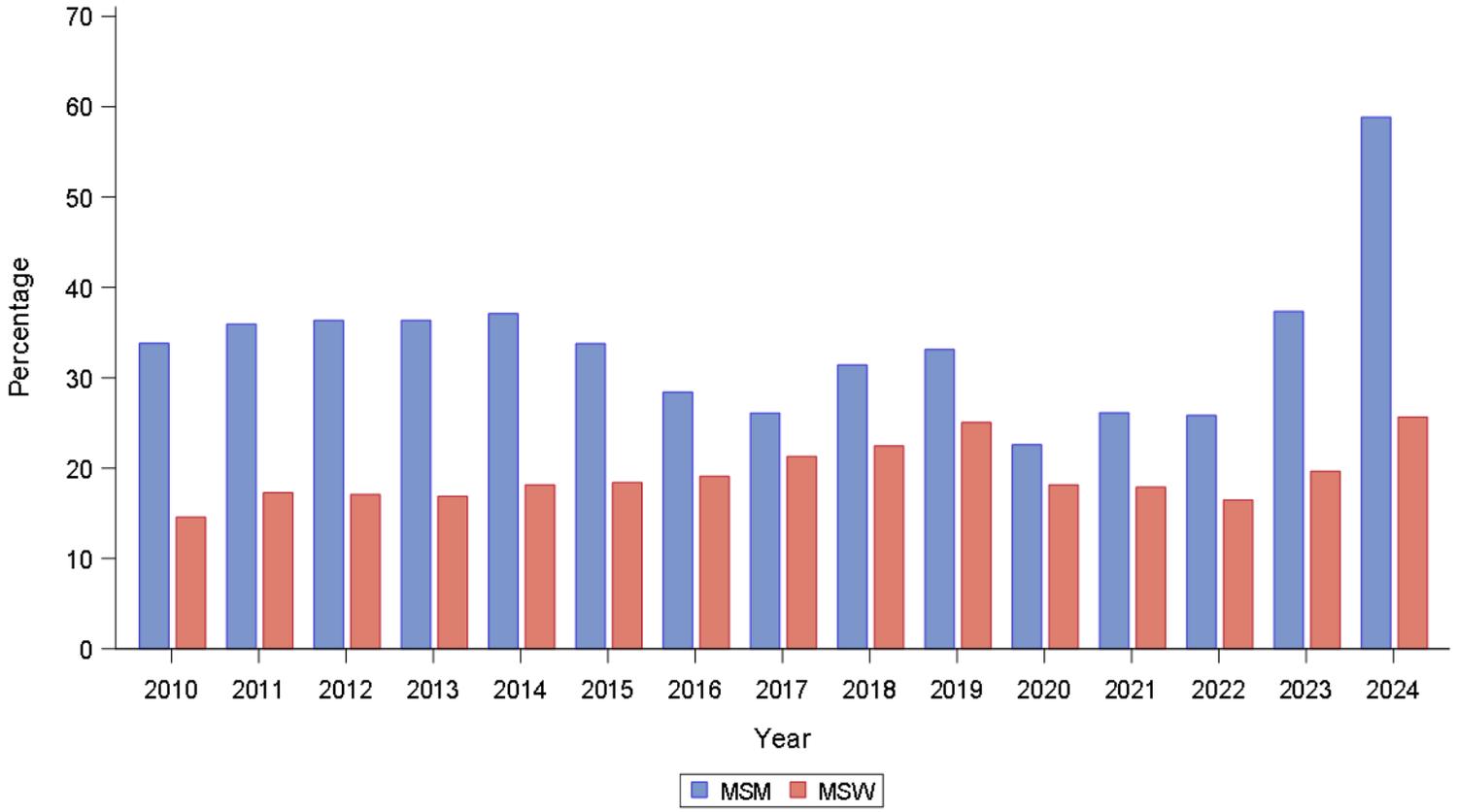
Penicillin resistance ≥ 2.0 $\mu\text{g/mL}$ or β -lactamase positive.

Results for 2023 are based on data obtained from participants in all participating GISP jurisdictions except for Cleveland due to missing data.

Results for 2022 and 2024 are based on data obtained from participants in all participating GISP jurisdictions except for Pittsburgh due to missing data.

Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Figure 16. Percentage of *Neisseria gonorrhoeae* Isolates with Resistance to Tetracycline by Reported Sex of Sex Partners, Gonococcal Isolate Surveillance Project (GISP), January 1, 2010-July 31, 2024



Sex of Sex Partners	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
MSM	548 (33.8)	575 (35.9)	652 (36.4)	753 (36.4)	693 (37.1)	657 (33.8)	561 (28.4)	502 (26.1)	579 (31.4)	586 (33.1)	248 (22.6)	299 (26.1)	298 (25.8)	470 (37.3)	373 (58.8)
MSW	580 (14.6)	655 (17.3)	620 (17.1)	647 (16.9)	575 (18.2)	581 (18.4)	620 (19.1)	653 (21.3)	699 (22.5)	861 (25.1)	440 (18.2)	435 (17.9)	376 (16.5)	400 (19.7)	274 (25.7)

MSM = Men who have sex with men; MSW = Men who have sex with women only.

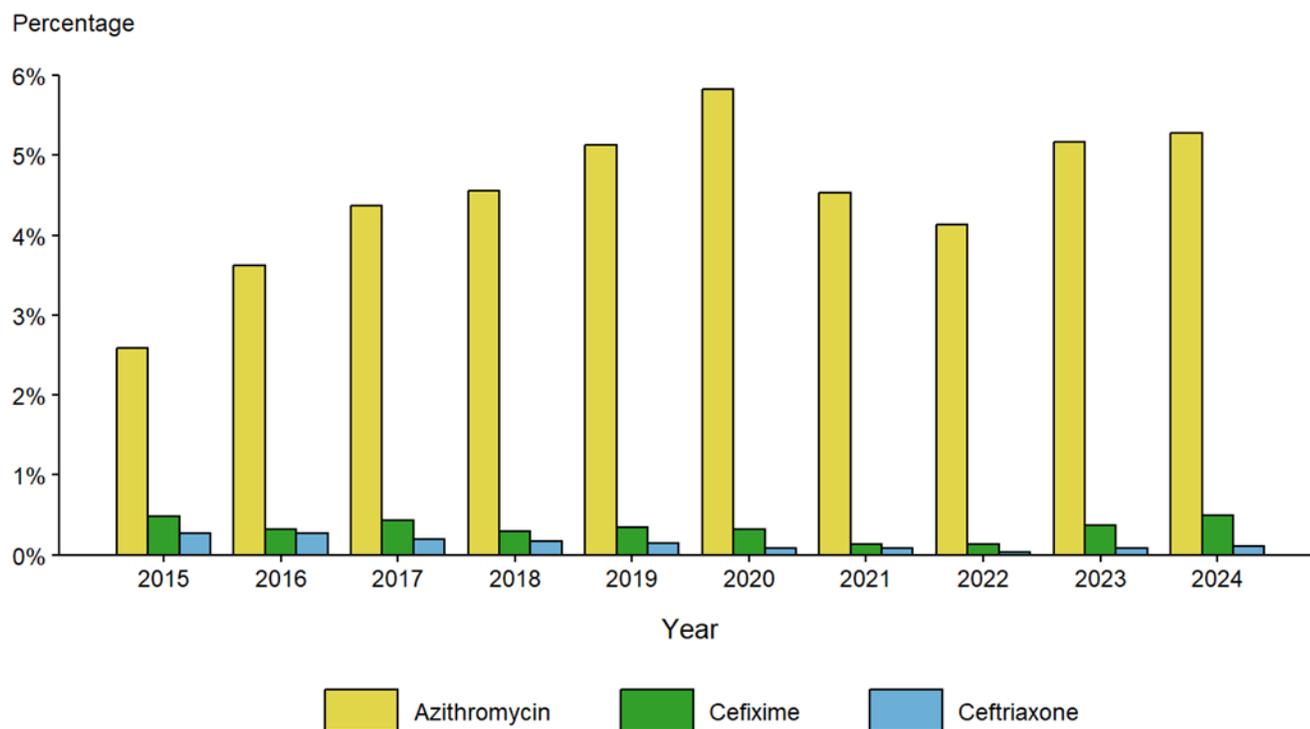
Tetracycline resistance ≥ 2.0 $\mu\text{g/mL}$.

Results for 2023 are based on data obtained from participants in all participating GISP jurisdictions except for Cleveland due to missing data.

Results for 2022 and 2024 are based on data obtained from participants in all participating GISP jurisdictions except for Pittsburgh due to missing data.

Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Figure 17. Percentage of Isolates with Resistance* or Elevated Minimum Inhibitory Concentrations† (MICs) to Azithromycin, Cefixime, and Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), January 1, 2015-July 31, 2024



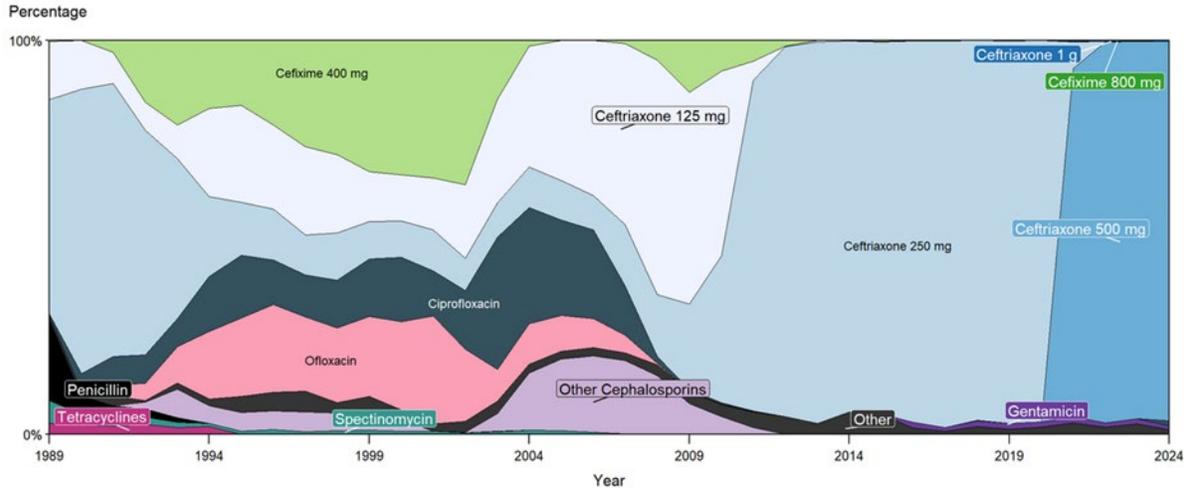
Year	Azithromycin n (%)	Cefixime n (%)	Ceftriaxone n (%)
2015	133 (2.6)	25 (0.5)	14 (0.3)
2016	190 (3.6)	17 (0.3)	14 (0.3)
2017	221 (4.4)	22 (0.4)	10 (0.2)
2018	235 (4.6)	15 (0.3)	9 (0.2)
2019	281 (5.1)	19 (0.3)	8 (0.1)
2020	218 (5.8)	12 (0.3)	3 (0.1)
2021	173 (4.5)	5 (0.1)	3 (0.1)
2022	152 (4.1)	5 (0.1)	1 (0.0)
2023	181 (5.2)	13 (0.4)	3 (0.1)
2024	96 (5.3)	9 (0.5)	2 (0.1)

* Resistance: azithromycin: MIC \geq 2.0 μ g/mL.

† Elevated MICs: ceftriaxone: MIC \geq 0.125 μ g/mL; cefixime: MIC \geq 0.25 μ g/mL.

In 2025, azithromycin resistance was established as \geq 2.0 μ g/mL (FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria).
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Figure 18. Distribution of Primary Antimicrobial Drugs Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), January 1, 1989-July 31, 2024



Year	Cefixime 400 mg	Ceftriaxone 125 mg	Ceftriaxone 250 mg	Ciprofloxacin	Other	Other Cephalosporins	Penicillin	Spectinomycin	Tetracyclines	Ofloxacin	Gentamicin	Cefixime 800 mg	Ceftriaxone 1 g	Ceftriaxone 500 mg
1989	0.3%	14.7%	54.3%	0.5%	1.0%	0.2%	20.4%	5.8%	2.7%	0.0%	0.0%	0.0%	0.0%	0.0%
1990	0.0%	12.4%	72.2%	4.6%	1.1%	0.1%	4.6%	2.6%	2.4%	0.0%	0.0%	0.0%	0.0%	0.0%
1991	3.0%	7.9%	69.4%	7.1%	2.5%	0.1%	2.7%	2.4%	2.1%	2.8%	0.0%	0.0%	0.0%	0.0%
1992	15.7%	7.1%	57.1%	7.2%	0.5%	1.6%	2.1%	1.8%	2.5%	4.4%	0.0%	0.0%	0.0%	0.0%
1993	21.6%	8.5%	40.6%	7.1%	1.6%	7.2%	1.2%	1.3%	1.7%	9.2%	0.0%	0.0%	0.0%	0.0%
1994	17.4%	22.3%	20.3%	14.0%	1.8%	4.5%	0.0%	0.8%	1.9%	17.0%	0.0%	0.0%	0.0%	0.0%
1995	16.5%	24.8%	13.4%	15.9%	4.1%	4.7%	0.0%	0.7%	0.0%	19.9%	0.0%	0.0%	0.0%	0.0%
1996	21.6%	21.3%	12.9%	11.3%	4.8%	4.7%	0.0%	1.2%	0.0%	22.2%	0.0%	0.0%	0.0%	0.0%
1997	27.1%	22.4%	10.2%	10.7%	5.2%	5.0%	0.0%	0.7%	0.0%	18.8%	0.0%	0.0%	0.0%	0.0%
1998	29.1%	19.9%	11.9%	12.2%	2.6%	4.5%	0.0%	0.8%	0.0%	19.0%	0.0%	0.0%	0.0%	0.0%
1999	33.3%	12.7%	9.5%	14.6%	3.6%	4.9%	0.0%	1.0%	0.0%	20.3%	0.0%	0.0%	0.0%	0.0%
2000	34.2%	11.7%	9.2%	16.3%	2.6%	2.9%	0.0%	0.6%	0.1%	22.4%	0.0%	0.0%	0.0%	0.0%
2001	35.0%	13.1%	10.4%	11.5%	1.9%	0.0%	0.0%	0.6%	0.1%	27.5%	0.0%	0.0%	0.0%	0.0%
2002	36.7%	18.7%	8.2%	14.9%	2.8%	0.1%	0.0%	0.3%	0.0%	18.2%	0.0%	0.0%	0.0%	0.0%
2003	15.0%	26.3%	8.7%	33.6%	3.2%	4.6%	0.0%	0.6%	0.0%	8.0%	0.0%	0.0%	0.0%	0.0%
2004	1.5%	30.7%	10.3%	29.5%	2.2%	14.5%	0.0%	1.0%	0.0%	10.3%	0.0%	0.0%	0.0%	0.0%
2005	0.1%	35.5%	10.0%	24.3%	2.0%	18.1%	0.0%	0.9%	0.0%	9.0%	0.0%	0.0%	0.0%	0.0%
2006	0.1%	39.4%	8.7%	22.6%	2.1%	19.5%	0.0%	0.4%	0.0%	7.3%	0.0%	0.0%	0.0%	0.0%
2007	0.8%	46.0%	15.5%	12.5%	2.0%	18.6%	0.0%	0.0%	0.1%	4.4%	0.0%	0.0%	0.0%	0.0%
2008	5.1%	59.5%	15.6%	1.7%	2.7%	14.9%	0.0%	0.0%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%
2009	13.2%	53.9%	21.6%	0.4%	3.1%	7.7%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
2010	7.8%	46.9%	37.4%	0.3%	3.0%	4.4%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%
2011	5.3%	4.8%	84.0%	0.1%	3.9%	1.7%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
2012	1.6%	0.1%	93.9%	0.0%	4.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
2013	0.0%	0.4%	96.9%	0.0%	2.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
2014	0.0%	0.1%	94.3%	0.0%	5.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
2015	0.3%	0.1%	94.4%	0.0%	4.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%
2016	0.1%	0.1%	96.9%	0.0%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	1.5%	0.0%	0.0%	0.0%

Figure 18. Distribution of Primary Antimicrobial Drugs Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), January 1, 1989-July 31, 2024
(Continued)

Year	Cefixime 400 mg	Ceftriaxone 125 mg	Ceftriaxone 250 mg	Ciprofloxacin	Other	Other Cephalosporins	Penicillin	Spectinomycin	Tetracyclines	Ofloxacin	Gentamicin	Cefixime 800 mg	Ceftriaxone 1 g	Ceftriaxone 500 mg
2017	0.1%	0.1%	98.1%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	1.1%	0.0%	0.0%	0.0%
2018	0.1%	0.0%	96.5%	0.1%	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.4%	0.0%	0.0%	0.0%
2019	0.2%	0.0%	97.0%	0.0%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%	1.5%	0.0%	0.0%	0.0%
2020	0.1%	0.0%	96.8%	0.0%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%	1.3%	0.0%	0.0%	0.0%
2021	0.1%	0.0%	6.7%	0.0%	2.9%	0.0%	0.0%	0.0%	0.0%	0.0%	1.5%	0.1%	0.3%	88.5%
2022	0.0%	0.0%	0.2%	0.0%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	0.1%	0.2%	96.7%
2023	0.0%	0.0%	0.1%	0.0%	2.5%	0.0%	0.0%	0.0%	0.0%	0.0%	1.4%	0.1%	0.1%	95.7%
2024	0.1%	0.0%	0.0%	1.3%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	0.0%	0.2%	96.4%

In 2024, Cefixime 400 mg (0.1%) and Ceftriaxone 1 g (0.2%) each represented less than one percent of primary antimicrobial drugs used to treat gonorrhea among GISP participants and may not be visible in this figure.

Results for 2023 are based on data obtained from participants in all participating GISP jurisdictions except for Cleveland due to missing data.

Results for 2022 and 2024 are based on data obtained from participants in all participating GISP jurisdictions except for Pittsburgh due to missing data.