Sexually Transmitted Disease Surveillance 2023:
Gonococcal Isolate Surveillance Project Site-Specific Profiles

Division of STD Prevention
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The online version of this report is available at https://www.cdc.gov/std/statistics/gisp-profiles/default.htm.

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).

2023 Gonococcal Isolate Surveillance Project Clinical Sites and Years Participated

Albuquerque, New Mexico *(1987–2023)*	Greensboro, North Carolina *(2002–2023)*	Orange County, California *(1991–2023)*
Anchorage, Alaska *(1987–2003, 2018–2023)*	Honolulu, Hawaii *(1987–2023)*	Philadelphia, Pennsylvania *(1987–2023)*
Baltimore, Maryland *(1987–2013, 2019–2023)*	Indianapolis, Indiana *(2013–2023)*	Phoenix, Arizona *(1987–2023)*
Birmingham, Alabama *(1987–2023)*	Kansas City, Missouri *(1991–2001, 2007–2023)*	Pittsburgh, Pennsylvania *(2022–2023)*
Buffalo, New York *(2014–2023)*	Las Vegas, Nevada *(2002–2023)*	Pontiac, Michigan *(2012–2023)*
Camden, New Jersey *(2019–2023)*	Los Angeles, California *(2003–2023)*	Portland, Oregon *(1987–2023)*
Chicago, Illinois *(1996–2023)*	Milwaukee, Wisconsin *(2018–2023)*	San Diego, California *(1987–2023)*
Columbus, Ohio *(2012–2023)*	Minneapolis, Minnesota *(1992–2023)*	San Francisco, California *(1987–2023)*
Dallas, Texas *(2000–2023)*	New Orleans, Louisiana *(1987–2023)*	Seattle, Washington *(1987–2023)*
Denver, Colorado *(1987–2013, 2018–2023)*	New York, New York *(2006–2023)*	Washington, District of Columbia *(2018–2023)*

2023 Gonococcal Isolate Surveillance Project Regional Laboratories

Maryland Department of Health and Mental Hygeine *Baltimore, Maryland*
Tennessee Department of Health *Nashville, Tennessee*
Utah Department of Health *Salt Lake City, Utah*
Washington State Department of Health *Seattle, Washington*

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For each participating site of the 2023 Gonococcal Isolate Surveillance Project, the following figures are presented:

Table A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Albuquerque, New Mexico, 2023

<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
5 (6.1)	15 (18.3)	13 (15.9)	17 (20.7)	12 (14.6)	5 (6.1)	3 (3.7)	3 (3.7)	3 (3.7)	2 (2.4)	4 (4.9)	82

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Albuquerque, New Mexico, 2023

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
1 (1.2)	1 (1.2)	15 (18.3)	0 (0.0)	12 (14.6)	51 (62.2)	1 (1.2)	1 (1.2)	82

Cases are reported using Office of Management and Budget (OMB) compliant race and ethnicity categories.
AI/AN = American Indian or Alaska Native; NHOPI = Native Hawaiian or Other Pacific Islander.

Table C. Percentage of Participants who are Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Albuquerque, New Mexico, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
7 (15.2)	21 (25.3)	23 (16.0)	24 (15.8)	13 (13.5)	20 (21.7)	36 (35.0)	41 (27.5)	46 (31.3)	50 (36.2)	40 (35.4)	37 (32.5)	40 (28.6)	40 (29.6)	37 (20.8)	40 (33.6)	37 (31.9)	27 (29.3)	26 (28.6)	19 (23.2)

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Albuquerque, New Mexico, 2023

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Cefixime 800mg n (%)	Ceftriaxone 250mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
1 (1.2)	0 (0.0)	0 (0.0)	0 (0.0)	81 (98.8)	0 (0.0)	0 (0.0)	0 (0.0)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Albuquerque, New Mexico, 2023

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
6 (7.3)	74 (90.2)	2 (2.4)

Table F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Albuquerque, New Mexico, 2023

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
57 (69.5)	20 (24.4)	1 (1.2)	4 (4.9)	0 (0.0)

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 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).

Table G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Albuquerque, New Mexico, 2019-2023

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
2019	62 (52.1)	46 (38.7)	5 (4.2)	5 (4.2)	1 (0.8)	0 (0.0)	0 (0.0)	0 (0.0)	119
2020	98 (83.1)	17 (14.4)	3 (2.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	118
2021	67 (71.3)	23 (24.5)	4 (4.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	94
2022	63 (69.2)	26 (28.6)	1 (1.1)	1 (1.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	91
2023	51 (62.2)	27 (32.9)	1 (1.2)	3 (3.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	82

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.

Table H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Albuquerque, New Mexico, 2019-2023

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
2019	61 (51.3)	49 (41.2)	8 (6.7)	1 (0.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	119
2020	100 (84.7)	14 (11.9)	3 (2.5)	1 (0.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	118
2021	58 (61.7)	35 (37.2)	1 (1.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	94
2022	59 (64.8)	27 (29.7)	4 (4.4)	1 (1.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	91
2023	44 (53.7)	30 (36.6)	8 (9.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	82

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.

Table I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Albuquerque, New Mexico, 2019-2023

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
2019	18 (15.1)	58 (48.7)	30 (25.2)	10 (8.4)	3 (2.5)	0 (0.0)	0 (0.0)	0 (0.0)	119
2020	22 (18.6)	40 (33.9)	28 (23.7)	24 (20.3)	1 (0.8)	2 (1.7)	1 (0.8)	0 (0.0)	118
2021	19 (20.2)	34 (36.2)	12 (12.8)	23 (24.5)	5 (5.3)	0 (0.0)	1 (1.1)	0 (0.0)	94
2022	29 (31.9)	32 (35.2)	8 (8.8)	17 (18.7)	5 (5.5)	0 (0.0)	0 (0.0)	0 (0.0)	91
2023	15 (18.3)	39 (47.6)	11 (13.4)	15 (18.3)	2 (2.4)	0 (0.0)	0 (0.0)	0 (0.0)	82

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; FDA-STIC Resistant = azithromycin MIC ≥2.0 µg/mL.
FDA-STIC = FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria.
In 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Albuquerque, New Mexico, 2019-2023

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
2019	67 (56.3)	13 (10.9)	4 (3.4)	0 (0.0)	0 (0.0)	0 (0.0)	3 (2.5)	32 (26.9)	119
2020	60 (50.8)	7 (5.9)	3 (2.5)	0 (0.0)	0 (0.0)	0 (0.0)	2 (1.7)	46 (39.0)	118
2021	62 (66.0)	3 (3.2)	1 (1.1)	1 (1.1)	2 (2.1)	0 (0.0)	0 (0.0)	25 (26.6)	94
2022	68 (74.7)	1 (1.1)	2 (2.2)	0 (0.0)	0 (0.0)	0 (0.0)	2 (2.2)	18 (19.8)	91
2023	70 (85.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	12 (14.6)	82

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.

Table K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Albuquerque, New Mexico, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 53 (0.0)	1 / 88 (1.1)	2 / 151 (1.3)	**	**	0 / 96 (0.0)	0 / 105 (0.0)	0 / 152 (0.0)	3 / 152 (2.0)	0 / 139 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
0 / 114 (0.0)	0 / 115 (0.0)	0 / 140 (0.0)	0 / 137 (0.0)	1 / 185 (0.5)	1 / 119 (0.8)	0 / 118 (0.0)	0 / 94 (0.0)	0 / 91 (0.0)	0 / 82 (0.0)

Cefixime elevated MIC ≥0.25 µg/mL.
** Cefixime susceptibility was not tested in 2007 and 2008.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Albuquerque, New Mexico, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 53 (0.0)	0 / 88 (0.0)	0 / 151 (0.0)	0 / 156 (0.0)	0 / 102 (0.0)	0 / 96 (0.0)	0 / 105 (0.0)	0 / 152 (0.0)	3 / 152 (2.0)	0 / 139 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
0 / 114 (0.0)	0 / 115 (0.0)	0 / 140 (0.0)	0 / 137 (0.0)	0 / 185 (0.0)	0 / 119 (0.0)	0 / 118 (0.0)	0 / 94 (0.0)	0 / 91 (0.0)	0 / 82 (0.0)

Ceftriaxone elevated MIC ≥0.125 µg/mL.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table M. Percentage of Isolates with Resistance to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Albuquerque, New Mexico, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 53 (0.0)	2 / 88 (2.3)	0 / 151 (0.0)	1 / 156 (0.6)	0 / 102 (0.0)	0 / 96 (0.0)	2 / 105 (1.9)	0 / 152 (0.0)	0 / 152 (0.0)	0 / 139 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
0 / 114 (0.0)	0 / 115 (0.0)	1 / 140 (0.7)	0 / 137 (0.0)	1 / 185 (0.5)	3 / 119 (2.5)	4 / 118 (3.4)	6 / 94 (6.4)	5 / 91 (5.5)	2 / 82 (2.4)

Azithromycin elevated MIC ≥1.0 µg/mL prior to 2005 and ≥2.0 µg/mL during 2005-2023.
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.

Table N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Albuquerque, New Mexico, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 53 (0.0)	0 / 88 (0.0)	11 / 151 (7.3)	26 / 156 (16.7)	7 / 102 (6.9)	7 / 96 (7.3)	24 / 105 (22.9)	33 / 152 (21.7)	25 / 152 (16.4)	21 / 139 (15.1)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
7 / 114 (6.1)	11 / 115 (9.6)	22 / 140 (15.7)	31 / 137 (22.6)	23 / 185 (12.4)	35 / 119 (29.4)	48 / 118 (40.7)	25 / 94 (26.6)	20 / 91 (22.0)	12 / 82 (14.6)

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.

Table A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Anchorage, Alaska, 2023

<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
0 (0.0)	1 (25.0)	1 (25.0)	1 (25.0)	0 (0.0)	1 (25.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Anchorage, Alaska, 2023

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	0 (0.0)	1 (25.0)	0 (0.0)	3 (75.0)	0 (0.0)	0 (0.0)	0 (0.0)	4

Cases are reported using Office of Management and Budget (OMB) compliant race and ethnicity categories.
AI/AN = American Indian or Alaska Native; NHOPI = Native Hawaiian or Other Pacific Islander.

Table C. Percentage of Participants who are Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Anchorage, Alaska, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	*	*	*	*	*	*	*	*	*	*	0 (0.0)	4 (6.9)	1 (5.0)	5 (27.8)	0 (0.0)	1 (33.3)

* Site did not participate in GISP during that year.

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Anchorage, Alaska, 2023

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Cefixime 800mg n (%)	Ceftriaxone 250mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Anchorage, Alaska, 2023

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
0 (0.0)	2 (50.0)	2 (50.0)

Table F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Anchorage, Alaska, 2023

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
1 (25.0)	1 (25.0)	1 (25.0)	1 (25.0)	0 (0.0)

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 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).

Table G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Anchorage, Alaska, 2019-2023

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
2019	29 (49.2)	26 (44.1)	4 (6.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	59
2020	15 (75.0)	4 (20.0)	1 (5.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	20
2021	9 (50.0)	8 (44.4)	1 (5.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	18
2022	9 (90.0)	0 (0.0)	1 (10.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	10
2023	3 (75.0)	1 (25.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4

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.

Table H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Anchorage, Alaska, 2019-2023

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
2019	27 (45.8)	22 (37.3)	10 (16.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	59
2020	12 (60.0)	7 (35.0)	1 (5.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	20
2021	8 (44.4)	7 (38.9)	3 (16.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	18
2022	9 (90.0)	0 (0.0)	1 (10.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	10
2023	3 (75.0)	1 (25.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4

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.

Table I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Anchorage, Alaska, 2019-2023

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
2019	10 (16.9)	47 (79.7)	2 (3.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	59
2020	7 (35.0)	10 (50.0)	3 (15.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	20
2021	4 (22.2)	9 (50.0)	1 (5.6)	3 (16.7)	1 (5.6)	0 (0.0)	0 (0.0)	0 (0.0)	18
2022	8 (80.0)	1 (10.0)	0 (0.0)	0 (0.0)	1 (10.0)	0 (0.0)	0 (0.0)	0 (0.0)	10
2023	2 (50.0)	1 (25.0)	0 (0.0)	0 (0.0)	1 (25.0)	0 (0.0)	0 (0.0)	0 (0.0)	4

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; FDA-STIC Resistant = azithromycin MIC ≥2.0 µg/mL.
FDA-STIC = FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria.
In 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Anchorage, Alaska, 2019-2023

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
2019	29 (49.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	30 (50.8)	59
2020	14 (70.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	6 (30.0)	20
2021	13 (72.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	5 (27.8)	18
2022	9 (90.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (10.0)	10
2023	1 (25.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	3 (75.0)	4

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.

Table K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Anchorage, Alaska, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	0 / 17 (0.0)	0 / 59 (0.0)	0 / 20 (0.0)	0 / 18 (0.0)	0 / 10 (0.0)	0 / 4 (0.0)

* Site did not participate in GISP during that year.
Cefixime elevated MIC ≥0.25 µg/mL.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Anchorage, Alaska, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	0 / 17 (0.0)	0 / 59 (0.0)	0 / 20 (0.0)	0 / 18 (0.0)	0 / 10 (0.0)	0 / 4 (0.0)

Ceftriaxone elevated MIC ≥0.125 µg/mL.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table M. Percentage of Isolates with Resistance to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Anchorage, Alaska, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	0 / 17 (0.0)	0 / 59 (0.0)	0 / 20 (0.0)	1 / 18 (5.6)	1 / 10 (10.0)	1 / 4 (25.0)

Azithromycin elevated MIC ≥1.0 µg/mL prior to 2005 and ≥2.0 µg/mL during 2005-2023.
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.

Table N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Anchorage, Alaska, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	9 / 17 (52.9)	30 / 59 (50.8)	6 / 20 (30.0)	5 / 18 (27.8)	1 / 10 (10.0)	3 / 4 (75.0)

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.

Table A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Baltimore, Maryland, 2023

<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
0 (0.0)	2 (8.3)	1 (4.2)	2 (8.3)	4 (16.7)	1 (4.2)	1 (4.2)	6 (25.0)	3 (12.5)	2 (8.3)	2 (8.3)	24

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Baltimore, Maryland, 2023

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	0 (0.0)	24 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	24

Cases are reported using Office of Management and Budget (OMB) compliant race and ethnicity categories.
AI/AN = American Indian or Alaska Native; NHOPI = Native Hawaiian or Other Pacific Islander.

Table C. Percentage of Participants who are Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Baltimore, Maryland, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
13 (4.5)	14 (4.7)	17 (6.1)	22 (7.5)	28 (9.5)	32 (11.8)	25 (10.7)	43 (14.9)	48 (16.4)	51 (17.2)	*	*	*	*	*	9 (10.8)	0 (0.0)	1 (33.3)	1 (8.3)	1 (4.2)

* Site did not participate in GISP during that year.

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Baltimore, Maryland, 2023

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Cefixime 800mg n (%)	Ceftriaxone 250mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	1 (4.2)	0 (0.0)	23 (95.8)	0 (0.0)	0 (0.0)	0 (0.0)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Baltimore, Maryland, 2023

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
0 (0.0)	16 (66.7)	8 (33.3)

Table F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Baltimore, Maryland, 2023

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
14 (58.3)	7 (29.2)	1 (4.2)	2 (8.3)	0 (0.0)

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 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).

Table G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Baltimore, Maryland, 2019-2023

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
2019	72 (71.3)	23 (22.8)	6 (5.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	101
2020	3 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	3
2021	3 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	3
2022	3 (25.0)	8 (66.7)	0 (0.0)	1 (8.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	12
2023	21 (87.5)	3 (12.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	24

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.

Table H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Baltimore, Maryland, 2019-2023

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
2019	72 (71.3)	22 (21.8)	7 (6.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	101
2020	2 (66.7)	1 (33.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	3
2021	3 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	3
2022	11 (91.7)	1 (8.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	12
2023	21 (87.5)	3 (12.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	24

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.

Table I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Baltimore, Maryland, 2019-2023

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
2019	13 (12.9)	66 (65.3)	14 (13.9)	7 (6.9)	1 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)	101
2020	0 (0.0)	2 (66.7)	0 (0.0)	0 (0.0)	0 (0.0)	1 (33.3)	0 (0.0)	0 (0.0)	3
2021	2 (66.7)	1 (33.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	3
2022	1 (8.3)	7 (58.3)	1 (8.3)	3 (25.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	12
2023	7 (29.2)	12 (50.0)	2 (8.3)	3 (12.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	24

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; FDA-STIC Resistant = azithromycin MIC ≥2.0 µg/mL.
FDA-STIC = FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria.
In 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Baltimore, Maryland, 2019-2023

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
2019	56 (55.4)	0 (0.0)	1 (1.0)	0 (0.0)	2 (2.0)	0 (0.0)	0 (0.0)	42 (41.6)	101
2020	2 (66.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (33.3)	3
2021	2 (66.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (33.3)	3
2022	8 (66.7)	0 (0.0)	0 (0.0)	0 (0.0)	1 (8.3)	0 (0.0)	0 (0.0)	3 (25.0)	12
2023	17 (70.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	7 (29.2)	24

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.

Table K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Baltimore, Maryland, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 294 (0.0)	0 / 297 (0.0)	0 / 277 (0.0)	**	**	0 / 276 (0.0)	0 / 244 (0.0)	1 / 293 (0.3)	0 / 300 (0.0)	2 / 300 (0.7)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	*	0 / 101 (0.0)	0 / 3 (0.0)	0 / 3 (0.0)	0 / 12 (0.0)	0 / 24 (0.0)

Cefixime elevated MIC ≥0.25 µg/mL.
* Site did not participate in GISP during that year.
** Cefixime susceptibility was not tested in 2007 and 2008.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Baltimore, Maryland, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
1 / 294 (0.3)	0 / 297 (0.0)	0 / 277 (0.0)	0 / 296 (0.0)	0 / 297 (0.0)	0 / 276 (0.0)	0 / 244 (0.0)	0 / 293 (0.0)	0 / 300 (0.0)	0 / 300 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	*	0 / 101 (0.0)	0 / 3 (0.0)	0 / 3 (0.0)	0 / 12 (0.0)	0 / 24 (0.0)

Ceftriaxone elevated MIC ≥0.125 µg/mL.
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table M. Percentage of Isolates with Resistance to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Baltimore, Maryland, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
3 / 294 (1.0)	2 / 297 (0.7)	0 / 277 (0.0)	0 / 296 (0.0)	0 / 297 (0.0)	0 / 276 (0.0)	0 / 244 (0.0)	0 / 293 (0.0)	0 / 300 (0.0)	0 / 300 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	*	1 / 101 (1.0)	1 / 3 (33.3)	0 / 3 (0.0)	0 / 12 (0.0)	0 / 24 (0.0)

Azithromycin elevated MIC ≥1.0 µg/mL prior to 2005 and ≥2.0 µg/mL during 2005-2023.
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).
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Baltimore, Maryland, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
3 / 294 (1.0)	9 / 297 (3.0)	4 / 277 (1.4)	6 / 296 (2.0)	16 / 297 (5.4)	14 / 276 (5.1)	25 / 244 (10.2)	5 / 293 (1.7)	16 / 300 (5.3)	58 / 300 (19.3)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	*	42 / 101 (41.6)	1 / 3 (33.3)	1 / 3 (33.3)	3 / 12 (25.0)	7 / 24 (29.2)

Ciprofloxacin resistance MIC ≥1.0 µg/mL.
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Birmingham, Alabama, 2023

<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
14 (17.3)	13 (16.0)	23 (28.4)	14 (17.3)	8 (9.9)	2 (2.5)	1 (1.2)	1 (1.2)	2 (2.5)	1 (1.2)	2 (2.5)	81

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Birmingham, Alabama, 2023

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	0 (0.0)	77 (93.9)	0 (0.0)	2 (2.4)	0 (0.0)	0 (0.0)	3 (3.7)	82

Cases are reported using Office of Management and Budget (OMB) compliant race and ethnicity categories.
AI/AN = American Indian or Alaska Native; NHOPI = Native Hawaiian or Other Pacific Islander.

Table C. Percentage of Participants who are Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Birmingham, Alabama, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
12 (4.2)	2 (0.7)	2 (0.9)	6 (2.6)	16 (7.1)	9 (5.3)	12 (5.2)	4 (2.1)	25 (8.3)	14 (9.2)	18 (8.1)	12 (6.9)	14 (7.5)	19 (15.4)	8 (8.5)	15 (15.6)	10 (9.4)	9 (5.8)	8 (8.7)	6 (7.4)

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Birmingham, Alabama, 2023

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Cefixime 800mg n (%)	Ceftriaxone 250mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
1 (1.3)	0 (0.0)	0 (0.0)	0 (0.0)	73 (91.3)	0 (0.0)	6 (7.5)	0 (0.0)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Birmingham, Alabama, 2023

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
7 (8.6)	74 (91.4)	0 (0.0)

Table F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Birmingham, Alabama, 2023

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
21 (25.6)	33 (40.2)	27 (32.9)	1 (1.2)	0 (0.0)

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 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).

Table G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Birmingham, Alabama, 2019-2023

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
2019	74 (71.8)	23 (22.3)	6 (5.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	103
2020	76 (68.5)	30 (27.0)	3 (2.7)	2 (1.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	111
2021	117 (72.7)	40 (24.8)	4 (2.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	161
2022	96 (85.7)	16 (14.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	112
2023	66 (80.5)	10 (12.2)	3 (3.7)	3 (3.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	82

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.

Table H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Birmingham, Alabama, 2019-2023

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
2019	81 (78.6)	16 (15.5)	6 (5.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	103
2020	88 (79.3)	15 (13.5)	8 (7.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	111
2021	124 (77.0)	31 (19.3)	6 (3.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	161
2022	91 (81.3)	18 (16.1)	3 (2.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	112
2023	64 (78.0)	12 (14.6)	6 (7.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	82

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.

Table I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Birmingham, Alabama, 2019-2023

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
2019	19 (18.4)	70 (68.0)	8 (7.8)	5 (4.9)	1 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)	103
2020	22 (19.8)	76 (68.5)	5 (4.5)	5 (4.5)	3 (2.7)	0 (0.0)	0 (0.0)	0 (0.0)	111
2021	18 (11.2)	103 (64.0)	28 (17.4)	8 (5.0)	4 (2.5)	0 (0.0)	0 (0.0)	0 (0.0)	161
2022	20 (17.9)	61 (54.5)	22 (19.6)	5 (4.5)	4 (3.6)	0 (0.0)	0 (0.0)	0 (0.0)	112
2023	7 (8.5)	60 (73.2)	4 (4.9)	9 (11.0)	1 (1.2)	0 (0.0)	1 (1.2)	0 (0.0)	82

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; FDA-STIC Resistant = azithromycin MIC ≥2.0 µg/mL.
FDA-STIC = FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria.
In 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Birmingham, Alabama, 2019-2023

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
2019	64 (62.1)	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.0)	0 (0.0)	1 (1.0)	37 (35.9)	103
2020	54 (48.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (1.8)	0 (0.0)	55 (49.5)	111
2021	86 (53.4)	2 (1.2)	0 (0.0)	0 (0.0)	0 (0.0)	2 (1.2)	2 (1.2)	69 (42.9)	161
2022	44 (39.3)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.9)	2 (1.8)	1 (0.9)	64 (57.1)	112
2023	24 (29.3)	0 (0.0)	0 (0.0)	0 (0.0)	3 (3.7)	2 (2.4)	0 (0.0)	53 (64.6)	82

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.

Table K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Birmingham, Alabama, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 288 (0.0)	0 / 286 (0.0)	0 / 274 (0.0)	**	**	0 / 209 (0.0)	0 / 266 (0.0)	1 / 212 (0.5)	1 / 300 (0.3)	0 / 153 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
1 / 223 (0.4)	0 / 175 (0.0)	0 / 189 (0.0)	0 / 123 (0.0)	0 / 98 (0.0)	0 / 103 (0.0)	0 / 111 (0.0)	0 / 161 (0.0)	0 / 112 (0.0)	0 / 82 (0.0)

Cefixime elevated MIC ≥0.25 µg/mL.
** Cefixime susceptibility was not tested in 2007 and 2008.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Birmingham, Alabama, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 288 (0.0)	0 / 286 (0.0)	0 / 274 (0.0)	0 / 278 (0.0)	0 / 240 (0.0)	0 / 209 (0.0)	0 / 266 (0.0)	0 / 212 (0.0)	0 / 300 (0.0)	0 / 153 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
1 / 223 (0.4)	0 / 175 (0.0)	0 / 189 (0.0)	0 / 123 (0.0)	0 / 98 (0.0)	0 / 103 (0.0)	0 / 111 (0.0)	0 / 161 (0.0)	0 / 112 (0.0)	0 / 82 (0.0)

Ceftriaxone elevated MIC ≥0.125 µg/mL.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table M. Percentage of Isolates with Resistance to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Birmingham, Alabama, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 288 (0.0)	3 / 286 (1.0)	0 / 274 (0.0)	0 / 278 (0.0)	0 / 240 (0.0)	0 / 209 (0.0)	0 / 266 (0.0)	0 / 212 (0.0)	1 / 300 (0.3)	0 / 153 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
1 / 223 (0.4)	0 / 175 (0.0)	0 / 189 (0.0)	1 / 123 (0.8)	1 / 98 (1.0)	1 / 103 (1.0)	3 / 111 (2.7)	4 / 161 (2.5)	4 / 112 (3.6)	2 / 82 (2.4)

Azithromycin elevated MIC ≥1.0 µg/mL prior to 2005 and ≥2.0 µg/mL during 2005-2023.
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.

Table N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Birmingham, Alabama, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 288 (0.0)	3 / 286 (1.0)	3 / 274 (1.1)	26 / 278 (9.4)	20 / 240 (8.3)	21 / 209 (10.0)	29 / 266 (10.9)	38 / 212 (17.9)	44 / 300 (14.7)	13 / 153 (8.5)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
35 / 223 (15.7)	27 / 175 (15.4)	31 / 189 (16.4)	29 / 123 (23.6)	25 / 98 (25.5)	38 / 103 (36.9)	55 / 111 (49.5)	71 / 161 (44.1)	65 / 112 (58.0)	53 / 82 (64.6)

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.

Table A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Buffalo, New York, 2023

<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
4 (19.0)	4 (19.0)	3 (14.3)	5 (23.8)	1 (4.8)	2 (9.5)	0 (0.0)	1 (4.8)	1 (4.8)	0 (0.0)	0 (0.0)	21

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Buffalo, New York, 2023

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	0 (0.0)	20 (95.2)	0 (0.0)	1 (4.8)	0 (0.0)	0 (0.0)	0 (0.0)	21

Cases are reported using Office of Management and Budget (OMB) compliant race and ethnicity categories.
AI/AN = American Indian or Alaska Native; NHOPI = Native Hawaiian or Other Pacific Islander.

Table C. Percentage of Participants who are Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Buffalo, New York, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	*	*	*	*	*	*	15 (17.6)	16 (11.6)	17 (12.1)	16 (11.8)	14 (8.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

* Site did not participate in GISP during that year.

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Buffalo, New York, 2023

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Cefixime 800mg n (%)	Ceftriaxone 250mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	21 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Buffalo, New York, 2023

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
0 (0.0)	0 (0.0)	21 (100.0)

Table F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Buffalo, New York, 2023

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
12 (57.1)	4 (19.0)	4 (19.0)	1 (4.8)	0 (0.0)

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 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).

Table G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Buffalo, New York, 2019-2023

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
2019	48 (71.6)	7 (10.4)	12 (17.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	67
2020	10 (76.9)	1 (7.7)	2 (15.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	13
2021	21 (84.0)	3 (12.0)	1 (4.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	25
2022	35 (94.6)	2 (5.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	37
2023	15 (71.4)	6 (28.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	21

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.

Table H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Buffalo, New York, 2019-2023

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
2019	44 (65.7)	6 (9.0)	15 (22.4)	2 (3.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	67
2020	10 (76.9)	1 (7.7)	2 (15.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	13
2021	21 (84.0)	3 (12.0)	1 (4.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	25
2022	31 (83.8)	5 (13.5)	1 (2.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	37
2023	12 (57.1)	8 (38.1)	1 (4.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	21

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.

Table I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Buffalo, New York, 2019-2023

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
2019	21 (31.3)	37 (55.2)	9 (13.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	67
2020	3 (23.1)	2 (15.4)	8 (61.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	13
2021	8 (32.0)	4 (16.0)	4 (16.0)	8 (32.0)	1 (4.0)	0 (0.0)	0 (0.0)	0 (0.0)	25
2022	13 (35.1)	16 (43.2)	4 (10.8)	4 (10.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	37
2023	2 (9.5)	15 (71.4)	0 (0.0)	2 (9.5)	2 (9.5)	0 (0.0)	0 (0.0)	0 (0.0)	21

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; FDA-STIC Resistant = azithromycin MIC ≥2.0 µg/mL.
FDA-STIC = FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria.
In 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Buffalo, New York, 2019-2023

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
2019	41 (61.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.5)	0 (0.0)	25 (37.3)	67
2020	6 (46.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (15.4)	0 (0.0)	5 (38.5)	13
2021	22 (88.0)	1 (4.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (8.0)	25
2022	33 (89.2)	0 (0.0)	0 (0.0)	0 (0.0)	1 (2.7)	0 (0.0)	0 (0.0)	3 (8.1)	37
2023	14 (66.7)	1 (4.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (4.8)	5 (23.8)	21

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.

Table K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Buffalo, New York, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
1 / 87 (1.1)	0 / 140 (0.0)	0 / 141 (0.0)	3 / 136 (2.2)	0 / 163 (0.0)	0 / 67 (0.0)	0 / 13 (0.0)	0 / 25 (0.0)	0 / 37 (0.0)	0 / 21 (0.0)

Cefixime elevated MIC ≥0.25 µg/mL.
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Buffalo, New York, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
0 / 87 (0.0)	0 / 140 (0.0)	0 / 141 (0.0)	3 / 136 (2.2)	0 / 163 (0.0)	0 / 67 (0.0)	0 / 13 (0.0)	0 / 25 (0.0)	0 / 37 (0.0)	0 / 21 (0.0)

Ceftriaxone elevated MIC ≥0.125 µg/mL.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table M. Percentage of Isolates with Resistance to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Buffalo, New York, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
2 / 87 (2.3)	1 / 140 (0.7)	2 / 141 (1.4)	1 / 136 (0.7)	0 / 163 (0.0)	0 / 67 (0.0)	0 / 13 (0.0)	1 / 25 (4.0)	0 / 37 (0.0)	2 / 21 (9.5)

Azithromycin elevated MIC ≥1.0 µg/mL prior to 2005 and ≥2.0 µg/mL during 2005-2023.
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.

Table N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Buffalo, New York, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
13 / 87 (14.9)	30 / 140 (21.4)	54 / 141 (38.3)	21 / 136 (15.4)	24 / 163 (14.7)	25 / 67 (37.3)	5 / 13 (38.5)	2 / 25 (8.0)	3 / 37 (8.1)	6 / 21 (28.6)

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.

Table A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Camden, New Jersey, 2023

<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
3 (20.0)	4 (26.7)	3 (20.0)	1 (6.7)	0 (0.0)	0 (0.0)	1 (6.7)	1 (6.7)	1 (6.7)	0 (0.0)	1 (6.7)	15

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Camden, New Jersey, 2023

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	0 (0.0)	9 (56.3)	0 (0.0)	3 (18.8)	3 (18.8)	0 (0.0)	1 (6.3)	16

Cases are reported using Office of Management and Budget (OMB) compliant race and ethnicity categories.
AI/AN = American Indian or Alaska Native; NHOPI = Native Hawaiian or Other Pacific Islander.

Table C. Percentage of Participants who are Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Camden, New Jersey, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	15 (34.1)	13 (25.0)	3 (23.1)	0 (0.0)	2 (13.3)

* Site did not participate in GISP during that year.

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Camden, New Jersey, 2023

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Cefixime 800mg n (%)	Ceftriaxone 250mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
1 (6.7)	0 (0.0)	0 (0.0)	0 (0.0)	13 (86.7)	0 (0.0)	0 (0.0)	1 (6.7)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Camden, New Jersey, 2023

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
1 (6.7)	10 (66.7)	4 (26.7)

Table F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Camden, New Jersey, 2023

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
8 (50.0)	5 (31.3)	3 (18.8)	0 (0.0)	0 (0.0)

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 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).

Table G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Camden, New Jersey, 2019-2023

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
2019	38 (86.4)	3 (6.8)	1 (2.3)	1 (2.3)	1 (2.3)	0 (0.0)	0 (0.0)	0 (0.0)	44
2020	42 (79.2)	8 (15.1)	3 (5.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	53
2021	9 (69.2)	4 (30.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	13
2022	0 (0.0)	1 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1
2023	13 (81.3)	3 (18.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	16

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.

Table H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Camden, New Jersey, 2019-2023

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
2019	32 (72.7)	8 (18.2)	3 (6.8)	1 (2.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	44
2020	45 (84.9)	5 (9.4)	1 (1.9)	2 (3.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	53
2021	11 (84.6)	2 (15.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	13
2022	1 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1
2023	13 (81.3)	2 (12.5)	1 (6.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	16

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.

Table I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Camden, New Jersey, 2019-2023

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
2019	5 (11.4)	28 (63.6)	3 (6.8)	0 (0.0)	2 (4.5)	0 (0.0)	0 (0.0)	6 (13.6)	44
2020	3 (5.7)	21 (39.6)	13 (24.5)	4 (7.5)	3 (5.7)	1 (1.9)	2 (3.8)	6 (11.3)	53
2021	2 (15.4)	8 (61.5)	0 (0.0)	2 (15.4)	0 (0.0)	1 (7.7)	0 (0.0)	0 (0.0)	13
2022	1 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1
2023	5 (31.3)	8 (50.0)	1 (6.3)	0 (0.0)	2 (12.5)	0 (0.0)	0 (0.0)	0 (0.0)	16

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; FDA-STIC Resistant = azithromycin MIC ≥2.0 µg/mL.
FDA-STIC = FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria.
In 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year,
Gonococcal Isolate Surveillance Project (GISP),
Camden, New Jersey, 2019-2023

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
2019	23 (52.3)	1 (2.3)	0 (0.0)	0 (0.0)	1 (2.3)	0 (0.0)	1 (2.3)	18 (40.9)	44
2020	18 (34.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.9)	3 (5.7)	31 (58.5)	53
2021	6 (46.2)	0 (0.0)	0 (0.0)	0 (0.0)	1 (7.7)	0 (0.0)	0 (0.0)	6 (46.2)	13
2022	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (100.0)	1
2023	9 (56.3)	0 (0.0)	0 (0.0)	0 (0.0)	2 (12.5)	0 (0.0)	0 (0.0)	5 (31.3)	16

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.

Table K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime,
Gonococcal Isolate Surveillance Project (GISP),
Camden, New Jersey, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	*	1 / 44 (2.3)	0 / 53 (0.0)	0 / 13 (0.0)	0 / 1 (0.0)	0 / 16 (0.0)

Cefixime elevated MIC ≥0.25 µg/mL.
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone,
Gonococcal Isolate Surveillance Project (GISP),
Camden, New Jersey, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	*	0 / 44 (0.0)	0 / 53 (0.0)	0 / 13 (0.0)	0 / 1 (0.0)	0 / 16 (0.0)

Ceftriaxone elevated MIC ≥0.125 µg/mL.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table M. Percentage of Isolates with Resistance to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Camden, New Jersey, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	*	8 / 44 (18.2)	12 / 53 (22.6)	1 / 13 (7.7)	0 / 1 (0.0)	2 / 16 (12.5)

Azithromycin elevated MIC ≥1.0 µg/mL prior to 2005 and ≥2.0 µg/mL during 2005-2023.
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.

Table N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Camden, New Jersey, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	*	19 / 44 (43.2)	34 / 53 (64.2)	6 / 13 (46.2)	1 / 1 (100.0)	5 / 16 (31.3)

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.

Table A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Chicago, Illinois, 2023

<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
0 (0.0)	0 (0.0)	3 (21.4)	6 (42.9)	3 (21.4)	2 (14.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	14

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Chicago, Illinois, 2023

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	0 (0.0)	5 (35.7)	0 (0.0)	2 (14.3)	7 (50.0)	0 (0.0)	0 (0.0)	14

Cases are reported using Office of Management and Budget (OMB) compliant race and ethnicity categories.
AI/AN = American Indian or Alaska Native; NHOPI = Native Hawaiian or Other Pacific Islander.

Table C. Percentage of Participants who are Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Chicago, Illinois, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
40 (13.4)	55 (19.9)	56 (18.9)	66 (24.7)	43 (17.1)	56 (23.8)	53 (42.7)	58 (22.7)	102 (37.4)	103 (34.8)	52 (41.6)	71 (48.3)	33 (27.3)	39 (24.7)	31 (30.4)	32 (25.8)	14 (60.9)	5 (21.7)	16 (37.2)	4 (28.6)

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Chicago, Illinois, 2023

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Cefixime 800mg n (%)	Ceftriaxone 250mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	13 (92.9)	0 (0.0)	1 (7.1)	0 (0.0)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Chicago, Illinois, 2023

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
1 (7.1)	12 (85.7)	1 (7.1)

Table F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Chicago, Illinois, 2023

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
5 (35.7)	4 (28.6)	3 (21.4)	2 (14.3)	0 (0.0)

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 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).

Table G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Chicago, Illinois, 2019-2023

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
2019	87 (68.5)	36 (28.3)	3 (2.4)	1 (0.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	127
2020	8 (34.8)	13 (56.5)	2 (8.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	23
2021	14 (58.3)	5 (20.8)	4 (16.7)	1 (4.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	24
2022	39 (90.7)	2 (4.7)	0 (0.0)	2 (4.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	43
2023	11 (78.6)	1 (7.1)	2 (14.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	14

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.

Table H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Chicago, Illinois, 2019-2023

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
2019	94 (74.0)	29 (22.8)	3 (2.4)	1 (0.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	127
2020	16 (69.6)	6 (26.1)	1 (4.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	23
2021	8 (33.3)	13 (54.2)	3 (12.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	24
2022	38 (88.4)	4 (9.3)	1 (2.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	43
2023	12 (85.7)	2 (14.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	14

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.

Table I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Chicago, Illinois, 2019-2023

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
2019	27 (21.3)	68 (53.5)	9 (7.1)	17 (13.4)	6 (4.7)	0 (0.0)	0 (0.0)	0 (0.0)	127
2020	6 (26.1)	8 (34.8)	1 (4.3)	6 (26.1)	2 (8.7)	0 (0.0)	0 (0.0)	0 (0.0)	23
2021	3 (12.5)	13 (54.2)	2 (8.3)	4 (16.7)	2 (8.3)	0 (0.0)	0 (0.0)	0 (0.0)	24
2022	11 (25.6)	21 (48.8)	6 (14.0)	3 (7.0)	2 (4.7)	0 (0.0)	0 (0.0)	0 (0.0)	43
2023	0 (0.0)	9 (64.3)	1 (7.1)	4 (28.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	14

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; FDA-STIC Resistant = azithromycin MIC ≥2.0 µg/mL.
FDA-STIC = FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria.
In 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Chicago, Illinois, 2019-2023

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
2019	84 (66.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.8)	42 (33.1)	127
2020	17 (73.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (8.7)	4 (17.4)	23
2021	16 (66.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (8.3)	0 (0.0)	6 (25.0)	24
2022	27 (62.8)	0 (0.0)	0 (0.0)	1 (2.3)	0 (0.0)	2 (4.7)	0 (0.0)	13 (30.2)	43
2023	6 (42.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	8 (57.1)	14

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.

Table K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Chicago, Illinois, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 300 (0.0)	0 / 279 (0.0)	0 / 296 (0.0)	**	**	4 / 235 (1.7)	4 / 125 (3.2)	2 / 269 (0.7)	8 / 275 (2.9)	1 / 300 (0.3)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
2 / 129 (1.6)	0 / 150 (0.0)	0 / 125 (0.0)	0 / 158 (0.0)	0 / 103 (0.0)	0 / 127 (0.0)	0 / 23 (0.0)	0 / 24 (0.0)	0 / 43 (0.0)	0 / 14 (0.0)

Cefixime elevated MIC ≥0.25 µg/mL.
** Cefixime susceptibility was not tested in 2007 and 2008.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Chicago, Illinois, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 300 (0.0)	0 / 279 (0.0)	0 / 296 (0.0)	1 / 268 (0.4)	0 / 262 (0.0)	2 / 235 (0.9)	2 / 125 (1.6)	1 / 269 (0.4)	3 / 275 (1.1)	0 / 300 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
0 / 129 (0.0)	0 / 150 (0.0)	0 / 125 (0.0)	1 / 158 (0.6)	0 / 103 (0.0)	0 / 127 (0.0)	0 / 23 (0.0)	0 / 24 (0.0)	0 / 43 (0.0)	0 / 14 (0.0)

Ceftriaxone elevated MIC ≥0.125 µg/mL.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table M. Percentage of Isolates with Resistance to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Chicago, Illinois, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
7 / 300 (2.3)	5 / 279 (1.8)	0 / 296 (0.0)	3 / 268 (1.1)	1 / 262 (0.4)	1 / 235 (0.4)	2 / 125 (1.6)	1 / 269 (0.4)	2 / 275 (0.7)	6 / 300 (2.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
7 / 129 (5.4)	3 / 150 (2.0)	1 / 125 (0.8)	2 / 158 (1.3)	3 / 103 (2.9)	6 / 127 (4.7)	2 / 23 (8.7)	2 / 24 (8.3)	2 / 43 (4.7)	0 / 14 (0.0)

Azithromycin elevated MIC ≥1.0 µg/mL prior to 2005 and ≥2.0 µg/mL during 2005-2023.
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.

Table N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Chicago, Illinois, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
7 / 300 (2.3)	13 / 279 (4.7)	12 / 296 (4.1)	23 / 268 (8.6)	14 / 262 (5.3)	23 / 235 (9.8)	24 / 125 (19.2)	28 / 269 (10.4)	23 / 275 (8.4)	23 / 300 (7.7)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
14 / 129 (10.9)	22 / 150 (14.7)	28 / 125 (22.4)	38 / 158 (24.1)	22 / 103 (21.4)	43 / 127 (33.9)	6 / 23 (26.1)	6 / 24 (25.0)	13 / 43 (30.2)	8 / 14 (57.1)

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.

Table A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Columbus, Ohio, 2023

<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
2 (4.4)	9 (20.0)	12 (26.7)	11 (24.4)	1 (2.2)	5 (11.1)	2 (4.4)	0 (0.0)	0 (0.0)	2 (4.4)	1 (2.2)	45

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Columbus, Ohio, 2023

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	0 (0.0)	36 (80.0)	1 (2.2)	3 (6.7)	4 (8.9)	1 (2.2)	0 (0.0)	45

Cases are reported using Office of Management and Budget (OMB) compliant race and ethnicity categories.
AI/AN = American Indian or Alaska Native; NHOPI = Native Hawaiian or Other Pacific Islander.

Table C. Percentage of Participants who are Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Columbus, Ohio, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	*	*	*	*	22 (19.8)	59 (19.9)	58 (19.8)	65 (21.9)	71 (23.8)	69 (23.0)	58 (19.5)	51 (17.0)	21 (20.8)	*	*	9 (20.0)

* Site did not participate in GISP during that year.

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Columbus, Ohio, 2023

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Cefixime 800mg n (%)	Ceftriaxone 250mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	37 (82.2)	0 (0.0)	2 (4.4)	6 (13.3)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Columbus, Ohio, 2023

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
2 (4.4)	2 (4.4)	41 (91.1)

Table F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Columbus, Ohio, 2023

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
21 (46.7)	22 (48.9)	2 (4.4)	0 (0.0)	0 (0.0)

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 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).

Table G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Columbus, Ohio, 2019-2023

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
2019	240 (80.0)	52 (17.3)	8 (2.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	300
2020	80 (78.4)	8 (7.8)	13 (12.7)	1 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	102
2021	*	*	*	*	*	*	*	*	*
2022	*	*	*	*	*	*	*	*	*
2023	40 (88.9)	4 (8.9)	0 (0.0)	1 (2.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	45

* Site did not participate in GISP during that year.
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.

Table H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Columbus, Ohio, 2019-2023

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
2019	213 (71.0)	57 (19.0)	30 (10.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	300
2020	74 (72.5)	24 (23.5)	4 (3.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	102
2021	*	*	*	*	*	*	*	*	*
2022	*	*	*	*	*	*	*	*	*
2023	39 (86.7)	6 (13.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	45

* Site did not participate in GISP during that year.
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.

Table I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Columbus, Ohio, 2019-2023

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
2019	62 (20.7)	137 (45.7)	27 (9.0)	51 (17.0)	18 (6.0)	3 (1.0)	1 (0.3)	1 (0.3)	300
2020	13 (12.7)	44 (43.1)	21 (20.6)	10 (9.8)	7 (6.9)	6 (5.9)	1 (1.0)	0 (0.0)	102
2021	*	*	*	*	*	*	*	*	*
2022	*	*	*	*	*	*	*	*	*
2023	9 (20.0)	29 (64.4)	2 (4.4)	4 (8.9)	0 (0.0)	0 (0.0)	1 (2.2)	0 (0.0)	45

* Site did not participate in GISP during that year.
GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; FDA-STIC Resistant = azithromycin MIC ≥2.0 µg/mL.
FDA-STIC = FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria.
In 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Columbus, Ohio, 2019-2023

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
2019	179 (59.7)	4 (1.3)	0 (0.0)	1 (0.3)	1 (0.3)	1 (0.3)	0 (0.0)	114 (38.0)	300
2020	47 (46.1)	6 (5.9)	0 (0.0)	0 (0.0)	1 (1.0)	0 (0.0)	5 (4.9)	43 (42.2)	102
2021	*	*	*	*	*	*	*	*	*
2022	*	*	*	*	*	*	*	*	*
2023	24 (53.3)	0 (0.0)	0 (0.0)	0 (0.0)	3 (6.7)	0 (0.0)	1 (2.2)	17 (37.8)	45

* Site did not participate in GISP during that year.
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.

Table K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Columbus, Ohio, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
*	*	*	*	*	*	*	*	1 / 113 (0.9)	0 / 300 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
0 / 300 (0.0)	0 / 300 (0.0)	0 / 300 (0.0)	2 / 300 (0.7)	0 / 298 (0.0)	0 / 300 (0.0)	0 / 102 (0.0)	*	*	0 / 45 (0.0)

Cefixime elevated MIC ≥0.25 µg/mL.
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Columbus, Ohio, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
*	*	*	*	*	*	*	*	0 / 113 (0.0)	0 / 300 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
0 / 300 (0.0)	0 / 300 (0.0)	0 / 300 (0.0)	1 / 300 (0.3)	0 / 298 (0.0)	0 / 300 (0.0)	0 / 102 (0.0)	*	*	0 / 45 (0.0)

Ceftriaxone elevated MIC ≥0.125 µg/mL.
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table M. Percentage of Isolates with Resistance to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Columbus, Ohio, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
*	*	*	*	*	*	*	*	0 / 113 (0.0)	0 / 300 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
6 / 300 (2.0)	0 / 300 (0.0)	4 / 300 (1.3)	43 / 300 (14.3)	28 / 298 (9.4)	23 / 300 (7.7)	14 / 102 (13.7)	*	*	1 / 45 (2.2)

Azithromycin elevated MIC ≥1.0 µg/mL prior to 2005 and ≥2.0 µg/mL during 2005-2023.
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).
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Columbus, Ohio, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
*	*	*	*	*	*	*	*	8 / 113 (7.1)	10 / 300 (3.3)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
16 / 300 (5.3)	47 / 300 (15.7)	65 / 300 (21.7)	81 / 300 (27.0)	88 / 298 (29.5)	114 / 300 (38.0)	48 / 102 (47.1)	*	*	18 / 45 (40.0)

Ciprofloxacin resistance MIC ≥1.0 µg/mL.
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Dallas, Texas, 2023

<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
34 (11.4)	57 (19.1)	75 (25.1)	46 (15.4)	36 (12.0)	12 (4.0)	17 (5.7)	4 (1.3)	10 (3.3)	4 (1.3)	4 (1.3)	299

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Dallas, Texas, 2023

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	3 (1.0)	225 (75.0)	0 (0.0)	15 (5.0)	45 (15.0)	3 (1.0)	9 (3.0)	300

Cases are reported using Office of Management and Budget (OMB) compliant race and ethnicity categories.
AI/AN = American Indian or Alaska Native; NHOPI = Native Hawaiian or Other Pacific Islander.

Table C. Percentage of Participants who are Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Dallas, Texas, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
25 (8.4)	31 (11.2)	32 (10.9)	36 (12.4)	41 (13.9)	36 (12.0)	44 (14.9)	48 (18.0)	68 (24.0)	86 (30.1)	63 (21.1)	70 (24.7)	77 (25.7)	47 (16.7)	70 (23.6)	53 (17.7)	40 (16.9)	33 (13.1)	26 (14.1)	58 (19.7)

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Dallas, Texas, 2023

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Cefixime 800mg n (%)	Ceftriaxone 250mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	290 (97.0)	1 (0.3)	4 (1.3)	4 (1.3)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Dallas, Texas, 2023

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
5 (1.7)	290 (97.0)	4 (1.3)

Table F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Dallas, Texas, 2023

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
140 (46.7)	78 (26.0)	55 (18.3)	26 (8.7)	1 (0.3)

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 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).

Table G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Dallas, Texas, 2019-2023

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
2019	185 (61.7)	99 (33.0)	11 (3.7)	4 (1.3)	1 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)	300
2020	172 (70.8)	57 (23.5)	11 (4.5)	3 (1.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	243
2021	190 (74.2)	53 (20.7)	6 (2.3)	4 (1.6)	3 (1.2)	0 (0.0)	0 (0.0)	0 (0.0)	256
2022	155 (80.3)	27 (14.0)	3 (1.6)	6 (3.1)	2 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)	193
2023	226 (75.3)	39 (13.0)	13 (4.3)	20 (6.7)	2 (0.7)	0 (0.0)	0 (0.0)	0 (0.0)	300

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.

Table H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Dallas, Texas, 2019-2023

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
2019	206 (68.7)	70 (23.3)	19 (6.3)	4 (1.3)	1 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)	300
2020	177 (72.8)	42 (17.3)	24 (9.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	243
2021	177 (69.1)	62 (24.2)	15 (5.9)	2 (0.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	256
2022	141 (73.1)	38 (19.7)	12 (6.2)	2 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	193
2023	199 (66.3)	77 (25.7)	21 (7.0)	3 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	300

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.

Table I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Dallas, Texas, 2019-2023

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
2019	58 (19.3)	182 (60.7)	34 (11.3)	10 (3.3)	16 (5.3)	0 (0.0)	0 (0.0)	0 (0.0)	300
2020	53 (21.8)	158 (65.0)	13 (5.3)	15 (6.2)	4 (1.6)	0 (0.0)	0 (0.0)	0 (0.0)	243
2021	58 (22.7)	151 (59.0)	19 (7.4)	23 (9.0)	5 (2.0)	0 (0.0)	0 (0.0)	0 (0.0)	256
2022	47 (24.4)	111 (57.5)	11 (5.7)	20 (10.4)	3 (1.6)	0 (0.0)	0 (0.0)	1 (0.5)	193
2023	58 (19.3)	177 (59.0)	27 (9.0)	30 (10.0)	7 (2.3)	0 (0.0)	1 (0.3)	0 (0.0)	300

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; FDA-STIC Resistant = azithromycin MIC ≥2.0 µg/mL.
FDA-STIC = FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria.
In 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year,
Gonococcal Isolate Surveillance Project (GISP),
Dallas, Texas, 2019-2023

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
2019	209 (69.7)	1 (0.3)	0 (0.0)	1 (0.3)	3 (1.0)	1 (0.3)	1 (0.3)	84 (28.0)	300
2020	149 (61.3)	4 (1.6)	0 (0.0)	0 (0.0)	5 (2.1)	0 (0.0)	2 (0.8)	83 (34.2)	243
2021	164 (64.1)	1 (0.4)	0 (0.0)	0 (0.0)	6 (2.3)	5 (2.0)	3 (1.2)	77 (30.1)	256
2022	103 (53.4)	0 (0.0)	0 (0.0)	5 (2.6)	11 (5.7)	6 (3.1)	2 (1.0)	66 (34.2)	193
2023	156 (52.0)	1 (0.3)	0 (0.0)	1 (0.3)	31 (10.3)	14 (4.7)	6 (2.0)	91 (30.3)	300

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.

Table K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime,
Gonococcal Isolate Surveillance Project (GISP),
Dallas, Texas, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 299 (0.0)	0 / 281 (0.0)	0 / 296 (0.0)	**	**	0 / 300 (0.0)	0 / 296 (0.0)	3 / 267 (1.1)	1 / 283 (0.4)	0 / 287 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
0 / 300 (0.0)	0 / 283 (0.0)	0 / 300 (0.0)	0 / 282 (0.0)	0 / 300 (0.0)	1 / 300 (0.3)	0 / 243 (0.0)	3 / 256 (1.2)	2 / 193 (1.0)	2 / 300 (0.7)

Cefixime elevated MIC ≥0.25 µg/mL.
** Cefixime susceptibility was not tested in 2007 and 2008.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone,
Gonococcal Isolate Surveillance Project (GISP),
Dallas, Texas, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 299 (0.0)	0 / 281 (0.0)	0 / 296 (0.0)	0 / 295 (0.0)	0 / 295 (0.0)	0 / 300 (0.0)	0 / 296 (0.0)	1 / 267 (0.4)	0 / 283 (0.0)	0 / 287 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
0 / 300 (0.0)	0 / 283 (0.0)	0 / 300 (0.0)	0 / 282 (0.0)	0 / 300 (0.0)	1 / 300 (0.3)	0 / 243 (0.0)	0 / 256 (0.0)	0 / 193 (0.0)	0 / 300 (0.0)

Ceftriaxone elevated MIC ≥0.125 µg/mL.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table M. Percentage of Isolates with Resistance to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Dallas, Texas, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 299 (0.0)	2 / 281 (0.7)	1 / 296 (0.3)	0 / 295 (0.0)	0 / 295 (0.0)	0 / 300 (0.0)	0 / 296 (0.0)	0 / 267 (0.0)	2 / 283 (0.7)	2 / 287 (0.7)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
11 / 300 (3.7)	34 / 283 (12.0)	10 / 300 (3.3)	12 / 282 (4.3)	9 / 300 (3.0)	16 / 300 (5.3)	4 / 243 (1.6)	5 / 256 (2.0)	4 / 193 (2.1)	8 / 300 (2.7)

Azithromycin elevated MIC ≥1.0 µg/mL prior to 2005 and ≥2.0 µg/mL during 2005-2023.
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.

Table N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Dallas, Texas, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
9 / 299 (3.0)	9 / 281 (3.2)	18 / 296 (6.1)	22 / 295 (7.5)	21 / 295 (7.1)	20 / 300 (6.7)	23 / 296 (7.8)	12 / 267 (4.5)	33 / 283 (11.7)	30 / 287 (10.5)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
32 / 300 (10.7)	48 / 283 (17.0)	74 / 300 (24.7)	58 / 282 (20.6)	87 / 300 (29.0)	85 / 300 (28.3)	85 / 243 (35.0)	80 / 256 (31.3)	68 / 193 (35.2)	97 / 300 (32.3)

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.

Table A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Denver, Colorado, 2023

<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
7 (4.8)	24 (16.4)	23 (15.8)	44 (30.1)	15 (10.3)	9 (6.2)	11 (7.5)	7 (4.8)	2 (1.4)	1 (0.7)	3 (2.1)	146

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Denver, Colorado, 2023

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
1 (0.7)	5 (3.4)	38 (26.0)	0 (0.0)	48 (32.9)	50 (34.2)	0 (0.0)	4 (2.7)	146

Cases are reported using Office of Management and Budget (OMB) compliant race and ethnicity categories.
AI/AN = American Indian or Alaska Native; NHOPI = Native Hawaiian or Other Pacific Islander.

Table C. Percentage of Participants who are Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Denver, Colorado, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
75 (25.0)	88 (31.5)	67 (22.9)	62 (28.6)	53 (21.5)	74 (32.2)	66 (27.6)	57 (31.3)	96 (49.7)	93 (47.0)	*	*	*	*	50 (43.5)	105 (38.0)	70 (28.6)	97 (39.3)	93 (40.4)	83 (56.8)

* Site did not participate in GISP during that year.

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Denver, Colorado, 2023

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Cefixime 800mg n (%)	Ceftriaxone 250mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	131 (89.7)	0 (0.0)	0 (0.0)	15 (10.3)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Denver, Colorado, 2023

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
20 (13.7)	0 (0.0)	126 (86.3)

Table F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Denver, Colorado, 2023

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
49 (33.6)	53 (36.3)	30 (20.5)	14 (9.6)	0 (0.0)

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 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).

Table G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Denver, Colorado, 2019-2023

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
2019	174 (59.2)	89 (30.3)	23 (7.8)	8 (2.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	294
2020	173 (68.4)	52 (20.6)	18 (7.1)	9 (3.6)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	253
2021	201 (78.2)	48 (18.7)	7 (2.7)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	257
2022	154 (67.0)	59 (25.7)	12 (5.2)	4 (1.7)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	230
2023	80 (54.8)	35 (24.0)	13 (8.9)	16 (11.0)	2 (1.4)	0 (0.0)	0 (0.0)	0 (0.0)	146

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.

Table H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Denver, Colorado, 2019-2023

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
2019	196 (66.7)	73 (24.8)	20 (6.8)	5 (1.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	294
2020	182 (71.9)	55 (21.7)	12 (4.7)	3 (1.2)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	253
2021	183 (71.2)	63 (24.5)	10 (3.9)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	257
2022	133 (57.8)	84 (36.5)	12 (5.2)	0 (0.0)	0 (0.0)	1 (0.4)	0 (0.0)	0 (0.0)	230
2023	64 (43.8)	55 (37.7)	18 (12.3)	7 (4.8)	1 (0.7)	0 (0.0)	0 (0.0)	1 (0.7)	146

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.

Table I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Denver, Colorado, 2019-2023

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
2019	33 (11.2)	166 (56.5)	52 (17.7)	27 (9.2)	15 (5.1)	1 (0.3)	0 (0.0)	0 (0.0)	294
2020	25 (9.9)	121 (47.8)	51 (20.2)	47 (18.6)	7 (2.8)	2 (0.8)	0 (0.0)	0 (0.0)	253
2021	52 (20.2)	142 (55.3)	26 (10.1)	34 (13.2)	3 (1.2)	0 (0.0)	0 (0.0)	0 (0.0)	257
2022	45 (19.6)	126 (54.8)	20 (8.7)	35 (15.2)	4 (1.7)	0 (0.0)	0 (0.0)	0 (0.0)	230
2023	29 (19.9)	80 (54.8)	10 (6.8)	20 (13.7)	5 (3.4)	0 (0.0)	0 (0.0)	2 (1.4)	146

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; FDA-STIC Resistant = azithromycin MIC ≥2.0 µg/mL.
FDA-STIC = FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria.
In 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year,
Gonococcal Isolate Surveillance Project (GISP),
Denver, Colorado, 2019-2023

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
2019	202 (68.7)	2 (0.7)	0 (0.0)	1 (0.3)	3 (1.0)	1 (0.3)	1 (0.3)	84 (28.6)	294
2020	156 (61.7)	1 (0.4)	0 (0.0)	1 (0.4)	1 (0.4)	2 (0.8)	2 (0.8)	90 (35.6)	253
2021	182 (70.8)	0 (0.0)	0 (0.0)	0 (0.0)	2 (0.8)	3 (1.2)	7 (2.7)	63 (24.5)	257
2022	158 (68.7)	3 (1.3)	1 (0.4)	0 (0.0)	6 (2.6)	4 (1.7)	4 (1.7)	54 (23.5)	230
2023	90 (61.6)	0 (0.0)	0 (0.0)	1 (0.7)	5 (3.4)	2 (1.4)	2 (1.4)	46 (31.5)	146

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.

Table K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime,
Gonococcal Isolate Surveillance Project (GISP),
Denver, Colorado, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 300 (0.0)	0 / 284 (0.0)	0 / 293 (0.0)	**	**	1 / 230 (0.4)	3 / 239 (1.3)	6 / 187 (3.2)	1 / 193 (0.5)	0 / 199 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	0 / 124 (0.0)	0 / 294 (0.0)	1 / 253 (0.4)	0 / 257 (0.0)	1 / 230 (0.4)	2 / 146 (1.4)

Cefixime elevated MIC ≥0.25 µg/mL.
* Site did not participate in GISP during that year.
** Cefixime susceptibility was not tested in 2007 and 2008.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone,
Gonococcal Isolate Surveillance Project (GISP),
Denver, Colorado, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 300 (0.0)	0 / 284 (0.0)	0 / 293 (0.0)	0 / 218 (0.0)	0 / 252 (0.0)	0 / 230 (0.0)	0 / 239 (0.0)	1 / 187 (0.5)	0 / 193 (0.0)	0 / 199 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	0 / 124 (0.0)	0 / 294 (0.0)	1 / 253 (0.4)	0 / 257 (0.0)	1 / 230 (0.4)	2 / 146 (1.4)

Ceftriaxone elevated MIC ≥0.125 µg/mL.
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table M. Percentage of Isolates with Resistance to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Denver, Colorado, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 300 (0.0)	0 / 284 (0.0)	0 / 293 (0.0)	6 / 218 (2.8)	0 / 252 (0.0)	0 / 230 (0.0)	0 / 239 (0.0)	1 / 187 (0.5)	0 / 193 (0.0)	1 / 199 (0.5)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	1 / 124 (0.8)	16 / 294 (5.4)	9 / 253 (3.6)	3 / 257 (1.2)	4 / 230 (1.7)	7 / 146 (4.8)

Azithromycin elevated MIC ≥1.0 µg/mL prior to 2005 and ≥2.0 µg/mL during 2005-2023.
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).
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Denver, Colorado, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
25 / 300 (8.3)	31 / 284 (10.9)	46 / 293 (15.7)	37 / 218 (17.0)	27 / 252 (10.7)	26 / 230 (11.3)	34 / 239 (14.2)	33 / 187 (17.6)	31 / 193 (16.1)	36 / 199 (18.1)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	45 / 124 (36.3)	85 / 294 (28.9)	92 / 253 (36.4)	70 / 257 (27.2)	58 / 230 (25.2)	48 / 146 (32.9)

Ciprofloxacin resistance MIC ≥1.0 µg/mL.
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Greensboro, North Carolina, 2023

<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
11 (6.9)	36 (22.6)	36 (22.6)	36 (22.6)	15 (9.4)	11 (6.9)	6 (3.8)	2 (1.3)	2 (1.3)	2 (1.3)	2 (1.3)	159

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Greensboro, North Carolina, 2023

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	0 (0.0)	142 (89.3)	0 (0.0)	4 (2.5)	7 (4.4)	0 (0.0)	6 (3.8)	159

Cases are reported using Office of Management and Budget (OMB) compliant race and ethnicity categories.
AI/AN = American Indian or Alaska Native; NHOPI = Native Hawaiian or Other Pacific Islander.

Table C. Percentage of Participants who are Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Greensboro, North Carolina, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
7 (5.5)	16 (9.6)	11 (6.4)	11 (6.5)	12 (7.2)	24 (15.2)	19 (10.2)	24 (11.2)	6 (6.0)	14 (8.3)	38 (17.8)	51 (20.5)	41 (21.1)	39 (19.3)	41 (16.9)	39 (18.5)	33 (17.7)	19 (10.8)	30 (16.0)	33 (21.2)

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Greensboro, North Carolina, 2023

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Cefixime 800mg n (%)	Ceftriaxone 250mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	152 (95.6)	0 (0.0)	7 (4.4)	0 (0.0)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Greensboro, North Carolina, 2023

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
20 (12.6)	0 (0.0)	139 (87.4)

Table F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Greensboro, North Carolina, 2023

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
95 (59.7)	35 (22.0)	14 (8.8)	15 (9.4)	0 (0.0)

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 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).

Table G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Greensboro, North Carolina, 2019-2023

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
2019	177 (81.9)	31 (14.4)	5 (2.3)	3 (1.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	216
2020	144 (73.8)	45 (23.1)	3 (1.5)	3 (1.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	195
2021	147 (80.3)	29 (15.8)	4 (2.2)	3 (1.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	183
2022	143 (74.5)	41 (21.4)	8 (4.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	192
2023	116 (73.0)	28 (17.6)	2 (1.3)	12 (7.5)	1 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)	159

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.

Table H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Greensboro, North Carolina, 2019-2023

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
2019	181 (83.8)	22 (10.2)	8 (3.7)	5 (2.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	216
2020	157 (80.5)	31 (15.9)	6 (3.1)	1 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	195
2021	146 (79.8)	33 (18.0)	4 (2.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	183
2022	152 (79.2)	33 (17.2)	6 (3.1)	1 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	192
2023	120 (75.5)	28 (17.6)	9 (5.7)	2 (1.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	159

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.

Table I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Greensboro, North Carolina, 2019-2023

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
2019	50 (23.1)	140 (64.8)	17 (7.9)	9 (4.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	216
2020	45 (23.1)	125 (64.1)	8 (4.1)	10 (5.1)	7 (3.6)	0 (0.0)	0 (0.0)	0 (0.0)	195
2021	27 (14.8)	134 (73.2)	10 (5.5)	10 (5.5)	1 (0.5)	0 (0.0)	1 (0.5)	0 (0.0)	183
2022	41 (21.4)	118 (61.5)	15 (7.8)	8 (4.2)	6 (3.1)	3 (1.6)	1 (0.5)	0 (0.0)	192
2023	24 (15.1)	110 (69.2)	12 (7.5)	9 (5.7)	4 (2.5)	0 (0.0)	0 (0.0)	0 (0.0)	159

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; FDA-STIC Resistant = azithromycin MIC ≥2.0 µg/mL.
FDA-STIC = FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria.
In 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Greensboro, North Carolina, 2019-2023

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
2019	167 (77.3)	2 (0.9)	0 (0.0)	0 (0.0)	1 (0.5)	6 (2.8)	2 (0.9)	38 (17.6)	216
2020	151 (77.4)	6 (3.1)	0 (0.0)	1 (0.5)	0 (0.0)	1 (0.5)	0 (0.0)	36 (18.5)	195
2021	137 (74.9)	2 (1.1)	0 (0.0)	0 (0.0)	2 (1.1)	0 (0.0)	2 (1.1)	40 (21.9)	183
2022	157 (81.8)	2 (1.0)	0 (0.0)	0 (0.0)	1 (0.5)	2 (1.0)	1 (0.5)	29 (15.1)	192
2023	101 (63.5)	0 (0.0)	1 (0.6)	0 (0.0)	12 (7.5)	2 (1.3)	0 (0.0)	43 (27.0)	159

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.

Table K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Greensboro, North Carolina, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 127 (0.0)	0 / 177 (0.0)	0 / 173 (0.0)	**	**	0 / 160 (0.0)	1 / 189 (0.5)	0 / 214 (0.0)	0 / 102 (0.0)	0 / 168 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
2 / 213 (0.9)	0 / 259 (0.0)	0 / 194 (0.0)	2 / 207 (1.0)	1 / 244 (0.4)	0 / 216 (0.0)	0 / 195 (0.0)	0 / 183 (0.0)	0 / 192 (0.0)	1 / 159 (0.6)

Cefixime elevated MIC ≥0.25 µg/mL.
** Cefixime susceptibility was not tested in 2007 and 2008.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Greensboro, North Carolina, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 127 (0.0)	0 / 177 (0.0)	1 / 173 (0.6)	0 / 171 (0.0)	0 / 167 (0.0)	0 / 160 (0.0)	1 / 189 (0.5)	1 / 214 (0.5)	0 / 102 (0.0)	0 / 168 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
0 / 213 (0.0)	0 / 259 (0.0)	0 / 194 (0.0)	0 / 207 (0.0)	0 / 244 (0.0)	0 / 216 (0.0)	0 / 195 (0.0)	0 / 183 (0.0)	0 / 192 (0.0)	0 / 159 (0.0)

Ceftriaxone elevated MIC ≥0.125 µg/mL.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table M. Percentage of Isolates with Resistance to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Greensboro, North Carolina, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 127 (0.0)	0 / 177 (0.0)	0 / 173 (0.0)	0 / 171 (0.0)	0 / 167 (0.0)	0 / 160 (0.0)	0 / 189 (0.0)	0 / 214 (0.0)	0 / 102 (0.0)	0 / 168 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
1 / 213 (0.5)	2 / 259 (0.8)	1 / 194 (0.5)	0 / 207 (0.0)	1 / 244 (0.4)	0 / 216 (0.0)	7 / 195 (3.6)	2 / 183 (1.1)	10 / 192 (5.2)	4 / 159 (2.5)

Azithromycin elevated MIC ≥1.0 µg/mL prior to 2005 and ≥2.0 µg/mL during 2005-2023.
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.

Table N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Greensboro, North Carolina, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
1 / 127 (0.8)	1 / 177 (0.6)	3 / 173 (1.7)	9 / 171 (5.3)	6 / 167 (3.6)	1 / 160 (0.6)	3 / 189 (1.6)	10 / 214 (4.7)	8 / 102 (7.8)	5 / 168 (3.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
27 / 213 (12.7)	59 / 259 (22.8)	60 / 194 (30.9)	65 / 207 (31.4)	49 / 244 (20.1)	40 / 216 (18.5)	36 / 195 (18.5)	42 / 183 (23.0)	30 / 192 (15.6)	43 / 159 (27.0)

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.

Table A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Honolulu, Hawaii, 2023

<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
1 (1.4)	11 (15.5)	13 (18.3)	12 (16.9)	9 (12.7)	10 (14.1)	2 (2.8)	4 (5.6)	3 (4.2)	1 (1.4)	5 (7.0)	71

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Honolulu, Hawaii, 2023

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	13 (18.3)	11 (15.5)	5 (7.0)	24 (33.8)	3 (4.2)	14 (19.7)	1 (1.4)	71

Cases are reported using Office of Management and Budget (OMB) compliant race and ethnicity categories.
AI/AN = American Indian or Alaska Native; NHOPI = Native Hawaiian or Other Pacific Islander.

Table C. Percentage of Participants who are Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Honolulu, Hawaii, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
21 (22.8)	20 (23.0)	54 (56.8)	29 (41.4)	22 (27.8)	34 (46.6)	34 (43.6)	35 (58.3)	60 (61.2)	44 (60.3)	48 (39.3)	71 (57.7)	65 (51.2)	48 (50.5)	42 (56.0)	28 (54.9)	6 (54.5)	17 (48.6)	24 (51.1)	37 (52.9)

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Honolulu, Hawaii, 2023

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Cefixime 800mg n (%)	Ceftriaxone 250mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
1 (1.4)	0 (0.0)	0 (0.0)	0 (0.0)	70 (98.6)	0 (0.0)	0 (0.0)	0 (0.0)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Honolulu, Hawaii, 2023

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
11 (15.7)	59 (84.3)	0 (0.0)

Table F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Honolulu, Hawaii, 2023

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
23 (32.4)	33 (46.5)	6 (8.5)	6 (8.5)	3 (4.2)

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 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).

Table G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Honolulu, Hawaii, 2019-2023

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
2019	50 (73.5)	14 (20.6)	3 (4.4)	0 (0.0)	1 (1.5)	0 (0.0)	0 (0.0)	0 (0.0)	68
2020	25 (78.1)	3 (9.4)	4 (12.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	32
2021	37 (75.5)	10 (20.4)	2 (4.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	49
2022	28 (59.6)	14 (29.8)	5 (10.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	47
2023	51 (71.8)	13 (18.3)	2 (2.8)	2 (2.8)	2 (2.8)	0 (0.0)	0 (0.0)	1 (1.4)	71

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.

Table H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Honolulu, Hawaii, 2019-2023

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
2019	47 (69.1)	14 (20.6)	6 (8.8)	1 (1.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	68
2020	24 (75.0)	5 (15.6)	2 (6.3)	1 (3.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	32
2021	36 (73.5)	10 (20.4)	3 (6.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	49
2022	25 (53.2)	17 (36.2)	5 (10.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	47
2023	45 (63.4)	19 (26.8)	4 (5.6)	2 (2.8)	0 (0.0)	1 (1.4)	0 (0.0)	0 (0.0)	71

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.

Table I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Honolulu, Hawaii, 2019-2023

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
2019	6 (8.8)	52 (76.5)	6 (8.8)	1 (1.5)	3 (4.4)	0 (0.0)	0 (0.0)	0 (0.0)	68
2020	2 (6.3)	24 (75.0)	4 (12.5)	2 (6.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	32
2021	12 (24.5)	28 (57.1)	3 (6.1)	5 (10.2)	1 (2.0)	0 (0.0)	0 (0.0)	0 (0.0)	49
2022	9 (19.1)	21 (44.7)	4 (8.5)	7 (14.9)	3 (6.4)	0 (0.0)	0 (0.0)	3 (6.4)	47
2023	10 (14.1)	33 (46.5)	7 (9.9)	16 (22.5)	3 (4.2)	0 (0.0)	0 (0.0)	2 (2.8)	71

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; FDA-STIC Resistant = azithromycin MIC ≥2.0 µg/mL.
FDA-STIC = FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria.
In 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Honolulu, Hawaii, 2019-2023

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
2019	44 (64.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	24 (35.3)	68
2020	18 (56.3)	0 (0.0)	0 (0.0)	0 (0.0)	1 (3.1)	0 (0.0)	0 (0.0)	13 (40.6)	32
2021	33 (67.3)	1 (2.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (2.0)	14 (28.6)	49
2022	26 (55.3)	1 (2.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	20 (42.6)	47
2023	29 (40.8)	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.4)	3 (4.2)	1 (1.4)	37 (52.1)	71

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.

Table K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Honolulu, Hawaii, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 92 (0.0)	0 / 88 (0.0)	0 / 95 (0.0)	**	**	8 / 74 (10.8)	6 / 78 (7.7)	8 / 61 (13.1)	1 / 98 (1.0)	0 / 73 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
6 / 122 (4.9)	4 / 123 (3.3)	1 / 128 (0.8)	1 / 95 (1.1)	1 / 76 (1.3)	1 / 68 (1.5)	0 / 32 (0.0)	0 / 49 (0.0)	0 / 47 (0.0)	3 / 71 (4.2)

Cefixime elevated MIC ≥0.25 µg/mL.
** Cefixime susceptibility was not tested in 2007 and 2008.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Honolulu, Hawaii, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 92 (0.0)	0 / 88 (0.0)	0 / 95 (0.0)	0 / 70 (0.0)	0 / 79 (0.0)	0 / 74 (0.0)	1 / 78 (1.3)	1 / 61 (1.6)	0 / 98 (0.0)	0 / 73 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
1 / 122 (0.8)	3 / 123 (2.4)	4 / 128 (3.1)	0 / 95 (0.0)	0 / 76 (0.0)	0 / 68 (0.0)	0 / 32 (0.0)	0 / 49 (0.0)	0 / 47 (0.0)	1 / 71 (1.4)

Ceftriaxone elevated MIC ≥0.125 µg/mL.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table M. Percentage of Isolates with Resistance to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Honolulu, Hawaii, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 92 (0.0)	1 / 88 (1.1)	1 / 95 (1.1)	0 / 70 (0.0)	3 / 79 (3.8)	1 / 74 (1.4)	2 / 78 (2.6)	0 / 61 (0.0)	2 / 98 (2.0)	1 / 73 (1.4)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
1 / 122 (0.8)	7 / 123 (5.7)	18 / 128 (14.1)	15 / 95 (15.8)	4 / 76 (5.3)	3 / 68 (4.4)	0 / 32 (0.0)	1 / 49 (2.0)	6 / 47 (12.8)	5 / 71 (7.0)

Azithromycin elevated MIC ≥1.0 µg/mL prior to 2005 and ≥2.0 µg/mL during 2005-2023.
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.

Table N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Honolulu, Hawaii, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
21 / 92 (22.8)	17 / 88 (19.3)	34 / 95 (35.8)	20 / 70 (28.6)	32 / 79 (40.5)	33 / 74 (44.6)	27 / 78 (34.6)	18 / 61 (29.5)	18 / 98 (18.4)	8 / 73 (11.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
48 / 122 (39.3)	26 / 123 (21.1)	27 / 128 (21.1)	18 / 95 (18.9)	19 / 76 (25.0)	24 / 68 (35.3)	13 / 32 (40.6)	15 / 49 (30.6)	20 / 47 (42.6)	38 / 71 (53.5)

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.

Table A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Indianapolis, Indiana, 2023

<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
21 (7.8)	52 (19.3)	64 (23.8)	48 (17.8)	32 (11.9)	13 (4.8)	8 (3.0)	16 (5.9)	7 (2.6)	5 (1.9)	3 (1.1)	269

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Indianapolis, Indiana, 2023

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
1 (0.4)	0 (0.0)	197 (73.2)	1 (0.4)	52 (19.3)	1 (0.4)	0 (0.0)	17 (6.3)	269

Cases are reported using Office of Management and Budget (OMB) compliant race and ethnicity categories.
AI/AN = American Indian or Alaska Native; NHOPI = Native Hawaiian or Other Pacific Islander.

Table C. Percentage of Participants who are Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Indianapolis, Indiana, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	*	*	*	*	*	45 (15.3)	58 (19.3)	58 (19.6)	48 (17.1)	60 (20.4)	45 (15.3)	71 (24.3)	53 (18.3)	59 (20.4)	51 (19.2)	73 (28.1)

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Indianapolis, Indiana, 2023

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Cefixime 800mg n (%)	Ceftriaxone 250mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	1 (0.4)	0 (0.0)	2 (0.8)	243 (92.4)	0 (0.0)	5 (1.9)	12 (4.6)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Indianapolis, Indiana, 2023

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
15 (5.7)	190 (72.2)	58 (22.1)

Table F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Indianapolis, Indiana, 2023

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
127 (47.2)	94 (34.9)	29 (10.8)	19 (7.1)	0 (0.0)

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 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).

Table G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Indianapolis, Indiana, 2019-2023

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
2019	200 (68.3)	60 (20.5)	26 (8.9)	7 (2.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	293
2020	186 (62.6)	75 (25.3)	26 (8.8)	7 (2.4)	2 (0.7)	1 (0.3)	0 (0.0)	0 (0.0)	297
2021	233 (79.0)	51 (17.3)	9 (3.1)	2 (0.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	295
2022	231 (84.0)	33 (12.0)	3 (1.1)	8 (2.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	275
2023	218 (81.0)	40 (14.9)	4 (1.5)	7 (2.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	269

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.

Table H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Indianapolis, Indiana, 2019-2023

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
2019	215 (73.4)	59 (20.1)	17 (5.8)	2 (0.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	293
2020	215 (72.4)	59 (19.9)	21 (7.1)	2 (0.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	297
2021	246 (83.4)	41 (13.9)	6 (2.0)	2 (0.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	295
2022	222 (80.7)	49 (17.8)	4 (1.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	275
2023	212 (78.8)	49 (18.2)	8 (3.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	269

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.

Table I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Indianapolis, Indiana, 2019-2023

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
2019	91 (31.1)	145 (49.5)	21 (7.2)	31 (10.6)	5 (1.7)	0 (0.0)	0 (0.0)	0 (0.0)	293
2020	61 (20.5)	163 (54.9)	18 (6.1)	47 (15.8)	7 (2.4)	1 (0.3)	0 (0.0)	0 (0.0)	297
2021	47 (15.9)	153 (51.9)	34 (11.5)	39 (13.2)	20 (6.8)	2 (0.7)	0 (0.0)	0 (0.0)	295
2022	83 (30.2)	127 (46.2)	20 (7.3)	40 (14.5)	5 (1.8)	0 (0.0)	0 (0.0)	0 (0.0)	275
2023	69 (25.7)	145 (53.9)	13 (4.8)	34 (12.6)	7 (2.6)	1 (0.4)	0 (0.0)	0 (0.0)	269

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; FDA-STIC Resistant = azithromycin MIC ≥2.0 µg/mL.
FDA-STIC = FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria.
In 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Indianapolis, Indiana, 2019-2023

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
2019	217 (74.1)	1 (0.3)	0 (0.0)	2 (0.7)	4 (1.4)	0 (0.0)	0 (0.0)	69 (23.5)	293
2020	202 (68.0)	3 (1.0)	0 (0.0)	1 (0.3)	2 (0.7)	1 (0.3)	0 (0.0)	88 (29.6)	297
2021	198 (67.1)	5 (1.7)	1 (0.3)	2 (0.7)	3 (1.0)	2 (0.7)	2 (0.7)	82 (27.8)	295
2022	165 (60.0)	1 (0.4)	3 (1.1)	7 (2.5)	8 (2.9)	4 (1.5)	12 (4.4)	75 (27.3)	275
2023	153 (56.9)	1 (0.4)	6 (2.2)	2 (0.7)	9 (3.3)	10 (3.7)	2 (0.7)	86 (32.0)	269

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.

Table K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Indianapolis, Indiana, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
*	*	*	*	*	*	*	*	*	1 / 299 (0.3)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
0 / 300 (0.0)	0 / 298 (0.0)	0 / 282 (0.0)	1 / 300 (0.3)	1 / 296 (0.3)	0 / 293 (0.0)	3 / 297 (1.0)	0 / 295 (0.0)	0 / 275 (0.0)	0 / 269 (0.0)

Cefixime elevated MIC ≥0.25 µg/mL.
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Indianapolis, Indiana, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
*	*	*	*	*	*	*	*	*	0 / 299 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
0 / 300 (0.0)	0 / 298 (0.0)	0 / 282 (0.0)	1 / 300 (0.3)	0 / 296 (0.0)	0 / 293 (0.0)	0 / 297 (0.0)	0 / 295 (0.0)	0 / 275 (0.0)	0 / 269 (0.0)

Ceftriaxone elevated MIC ≥0.125 µg/mL.
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table M. Percentage of Isolates with Resistance to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Indianapolis, Indiana, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
*	*	*	*	*	*	*	*	*	0 / 299 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
6 / 300 (2.0)	7 / 298 (2.3)	7 / 282 (2.5)	16 / 300 (5.3)	15 / 296 (5.1)	5 / 293 (1.7)	8 / 297 (2.7)	22 / 295 (7.5)	5 / 275 (1.8)	8 / 269 (3.0)

Azithromycin elevated MIC ≥1.0 µg/mL prior to 2005 and ≥2.0 µg/mL during 2005-2023.
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).
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Indianapolis, Indiana, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
*	*	*	*	*	*	*	*	*	33 / 299 (11.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
37 / 300 (12.3)	44 / 298 (14.8)	31 / 282 (11.0)	41 / 300 (13.7)	54 / 296 (18.2)	69 / 293 (23.5)	88 / 297 (29.6)	84 / 295 (28.5)	87 / 275 (31.6)	88 / 269 (32.7)

Ciprofloxacin resistance MIC ≥1.0 µg/mL.
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Kansas City, Missouri, 2023

<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
24 (14.0)	36 (20.9)	39 (22.7)	32 (18.6)	12 (7.0)	10 (5.8)	9 (5.2)	4 (2.3)	2 (1.2)	4 (2.3)	0 (0.0)	172

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Kansas City, Missouri, 2023

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	1 (0.6)	139 (80.8)	0 (0.0)	18 (10.5)	13 (7.6)	0 (0.0)	1 (0.6)	172

Cases are reported using Office of Management and Budget (OMB) compliant race and ethnicity categories.
AI/AN = American Indian or Alaska Native; NHOPI = Native Hawaiian or Other Pacific Islander.

Table C. Percentage of Participants who are Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Kansas City, Missouri, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	4 (7.3)	15 (6.0)	12 (4.0)	19 (6.4)	20 (6.7)	22 (7.3)	28 (9.3)	20 (8.6)	21 (7.8)	38 (12.7)	33 (11.0)	29 (9.7)	36 (12.0)	11 (13.4)	6 (6.2)	16 (7.2)	23 (13.4)

* Site did not participate in GISP during that year.

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Kansas City, Missouri, 2023

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Cefixime 800mg n (%)	Ceftriaxone 250mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	169 (98.3)	0 (0.0)	2 (1.2)	1 (0.6)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Kansas City, Missouri, 2023

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
9 (5.2)	162 (94.2)	1 (0.6)

Table F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Kansas City, Missouri, 2023

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
87 (50.6)	54 (31.4)	24 (14.0)	6 (3.5)	1 (0.6)

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 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).

Table G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Kansas City, Missouri, 2019-2023

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
2019	170 (56.7)	106 (35.3)	17 (5.7)	7 (2.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	300
2020	36 (43.4)	41 (49.4)	4 (4.8)	2 (2.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	83
2021	64 (66.0)	32 (33.0)	1 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	97
2022	162 (72.6)	56 (25.1)	2 (0.9)	3 (1.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	223
2023	136 (79.1)	27 (15.7)	1 (0.6)	8 (4.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	172

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.

Table H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Kansas City, Missouri, 2019-2023

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
2019	175 (58.3)	97 (32.3)	24 (8.0)	4 (1.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	300
2020	57 (68.7)	23 (27.7)	3 (3.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	83
2021	56 (57.7)	39 (40.2)	2 (2.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	97
2022	155 (69.5)	64 (28.7)	4 (1.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	223
2023	118 (68.6)	49 (28.5)	5 (2.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	172

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.

Table I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Kansas City, Missouri, 2019-2023

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
2019	28 (9.3)	198 (66.0)	57 (19.0)	13 (4.3)	4 (1.3)	0 (0.0)	0 (0.0)	0 (0.0)	300
2020	17 (20.5)	55 (66.3)	8 (9.6)	3 (3.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	83
2021	14 (14.4)	51 (52.6)	12 (12.4)	16 (16.5)	3 (3.1)	0 (0.0)	0 (0.0)	1 (1.0)	97
2022	42 (18.8)	111 (49.8)	16 (7.2)	47 (21.1)	5 (2.2)	0 (0.0)	1 (0.4)	1 (0.4)	223
2023	37 (21.5)	86 (50.0)	15 (8.7)	25 (14.5)	8 (4.7)	0 (0.0)	0 (0.0)	1 (0.6)	172

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; FDA-STIC Resistant = azithromycin MIC ≥2.0 µg/mL.
FDA-STIC = FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria.
In 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year,
Gonococcal Isolate Surveillance Project (GISP),
Kansas City, Missouri, 2019-2023

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
2019	190 (63.3)	9 (3.0)	1 (0.3)	1 (0.3)	2 (0.7)	6 (2.0)	5 (1.7)	86 (28.7)	300
2020	53 (63.9)	5 (6.0)	0 (0.0)	0 (0.0)	2 (2.4)	0 (0.0)	2 (2.4)	21 (25.3)	83
2021	67 (69.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.0)	0 (0.0)	29 (29.9)	97
2022	156 (70.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.4)	2 (0.9)	0 (0.0)	64 (28.7)	223
2023	118 (68.6)	0 (0.0)	0 (0.0)	0 (0.0)	2 (1.2)	2 (1.2)	4 (2.3)	46 (26.7)	172

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.

Table K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime,
Gonococcal Isolate Surveillance Project (GISP),
Kansas City, Missouri, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
*	*	*	**	**	0 / 300 (0.0)	0 / 300 (0.0)	0 / 300 (0.0)	0 / 300 (0.0)	0 / 300 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
2 / 232 (0.9)	0 / 270 (0.0)	0 / 300 (0.0)	0 / 300 (0.0)	0 / 300 (0.0)	0 / 300 (0.0)	0 / 83 (0.0)	0 / 97 (0.0)	0 / 223 (0.0)	0 / 172 (0.0)

Cefixime elevated MIC ≥0.25 µg/mL.
* Site did not participate in GISP during that year.
** Cefixime susceptibility was not tested in 2007 and 2008.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone,
Gonococcal Isolate Surveillance Project (GISP),
Kansas City, Missouri, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
*	*	*	0 / 55 (0.0)	0 / 252 (0.0)	0 / 300 (0.0)	0 / 300 (0.0)	0 / 300 (0.0)	0 / 300 (0.0)	0 / 300 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
1 / 232 (0.4)	0 / 270 (0.0)	0 / 300 (0.0)	0 / 300 (0.0)	0 / 300 (0.0)	0 / 300 (0.0)	0 / 83 (0.0)	0 / 97 (0.0)	0 / 223 (0.0)	0 / 172 (0.0)

Ceftriaxone elevated MIC ≥0.125 µg/mL.
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table M. Percentage of Isolates with Resistance to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Kansas City, Missouri, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
*	*	*	0 / 55 (0.0)	2 / 252 (0.8)	0 / 300 (0.0)	0 / 300 (0.0)	0 / 300 (0.0)	0 / 300 (0.0)	0 / 300 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
1 / 232 (0.4)	7 / 270 (2.6)	6 / 300 (2.0)	3 / 300 (1.0)	3 / 300 (1.0)	4 / 300 (1.3)	0 / 83 (0.0)	4 / 97 (4.1)	7 / 223 (3.1)	9 / 172 (5.2)

Azithromycin elevated MIC ≥1.0 µg/mL prior to 2005 and ≥2.0 µg/mL during 2005-2023.
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).
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Kansas City, Missouri, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
*	*	*	9 / 55 (16.4)	19 / 252 (7.5)	4 / 300 (1.3)	3 / 300 (1.0)	6 / 300 (2.0)	6 / 300 (2.0)	29 / 300 (9.7)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
25 / 232 (10.8)	51 / 270 (18.9)	63 / 300 (21.0)	83 / 300 (27.7)	103 / 300 (34.3)	91 / 300 (30.3)	23 / 83 (27.7)	29 / 97 (29.9)	64 / 223 (28.7)	50 / 172 (29.1)

Ciprofloxacin resistance MIC ≥1.0 µg/mL.
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Las Vegas, Nevada, 2023

<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
18 (12.5)	27 (18.8)	29 (20.1)	27 (18.8)	15 (10.4)	12 (8.3)	8 (5.6)	2 (1.4)	3 (2.1)	1 (0.7)	2 (1.4)	144

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Las Vegas, Nevada, 2023

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
2 (1.4)	3 (2.1)	51 (35.4)	0 (0.0)	35 (24.3)	42 (29.2)	3 (2.1)	8 (5.6)	144

Cases are reported using Office of Management and Budget (OMB) compliant race and ethnicity categories.
AI/AN = American Indian or Alaska Native; NHOPI = Native Hawaiian or Other Pacific Islander.

Table C. Percentage of Participants who are Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Las Vegas, Nevada, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
38 (13.1)	31 (10.5)	31 (10.4)	45 (15.0)	45 (15.1)	55 (18.5)	64 (21.3)	85 (29.2)	81 (32.0)	110 (36.7)	92 (30.7)	131 (43.7)	131 (43.7)	126 (42.0)	97 (34.6)	69 (28.8)	58 (35.6)	48 (29.1)	47 (26.7)	53 (37.1)

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Las Vegas, Nevada, 2023

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Cefixime 800mg n (%)	Ceftriaxone 250mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	1 (0.7)	0 (0.0)	141 (97.9)	0 (0.0)	1 (0.7)	1 (0.7)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Las Vegas, Nevada, 2023

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
1 (0.7)	133 (92.4)	10 (6.9)

Table F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Las Vegas, Nevada, 2023

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
52 (36.1)	53 (36.8)	16 (11.1)	23 (16.0)	0 (0.0)

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 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).

Table G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Las Vegas, Nevada, 2019-2023

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
2019	139 (56.5)	81 (32.9)	18 (7.3)	7 (2.8)	0 (0.0)	0 (0.0)	1 (0.4)	0 (0.0)	246
2020	111 (66.9)	36 (21.7)	11 (6.6)	8 (4.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	166
2021	117 (70.1)	34 (20.4)	8 (4.8)	7 (4.2)	1 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)	167
2022	116 (65.5)	49 (27.7)	5 (2.8)	7 (4.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	177
2023	90 (62.5)	27 (18.8)	9 (6.3)	18 (12.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	144

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.

Table H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Las Vegas, Nevada, 2019-2023

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
2019	150 (61.0)	71 (28.9)	21 (8.5)	3 (1.2)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.4)	246
2020	126 (75.9)	34 (20.5)	5 (3.0)	1 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	166
2021	92 (55.1)	60 (35.9)	13 (7.8)	2 (1.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	167
2022	120 (67.8)	54 (30.5)	3 (1.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	177
2023	72 (50.0)	48 (33.3)	24 (16.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	144

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.

Table I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Las Vegas, Nevada, 2019-2023

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
2019	27 (11.0)	154 (62.6)	45 (18.3)	13 (5.3)	4 (1.6)	3 (1.2)	0 (0.0)	0 (0.0)	246
2020	28 (16.9)	84 (50.6)	30 (18.1)	21 (12.7)	3 (1.8)	0 (0.0)	0 (0.0)	0 (0.0)	166
2021	26 (15.6)	102 (61.1)	14 (8.4)	14 (8.4)	11 (6.6)	0 (0.0)	0 (0.0)	0 (0.0)	167
2022	38 (21.5)	88 (49.7)	19 (10.7)	30 (16.9)	1 (0.6)	0 (0.0)	1 (0.6)	0 (0.0)	177
2023	16 (11.1)	83 (57.6)	16 (11.1)	19 (13.2)	10 (6.9)	0 (0.0)	0 (0.0)	0 (0.0)	144

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; FDA-STIC Resistant = azithromycin MIC ≥2.0 µg/mL.
FDA-STIC = FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria.
In 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Las Vegas, Nevada, 2019-2023

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
2019	147 (59.8)	5 (2.0)	0 (0.0)	0 (0.0)	0 (0.0)	5 (2.0)	2 (0.8)	87 (35.4)	246
2020	101 (60.8)	3 (1.8)	0 (0.0)	1 (0.6)	1 (0.6)	2 (1.2)	3 (1.8)	55 (33.1)	166
2021	101 (60.5)	1 (0.6)	0 (0.0)	0 (0.0)	5 (3.0)	2 (1.2)	1 (0.6)	57 (34.1)	167
2022	119 (67.2)	4 (2.3)	0 (0.0)	1 (0.6)	0 (0.0)	3 (1.7)	3 (1.7)	47 (26.6)	177
2023	69 (47.9)	1 (0.7)	0 (0.0)	2 (1.4)	9 (6.3)	8 (5.6)	3 (2.1)	52 (36.1)	144

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.

Table K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Las Vegas, Nevada, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 291 (0.0)	0 / 295 (0.0)	0 / 300 (0.0)	**	**	8 / 300 (2.7)	7 / 300 (2.3)	1 / 291 (0.3)	2 / 253 (0.8)	4 / 300 (1.3)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
4 / 300 (1.3)	0 / 300 (0.0)	2 / 300 (0.7)	0 / 300 (0.0)	1 / 281 (0.4)	1 / 246 (0.4)	0 / 166 (0.0)	1 / 167 (0.6)	0 / 177 (0.0)	0 / 144 (0.0)

Cefixime elevated MIC ≥0.25 µg/mL.
** Cefixime susceptibility was not tested in 2007 and 2008.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Las Vegas, Nevada, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 291 (0.0)	0 / 295 (0.0)	0 / 300 (0.0)	0 / 300 (0.0)	1 / 300 (0.3)	5 / 300 (1.7)	2 / 300 (0.7)	1 / 291 (0.3)	1 / 253 (0.4)	0 / 300 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
0 / 300 (0.0)	0 / 300 (0.0)	1 / 300 (0.3)	1 / 300 (0.3)	1 / 281 (0.4)	1 / 246 (0.4)	0 / 166 (0.0)	0 / 167 (0.0)	0 / 177 (0.0)	0 / 144 (0.0)

Ceftriaxone elevated MIC ≥0.125 µg/mL.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table M. Percentage of Isolates with Resistance to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Las Vegas, Nevada, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
8 / 291 (2.7)	3 / 295 (1.0)	2 / 300 (0.7)	8 / 300 (2.7)	0 / 300 (0.0)	1 / 300 (0.3)	0 / 300 (0.0)	1 / 291 (0.3)	1 / 253 (0.4)	1 / 300 (0.3)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
3 / 300 (1.0)	6 / 300 (2.0)	11 / 300 (3.7)	11 / 300 (3.7)	14 / 281 (5.0)	7 / 246 (2.8)	3 / 166 (1.8)	11 / 167 (6.6)	2 / 177 (1.1)	10 / 144 (6.9)

Azithromycin elevated MIC ≥1.0 µg/mL prior to 2005 and ≥2.0 µg/mL during 2005-2023.
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.

Table N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Las Vegas, Nevada, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
7 / 291 (2.4)	16 / 295 (5.4)	26 / 300 (8.7)	56 / 300 (18.7)	53 / 300 (17.7)	33 / 300 (11.0)	23 / 300 (7.7)	26 / 291 (8.9)	50 / 253 (19.8)	82 / 300 (27.3)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
51 / 300 (17.0)	76 / 300 (25.3)	85 / 300 (28.3)	98 / 300 (32.7)	96 / 281 (34.2)	89 / 246 (36.2)	58 / 166 (34.9)	58 / 167 (34.7)	50 / 177 (28.2)	55 / 144 (38.2)

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.

Table A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Los Angeles, California, 2023

<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
1 (0.7)	9 (6.7)	24 (17.8)	41 (30.4)	29 (21.5)	12 (8.9)	7 (5.2)	6 (4.4)	3 (2.2)	2 (1.5)	1 (0.7)	135

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Los Angeles, California, 2023

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	0 (0.0)	36 (26.7)	0 (0.0)	38 (28.1)	35 (25.9)	0 (0.0)	26 (19.3)	135

Cases are reported using Office of Management and Budget (OMB) compliant race and ethnicity categories.
AI/AN = American Indian or Alaska Native; NHOPI = Native Hawaiian or Other Pacific Islander.

Table C. Percentage of Participants who are Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Los Angeles, California, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
55 (20.8)	65 (34.0)	81 (40.1)	69 (43.1)	53 (44.5)	134 (64.4)	190 (72.2)	108 (62.4)	101 (67.8)	141 (72.7)	132 (77.6)	65 (81.3)	81 (66.4)	125 (70.2)	141 (92.8)	136 (91.3)	28 (66.7)	64 (87.7)	57 (73.1)	98 (74.8)

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Los Angeles, California, 2023

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Cefixime 800mg n (%)	Ceftriaxone 250mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	135 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Los Angeles, California, 2023

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
3 (2.2)	130 (96.3)	2 (1.5)

Table F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Los Angeles, California, 2023

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
39 (28.9)	46 (34.1)	31 (23.0)	19 (14.1)	0 (0.0)

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 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).

Table G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Los Angeles, California, 2019-2023

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
2019	110 (70.5)	36 (23.1)	2 (1.3)	6 (3.8)	2 (1.3)	0 (0.0)	0 (0.0)	0 (0.0)	156
2020	33 (73.3)	10 (22.2)	0 (0.0)	2 (4.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	45
2021	57 (69.5)	18 (22.0)	2 (2.4)	5 (6.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	82
2022	49 (57.0)	29 (33.7)	3 (3.5)	5 (5.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	86
2023	73 (54.1)	32 (23.7)	12 (8.9)	18 (13.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	135

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.

Table H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Los Angeles, California, 2019-2023

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
2019	88 (56.4)	51 (32.7)	11 (7.1)	5 (3.2)	1 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)	156
2020	26 (57.8)	16 (35.6)	2 (4.4)	1 (2.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	45
2021	53 (64.6)	24 (29.3)	5 (6.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	82
2022	50 (58.1)	33 (38.4)	3 (3.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	86
2023	71 (52.6)	54 (40.0)	10 (7.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	135

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.

Table I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Los Angeles, California, 2019-2023

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
2019	3 (1.9)	112 (71.8)	15 (9.6)	11 (7.1)	12 (7.7)	0 (0.0)	3 (1.9)	0 (0.0)	156
2020	3 (6.7)	25 (55.6)	5 (11.1)	7 (15.6)	5 (11.1)	0 (0.0)	0 (0.0)	0 (0.0)	45
2021	1 (1.2)	53 (64.6)	6 (7.3)	14 (17.1)	7 (8.5)	1 (1.2)	0 (0.0)	0 (0.0)	82
2022	2 (2.3)	50 (58.1)	10 (11.6)	10 (11.6)	12 (14.0)	1 (1.2)	0 (0.0)	1 (1.2)	86
2023	7 (5.2)	88 (65.2)	16 (11.9)	17 (12.6)	5 (3.7)	1 (0.7)	1 (0.7)	0 (0.0)	135

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; FDA-STIC Resistant = azithromycin MIC ≥2.0 µg/mL.
FDA-STIC = FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria.
In 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year,
Gonococcal Isolate Surveillance Project (GISP),
Los Angeles, California, 2019-2023

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
2019	59 (37.8)	5 (3.2)	1 (0.6)	0 (0.0)	4 (2.6)	5 (3.2)	9 (5.8)	73 (46.8)	156
2020	20 (44.4)	2 (4.4)	0 (0.0)	0 (0.0)	2 (4.4)	1 (2.2)	0 (0.0)	20 (44.4)	45
2021	39 (47.6)	1 (1.2)	0 (0.0)	0 (0.0)	5 (6.1)	4 (4.9)	3 (3.7)	30 (36.6)	82
2022	50 (58.1)	2 (2.3)	0 (0.0)	0 (0.0)	1 (1.2)	3 (3.5)	1 (1.2)	29 (33.7)	86
2023	63 (46.7)	1 (0.7)	0 (0.0)	0 (0.0)	4 (3.0)	5 (3.7)	4 (3.0)	58 (43.0)	135

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.

Table K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime,
Gonococcal Isolate Surveillance Project (GISP),
Los Angeles, California, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
2 / 268 (0.7)	1 / 193 (0.5)	1 / 207 (0.5)	**	**	3 / 210 (1.4)	10 / 264 (3.8)	4 / 174 (2.3)	4 / 149 (2.7)	0 / 194 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
0 / 171 (0.0)	0 / 81 (0.0)	1 / 133 (0.8)	0 / 199 (0.0)	1 / 160 (0.6)	2 / 156 (1.3)	0 / 45 (0.0)	0 / 82 (0.0)	0 / 86 (0.0)	0 / 135 (0.0)

Cefixime elevated MIC ≥0.25 µg/mL.
** Cefixime susceptibility was not tested in 2007 and 2008.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone,
Gonococcal Isolate Surveillance Project (GISP),
Los Angeles, California, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
2 / 268 (0.7)	0 / 193 (0.0)	1 / 207 (0.5)	1 / 165 (0.6)	0 / 125 (0.0)	2 / 210 (1.0)	2 / 264 (0.8)	0 / 174 (0.0)	1 / 149 (0.7)	0 / 194 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
0 / 171 (0.0)	0 / 81 (0.0)	1 / 133 (0.8)	0 / 199 (0.0)	2 / 160 (1.3)	1 / 156 (0.6)	0 / 45 (0.0)	0 / 82 (0.0)	0 / 86 (0.0)	0 / 135 (0.0)

Ceftriaxone elevated MIC ≥0.125 µg/mL.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table M. Percentage of Isolates with Resistance to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Los Angeles, California, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
1 / 268 (0.4)	2 / 193 (1.0)	0 / 207 (0.0)	2 / 165 (1.2)	0 / 125 (0.0)	1 / 210 (0.5)	3 / 264 (1.1)	0 / 174 (0.0)	1 / 149 (0.7)	1 / 194 (0.5)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
2 / 171 (1.2)	3 / 81 (3.7)	6 / 133 (4.5)	8 / 199 (4.0)	10 / 160 (6.3)	15 / 156 (9.6)	5 / 45 (11.1)	8 / 82 (9.8)	14 / 86 (16.3)	7 / 135 (5.2)

Azithromycin elevated MIC ≥1.0 µg/mL prior to 2005 and ≥2.0 µg/mL during 2005-2023.
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.

Table N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Los Angeles, California, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
37 / 268 (13.8)	28 / 193 (14.5)	47 / 207 (22.7)	37 / 165 (22.4)	21 / 125 (16.8)	28 / 210 (13.3)	44 / 264 (16.7)	49 / 174 (28.2)	52 / 149 (34.9)	67 / 194 (34.5)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
43 / 171 (25.1)	18 / 81 (22.2)	59 / 133 (44.4)	85 / 199 (42.7)	82 / 160 (51.3)	82 / 156 (52.6)	20 / 45 (44.4)	33 / 82 (40.2)	30 / 86 (34.9)	62 / 135 (45.9)

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.

Table A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Milwaukee, Wisconsin, 2023

<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
36 (18.0)	36 (18.0)	38 (19.0)	34 (17.0)	21 (10.5)	10 (5.0)	8 (4.0)	4 (2.0)	6 (3.0)	3 (1.5)	4 (2.0)	200

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Milwaukee, Wisconsin, 2023

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	0 (0.0)	181 (90.5)	0 (0.0)	13 (6.5)	6 (3.0)	0 (0.0)	0 (0.0)	200

Cases are reported using Office of Management and Budget (OMB) compliant race and ethnicity categories.
AI/AN = American Indian or Alaska Native; NHOPI = Native Hawaiian or Other Pacific Islander.

Table C. Percentage of Participants who are Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Milwaukee, Wisconsin, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	*	*	*	*	*	*	*	*	*	*	5 (8.9)	18 (6.5)	25 (8.6)	16 (6.6)	23 (8.0)	11 (5.8)

* Site did not participate in GISP during that year.

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Milwaukee, Wisconsin, 2023

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Cefixime 800mg n (%)	Ceftriaxone 250mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	194 (97.0)	3 (1.5)	3 (1.5)	0 (0.0)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Milwaukee, Wisconsin, 2023

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
86 (43.0)	50 (25.0)	64 (32.0)

Table F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Milwaukee, Wisconsin, 2023

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
127 (63.5)	52 (26.0)	17 (8.5)	4 (2.0)	0 (0.0)

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 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).

Table G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Milwaukee, Wisconsin, 2019-2023

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
2019	157 (55.1)	92 (32.3)	27 (9.5)	9 (3.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	285
2020	171 (57.2)	99 (33.1)	23 (7.7)	6 (2.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	299
2021	194 (71.3)	63 (23.2)	10 (3.7)	5 (1.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	272
2022	246 (82.8)	41 (13.8)	6 (2.0)	4 (1.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	297
2023	150 (75.0)	43 (21.5)	6 (3.0)	1 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	200

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.

Table H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Milwaukee, Wisconsin, 2019-2023

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
2019	172 (60.4)	93 (32.6)	13 (4.6)	7 (2.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	285
2020	199 (66.6)	75 (25.1)	22 (7.4)	3 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	299
2021	192 (70.6)	72 (26.5)	7 (2.6)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	272
2022	229 (77.1)	61 (20.5)	5 (1.7)	2 (0.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	297
2023	138 (69.0)	56 (28.0)	6 (3.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	200

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.

Table I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Milwaukee, Wisconsin, 2019-2023

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
2019	35 (12.3)	148 (51.9)	41 (14.4)	47 (16.5)	11 (3.9)	1 (0.4)	0 (0.0)	2 (0.7)	285
2020	48 (16.1)	139 (46.5)	23 (7.7)	81 (27.1)	3 (1.0)	0 (0.0)	5 (1.7)	0 (0.0)	299
2021	50 (18.4)	150 (55.1)	13 (4.8)	51 (18.8)	7 (2.6)	0 (0.0)	1 (0.4)	0 (0.0)	272
2022	70 (23.6)	182 (61.3)	24 (8.1)	15 (5.1)	6 (2.0)	0 (0.0)	0 (0.0)	0 (0.0)	297
2023	42 (21.0)	140 (70.0)	10 (5.0)	6 (3.0)	2 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)	200

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; FDA-STIC Resistant = azithromycin MIC ≥2.0 µg/mL.
FDA-STIC = FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria.
In 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Milwaukee, Wisconsin, 2019-2023

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
2019	219 (76.8)	13 (4.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	53 (18.6)	285
2020	202 (67.6)	7 (2.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	90 (30.1)	299
2021	200 (73.5)	7 (2.6)	0 (0.0)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	64 (23.5)	272
2022	211 (71.0)	2 (0.7)	0 (0.0)	2 (0.7)	6 (2.0)	3 (1.0)	0 (0.0)	73 (24.6)	297
2023	145 (72.5)	0 (0.0)	0 (0.0)	0 (0.0)	7 (3.5)	3 (1.5)	0 (0.0)	45 (22.5)	200

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.

Table K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Milwaukee, Wisconsin, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	0 / 82 (0.0)	0 / 285 (0.0)	0 / 299 (0.0)	0 / 272 (0.0)	0 / 297 (0.0)	0 / 200 (0.0)

Cefixime elevated MIC ≥0.25 µg/mL.
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Milwaukee, Wisconsin, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	0 / 0 (0.0)	0 / 82 (0.0)	0 / 285 (0.0)	0 / 299 (0.0)	0 / 272 (0.0)	0 / 297 (0.0)	0 / 200 (0.0)

Ceftriaxone elevated MIC ≥0.125 µg/mL.
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table M. Percentage of Isolates with Resistance to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Milwaukee, Wisconsin, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	0 / 82 (0.0)	14 / 285 (4.9)	8 / 299 (2.7)	8 / 272 (2.9)	6 / 297 (2.0)	2 / 200 (1.0)

Azithromycin elevated MIC ≥1.0 µg/mL prior to 2005 and ≥2.0 µg/mL during 2005-2023.
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).
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Milwaukee, Wisconsin, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	9 / 82 (11.0)	53 / 285 (18.6)	90 / 299 (30.1)	64 / 272 (23.5)	73 / 297 (24.6)	45 / 200 (22.5)

Ciprofloxacin resistance MIC ≥1.0 µg/mL.
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Minneapolis, Minnesota, 2023

<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
6 (5.8)	9 (8.7)	19 (18.4)	28 (27.2)	14 (13.6)	7 (6.8)	6 (5.8)	5 (4.9)	2 (1.9)	4 (3.9)	3 (2.9)	103

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Minneapolis, Minnesota, 2023

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
2 (1.9)	1 (1.0)	59 (57.3)	1 (1.0)	28 (27.2)	7 (6.8)	2 (1.9)	3 (2.9)	103

Cases are reported using Office of Management and Budget (OMB) compliant race and ethnicity categories.
AI/AN = American Indian or Alaska Native; NHOPI = Native Hawaiian or Other Pacific Islander.

Table C. Percentage of Participants who are Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Minneapolis, Minnesota, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
64 (27.4)	56 (22.9)	49 (21.5)	57 (23.0)	36 (20.1)	61 (49.6)	36 (50.7)	29 (61.7)	43 (55.1)	46 (47.9)	65 (65.7)	66 (62.9)	63 (70.8)	31 (49.2)	40 (52.6)	26 (37.1)	27 (34.6)	51 (32.3)	50 (45.5)	39 (39.8)

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Minneapolis, Minnesota, 2023

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Cefixime 800mg n (%)	Ceftriaxone 250mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	102 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Minneapolis, Minnesota, 2023

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
2 (2.0)	78 (76.5)	22 (21.6)

Table F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Minneapolis, Minnesota, 2023

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
59 (57.3)	25 (24.3)	13 (12.6)	6 (5.8)	0 (0.0)

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 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).

Table G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Minneapolis, Minnesota, 2019-2023

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
2019	66 (79.5)	13 (15.7)	4 (4.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	83
2020	46 (57.5)	29 (36.3)	4 (5.0)	1 (1.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	80
2021	122 (73.5)	40 (24.1)	4 (2.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	166
2022	89 (78.8)	16 (14.2)	4 (3.5)	4 (3.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	113
2023	79 (76.7)	19 (18.4)	4 (3.9)	1 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	103

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.

Table H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Minneapolis, Minnesota, 2019-2023

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
2019	57 (68.7)	22 (26.5)	4 (4.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	83
2020	50 (62.5)	27 (33.8)	3 (3.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	80
2021	119 (71.7)	45 (27.1)	2 (1.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	166
2022	91 (80.5)	21 (18.6)	1 (0.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	113
2023	86 (83.5)	11 (10.7)	5 (4.9)	1 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	103

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.

Table I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Minneapolis, Minnesota, 2019-2023

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
2019	9 (10.8)	58 (69.9)	7 (8.4)	8 (9.6)	1 (1.2)	0 (0.0)	0 (0.0)	0 (0.0)	83
2020	11 (13.8)	37 (46.3)	1 (1.3)	28 (35.0)	1 (1.3)	0 (0.0)	2 (2.5)	0 (0.0)	80
2021	12 (7.2)	85 (51.2)	23 (13.9)	41 (24.7)	4 (2.4)	0 (0.0)	0 (0.0)	1 (0.6)	166
2022	19 (16.8)	70 (61.9)	10 (8.8)	9 (8.0)	4 (3.5)	1 (0.9)	0 (0.0)	0 (0.0)	113
2023	12 (11.7)	63 (61.2)	8 (7.8)	17 (16.5)	2 (1.9)	0 (0.0)	0 (0.0)	1 (1.0)	103

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; FDA-STIC Resistant = azithromycin MIC ≥2.0 µg/mL.
FDA-STIC = FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria.
In 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Minneapolis, Minnesota, 2019-2023

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
2019	51 (61.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	32 (38.6)	83
2020	56 (70.0)	1 (1.3)	0 (0.0)	1 (1.3)	0 (0.0)	0 (0.0)	1 (1.3)	21 (26.3)	80
2021	102 (61.4)	0 (0.0)	0 (0.0)	2 (1.2)	6 (3.6)	3 (1.8)	3 (1.8)	50 (30.1)	166
2022	84 (74.3)	1 (0.9)	1 (0.9)	3 (2.7)	0 (0.0)	0 (0.0)	4 (3.5)	20 (17.7)	113
2023	65 (63.1)	1 (1.0)	0 (0.0)	1 (1.0)	6 (5.8)	4 (3.9)	1 (1.0)	25 (24.3)	103

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.

Table K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Minneapolis, Minnesota, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 237 (0.0)	0 / 249 (0.0)	0 / 230 (0.0)	**	**	0 / 123 (0.0)	1 / 71 (1.4)	3 / 47 (6.4)	1 / 78 (1.3)	0 / 97 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
0 / 103 (0.0)	0 / 105 (0.0)	0 / 90 (0.0)	0 / 64 (0.0)	0 / 85 (0.0)	0 / 83 (0.0)	0 / 80 (0.0)	0 / 166 (0.0)	0 / 113 (0.0)	0 / 103 (0.0)

Cefixime elevated MIC ≥0.25 µg/mL.
** Cefixime susceptibility was not tested in 2007 and 2008.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Minneapolis, Minnesota, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 237 (0.0)	0 / 249 (0.0)	0 / 230 (0.0)	1 / 252 (0.4)	0 / 184 (0.0)	1 / 123 (0.8)	1 / 71 (1.4)	1 / 47 (2.1)	0 / 78 (0.0)	0 / 97 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
0 / 103 (0.0)	0 / 105 (0.0)	0 / 90 (0.0)	0 / 64 (0.0)	0 / 85 (0.0)	0 / 83 (0.0)	0 / 80 (0.0)	0 / 166 (0.0)	0 / 113 (0.0)	0 / 103 (0.0)

Ceftriaxone elevated MIC ≥0.125 µg/mL.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table M. Percentage of Isolates with Resistance to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Minneapolis, Minnesota, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
8 / 237 (3.4)	3 / 249 (1.2)	1 / 230 (0.4)	0 / 252 (0.0)	0 / 184 (0.0)	0 / 123 (0.0)	2 / 71 (2.8)	0 / 47 (0.0)	1 / 78 (1.3)	1 / 97 (1.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
23 / 103 (22.3)	10 / 105 (9.5)	6 / 90 (6.7)	1 / 64 (1.6)	3 / 85 (3.5)	1 / 83 (1.2)	3 / 80 (3.8)	5 / 166 (3.0)	5 / 113 (4.4)	3 / 103 (2.9)

Azithromycin elevated MIC ≥1.0 µg/mL prior to 2005 and ≥2.0 µg/mL during 2005-2023.
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.

Table N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Minneapolis, Minnesota, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
22 / 237 (9.3)	20 / 249 (8.0)	13 / 230 (5.7)	27 / 252 (10.7)	14 / 184 (7.6)	30 / 123 (24.4)	17 / 71 (23.9)	11 / 47 (23.4)	9 / 78 (11.5)	17 / 97 (17.5)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
21 / 103 (20.4)	39 / 105 (37.1)	28 / 90 (31.1)	18 / 64 (28.1)	23 / 85 (27.1)	32 / 83 (38.6)	22 / 80 (27.5)	53 / 166 (31.9)	24 / 113 (21.2)	26 / 103 (25.2)

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.

Table A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), New Orleans, Louisiana, 2023

<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
1 (1.2)	19 (22.6)	16 (19.0)	13 (15.5)	16 (19.0)	8 (9.5)	5 (6.0)	3 (3.6)	1 (1.2)	2 (2.4)	0 (0.0)	84

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), New Orleans, Louisiana, 2023

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
1 (1.2)	2 (2.4)	43 (51.2)	0 (0.0)	30 (35.7)	6 (7.1)	1 (1.2)	1 (1.2)	84

Cases are reported using Office of Management and Budget (OMB) compliant race and ethnicity categories.
AI/AN = American Indian or Alaska Native; NHOPI = Native Hawaiian or Other Pacific Islander.

Table C. Percentage of Participants who are Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), New Orleans, Louisiana, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
9 (4.8)	8 (8.7)	3 (6.1)	13 (5.2)	9 (5.2)	18 (7.4)	38 (15.6)	32 (12.9)	24 (11.9)	41 (19.9)	31 (18.1)	41 (31.8)	73 (45.3)	52 (38.0)	56 (45.5)	50 (41.7)	22 (25.6)	41 (54.7)	42 (63.6)	57 (67.9)

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), New Orleans, Louisiana, 2023

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Cefixime 800mg n (%)	Ceftriaxone 250mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	82 (97.6)	0 (0.0)	0 (0.0)	2 (2.4)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), New Orleans, Louisiana, 2023

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
5 (6.0)	78 (92.9)	1 (1.2)

Table F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), New Orleans, Louisiana, 2023

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
26 (31.0)	31 (36.9)	21 (25.0)	6 (7.1)	0 (0.0)

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 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).

Table G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), New Orleans, Louisiana, 2019-2023

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
2019	73 (60.3)	40 (33.1)	7 (5.8)	1 (0.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	121
2020	61 (70.1)	22 (25.3)	2 (2.3)	2 (2.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	87
2021	56 (73.7)	13 (17.1)	6 (7.9)	0 (0.0)	1 (1.3)	0 (0.0)	0 (0.0)	0 (0.0)	76
2022	45 (68.2)	11 (16.7)	6 (9.1)	4 (6.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	66
2023	50 (59.5)	14 (16.7)	2 (2.4)	17 (20.2)	1 (1.2)	0 (0.0)	0 (0.0)	0 (0.0)	84

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.

Table H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), New Orleans, Louisiana, 2019-2023

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
2019	77 (63.6)	41 (33.9)	1 (0.8)	2 (1.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	121
2020	50 (57.5)	31 (35.6)	4 (4.6)	2 (2.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	87
2021	58 (76.3)	16 (21.1)	1 (1.3)	1 (1.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	76
2022	39 (59.1)	25 (37.9)	2 (3.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	66
2023	54 (64.3)	21 (25.0)	9 (10.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	84

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.

Table I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), New Orleans, Louisiana, 2019-2023

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
2019	19 (15.7)	78 (64.5)	11 (9.1)	8 (6.6)	4 (3.3)	1 (0.8)	0 (0.0)	0 (0.0)	121
2020	18 (20.7)	37 (42.5)	7 (8.0)	13 (14.9)	12 (13.8)	0 (0.0)	0 (0.0)	0 (0.0)	87
2021	5 (6.6)	41 (53.9)	12 (15.8)	9 (11.8)	9 (11.8)	0 (0.0)	0 (0.0)	0 (0.0)	76
2022	13 (19.7)	28 (42.4)	12 (18.2)	8 (12.1)	4 (6.1)	1 (1.5)	0 (0.0)	0 (0.0)	66
2023	15 (17.9)	47 (56.0)	8 (9.5)	8 (9.5)	6 (7.1)	0 (0.0)	0 (0.0)	0 (0.0)	84

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; FDA-STIC Resistant = azithromycin MIC ≥2.0 µg/mL.
FDA-STIC = FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria.
In 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), New Orleans, Louisiana, 2019-2023

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
2019	77 (63.6)	2 (1.7)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.8)	3 (2.5)	38 (31.4)	121
2020	37 (42.5)	12 (13.8)	0 (0.0)	0 (0.0)	0 (0.0)	3 (3.4)	3 (3.4)	32 (36.8)	87
2021	45 (59.2)	1 (1.3)	0 (0.0)	2 (2.6)	2 (2.6)	0 (0.0)	1 (1.3)	25 (32.9)	76
2022	32 (48.5)	0 (0.0)	0 (0.0)	2 (3.0)	8 (12.1)	0 (0.0)	2 (3.0)	22 (33.3)	66
2023	31 (36.9)	0 (0.0)	0 (0.0)	2 (2.4)	10 (11.9)	5 (6.0)	1 (1.2)	35 (41.7)	84

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.

Table K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), New Orleans, Louisiana, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 194 (0.0)	0 / 96 (0.0)	0 / 49 (0.0)	**	**	0 / 242 (0.0)	0 / 243 (0.0)	0 / 248 (0.0)	1 / 203 (0.5)	0 / 209 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
0 / 171 (0.0)	0 / 131 (0.0)	1 / 161 (0.6)	0 / 138 (0.0)	0 / 123 (0.0)	0 / 121 (0.0)	0 / 87 (0.0)	1 / 76 (1.3)	0 / 66 (0.0)	1 / 84 (1.2)

Cefixime elevated MIC ≥0.25 µg/mL.
** Cefixime susceptibility was not tested in 2007 and 2008.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), New Orleans, Louisiana, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
1 / 194 (0.5)	0 / 96 (0.0)	0 / 49 (0.0)	1 / 249 (0.4)	0 / 175 (0.0)	0 / 242 (0.0)	0 / 243 (0.0)	1 / 248 (0.4)	0 / 203 (0.0)	0 / 209 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
0 / 171 (0.0)	0 / 131 (0.0)	1 / 161 (0.6)	0 / 138 (0.0)	0 / 123 (0.0)	0 / 121 (0.0)	0 / 87 (0.0)	0 / 76 (0.0)	0 / 66 (0.0)	0 / 84 (0.0)

Ceftriaxone elevated MIC ≥0.125 µg/mL.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table M. Percentage of Isolates with Resistance to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), New Orleans, Louisiana, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
1 / 194 (0.5)	0 / 96 (0.0)	0 / 49 (0.0)	0 / 249 (0.0)	0 / 175 (0.0)	0 / 242 (0.0)	0 / 243 (0.0)	0 / 248 (0.0)	0 / 203 (0.0)	0 / 209 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
8 / 171 (4.7)	2 / 131 (1.5)	4 / 161 (2.5)	3 / 138 (2.2)	4 / 123 (3.3)	5 / 121 (4.1)	12 / 87 (13.8)	9 / 76 (11.8)	5 / 66 (7.6)	6 / 84 (7.1)

Azithromycin elevated MIC ≥1.0 µg/mL prior to 2005 and ≥2.0 µg/mL during 2005-2023.
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.

Table N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), New Orleans, Louisiana, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
3 / 194 (1.5)	6 / 96 (6.3)	5 / 49 (10.2)	45 / 249 (18.1)	26 / 175 (14.9)	19 / 242 (7.9)	31 / 243 (12.8)	28 / 248 (11.3)	19 / 203 (9.4)	25 / 209 (12.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
22 / 171 (12.9)	27 / 131 (20.6)	40 / 161 (24.8)	38 / 138 (27.5)	44 / 123 (35.8)	41 / 121 (33.9)	35 / 87 (40.2)	26 / 76 (34.2)	24 / 66 (36.4)	36 / 84 (42.9)

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.

Table A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), New York City, New York, 2023

<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
8 (3.3)	40 (16.5)	58 (23.9)	65 (26.7)	37 (15.2)	16 (6.6)	5 (2.1)	7 (2.9)	3 (1.2)	3 (1.2)	1 (0.4)	243

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), New York City, New York, 2023

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	4 (1.6)	147 (60.5)	1 (0.4)	39 (16.0)	44 (18.1)	6 (2.5)	2 (0.8)	243

Cases are reported using Office of Management and Budget (OMB) compliant race and ethnicity categories.
AI/AN = American Indian or Alaska Native; NHOPI = Native Hawaiian or Other Pacific Islander.

Table C. Percentage of Participants who are Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), New York City, New York, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	9 (17.3)	33 (18.3)	35 (28.7)	28 (15.7)	44 (22.4)	67 (31.3)	76 (42.9)	62 (44.0)	64 (48.5)	75 (53.2)	94 (52.8)	112 (56.0)	101 (47.9)	110 (46.0)	31 (56.4)	45 (35.7)	84 (45.9)	129 (55.1)

* Site did not participate in GISP during that year.

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), New York City, New York, 2023

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Cefixime 800mg n (%)	Ceftriaxone 250mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	240 (98.8)	0 (0.0)	0 (0.0)	3 (1.2)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), New York City, New York, 2023

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
9 (3.7)	224 (92.2)	10 (4.1)

Table F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), New York City, New York, 2023

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
99 (40.7)	78 (32.1)	43 (17.7)	21 (8.6)	2 (0.8)

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 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).

Table G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), New York City, New York, 2019-2023

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
2019	173 (70.9)	56 (23.0)	11 (4.5)	4 (1.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	244
2020	38 (65.5)	17 (29.3)	2 (3.4)	1 (1.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	58
2021	104 (81.3)	13 (10.2)	7 (5.5)	4 (3.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	128
2022	141 (75.4)	28 (15.0)	9 (4.8)	9 (4.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	187
2023	153 (63.0)	46 (18.9)	10 (4.1)	32 (13.2)	2 (0.8)	0 (0.0)	0 (0.0)	0 (0.0)	243

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.

Table H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), New York City, New York, 2019-2023

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
2019	167 (68.4)	62 (25.4)	10 (4.1)	4 (1.6)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	244
2020	42 (72.4)	11 (19.0)	5 (8.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	58
2021	110 (85.9)	18 (14.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	128
2022	139 (74.3)	43 (23.0)	3 (1.6)	2 (1.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	187
2023	148 (60.9)	69 (28.4)	24 (9.9)	2 (0.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	243

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.

Table I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), New York City, New York, 2019-2023

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
2019	19 (7.8)	147 (60.2)	26 (10.7)	29 (11.9)	14 (5.7)	1 (0.4)	2 (0.8)	6 (2.5)	244
2020	2 (3.4)	11 (19.0)	21 (36.2)	13 (22.4)	0 (0.0)	7 (12.1)	3 (5.2)	1 (1.7)	58
2021	26 (20.3)	76 (59.4)	9 (7.0)	16 (12.5)	1 (0.8)	0 (0.0)	0 (0.0)	0 (0.0)	128
2022	46 (24.6)	94 (50.3)	22 (11.8)	23 (12.3)	1 (0.5)	0 (0.0)	1 (0.5)	0 (0.0)	187
2023	26 (10.7)	133 (54.7)	17 (7.0)	55 (22.6)	10 (4.1)	1 (0.4)	0 (0.0)	1 (0.4)	243

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; FDA-STIC Resistant = azithromycin MIC ≥2.0 µg/mL.
FDA-STIC = FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria.
In 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), New York City, New York, 2019-2023

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
2019	128 (52.5)	12 (4.9)	0 (0.0)	0 (0.0)	1 (0.4)	2 (0.8)	3 (1.2)	98 (40.2)	244
2020	27 (46.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.7)	30 (51.7)	58
2021	70 (54.7)	0 (0.0)	1 (0.8)	3 (2.3)	2 (1.6)	2 (1.6)	1 (0.8)	49 (38.3)	128
2022	103 (55.1)	0 (0.0)	1 (0.5)	4 (2.1)	3 (1.6)	2 (1.1)	6 (3.2)	68 (36.4)	187
2023	129 (53.1)	1 (0.4)	0 (0.0)	0 (0.0)	8 (3.3)	6 (2.5)	8 (3.3)	91 (37.4)	243

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.

Table K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), New York City, New York, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
*	*	0 / 53 (0.0)	**	**	0 / 179 (0.0)	1 / 198 (0.5)	2 / 216 (0.9)	1 / 183 (0.5)	1 / 141 (0.7)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
1 / 132 (0.8)	2 / 141 (1.4)	0 / 178 (0.0)	1 / 203 (0.5)	0 / 213 (0.0)	0 / 244 (0.0)	0 / 58 (0.0)	0 / 128 (0.0)	0 / 187 (0.0)	2 / 243 (0.8)

Cefixime elevated MIC ≥0.25 µg/mL.
* Site did not participate in GISP during that year.
** Cefixime susceptibility was not tested in 2007 and 2008.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), New York City, New York, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
*	*	0 / 53 (0.0)	0 / 181 (0.0)	0 / 123 (0.0)	0 / 179 (0.0)	2 / 198 (1.0)	1 / 216 (0.5)	0 / 183 (0.0)	1 / 141 (0.7)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
1 / 132 (0.8)	2 / 141 (1.4)	0 / 178 (0.0)	0 / 203 (0.0)	3 / 213 (1.4)	1 / 244 (0.4)	0 / 58 (0.0)	0 / 128 (0.0)	0 / 187 (0.0)	0 / 243 (0.0)

Ceftriaxone elevated MIC ≥0.125 µg/mL.
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table M. Percentage of Isolates with Resistance to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), New York City, New York, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
*	*	0 / 53 (0.0)	1 / 181 (0.6)	1 / 123 (0.8)	0 / 179 (0.0)	0 / 198 (0.0)	1 / 216 (0.5)	1 / 183 (0.5)	0 / 141 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
5 / 132 (3.8)	4 / 141 (2.8)	11 / 178 (6.2)	10 / 203 (4.9)	9 / 213 (4.2)	23 / 244 (9.4)	11 / 58 (19.0)	1 / 128 (0.8)	2 / 187 (1.1)	12 / 243 (4.9)

Azithromycin elevated MIC ≥1.0 µg/mL prior to 2005 and ≥2.0 µg/mL during 2005-2023.
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).
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), New York City, New York, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
*	*	4 / 53 (7.5)	27 / 181 (14.9)	19 / 123 (15.4)	28 / 179 (15.6)	27 / 198 (13.6)	36 / 216 (16.7)	18 / 183 (9.8)	25 / 141 (17.7)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
31 / 132 (23.5)	48 / 141 (34.0)	62 / 178 (34.8)	87 / 203 (42.9)	90 / 213 (42.3)	101 / 244 (41.4)	31 / 58 (53.4)	50 / 128 (39.1)	74 / 187 (39.6)	99 / 243 (40.7)

Ciprofloxacin resistance MIC ≥1.0 µg/mL.
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Orange County, California, 2023

<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
1 (0.8)	11 (8.6)	31 (24.2)	26 (20.3)	15 (11.7)	20 (15.6)	9 (7.0)	2 (1.6)	7 (5.5)	4 (3.1)	2 (1.6)	128

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Orange County, California, 2023

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	10 (7.8)	0 (0.0)	0 (0.0)	23 (18.0)	78 (60.9)	0 (0.0)	17 (13.3)	128

Cases are reported using Office of Management and Budget (OMB) compliant race and ethnicity categories.
AI/AN = American Indian or Alaska Native; NHOPI = Native Hawaiian or Other Pacific Islander.

Table C. Percentage of Participants who are Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Orange County, California, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
78 (48.4)	52 (44.4)	68 (51.1)	59 (51.3)	46 (52.9)	60 (74.1)	61 (58.7)	72 (67.9)	77 (63.1)	76 (61.8)	88 (51.8)	121 (66.5)	131 (67.5)	107 (76.4)	53 (52.5)	82 (58.2)	84 (53.8)	47 (54.0)	72 (62.1)	71 (65.7)

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Orange County, California, 2023

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Cefixime 800mg n (%)	Ceftriaxone 250mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
4 (3.1)	0 (0.0)	0 (0.0)	0 (0.0)	123 (96.1)	0 (0.0)	1 (0.8)	0 (0.0)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Orange County, California, 2023

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
10 (7.8)	3 (2.3)	115 (89.8)

Table F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Orange County, California, 2023

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
44 (34.4)	42 (32.8)	23 (18.0)	19 (14.8)	0 (0.0)

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 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).

Table G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Orange County, California, 2019-2023

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
2019	114 (73.1)	32 (20.5)	6 (3.8)	3 (1.9)	1 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)	156
2020	122 (73.9)	37 (22.4)	1 (0.6)	5 (3.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	165
2021	103 (64.4)	44 (27.5)	8 (5.0)	5 (3.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	160
2022	74 (63.2)	31 (26.5)	5 (4.3)	7 (6.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	117
2023	79 (61.7)	27 (21.1)	8 (6.3)	14 (10.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	128

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.

Table H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Orange County, California, 2019-2023

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
2019	99 (63.5)	42 (26.9)	14 (9.0)	1 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	156
2020	103 (62.4)	50 (30.3)	12 (7.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	165
2021	98 (61.3)	52 (32.5)	10 (6.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	160
2022	69 (59.0)	39 (33.3)	9 (7.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	117
2023	76 (59.4)	40 (31.3)	12 (9.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	128

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.

Table I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Orange County, California, 2019-2023

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
2019	13 (8.3)	118 (75.6)	7 (4.5)	10 (6.4)	8 (5.1)	0 (0.0)	0 (0.0)	0 (0.0)	156
2020	7 (4.2)	101 (61.2)	20 (12.1)	22 (13.3)	14 (8.5)	0 (0.0)	0 (0.0)	1 (0.6)	165
2021	13 (8.1)	116 (72.5)	9 (5.6)	16 (10.0)	5 (3.1)	1 (0.6)	0 (0.0)	0 (0.0)	160
2022	13 (11.1)	76 (65.0)	8 (6.8)	6 (5.1)	13 (11.1)	0 (0.0)	0 (0.0)	1 (0.9)	117
2023	19 (14.8)	62 (48.4)	21 (16.4)	12 (9.4)	13 (10.2)	0 (0.0)	0 (0.0)	1 (0.8)	128

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; FDA-STIC Resistant = azithromycin MIC ≥2.0 µg/mL.
FDA-STIC = FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria.
In 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Orange County, California, 2019-2023

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
2019	64 (41.0)	2 (1.3)	0 (0.0)	0 (0.0)	0 (0.0)	6 (3.8)	7 (4.5)	77 (49.4)	156
2020	90 (54.5)	4 (2.4)	0 (0.0)	0 (0.0)	0 (0.0)	7 (4.2)	1 (0.6)	63 (38.2)	165
2021	101 (63.1)	1 (0.6)	0 (0.0)	0 (0.0)	3 (1.9)	4 (2.5)	6 (3.8)	45 (28.1)	160
2022	62 (53.0)	3 (2.6)	0 (0.0)	0 (0.0)	2 (1.7)	9 (7.7)	5 (4.3)	36 (30.8)	117
2023	54 (42.2)	4 (3.1)	0 (0.0)	0 (0.0)	3 (2.3)	5 (3.9)	9 (7.0)	53 (41.4)	128

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.

Table K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Orange County, California, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 161 (0.0)	0 / 120 (0.0)	1 / 133 (0.8)	**	**	0 / 82 (0.0)	2 / 104 (1.9)	1 / 107 (0.9)	3 / 124 (2.4)	2 / 124 (1.6)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
3 / 171 (1.8)	1 / 183 (0.5)	1 / 194 (0.5)	0 / 140 (0.0)	0 / 163 (0.0)	1 / 156 (0.6)	0 / 165 (0.0)	0 / 160 (0.0)	0 / 117 (0.0)	0 / 128 (0.0)

Cefixime elevated MIC ≥0.25 µg/mL.
** Cefixime susceptibility was not tested in 2007 and 2008.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Orange County, California, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 161 (0.0)	0 / 120 (0.0)	0 / 133 (0.0)	0 / 117 (0.0)	0 / 87 (0.0)	0 / 82 (0.0)	0 / 104 (0.0)	0 / 107 (0.0)	1 / 124 (0.8)	0 / 124 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
0 / 171 (0.0)	1 / 183 (0.5)	1 / 194 (0.5)	0 / 140 (0.0)	0 / 163 (0.0)	0 / 156 (0.0)	0 / 165 (0.0)	0 / 160 (0.0)	0 / 117 (0.0)	0 / 128 (0.0)

Ceftriaxone elevated MIC ≥0.125 µg/mL.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table M. Percentage of Isolates with Resistance to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Orange County, California, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
2 / 161 (1.2)	0 / 120 (0.0)	5 / 133 (3.8)	0 / 117 (0.0)	0 / 87 (0.0)	1 / 82 (1.2)	2 / 104 (1.9)	0 / 107 (0.0)	0 / 124 (0.0)	1 / 124 (0.8)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
0 / 171 (0.0)	0 / 183 (0.0)	5 / 194 (2.6)	3 / 140 (2.1)	9 / 163 (5.5)	8 / 156 (5.1)	15 / 165 (9.1)	6 / 160 (3.8)	14 / 117 (12.0)	14 / 128 (10.9)

Azithromycin elevated MIC ≥1.0 µg/mL prior to 2005 and ≥2.0 µg/mL during 2005-2023.
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.

Table N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Orange County, California, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
33 / 161 (20.5)	33 / 120 (27.5)	46 / 133 (34.6)	48 / 117 (41.0)	29 / 87 (33.3)	15 / 82 (18.3)	24 / 104 (23.1)	27 / 107 (25.2)	42 / 124 (33.9)	55 / 124 (44.4)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
52 / 171 (30.4)	53 / 183 (29.0)	74 / 194 (38.1)	62 / 140 (44.3)	76 / 163 (46.6)	84 / 156 (53.8)	64 / 165 (38.8)	51 / 160 (31.9)	41 / 117 (35.0)	62 / 128 (48.4)

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.

Table A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Philadelphia, Pennsylvania, 2023

<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
20 (12.8)	38 (24.4)	31 (19.9)	26 (16.7)	20 (12.8)	9 (5.8)	1 (0.6)	4 (2.6)	1 (0.6)	4 (2.6)	2 (1.3)	156

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Philadelphia, Pennsylvania, 2023

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	2 (1.3)	96 (61.5)	0 (0.0)	10 (6.4)	15 (9.6)	16 (10.3)	17 (10.9)	156

Cases are reported using Office of Management and Budget (OMB) compliant race and ethnicity categories.
AI/AN = American Indian or Alaska Native; NHOPI = Native Hawaiian or Other Pacific Islander.

Table C. Percentage of Participants who are Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Philadelphia, Pennsylvania, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
39 (13.0)	38 (12.7)	34 (11.3)	74 (26.4)	68 (26.9)	42 (20.4)	57 (19.3)	49 (17.1)	75 (26.0)	89 (30.3)	99 (33.3)	88 (29.8)	86 (29.6)	113 (41.4)	199 (67.0)	108 (36.4)	47 (30.7)	51 (26.4)	75 (29.9)	45 (29.0)

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Philadelphia, Pennsylvania, 2023

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Cefixime 800mg n (%)	Ceftriaxone 250mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	154 (98.7)	0 (0.0)	0 (0.0)	2 (1.3)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Philadelphia, Pennsylvania, 2023

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
25 (16.0)	124 (79.5)	7 (4.5)

Table F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Philadelphia, Pennsylvania, 2023

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
70 (44.9)	35 (22.4)	23 (14.7)	28 (17.9)	0 (0.0)

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 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).

Table G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Philadelphia, Pennsylvania, 2019-2023

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
2019	236 (78.7)	47 (15.7)	11 (3.7)	5 (1.7)	1 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)	300
2020	123 (79.4)	23 (14.8)	9 (5.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	155
2021	163 (84.0)	27 (13.9)	4 (2.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	194
2022	198 (77.6)	47 (18.4)	6 (2.4)	4 (1.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	255
2023	100 (64.1)	36 (23.1)	11 (7.1)	8 (5.1)	1 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)	156

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.

Table H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Philadelphia, Pennsylvania, 2019-2023

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
2019	221 (73.7)	57 (19.0)	16 (5.3)	6 (2.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	300
2020	128 (82.6)	25 (16.1)	2 (1.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	155
2021	154 (79.4)	35 (18.0)	5 (2.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	194
2022	181 (71.0)	61 (23.9)	12 (4.7)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	255
2023	96 (61.5)	45 (28.8)	14 (9.0)	1 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	156

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.

Table I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Philadelphia, Pennsylvania, 2019-2023

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
2019	37 (12.3)	197 (65.7)	33 (11.0)	20 (6.7)	7 (2.3)	4 (1.3)	1 (0.3)	1 (0.3)	300
2020	9 (5.8)	60 (38.7)	41 (26.5)	30 (19.4)	6 (3.9)	7 (4.5)	1 (0.6)	1 (0.6)	155
2021	33 (17.0)	108 (55.7)	24 (12.4)	21 (10.8)	6 (3.1)	2 (1.0)	0 (0.0)	0 (0.0)	194
2022	83 (32.5)	101 (39.6)	33 (12.9)	30 (11.8)	7 (2.7)	0 (0.0)	1 (0.4)	0 (0.0)	255
2023	34 (21.8)	74 (47.4)	12 (7.7)	22 (14.1)	6 (3.8)	1 (0.6)	6 (3.8)	1 (0.6)	156

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; FDA-STIC Resistant = azithromycin MIC ≥2.0 µg/mL.
FDA-STIC = FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria.
In 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Philadelphia, Pennsylvania, 2019-2023

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
2019	135 (45.0)	1 (0.3)	0 (0.0)	4 (1.3)	1 (0.3)	0 (0.0)	9 (3.0)	150 (50.0)	300
2020	76 (49.0)	2 (1.3)	0 (0.0)	1 (0.6)	2 (1.3)	0 (0.0)	9 (5.8)	65 (41.9)	155
2021	91 (46.9)	1 (0.5)	2 (1.0)	4 (2.1)	9 (4.6)	2 (1.0)	7 (3.6)	78 (40.2)	194
2022	124 (48.6)	0 (0.0)	2 (0.8)	8 (3.1)	20 (7.8)	6 (2.4)	11 (4.3)	84 (32.9)	255
2023	68 (43.6)	0 (0.0)	0 (0.0)	0 (0.0)	9 (5.8)	12 (7.7)	3 (1.9)	64 (41.0)	156

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.

Table K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Philadelphia, Pennsylvania, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
2 / 300 (0.7)	0 / 300 (0.0)	0 / 300 (0.0)	**	**	1 / 206 (0.5)	1 / 296 (0.3)	2 / 288 (0.7)	1 / 300 (0.3)	2 / 300 (0.7)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
2 / 300 (0.7)	1 / 300 (0.3)	0 / 300 (0.0)	2 / 283 (0.7)	1 / 300 (0.3)	1 / 300 (0.3)	0 / 155 (0.0)	0 / 194 (0.0)	0 / 255 (0.0)	1 / 156 (0.6)

Cefixime elevated MIC ≥0.25 µg/mL.
** Cefixime susceptibility was not tested in 2007 and 2008.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Philadelphia, Pennsylvania, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
1 / 300 (0.3)	3 / 300 (1.0)	1 / 300 (0.3)	0 / 282 (0.0)	0 / 253 (0.0)	0 / 206 (0.0)	1 / 296 (0.3)	1 / 288 (0.3)	0 / 300 (0.0)	0 / 300 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
1 / 300 (0.3)	1 / 300 (0.3)	0 / 300 (0.0)	1 / 283 (0.4)	0 / 300 (0.0)	0 / 300 (0.0)	0 / 155 (0.0)	0 / 194 (0.0)	0 / 255 (0.0)	0 / 156 (0.0)

Ceftriaxone elevated MIC ≥0.125 µg/mL.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table M. Percentage of Isolates with Resistance to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Philadelphia, Pennsylvania, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
2 / 300 (0.7)	1 / 300 (0.3)	1 / 300 (0.3)	0 / 282 (0.0)	1 / 253 (0.4)	0 / 206 (0.0)	0 / 296 (0.0)	0 / 288 (0.0)	1 / 300 (0.3)	1 / 300 (0.3)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
7 / 300 (2.3)	4 / 300 (1.3)	17 / 300 (5.7)	35 / 283 (12.4)	37 / 300 (12.3)	13 / 300 (4.3)	15 / 155 (9.7)	8 / 194 (4.1)	8 / 255 (3.1)	14 / 156 (9.0)

Azithromycin elevated MIC ≥1.0 µg/mL prior to 2005 and ≥2.0 µg/mL during 2005-2023.
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.

Table N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Philadelphia, Pennsylvania, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
10 / 300 (3.3)	43 / 300 (14.3)	91 / 300 (30.3)	82 / 282 (29.1)	52 / 253 (20.6)	32 / 206 (15.5)	41 / 296 (13.9)	22 / 288 (7.6)	61 / 300 (20.3)	42 / 300 (14.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
69 / 300 (23.0)	76 / 300 (25.3)	65 / 300 (21.7)	106 / 283 (37.5)	116 / 300 (38.7)	159 / 300 (53.0)	74 / 155 (47.7)	85 / 194 (43.8)	95 / 255 (37.3)	67 / 156 (42.9)

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.

Table A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Phoenix, Arizona, 2023

<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
14 (5.7)	52 (21.1)	48 (19.5)	58 (23.6)	26 (10.6)	21 (8.5)	12 (4.9)	4 (1.6)	8 (3.3)	1 (0.4)	2 (0.8)	246

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Phoenix, Arizona, 2023

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
2 (0.8)	2 (0.8)	81 (32.9)	0 (0.0)	48 (19.5)	102 (41.5)	9 (3.7)	2 (0.8)	246

Cases are reported using Office of Management and Budget (OMB) compliant race and ethnicity categories.
AI/AN = American Indian or Alaska Native; NHOPI = Native Hawaiian or Other Pacific Islander.

Table C. Percentage of Participants who are Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Phoenix, Arizona, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
61 (21.4)	37 (13.1)	40 (14.9)	48 (17.5)	72 (29.5)	70 (32.4)	83 (44.4)	113 (38.8)	107 (36.4)	126 (42.3)	109 (36.5)	96 (32.0)	93 (31.0)	93 (31.5)	93 (31.7)	82 (28.4)	91 (30.6)	76 (27.1)	69 (29.4)	91 (37.0)

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Phoenix, Arizona, 2023

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Cefixime 800mg n (%)	Ceftriaxone 250mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	241 (98.0)	0 (0.0)	4 (1.6)	1 (0.4)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Phoenix, Arizona, 2023

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
7 (2.8)	176 (71.5)	63 (25.6)

Table F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Phoenix, Arizona, 2023

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
129 (52.4)	77 (31.3)	26 (10.6)	14 (5.7)	0 (0.0)

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 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).

Table G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Phoenix, Arizona, 2019-2023

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
2019	141 (47.0)	122 (40.7)	21 (7.0)	13 (4.3)	3 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)	300
2020	161 (53.7)	101 (33.7)	24 (8.0)	11 (3.7)	3 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)	300
2021	226 (80.7)	46 (16.4)	1 (0.4)	7 (2.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	280
2022	160 (68.1)	61 (26.0)	7 (3.0)	5 (2.1)	2 (0.9)	0 (0.0)	0 (0.0)	0 (0.0)	235
2023	180 (73.2)	48 (19.5)	7 (2.8)	11 (4.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	246

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.

Table H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Phoenix, Arizona, 2019-2023

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
2019	146 (48.7)	120 (40.0)	27 (9.0)	7 (2.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	300
2020	160 (53.3)	101 (33.7)	34 (11.3)	5 (1.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	300
2021	193 (68.9)	70 (25.0)	16 (5.7)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	280
2022	161 (68.5)	66 (28.1)	6 (2.6)	2 (0.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	235
2023	160 (65.0)	68 (27.6)	15 (6.1)	3 (1.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	246

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.

Table I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Phoenix, Arizona, 2019-2023

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
2019	32 (10.7)	169 (56.3)	54 (18.0)	31 (10.3)	10 (3.3)	4 (1.3)	0 (0.0)	0 (0.0)	300
2020	30 (10.0)	215 (71.7)	16 (5.3)	33 (11.0)	5 (1.7)	0 (0.0)	0 (0.0)	1 (0.3)	300
2021	42 (15.0)	187 (66.8)	17 (6.1)	27 (9.6)	4 (1.4)	1 (0.4)	0 (0.0)	2 (0.7)	280
2022	56 (23.8)	131 (55.7)	12 (5.1)	28 (11.9)	7 (3.0)	0 (0.0)	1 (0.4)	0 (0.0)	235
2023	34 (13.8)	130 (52.8)	26 (10.6)	41 (16.7)	12 (4.9)	0 (0.0)	0 (0.0)	3 (1.2)	246

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; FDA-STIC Resistant = azithromycin MIC ≥2.0 µg/mL.
FDA-STIC = FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria.
In 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Phoenix, Arizona, 2019-2023

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
2019	201 (67.0)	1 (0.3)	0 (0.0)	0 (0.0)	3 (1.0)	0 (0.0)	2 (0.7)	93 (31.0)	300
2020	202 (67.3)	2 (0.7)	1 (0.3)	0 (0.0)	5 (1.7)	0 (0.0)	1 (0.3)	89 (29.7)	300
2021	178 (63.6)	1 (0.4)	0 (0.0)	1 (0.4)	8 (2.9)	0 (0.0)	4 (1.4)	88 (31.4)	280
2022	150 (63.8)	4 (1.7)	0 (0.0)	2 (0.9)	12 (5.1)	3 (1.3)	6 (2.6)	58 (24.7)	235
2023	131 (53.3)	12 (4.9)	0 (0.0)	1 (0.4)	13 (5.3)	7 (2.8)	4 (1.6)	78 (31.7)	246

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.

Table K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Phoenix, Arizona, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 289 (0.0)	0 / 283 (0.0)	0 / 270 (0.0)	**	**	2 / 227 (0.9)	7 / 199 (3.5)	2 / 300 (0.7)	1 / 300 (0.3)	1 / 300 (0.3)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
8 / 300 (2.7)	4 / 300 (1.3)	1 / 300 (0.3)	3 / 300 (1.0)	4 / 300 (1.3)	3 / 300 (1.0)	3 / 300 (1.0)	0 / 280 (0.0)	2 / 235 (0.9)	0 / 246 (0.0)

Cefixime elevated MIC ≥0.25 µg/mL.
** Cefixime susceptibility was not tested in 2007 and 2008.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Phoenix, Arizona, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
1 / 289 (0.3)	0 / 283 (0.0)	0 / 270 (0.0)	0 / 275 (0.0)	1 / 248 (0.4)	1 / 227 (0.4)	1 / 199 (0.5)	3 / 300 (1.0)	0 / 300 (0.0)	0 / 300 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
1 / 300 (0.3)	6 / 300 (2.0)	3 / 300 (1.0)	1 / 300 (0.3)	2 / 300 (0.7)	0 / 300 (0.0)	0 / 300 (0.0)	0 / 280 (0.0)	0 / 235 (0.0)	0 / 246 (0.0)

Ceftriaxone elevated MIC ≥0.125 µg/mL.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table M. Percentage of Isolates with Resistance to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Phoenix, Arizona, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
2 / 289 (0.7)	0 / 283 (0.0)	0 / 270 (0.0)	0 / 275 (0.0)	2 / 248 (0.8)	2 / 227 (0.9)	4 / 199 (2.0)	4 / 300 (1.3)	1 / 300 (0.3)	3 / 300 (1.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
10 / 300 (3.3)	17 / 300 (5.7)	22 / 300 (7.3)	12 / 300 (4.0)	16 / 300 (5.3)	14 / 300 (4.7)	6 / 300 (2.0)	7 / 280 (2.5)	8 / 235 (3.4)	15 / 246 (6.1)

Azithromycin elevated MIC ≥1.0 µg/mL prior to 2005 and ≥2.0 µg/mL during 2005-2023.
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.

Table N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Phoenix, Arizona, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
19 / 289 (6.6)	20 / 283 (7.1)	32 / 270 (11.9)	24 / 275 (8.7)	41 / 248 (16.5)	36 / 227 (15.9)	31 / 199 (15.6)	32 / 300 (10.7)	32 / 300 (10.7)	39 / 300 (13.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
63 / 300 (21.0)	86 / 300 (28.7)	84 / 300 (28.0)	60 / 300 (20.0)	70 / 300 (23.3)	95 / 300 (31.7)	90 / 300 (30.0)	92 / 280 (32.9)	64 / 235 (27.2)	82 / 246 (33.3)

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.

Table A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Pittsburgh, Pennsylvania, 2023

<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
11 (11.5)	12 (12.5)	22 (22.9)	17 (17.7)	14 (14.6)	4 (4.2)	3 (3.1)	3 (3.1)	3 (3.1)	4 (4.2)	3 (3.1)	96

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Pittsburgh, Pennsylvania, 2023

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	1 (0.8)	83 (68.0)	0 (0.0)	7 (5.7)	4 (3.3)	1 (0.8)	26 (21.3)	122

Cases are reported using Office of Management and Budget (OMB) compliant race and ethnicity categories.
AI/AN = American Indian or Alaska Native; NHOPI = Native Hawaiian or Other Pacific Islander.

Table C. Percentage of Participants who are Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Pittsburgh, Pennsylvania, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0 (0.0)	8 (11.6)

* Site did not participate in GISP during that year.

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Pittsburgh, Pennsylvania, 2023

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Cefixime 800mg n (%)	Ceftriaxone 250mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	59 (61.5)	0 (0.0)	1 (1.0)	36 (37.5)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Pittsburgh, Pennsylvania, 2023

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
1 (1.0)	47 (49.0)	48 (50.0)

Table F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Pittsburgh, Pennsylvania, 2023

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
76 (62.3)	26 (21.3)	7 (5.7)	13 (10.7)	0 (0.0)

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 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).

Table G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Pittsburgh, Pennsylvania, 2019-2023

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
2019	*	*	*	*	*	*	*	*	*
2020	*	*	*	*	*	*	*	*	*
2021	*	*	*	*	*	*	*	*	*
2022	82 (73.9)	17 (15.3)	12 (10.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	111
2023	95 (77.9)	19 (15.6)	4 (3.3)	4 (3.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	122

* Site did not participate in GISP during that year.
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.

Table H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Pittsburgh, Pennsylvania, 2019-2023

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
2019	*	*	*	*	*	*	*	*	*
2020	*	*	*	*	*	*	*	*	*
2021	*	*	*	*	*	*	*	*	*
2022	79 (71.2)	22 (19.8)	8 (7.2)	2 (1.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	111
2023	93 (76.2)	27 (22.1)	2 (1.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	122

* Site did not participate in GISP during that year.
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.

Table I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Pittsburgh, Pennsylvania, 2019-2023

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
2019	*	*	*	*	*	*	*	*	*
2020	*	*	*	*	*	*	*	*	*
2021	*	*	*	*	*	*	*	*	*
2022	43 (38.7)	46 (41.4)	12 (10.8)	7 (6.3)	3 (2.7)	0 (0.0)	0 (0.0)	0 (0.0)	111
2023	32 (26.2)	52 (42.6)	7 (5.7)	23 (18.9)	8 (6.6)	0 (0.0)	0 (0.0)	0 (0.0)	122

* Site did not participate in GISP during that year.
GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; FDA-STIC Resistant = azithromycin MIC ≥2.0 µg/mL.
FDA-STIC = FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria.
In 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Pittsburgh, Pennsylvania, 2019-2023

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
2019	*	*	*	*	*	*	*	*	*
2020	*	*	*	*	*	*	*	*	*
2021	*	*	*	*	*	*	*	*	*
2022	71 (64.0)	1 (0.9)	0 (0.0)	0 (0.0)	4 (3.6)	2 (1.8)	3 (2.7)	30 (27.0)	111
2023	91 (74.6)	0 (0.0)	0 (0.0)	0 (0.0)	2 (1.6)	1 (0.8)	8 (6.6)	20 (16.4)	122

* Site did not participate in GISP during that year.
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.

Table K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Pittsburgh, Pennsylvania, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	*	*	*	*	0 / 111 (0.0)	0 / 122 (0.0)

Cefixime elevated MIC ≥0.25 µg/mL.
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Pittsburgh, Pennsylvania, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	*	*	*	*	0 / 111 (0.0)	0 / 122 (0.0)

Ceftriaxone elevated MIC ≥0.125 µg/mL.
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table M. Percentage of Isolates with Resistance to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Pittsburgh, Pennsylvania, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	*	*	*	*	3 / 111 (2.7)	8 / 122 (6.6)

Azithromycin elevated MIC ≥1.0 µg/mL prior to 2005 and ≥2.0 µg/mL during 2005-2023.
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).
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Pittsburgh, Pennsylvania, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	*	*	*	*	33 / 111 (29.7)	28 / 122 (23.0)

Ciprofloxacin resistance MIC ≥1.0 µg/mL.
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Pontiac, Michigan, 2023

<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
7 (9.6)	12 (16.4)	18 (24.7)	19 (26.0)	3 (4.1)	5 (6.8)	2 (2.7)	5 (6.8)	0 (0.0)	2 (2.7)	0 (0.0)	73

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Pontiac, Michigan, 2023

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	0 (0.0)	59 (80.8)	0 (0.0)	6 (8.2)	4 (5.5)	1 (1.4)	3 (4.1)	73

Cases are reported using Office of Management and Budget (OMB) compliant race and ethnicity categories.
AI/AN = American Indian or Alaska Native; NHOPI = Native Hawaiian or Other Pacific Islander.

Table C. Percentage of Participants who are Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Pontiac, Michigan, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	*	*	*	*	26 (13.5)	33 (17.5)	66 (48.9)	59 (29.9)	62 (26.4)	65 (28.1)	65 (26.6)	63 (32.0)	11 (23.9)	7 (17.9)	20 (40.8)	17 (25.0)

* Site did not participate in GISP during that year.

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Pontiac, Michigan, 2023

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Cefixime 800mg n (%)	Ceftriaxone 250mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	73 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Pontiac, Michigan, 2023

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
0 (0.0)	69 (94.5)	4 (5.5)

Table F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Pontiac, Michigan, 2023

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
34 (46.6)	27 (37.0)	7 (9.6)	5 (6.8)	0 (0.0)

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 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).

Table G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Pontiac, Michigan, 2019-2023

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
2019	160 (80.8)	28 (14.1)	4 (2.0)	4 (2.0)	2 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)	198
2020	17 (37.0)	21 (45.7)	4 (8.7)	0 (0.0)	4 (8.7)	0 (0.0)	0 (0.0)	0 (0.0)	46
2021	26 (66.7)	7 (17.9)	2 (5.1)	4 (10.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	39
2022	41 (80.4)	5 (9.8)	3 (5.9)	2 (3.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	51
2023	53 (72.6)	4 (5.5)	3 (4.1)	13 (17.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	73

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.

Table H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Pontiac, Michigan, 2019-2023

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
2019	140 (70.7)	42 (21.2)	15 (7.6)	1 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	198
2020	25 (54.3)	15 (32.6)	6 (13.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	46
2021	29 (74.4)	7 (17.9)	3 (7.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	39
2022	42 (82.4)	6 (11.8)	2 (3.9)	1 (2.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	51
2023	46 (63.0)	16 (21.9)	10 (13.7)	1 (1.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	73

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.

Table I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Pontiac, Michigan, 2019-2023

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
2019	57 (28.8)	89 (44.9)	13 (6.6)	29 (14.6)	9 (4.5)	1 (0.5)	0 (0.0)	0 (0.0)	198
2020	5 (10.9)	19 (41.3)	4 (8.7)	15 (32.6)	3 (6.5)	0 (0.0)	0 (0.0)	0 (0.0)	46
2021	6 (15.4)	26 (66.7)	2 (5.1)	3 (7.7)	1 (2.6)	1 (2.6)	0 (0.0)	0 (0.0)	39
2022	8 (15.7)	26 (51.0)	9 (17.6)	7 (13.7)	1 (2.0)	0 (0.0)	0 (0.0)	0 (0.0)	51
2023	13 (17.8)	43 (58.9)	4 (5.5)	10 (13.7)	3 (4.1)	0 (0.0)	0 (0.0)	0 (0.0)	73

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; FDA-STIC Resistant = azithromycin MIC ≥2.0 µg/mL.
FDA-STIC = FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria.
In 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year,
Gonococcal Isolate Surveillance Project (GISP),
Pontiac, Michigan, 2019-2023

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
2019	140 (70.7)	5 (2.5)	0 (0.0)	0 (0.0)	1 (0.5)	1 (0.5)	0 (0.0)	51 (25.8)	198
2020	40 (87.0)	2 (4.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4 (8.7)	46
2021	22 (56.4)	1 (2.6)	0 (0.0)	0 (0.0)	1 (2.6)	1 (2.6)	1 (2.6)	13 (33.3)	39
2022	37 (72.5)	0 (0.0)	0 (0.0)	0 (0.0)	1 (2.0)	0 (0.0)	0 (0.0)	13 (25.5)	51
2023	38 (52.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.4)	34 (46.6)	73

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.

Table K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime,
Gonococcal Isolate Surveillance Project (GISP),
Pontiac, Michigan, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
*	*	*	*	*	*	*	*	1 / 194 (0.5)	0 / 190 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
0 / 135 (0.0)	0 / 198 (0.0)	0 / 235 (0.0)	1 / 231 (0.4)	0 / 246 (0.0)	2 / 198 (1.0)	4 / 46 (8.7)	0 / 39 (0.0)	0 / 51 (0.0)	0 / 73 (0.0)

Cefixime elevated MIC ≥0.25 µg/mL.
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone,
Gonococcal Isolate Surveillance Project (GISP),
Pontiac, Michigan, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
*	*	*	*	*	*	*	*	0 / 194 (0.0)	0 / 190 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
0 / 135 (0.0)	0 / 198 (0.0)	0 / 235 (0.0)	1 / 231 (0.4)	0 / 246 (0.0)	0 / 198 (0.0)	0 / 46 (0.0)	0 / 39 (0.0)	0 / 51 (0.0)	0 / 73 (0.0)

Ceftriaxone elevated MIC ≥0.125 µg/mL.
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table M. Percentage of Isolates with Resistance to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Pontiac, Michigan, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
*	*	*	*	*	*	*	*	1 / 194 (0.5)	4 / 190 (2.1)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
5 / 135 (3.7)	1 / 198 (0.5)	3 / 235 (1.3)	7 / 231 (3.0)	6 / 246 (2.4)	10 / 198 (5.1)	3 / 46 (6.5)	2 / 39 (5.1)	1 / 51 (2.0)	3 / 73 (4.1)

Azithromycin elevated MIC ≥1.0 µg/mL prior to 2005 and ≥2.0 µg/mL during 2005-2023.
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).
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Pontiac, Michigan, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
*	*	*	*	*	*	*	*	6 / 194 (3.1)	12 / 190 (6.3)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
15 / 135 (11.1)	27 / 198 (13.6)	59 / 235 (25.1)	57 / 231 (24.7)	65 / 246 (26.4)	51 / 198 (25.8)	4 / 46 (8.7)	14 / 39 (35.9)	13 / 51 (25.5)	35 / 73 (47.9)

Ciprofloxacin resistance MIC ≥1.0 µg/mL.
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Portland, Oregon, 2023

<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
1 (3.4)	2 (6.9)	6 (20.7)	6 (20.7)	5 (17.2)	6 (20.7)	1 (3.4)	0 (0.0)	2 (6.9)	0 (0.0)	0 (0.0)	29

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Portland, Oregon, 2023

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	0 (0.0)	5 (17.2)	0 (0.0)	15 (51.7)	6 (20.7)	0 (0.0)	3 (10.3)	29

Cases are reported using Office of Management and Budget (OMB) compliant race and ethnicity categories.
AI/AN = American Indian or Alaska Native; NHOPI = Native Hawaiian or Other Pacific Islander.

Table C. Percentage of Participants who are Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Portland, Oregon, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
56 (31.1)	114 (50.2)	83 (51.2)	77 (54.6)	84 (57.1)	54 (52.9)	70 (68.6)	102 (61.8)	68 (59.1)	93 (72.1)	101 (79.5)	95 (64.6)	104 (70.7)	67 (58.3)	80 (66.1)	49 (60.5)	58 (64.4)	36 (54.5)	46 (66.7)	19 (67.9)

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Portland, Oregon, 2023

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Cefixime 800mg n (%)	Ceftriaxone 250mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	29 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Portland, Oregon, 2023

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
1 (3.4)	28 (96.6)	0 (0.0)

Table F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Portland, Oregon, 2023

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
9 (31.0)	16 (55.2)	2 (6.9)	2 (6.9)	0 (0.0)

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 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).

Table G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Portland, Oregon, 2019-2023

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
2019	61 (72.6)	19 (22.6)	2 (2.4)	2 (2.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	84
2020	75 (73.5)	18 (17.6)	7 (6.9)	2 (2.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	102
2021	51 (66.2)	17 (22.1)	2 (2.6)	7 (9.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	77
2022	43 (60.6)	21 (29.6)	2 (2.8)	5 (7.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	71
2023	13 (44.8)	9 (31.0)	3 (10.3)	4 (13.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	29

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.

Table H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Portland, Oregon, 2019-2023

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
2019	49 (58.3)	29 (34.5)	6 (7.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	84
2020	63 (61.8)	23 (22.5)	16 (15.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	102
2021	45 (58.4)	21 (27.3)	11 (14.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	77
2022	43 (60.6)	19 (26.8)	9 (12.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	71
2023	14 (48.3)	11 (37.9)	4 (13.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	29

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.

Table I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Portland, Oregon, 2019-2023

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
2019	4 (4.8)	51 (60.7)	4 (4.8)	15 (17.9)	9 (10.7)	0 (0.0)	0 (0.0)	1 (1.2)	84
2020	8 (7.8)	63 (61.8)	6 (5.9)	15 (14.7)	7 (6.9)	2 (2.0)	0 (0.0)	1 (1.0)	102
2021	7 (9.1)	53 (68.8)	4 (5.2)	10 (13.0)	2 (2.6)	0 (0.0)	1 (1.3)	0 (0.0)	77
2022	2 (2.8)	41 (57.7)	8 (11.3)	11 (15.5)	8 (11.3)	0 (0.0)	0 (0.0)	1 (1.4)	71
2023	3 (10.3)	17 (58.6)	2 (6.9)	5 (17.2)	2 (6.9)	0 (0.0)	0 (0.0)	0 (0.0)	29

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; FDA-STIC Resistant = azithromycin MIC ≥2.0 µg/mL.
FDA-STIC = FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria.
In 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Portland, Oregon, 2019-2023

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
2019	56 (66.7)	12 (14.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	16 (19.0)	84
2020	71 (69.6)	9 (8.8)	1 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	21 (20.6)	102
2021	49 (63.6)	1 (1.3)	0 (0.0)	0 (0.0)	1 (1.3)	0 (0.0)	4 (5.2)	22 (28.6)	77
2022	36 (50.7)	6 (8.5)	0 (0.0)	0 (0.0)	0 (0.0)	2 (2.8)	0 (0.0)	27 (38.0)	71
2023	12 (41.4)	1 (3.4)	0 (0.0)	1 (3.4)	0 (0.0)	1 (3.4)	0 (0.0)	14 (48.3)	29

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.

Table K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Portland, Oregon, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 191 (0.0)	1 / 238 (0.4)	0 / 169 (0.0)	**	**	3 / 105 (2.9)	5 / 106 (4.7)	14 / 167 (8.4)	4 / 115 (3.5)	1 / 129 (0.8)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
0 / 128 (0.0)	1 / 148 (0.7)	1 / 147 (0.7)	0 / 119 (0.0)	0 / 124 (0.0)	0 / 84 (0.0)	0 / 102 (0.0)	0 / 77 (0.0)	0 / 71 (0.0)	0 / 29 (0.0)

Cefixime elevated MIC ≥0.25 µg/mL.
** Cefixime susceptibility was not tested in 2007 and 2008.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Portland, Oregon, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 191 (0.0)	0 / 238 (0.0)	0 / 169 (0.0)	0 / 147 (0.0)	0 / 157 (0.0)	0 / 105 (0.0)	2 / 106 (1.9)	3 / 167 (1.8)	3 / 115 (2.6)	0 / 129 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
0 / 128 (0.0)	0 / 148 (0.0)	1 / 147 (0.7)	0 / 119 (0.0)	0 / 124 (0.0)	0 / 84 (0.0)	0 / 102 (0.0)	0 / 77 (0.0)	0 / 71 (0.0)	0 / 29 (0.0)

Ceftriaxone elevated MIC ≥0.125 µg/mL.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table M. Percentage of Isolates with Resistance to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Portland, Oregon, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 191 (0.0)	0 / 238 (0.0)	1 / 169 (0.6)	2 / 147 (1.4)	0 / 157 (0.0)	0 / 105 (0.0)	0 / 106 (0.0)	3 / 167 (1.8)	1 / 115 (0.9)	2 / 129 (1.6)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
6 / 128 (4.7)	6 / 148 (4.1)	10 / 147 (6.8)	7 / 119 (5.9)	8 / 124 (6.5)	10 / 84 (11.9)	10 / 102 (9.8)	3 / 77 (3.9)	9 / 71 (12.7)	2 / 29 (6.9)

Azithromycin elevated MIC ≥1.0 µg/mL prior to 2005 and ≥2.0 µg/mL during 2005-2023.
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.

Table N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Portland, Oregon, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
22 / 191 (11.5)	55 / 238 (23.1)	46 / 169 (27.2)	42 / 147 (28.6)	81 / 157 (51.6)	21 / 105 (20.0)	27 / 106 (25.5)	40 / 167 (24.0)	24 / 115 (20.9)	19 / 129 (14.7)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
48 / 128 (37.5)	51 / 148 (34.5)	70 / 147 (47.6)	46 / 119 (38.7)	28 / 124 (22.6)	16 / 84 (19.0)	21 / 102 (20.6)	26 / 77 (33.8)	27 / 71 (38.0)	14 / 29 (48.3)

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.

Table A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), San Diego, California, 2023

<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
0 (0.0)	2 (9.5)	4 (19.0)	2 (9.5)	11 (52.4)	0 (0.0)	0 (0.0)	0 (0.0)	2 (9.5)	0 (0.0)	0 (0.0)	21

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), San Diego, California, 2023

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	2 (9.5)	7 (33.3)	0 (0.0)	4 (19.0)	8 (38.1)	0 (0.0)	0 (0.0)	21

Cases are reported using Office of Management and Budget (OMB) compliant race and ethnicity categories.
AI/AN = American Indian or Alaska Native; NHOPI = Native Hawaiian or Other Pacific Islander.

Table C. Percentage of Participants who are Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), San Diego, California, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
120 (48.0)	159 (54.1)	171 (65.5)	124 (66.0)	136 (77.3)	139 (81.3)	180 (87.8)	187 (89.0)	168 (82.0)	138 (78.4)	151 (73.3)	153 (81.4)	156 (80.8)	147 (75.4)	98 (66.7)	87 (66.4)	59 (57.3)	84 (64.6)	7 (38.9)	15 (71.4)

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), San Diego, California, 2023

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Cefixime 800mg n (%)	Ceftriaxone 250mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	21 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), San Diego, California, 2023

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
0 (0.0)	21 (100.0)	0 (0.0)

Table F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), San Diego, California, 2023

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
5 (23.8)	4 (19.0)	8 (38.1)	4 (19.0)	0 (0.0)

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 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).

Table G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), San Diego, California, 2019-2023

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
2019	96 (72.2)	28 (21.1)	4 (3.0)	4 (3.0)	1 (0.8)	0 (0.0)	0 (0.0)	0 (0.0)	133
2020	76 (73.8)	24 (23.3)	2 (1.9)	1 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	103
2021	82 (63.1)	39 (30.0)	7 (5.4)	2 (1.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	130
2022	14 (77.8)	4 (22.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	18
2023	13 (61.9)	2 (9.5)	4 (19.0)	1 (4.8)	1 (4.8)	0 (0.0)	0 (0.0)	0 (0.0)	21

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.

Table H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), San Diego, California, 2019-2023

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
2019	75 (56.4)	43 (32.3)	12 (9.0)	3 (2.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	133
2020	67 (65.0)	29 (28.2)	7 (6.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	103
2021	73 (56.2)	50 (38.5)	7 (5.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	130
2022	11 (61.1)	7 (38.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	18
2023	11 (52.4)	7 (33.3)	2 (9.5)	1 (4.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	21

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.

Table I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), San Diego, California, 2019-2023

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
2019	12 (9.0)	100 (75.2)	6 (4.5)	4 (3.0)	9 (6.8)	2 (1.5)	0 (0.0)	0 (0.0)	133
2020	8 (7.8)	70 (68.0)	10 (9.7)	3 (2.9)	10 (9.7)	1 (1.0)	1 (1.0)	0 (0.0)	103
2021	10 (7.7)	88 (67.7)	7 (5.4)	13 (10.0)	12 (9.2)	0 (0.0)	0 (0.0)	0 (0.0)	130
2022	5 (27.8)	11 (61.1)	1 (5.6)	0 (0.0)	1 (5.6)	0 (0.0)	0 (0.0)	0 (0.0)	18
2023	2 (9.5)	9 (42.9)	3 (14.3)	6 (28.6)	1 (4.8)	0 (0.0)	0 (0.0)	0 (0.0)	21

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; FDA-STIC Resistant = azithromycin MIC ≥2.0 µg/mL.
FDA-STIC = FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria.
In 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year,
Gonococcal Isolate Surveillance Project (GISP),
San Diego, California, 2019-2023

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
2019	46 (34.6)	4 (3.0)	0 (0.0)	1 (0.8)	0 (0.0)	3 (2.3)	5 (3.8)	74 (55.6)	133
2020	47 (45.6)	4 (3.9)	0 (0.0)	1 (1.0)	0 (0.0)	2 (1.9)	6 (5.8)	43 (41.7)	103
2021	67 (51.5)	4 (3.1)	0 (0.0)	0 (0.0)	1 (0.8)	2 (1.5)	7 (5.4)	49 (37.7)	130
2022	6 (33.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (11.1)	10 (55.6)	18
2023	8 (38.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (4.8)	1 (4.8)	11 (52.4)	21

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.

Table K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime,
Gonococcal Isolate Surveillance Project (GISP),
San Diego, California, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 253 (0.0)	2 / 294 (0.7)	0 / 262 (0.0)	**	**	6 / 172 (3.5)	21 / 205 (10.2)	13 / 210 (6.2)	10 / 205 (4.9)	5 / 176 (2.8)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
4 / 218 (1.8)	0 / 189 (0.0)	0 / 193 (0.0)	1 / 195 (0.5)	1 / 147 (0.7)	1 / 133 (0.8)	0 / 103 (0.0)	0 / 130 (0.0)	0 / 18 (0.0)	1 / 21 (4.8)

Cefixime elevated MIC ≥0.25 µg/mL.
** Cefixime susceptibility was not tested in 2007 and 2008.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone,
Gonococcal Isolate Surveillance Project (GISP),
San Diego, California, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 253 (0.0)	0 / 294 (0.0)	0 / 262 (0.0)	0 / 190 (0.0)	0 / 182 (0.0)	3 / 172 (1.7)	1 / 205 (0.5)	1 / 210 (0.5)	0 / 205 (0.0)	0 / 176 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
0 / 218 (0.0)	0 / 189 (0.0)	1 / 193 (0.5)	0 / 195 (0.0)	0 / 147 (0.0)	0 / 133 (0.0)	0 / 103 (0.0)	0 / 130 (0.0)	0 / 18 (0.0)	0 / 21 (0.0)

Ceftriaxone elevated MIC ≥0.125 µg/mL.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table M. Percentage of Isolates with Resistance to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), San Diego, California, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
6 / 253 (2.4)	4 / 294 (1.4)	0 / 262 (0.0)	1 / 190 (0.5)	0 / 182 (0.0)	5 / 172 (2.9)	5 / 205 (2.4)	2 / 210 (1.0)	0 / 205 (0.0)	1 / 176 (0.6)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
0 / 218 (0.0)	1 / 189 (0.5)	3 / 193 (1.6)	2 / 195 (1.0)	11 / 147 (7.5)	11 / 133 (8.3)	12 / 103 (11.7)	12 / 130 (9.2)	1 / 18 (5.6)	1 / 21 (4.8)

Azithromycin elevated MIC ≥1.0 µg/mL prior to 2005 and ≥2.0 µg/mL during 2005-2023.
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.

Table N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), San Diego, California, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
52 / 253 (20.6)	77 / 294 (26.2)	92 / 262 (35.1)	69 / 190 (36.3)	53 / 182 (29.1)	36 / 172 (20.9)	41 / 205 (20.0)	66 / 210 (31.4)	79 / 205 (38.5)	56 / 176 (31.8)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
66 / 218 (30.3)	59 / 189 (31.2)	78 / 193 (40.4)	109 / 195 (55.9)	72 / 147 (49.0)	79 / 133 (59.4)	49 / 103 (47.6)	56 / 130 (43.1)	12 / 18 (66.7)	12 / 21 (57.1)

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.

Table A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), San Francisco, California, 2023

<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
3 (1.7)	22 (12.6)	33 (18.9)	43 (24.6)	24 (13.7)	22 (12.6)	12 (6.9)	6 (3.4)	5 (2.9)	1 (0.6)	4 (2.3)	175

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), San Francisco, California, 2023

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	11 (6.2)	42 (23.7)	2 (1.1)	38 (21.5)	52 (29.4)	15 (8.5)	17 (9.6)	177

Cases are reported using Office of Management and Budget (OMB) compliant race and ethnicity categories.
AI/AN = American Indian or Alaska Native; NHOPI = Native Hawaiian or Other Pacific Islander.

Table C. Percentage of Participants who are Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), San Francisco, California, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
212 (70.9)	209 (71.1)	204 (68.7)	210 (72.7)	139 (66.8)	185 (71.7)	160 (71.1)	149 (71.6)	189 (73.5)	203 (76.6)	174 (59.0)	203 (68.8)	212 (71.6)	226 (75.8)	155 (65.7)	176 (72.1)	125 (61.6)	160 (63.5)	122 (72.2)	120 (69.8)

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), San Francisco, California, 2023

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Cefixime 800mg n (%)	Ceftriaxone 250mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	1 (0.6)	0 (0.0)	170 (97.1)	1 (0.6)	2 (1.1)	1 (0.6)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), San Francisco, California, 2023

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
4 (2.3)	128 (73.1)	43 (24.6)

Table F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), San Francisco, California, 2023

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
54 (30.5)	57 (32.2)	34 (19.2)	32 (18.1)	0 (0.0)

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 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).

Table G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), San Francisco, California, 2019-2023

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
2019	166 (66.7)	72 (28.9)	3 (1.2)	6 (2.4)	2 (0.8)	0 (0.0)	0 (0.0)	0 (0.0)	249
2020	154 (74.0)	47 (22.6)	2 (1.0)	4 (1.9)	1 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)	208
2021	185 (72.0)	55 (21.4)	7 (2.7)	10 (3.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	257
2022	101 (57.1)	59 (33.3)	6 (3.4)	11 (6.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	177
2023	99 (55.9)	37 (20.9)	23 (13.0)	18 (10.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	177

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.

Table H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), San Francisco, California, 2019-2023

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
2019	140 (56.2)	73 (29.3)	31 (12.4)	4 (1.6)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	249
2020	123 (59.1)	73 (35.1)	9 (4.3)	1 (0.5)	2 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)	208
2021	177 (68.9)	68 (26.5)	9 (3.5)	0 (0.0)	3 (1.2)	0 (0.0)	0 (0.0)	0 (0.0)	257
2022	108 (61.0)	55 (31.1)	14 (7.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	177
2023	94 (53.1)	73 (41.2)	10 (5.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	177

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.

Table I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), San Francisco, California, 2019-2023

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
2019	12 (4.8)	172 (69.1)	18 (7.2)	10 (4.0)	33 (13.3)	2 (0.8)	1 (0.4)	1 (0.4)	249
2020	8 (3.8)	123 (59.1)	33 (15.9)	20 (9.6)	18 (8.7)	3 (1.4)	2 (1.0)	1 (0.5)	208
2021	25 (9.7)	175 (68.1)	12 (4.7)	30 (11.7)	14 (5.4)	0 (0.0)	0 (0.0)	1 (0.4)	257
2022	11 (6.2)	114 (64.4)	21 (11.9)	19 (10.7)	12 (6.8)	0 (0.0)	0 (0.0)	0 (0.0)	177
2023	13 (7.3)	112 (63.3)	14 (7.9)	23 (13.0)	13 (7.3)	1 (0.6)	0 (0.0)	1 (0.6)	177

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; FDA-STIC Resistant = azithromycin MIC ≥2.0 µg/mL.
FDA-STIC = FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria.
In 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), San Francisco, California, 2019-2023

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
2019	112 (45.0)	26 (10.4)	2 (0.8)	0 (0.0)	1 (0.4)	2 (0.8)	10 (4.0)	96 (38.6)	249
2020	101 (48.6)	11 (5.3)	0 (0.0)	0 (0.0)	0 (0.0)	2 (1.0)	13 (6.3)	81 (38.9)	208
2021	146 (56.8)	1 (0.4)	0 (0.0)	0 (0.0)	5 (1.9)	3 (1.2)	5 (1.9)	97 (37.7)	257
2022	96 (54.2)	0 (0.0)	0 (0.0)	0 (0.0)	2 (1.1)	8 (4.5)	3 (1.7)	68 (38.4)	177
2023	67 (37.9)	2 (1.1)	0 (0.0)	0 (0.0)	7 (4.0)	15 (8.5)	2 (1.1)	84 (47.5)	177

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.

Table K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), San Francisco, California, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 300 (0.0)	0 / 300 (0.0)	0 / 299 (0.0)	**	**	4 / 260 (1.5)	3 / 230 (1.3)	7 / 212 (3.3)	2 / 258 (0.8)	4 / 269 (1.5)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
0 / 300 (0.0)	2 / 300 (0.7)	1 / 300 (0.3)	4 / 300 (1.3)	0 / 242 (0.0)	2 / 249 (0.8)	1 / 208 (0.5)	0 / 257 (0.0)	0 / 177 (0.0)	0 / 177 (0.0)

Cefixime elevated MIC ≥0.25 µg/mL.
** Cefixime susceptibility was not tested in 2007 and 2008.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), San Francisco, California, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 300 (0.0)	0 / 300 (0.0)	0 / 299 (0.0)	0 / 300 (0.0)	0 / 211 (0.0)	0 / 260 (0.0)	2 / 230 (0.9)	2 / 212 (0.9)	1 / 258 (0.4)	1 / 269 (0.4)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
0 / 300 (0.0)	0 / 300 (0.0)	0 / 300 (0.0)	0 / 300 (0.0)	0 / 242 (0.0)	1 / 249 (0.4)	2 / 208 (1.0)	3 / 257 (1.2)	0 / 177 (0.0)	0 / 177 (0.0)

Ceftriaxone elevated MIC ≥0.125 µg/mL.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table M. Percentage of Isolates with Resistance to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), San Francisco, California, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
1 / 300 (0.3)	3 / 300 (1.0)	1 / 299 (0.3)	1 / 300 (0.3)	1 / 211 (0.5)	0 / 260 (0.0)	1 / 230 (0.4)	1 / 212 (0.5)	0 / 258 (0.0)	1 / 269 (0.4)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
3 / 300 (1.0)	5 / 300 (1.7)	17 / 300 (5.7)	16 / 300 (5.3)	28 / 242 (11.6)	37 / 249 (14.9)	24 / 208 (11.5)	15 / 257 (5.8)	12 / 177 (6.8)	15 / 177 (8.5)

Azithromycin elevated MIC ≥1.0 µg/mL prior to 2005 and ≥2.0 µg/mL during 2005-2023.
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.

Table N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), San Francisco, California, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
73 / 300 (24.3)	94 / 300 (31.3)	133 / 299 (44.5)	94 / 300 (31.3)	55 / 211 (26.1)	26 / 260 (10.0)	42 / 230 (18.3)	68 / 212 (32.1)	85 / 258 (32.9)	94 / 269 (34.9)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
99 / 300 (33.0)	90 / 300 (30.0)	88 / 300 (29.3)	120 / 300 (40.0)	101 / 242 (41.7)	106 / 249 (42.6)	94 / 208 (45.2)	102 / 257 (39.7)	71 / 177 (40.1)	86 / 177 (48.6)

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.

Table A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Seattle, Washington, 2023

<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
5 (2.7)	28 (15.1)	47 (25.4)	44 (23.8)	21 (11.4)	15 (8.1)	10 (5.4)	7 (3.8)	4 (2.2)	1 (0.5)	3 (1.6)	185

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Seattle, Washington, 2023

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
2 (1.1)	14 (7.5)	52 (28.0)	1 (0.5)	78 (41.9)	26 (14.0)	1 (0.5)	12 (6.5)	186

Cases are reported using Office of Management and Budget (OMB) compliant race and ethnicity categories.
AI/AN = American Indian or Alaska Native; NHOPI = Native Hawaiian or Other Pacific Islander.

Table C. Percentage of Participants who are Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Seattle, Washington, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
139 (61.5)	151 (58.8)	123 (53.7)	91 (49.2)	66 (42.0)	99 (63.9)	171 (73.1)	120 (74.1)	113 (83.7)	124 (88.6)	154 (82.8)	138 (77.1)	138 (73.4)	165 (69.0)	159 (76.1)	145 (68.4)	77 (52.0)	90 (64.3)	113 (64.9)	125 (69.4)

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Seattle, Washington, 2023

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Cefixime 800mg n (%)	Ceftriaxone 250mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	181 (97.8)	0 (0.0)	4 (2.2)	0 (0.0)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Seattle, Washington, 2023

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
10 (5.4)	0 (0.0)	175 (94.6)

Table F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Seattle, Washington, 2023

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
50 (26.9)	90 (48.4)	31 (16.7)	15 (8.1)	0 (0.0)

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 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).

Table G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Seattle, Washington, 2019-2023

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
2019	164 (71.6)	45 (19.7)	12 (5.2)	6 (2.6)	2 (0.9)	0 (0.0)	0 (0.0)	0 (0.0)	229
2020	116 (65.9)	35 (19.9)	21 (11.9)	4 (2.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	176
2021	119 (67.6)	43 (24.4)	13 (7.4)	1 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	176
2022	85 (47.5)	56 (31.3)	22 (12.3)	16 (8.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	179
2023	118 (63.4)	41 (22.0)	10 (5.4)	17 (9.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	186

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.

Table H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Seattle, Washington, 2019-2023

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
2019	151 (65.9)	52 (22.7)	22 (9.6)	3 (1.3)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	229
2020	109 (61.9)	34 (19.3)	31 (17.6)	2 (1.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	176
2021	119 (67.6)	43 (24.4)	14 (8.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	176
2022	91 (50.8)	59 (33.0)	28 (15.6)	1 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	179
2023	108 (58.1)	64 (34.4)	14 (7.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	186

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.

Table I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Seattle, Washington, 2019-2023

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
2019	27 (11.8)	154 (67.2)	14 (6.1)	14 (6.1)	19 (8.3)	1 (0.4)	0 (0.0)	0 (0.0)	229
2020	7 (4.0)	111 (63.1)	19 (10.8)	27 (15.3)	11 (6.3)	0 (0.0)	0 (0.0)	1 (0.6)	176
2021	17 (9.7)	117 (66.5)	8 (4.5)	21 (11.9)	11 (6.3)	0 (0.0)	0 (0.0)	2 (1.1)	176
2022	14 (7.8)	119 (66.5)	10 (5.6)	24 (13.4)	12 (6.7)	0 (0.0)	0 (0.0)	0 (0.0)	179
2023	9 (4.8)	129 (69.4)	7 (3.8)	24 (12.9)	14 (7.5)	0 (0.0)	1 (0.5)	2 (1.1)	186

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; FDA-STIC Resistant = azithromycin MIC ≥2.0 µg/mL.
FDA-STIC = FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria.
In 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year,
Gonococcal Isolate Surveillance Project (GISP),
Seattle, Washington, 2019-2023

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
2019	118 (51.5)	5 (2.2)	1 (0.4)	0 (0.0)	2 (0.9)	3 (1.3)	7 (3.1)	93 (40.6)	229
2020	123 (69.9)	7 (4.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (1.1)	2 (1.1)	42 (23.9)	176
2021	106 (60.2)	4 (2.3)	0 (0.0)	0 (0.0)	2 (1.1)	7 (4.0)	2 (1.1)	55 (31.3)	176
2022	90 (50.3)	2 (1.1)	0 (0.0)	0 (0.0)	0 (0.0)	4 (2.2)	11 (6.1)	72 (40.2)	179
2023	84 (45.2)	2 (1.1)	0 (0.0)	0 (0.0)	2 (1.1)	12 (6.5)	3 (1.6)	83 (44.6)	186

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.

Table K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime,
Gonococcal Isolate Surveillance Project (GISP),
Seattle, Washington, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 235 (0.0)	0 / 268 (0.0)	0 / 242 (0.0)	**	**	2 / 162 (1.2)	4 / 238 (1.7)	4 / 167 (2.4)	3 / 149 (2.0)	0 / 143 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
1 / 194 (0.5)	8 / 187 (4.3)	8 / 188 (4.3)	0 / 246 (0.0)	2 / 224 (0.9)	2 / 229 (0.9)	0 / 176 (0.0)	0 / 176 (0.0)	0 / 179 (0.0)	0 / 186 (0.0)

Cefixime elevated MIC ≥0.25 µg/mL.
** Cefixime susceptibility was not tested in 2007 and 2008.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone,
Gonococcal Isolate Surveillance Project (GISP),
Seattle, Washington, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 235 (0.0)	0 / 268 (0.0)	0 / 242 (0.0)	0 / 188 (0.0)	2 / 163 (1.2)	0 / 162 (0.0)	0 / 238 (0.0)	1 / 167 (0.6)	1 / 149 (0.7)	0 / 143 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
1 / 194 (0.5)	1 / 187 (0.5)	1 / 188 (0.5)	0 / 246 (0.0)	0 / 224 (0.0)	1 / 229 (0.4)	0 / 176 (0.0)	0 / 176 (0.0)	0 / 179 (0.0)	0 / 186 (0.0)

Ceftriaxone elevated MIC ≥0.125 µg/mL.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table M. Percentage of Isolates with Resistance to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Seattle, Washington, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
0 / 235 (0.0)	2 / 268 (0.7)	1 / 242 (0.4)	1 / 188 (0.5)	0 / 163 (0.0)	0 / 162 (0.0)	1 / 238 (0.4)	1 / 167 (0.6)	0 / 149 (0.0)	0 / 143 (0.0)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
9 / 194 (4.6)	9 / 187 (4.8)	11 / 188 (5.9)	10 / 246 (4.1)	13 / 224 (5.8)	20 / 229 (8.7)	12 / 176 (6.8)	13 / 176 (7.4)	12 / 179 (6.7)	17 / 186 (9.1)

Azithromycin elevated MIC ≥1.0 µg/mL prior to 2005 and ≥2.0 µg/mL during 2005-2023.
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.

Table N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Seattle, Washington, 2004-2023

2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
38 / 235 (16.2)	31 / 268 (11.6)	77 / 242 (31.8)	55 / 188 (29.3)	51 / 163 (31.3)	34 / 162 (21.0)	114 / 238 (47.9)	70 / 167 (41.9)	48 / 149 (32.2)	63 / 143 (44.1)

2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)
74 / 194 (38.1)	52 / 187 (27.8)	55 / 188 (29.3)	80 / 246 (32.5)	98 / 224 (43.8)	100 / 229 (43.7)	44 / 176 (25.0)	57 / 176 (32.4)	83 / 179 (46.4)	86 / 186 (46.2)

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.

Table A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Washington, DC, 2023

<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
2 (4.9)	10 (24.4)	12 (29.3)	9 (22.0)	3 (7.3)	2 (4.9)	1 (2.4)	0 (0.0)	1 (2.4)	0 (0.0)	1 (2.4)	41

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Washington, DC, 2023

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	1 (2.0)	27 (54.0)	0 (0.0)	7 (14.0)	1 (2.0)	0 (0.0)	14 (28.0)	50

Cases are reported using Office of Management and Budget (OMB) compliant race and ethnicity categories.
AI/AN = American Indian or Alaska Native; NHOPI = Native Hawaiian or Other Pacific Islander.

Table C. Percentage of Participants who are Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Washington, DC, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	*	*	*	*	*	*	*	*	*	*	1 (25.0)	31 (40.8)	21 (38.9)	30 (56.6)	33 (67.3)	11 (47.8)

* Site did not participate in GISP during that year.

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Washington, DC, 2023

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Cefixime 800mg n (%)	Ceftriaxone 250mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	40 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Washington, DC, 2023

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
0 (0.0)	41 (100.0)	0 (0.0)

Table F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Washington, DC, 2023

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
29 (58.0)	5 (10.0)	8 (16.0)	8 (16.0)	0 (0.0)

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 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).

Table G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Washington, DC, 2019-2023

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
2019	67 (87.0)	9 (11.7)	1 (1.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	77
2020	46 (78.0)	9 (15.3)	1 (1.7)	3 (5.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	59
2021	43 (79.6)	10 (18.5)	1 (1.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	54
2022	35 (64.8)	10 (18.5)	7 (13.0)	2 (3.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	54
2023	33 (66.0)	4 (8.0)	8 (16.0)	5 (10.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	50

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.

Table H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Washington, DC, 2019-2023

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
2019	61 (79.2)	12 (15.6)	3 (3.9)	1 (1.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	77
2020	42 (71.2)	15 (25.4)	2 (3.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	59
2021	43 (79.6)	11 (20.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	54
2022	37 (68.5)	13 (24.1)	4 (7.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	54
2023	34 (68.0)	11 (22.0)	5 (10.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	50

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.

Table I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Washington, DC, 2019-2023

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
2019	16 (20.8)	49 (63.6)	3 (3.9)	5 (6.5)	2 (2.6)	0 (0.0)	1 (1.3)	1 (1.3)	77
2020	2 (3.4)	24 (40.7)	18 (30.5)	4 (6.8)	1 (1.7)	9 (15.3)	1 (1.7)	0 (0.0)	59
2021	5 (9.3)	27 (50.0)	5 (9.3)	12 (22.2)	4 (7.4)	1 (1.9)	0 (0.0)	0 (0.0)	54
2022	17 (31.5)	26 (48.1)	5 (9.3)	5 (9.3)	1 (1.9)	0 (0.0)	0 (0.0)	0 (0.0)	54
2023	7 (14.0)	30 (60.0)	4 (8.0)	8 (16.0)	1 (2.0)	0 (0.0)	0 (0.0)	0 (0.0)	50

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; FDA-STIC Resistant = azithromycin MIC ≥2.0 µg/mL.
FDA-STIC = FDA-Recognized Antimicrobial Susceptibility Test Interpretive Criteria.
In 2025, azithromycin resistance was established as ≥2.0 µg/mL (FDA-STIC).
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Washington, DC, 2019-2023

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
2019	40 (51.9)	1 (1.3)	0 (0.0)	1 (1.3)	1 (1.3)	2 (2.6)	2 (2.6)	30 (39.0)	77
2020	37 (62.7)	3 (5.1)	0 (0.0)	0 (0.0)	3 (5.1)	1 (1.7)	0 (0.0)	15 (25.4)	59
2021	30 (55.6)	1 (1.9)	0 (0.0)	1 (1.9)	3 (5.6)	2 (3.7)	0 (0.0)	17 (31.5)	54
2022	29 (53.7)	0 (0.0)	0 (0.0)	3 (5.6)	0 (0.0)	4 (7.4)	3 (5.6)	15 (27.8)	54
2023	32 (64.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (4.0)	1 (2.0)	15 (30.0)	50

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.

Table K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Washington, DC, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	0 / 4 (0.0)	0 / 77 (0.0)	0 / 59 (0.0)	0 / 54 (0.0)	0 / 54 (0.0)	0 / 50 (0.0)

Cefixime elevated MIC ≥0.25 µg/mL.
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Washington, DC, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	0 / 4 (0.0)	0 / 77 (0.0)	0 / 59 (0.0)	0 / 54 (0.0)	0 / 54 (0.0)	0 / 50 (0.0)

Ceftriaxone elevated MIC ≥0.125 µg/mL.
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table M. Percentage of Isolates with Resistance to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Washington, DC, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	0 / 4 (0.0)	4 / 77 (5.2)	11 / 59 (18.6)	5 / 54 (9.3)	1 / 54 (1.9)	1 / 50 (2.0)

Azithromycin elevated MIC ≥1.0 µg/mL prior to 2005 and ≥2.0 µg/mL during 2005-2023.
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).
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.

Table N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Washington, DC, 2004-2023

2004 n (%)	2005 n (%)	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 (%)	2021 n (%)	2022 n (%)	2023 n (%)
*	*	*	*	2 / 4 (50.0)	32 / 77 (41.6)	15 / 59 (25.4)	17 / 54 (31.5)	18 / 54 (33.3)	16 / 50 (32.0)

Ciprofloxacin resistance MIC ≥1.0 µg/mL.
* Site did not participate in GISP during that year.
Data for years 2020-2022 may not match previously reported data due to MIC data updates made by reporting labs.