

# Sexually Transmitted Disease Surveillance January–July 2024: Gonococcal Isolate Surveillance Project Site-Specific Profiles

Division of STD Prevention  
September 2025

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

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

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## Web Site

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).

### **2024 Gonococcal Isolate Surveillance Project Clinical Sites and Years Participated**

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

### **2024 Gonococcal Isolate Surveillance Project Regional Laboratories**

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

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Table A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Albuquerque, New Mexico, January 1-July 31, 2024

<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 (5.0)	4 (10.0)	7 (17.5)	9 (22.5)	6 (15.0)	3 (7.5)	4 (10.0)	3 (7.5)	1 (2.5)	1 (2.5)	0 (0.0)	40

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Albuquerque, New Mexico, January 1-July 31, 2024

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
1 (2.5)	0 (0.0)	3 (7.5)	0 (0.0)	9 (22.5)	24 (60.0)	1 (2.5)	2 (5.0)	40

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	10 (25.0)

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Albuquerque, New Mexico, January 1-July 31, 2024

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
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), Albuquerque, New Mexico, January 1-July 31, 2024

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
2 (5.0)	37 (92.5)	1 (2.5)

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, January 1-July 31, 2024

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
24 (60.0)	10 (25.0)	2 (5.0)	4 (10.0)	0 (0.0)

Elevated MICs = ceftriaxone MIC  $\geq 0.125$   $\mu\text{g/mL}$ ; cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ;  
Resistance = azithromycin MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; tetracycline MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; ciprofloxacin MIC  $\geq 1.0$   $\mu\text{g/mL}$ ; penicillin MIC  $\geq 2.0$   $\mu\text{g/mL}$  or  $\beta$ -lactamase positive.  
In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (FDA-STIC).

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

Year	$\leq 0.015$ n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	Total
2020	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
2024	26 (65.0)	12 (30.0)	0 (0.0)	2 (5.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	40

GISP Alert Value = cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ; CLSI Non-susceptible = cefixime MIC  $\geq 0.5$   $\mu\text{g/mL}$ .

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Albuquerque, New Mexico, January 1, 2020-July 31, 2024

Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2020	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
2024	20 (50.0)	20 (50.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	40

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Albuquerque, New Mexico, January 1, 2020-July 31, 2024

Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2020	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
2024	9 (22.5)	19 (47.5)	2 (5.0)	9 (22.5)	1 (2.5)	0 (0.0)	0 (0.0)	0 (0.0)	40

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Albuquerque, New Mexico, January 1, 2020-July 31, 2024

Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	≥2.0 n (%)	Total
2020	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
2024	26 (65.0)	1 (2.5)	0 (0.0)	1 (2.5)	0 (0.0)	1 (2.5)	1 (2.5)	10 (25.0)	40

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	0 / 114 (0.0)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 40 (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	0 / 114 (0.0)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 40 (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	0 / 114 (0.0)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	1 / 40 (2.5)

In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g}/\text{mL}$  (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	7 / 114 (6.1)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	11 / 40 (27.5)

Ciprofloxacin resistance MIC  $\geq 1.0$   $\mu\text{g}/\text{mL}$ .

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, January 1-July 31, 2024

<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 (100.0)	0 (0.0)	0 (0.0)	1							

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Anchorage, Alaska, January 1-July 31, 2024

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)	0 (0.0)	0 (0.0)	0 (0.0)	1 (100.0)	0 (0.0)	0 (0.0)	1

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, January 1, 2005-July 31, 2024

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 (%)	2024 n (%)
*	*	*	0 (0.0)	4 (6.9)	1 (5.0)	5 (27.8)	0 (0.0)	1 (33.3)	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), Anchorage, Alaska, January 1-July 31, 2024

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	1 (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, January 1-July 31, 2024

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
0 (0.0)	1 (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), Anchorage, Alaska, January 1-July 31, 2024

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
0 (0.0)	1 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)

Elevated MICs = ceftriaxone MIC  $\geq 0.125$   $\mu\text{g/mL}$ ; cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ;

Resistance = azithromycin MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; tetracycline MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; ciprofloxacin MIC  $\geq 1.0$   $\mu\text{g/mL}$ ; penicillin MIC  $\geq 2.0$   $\mu\text{g/mL}$  or  $\beta$ -lactamase positive.

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

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

Year	$\leq 0.015$ n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	Total
2020	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
2024	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

GISP Alert Value = cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ; CLSI Non-susceptible = cefixime MIC  $\geq 0.5$   $\mu\text{g/mL}$ .

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Anchorage, Alaska, January 1, 2020-July 31, 2024

Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2020	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
2024	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

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Anchorage, Alaska, January 1, 2020-July 31, 2024

Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2020	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
2024	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

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Anchorage, Alaska, January 1, 2020-July 31, 2024

Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	≥2.0 n (%)	Total
2020	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
2024	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

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
*	*	*	*	*	*	*	*	*	*

2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
*	*	*	0 / 17 (0.0)	0 / 59 (0.0)	0 / 20 (0.0)	0 / 18 (0.0)	0 / 10 (0.0)	0 / 4 (0.0)	0 / 1 (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), Anchorage, Alaska, January 1, 2005-July 31, 2024

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 (%)	2024 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)	0 / 1 (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), Anchorage, Alaska, January 1, 2005-July 31, 2024**

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 (%)	2024 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)	0 / 1 (0.0)

In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (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), Anchorage, Alaska, January 1, 2005-July 31, 2024**

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 (%)	2024 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)	1 / 1 (100.0)

Ciprofloxacin resistance MIC  $\geq 1.0$   $\mu\text{g/mL}$ .

\* 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), Baltimore, Maryland, January 1-July 31, 2024

<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)	0 (0.0)	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

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Baltimore, Maryland, January 1-July 31, 2024

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)	4 (100.0)	0 (0.0)	0 (0.0)	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), Baltimore, Maryland, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	*

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
*	*	*	*	9 (10.8)	0 (0.0)	1 (33.3)	1 (8.3)	1 (4.2)	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), Baltimore, Maryland, January 1-July 31, 2024

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
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), Baltimore, Maryland, January 1-July 31, 2024

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
0 (0.0)	4 (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), Baltimore, Maryland, January 1-July 31, 2024

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
1 (25.0)	1 (25.0)	2 (50.0)	0 (0.0)	0 (0.0)

Elevated MICs = ceftriaxone MIC  $\geq 0.125$   $\mu\text{g/mL}$ ; cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ;

Resistance = azithromycin MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; tetracycline MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; ciprofloxacin MIC  $\geq 1.0$   $\mu\text{g/mL}$ ; penicillin MIC  $\geq 2.0$   $\mu\text{g/mL}$  or  $\beta$ -lactamase positive. In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (FDA-STIC).

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

Year	$\leq 0.015$ n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	Total
2020	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
2024	2 (50.0)	1 (25.0)	0 (0.0)	1 (25.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4

GISP Alert Value = cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ; CLSI Non-susceptible = cefixime MIC  $\geq 0.5$   $\mu\text{g/mL}$ .

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Baltimore, Maryland, January 1, 2020-July 31, 2024

Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2020	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
2024	1 (25.0)	2 (50.0)	1 (25.0)	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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Baltimore, Maryland, January 1, 2020-July 31, 2024

Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2020	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
2024	1 (25.0)	1 (25.0)	0 (0.0)	1 (25.0)	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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Baltimore, Maryland, January 1, 2020-July 31, 2024

Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	≥2.0 n (%)	Total
2020	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
2024	2 (50.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (25.0)	0 (0.0)	1 (25.0)	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), Baltimore, Maryland, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	*

2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
*	*	*	*	0 / 101 (0.0)	0 / 3 (0.0)	0 / 3 (0.0)	0 / 12 (0.0)	0 / 24 (0.0)	0 / 4 (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	*

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
*	*	*	*	0 / 101 (0.0)	0 / 3 (0.0)	0 / 3 (0.0)	0 / 12 (0.0)	0 / 24 (0.0)	0 / 4 (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	*

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
*	*	*	*	1 / 101 (1.0)	1 / 3 (33.3)	0 / 3 (0.0)	0 / 12 (0.0)	0 / 24 (0.0)	1 / 4 (25.0)

In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g}/\text{mL}$  (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	*

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
*	*	*	*	42 / 101 (41.6)	1 / 3 (33.3)	1 / 3 (33.3)	3 / 12 (25.0)	7 / 24 (29.2)	1 / 4 (25.0)

Ciprofloxacin resistance MIC  $\geq 1.0$   $\mu\text{g}/\text{mL}$ .

\* 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, January 1-July 31, 2024

<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 (16.2)	10 (27.0)	6 (16.2)	9 (24.3)	2 (5.4)	1 (2.7)	1 (2.7)	0 (0.0)	1 (2.7)	1 (2.7)	0 (0.0)	37

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Birmingham, Alabama, January 1-July 31, 2024

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 (92.3)	0 (0.0)	1 (2.6)	0 (0.0)	0 (0.0)	2 (5.1)	39

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	4 (10.8)

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Birmingham, Alabama, January 1-July 31, 2024

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	37 (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), Birmingham, Alabama, January 1-July 31, 2024

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
1 (2.7)	36 (97.3)	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), Birmingham, Alabama, January 1-July 31, 2024

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
14 (35.9)	13 (33.3)	9 (23.1)	3 (7.7)	0 (0.0)

Elevated MICs = ceftriaxone MIC  $\geq 0.125$   $\mu\text{g/mL}$ ; cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ;

Resistance = azithromycin MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; tetracycline MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; ciprofloxacin MIC  $\geq 1.0$   $\mu\text{g/mL}$ ; penicillin MIC  $\geq 2.0$   $\mu\text{g/mL}$  or  $\beta$ -lactamase positive. In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (FDA-STIC).

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

Year	$\leq 0.015$ n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	Total
2020	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
2024	30 (76.9)	1 (2.6)	1 (2.6)	7 (17.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	39

GISP Alert Value = cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ; CLSI Non-susceptible = cefixime MIC  $\geq 0.5$   $\mu\text{g/mL}$ .

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Birmingham, Alabama, January 1, 2020-July 31, 2024

Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2020	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
2024	31 (79.5)	5 (12.8)	3 (7.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	39

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Birmingham, Alabama, January 1, 2020-July 31, 2024

Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2020	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
2024	10 (25.6)	25 (64.1)	1 (2.6)	2 (5.1)	1 (2.6)	0 (0.0)	0 (0.0)	0 (0.0)	39

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Birmingham, Alabama, January 1, 2020-July 31, 2024

Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	≥2.0 n (%)	Total
2020	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
2024	15 (38.5)	0 (0.0)	0 (0.0)	0 (0.0)	4 (10.3)	0 (0.0)	0 (0.0)	20 (51.3)	39

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	1 / 223 (0.4)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 39 (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	1 / 223 (0.4)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 39 (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	1 / 223 (0.4)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	1 / 39 (2.6)

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

Table N. Percentage of Isolates with Resistance to Ciprofloxacin,  
Gonococcal Isolate Surveillance Project (GISP),  
Birmingham, Alabama, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	35 / 223 (15.7)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	20 / 39 (51.3)

Ciprofloxacin resistance MIC  $\geq 1.0$   $\mu\text{g/mL}$ .

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, January 1-July 31, 2024

<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 (14.3)	7 (25.0)	4 (14.3)	4 (14.3)	2 (7.1)	2 (7.1)	3 (10.7)	1 (3.6)	1 (3.6)	0 (0.0)	0 (0.0)	28

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Buffalo, New York, January 1-July 31, 2024

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)	26 (92.9)	0 (0.0)	2 (7.1)	0 (0.0)	0 (0.0)	0 (0.0)	28

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
*	*	*	*	*	*	*	*	*	15 (17.6)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	1 (11.1)

\* 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), Buffalo, New York, January 1-July 31, 2024

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	28 (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, January 1-July 31, 2024

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
2 (7.1)	2 (7.1)	24 (85.7)

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, January 1-July 31, 2024

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
17 (60.7)	7 (25.0)	2 (7.1)	2 (7.1)	0 (0.0)

Elevated MICs = ceftriaxone MIC  $\geq 0.125$   $\mu\text{g/mL}$ ; cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ;

Resistance = azithromycin MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; tetracycline MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; ciprofloxacin MIC  $\geq 1.0$   $\mu\text{g/mL}$ ; penicillin MIC  $\geq 2.0$   $\mu\text{g/mL}$  or  $\beta$ -lactamase positive. In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (FDA-STIC).

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

Year	$\leq 0.015$ n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	Total
2020	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
2024	25 (89.3)	3 (10.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	28

GISP Alert Value = cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ; CLSI Non-susceptible = cefixime MIC  $\geq 0.5$   $\mu\text{g/mL}$ .

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Buffalo, New York, January 1, 2020-July 31, 2024

Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2020	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
2024	19 (67.9)	8 (28.6)	1 (3.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	28

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Buffalo, New York, January 1, 2020-July 31, 2024

Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2020	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
2024	5 (17.9)	16 (57.1)	3 (10.7)	2 (7.1)	2 (7.1)	0 (0.0)	0 (0.0)	0 (0.0)	28

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Buffalo, New York, January 1, 2020-July 31, 2024

Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	≥2.0 n (%)	Total
2020	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
2024	18 (64.3)	2 (7.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	8 (28.6)	28

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
*	*	*	*	*	*	*	*	*	1 / 87 (1.1)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 28 (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
*	*	*	*	*	*	*	*	*	0 / 87 (0.0)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 28 (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),  
Buffalo, New York, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
*	*	*	*	*	*	*	*	*	2 / 87 (2.3)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	2 / 28 (7.1)

In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (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),  
Buffalo, New York, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
*	*	*	*	*	*	*	*	*	13 / 87 (14.9)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	8 / 28 (28.6)

Ciprofloxacin resistance MIC  $\geq 1.0$   $\mu\text{g/mL}$ .

\* 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), Camden, New Jersey, January 1-July 31, 2024

<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 (11.1)	4 (22.2)	4 (22.2)	4 (22.2)	1 (5.6)	0 (0.0)	0 (0.0)	2 (11.1)	1 (5.6)	0 (0.0)	18

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Camden, New Jersey, January 1-July 31, 2024

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)	13 (68.4)	0 (0.0)	1 (5.3)	3 (15.8)	0 (0.0)	2 (10.5)	19

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, January 1, 2005-July 31, 2024

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 (%)	2024 n (%)
*	*	*	*	15 (34.1)	13 (25.0)	3 (23.1)	0 (0.0)	2 (13.3)	4 (22.2)

\* 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), Camden, New Jersey, January 1-July 31, 2024

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
2 (11.1)	0 (0.0)	12 (66.7)	0 (0.0)	0 (0.0)	4 (22.2)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Camden, New Jersey, January 1-July 31, 2024

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
2 (11.8)	10 (58.8)	5 (29.4)

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, January 1-July 31, 2024

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
7 (36.8)	1 (5.3)	8 (42.1)	3 (15.8)	0 (0.0)

Elevated MICs = ceftriaxone MIC  $\geq 0.125$   $\mu\text{g/mL}$ ; cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ;  
Resistance = azithromycin MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; tetracycline MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; ciprofloxacin MIC  $\geq 1.0$   $\mu\text{g/mL}$ ; penicillin MIC  $\geq 2.0$   $\mu\text{g/mL}$  or  $\beta$ -lactamase positive.  
In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (FDA-STIC).

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

Year	$\leq 0.015$ n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	Total
2020	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
2024	14 (73.7)	3 (15.8)	1 (5.3)	1 (5.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	19

GISP Alert Value = cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ; CLSI Non-susceptible = cefixime MIC  $\geq 0.5$   $\mu\text{g/mL}$ .

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Camden, New Jersey, January 1, 2020-July 31, 2024

Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2020	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
2024	12 (63.2)	5 (26.3)	2 (10.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	19

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Camden, New Jersey, January 1, 2020-July 31, 2024

Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2020	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
2024	0 (0.0)	14 (73.7)	2 (10.5)	1 (5.3)	1 (5.3)	0 (0.0)	1 (5.3)	0 (0.0)	19

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Camden, New Jersey, January 1, 2020-July 31, 2024

Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	≥2.0 n (%)	Total
2020	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
2024	9 (47.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (5.3)	9 (47.4)	19

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, January 1, 2005-July 31, 2024

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 (%)	2024 n (%)
*	*	*	*	1 / 44 (2.3)	0 / 53 (0.0)	0 / 13 (0.0)	0 / 1 (0.0)	0 / 16 (0.0)	0 / 19 (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, January 1, 2005-July 31, 2024

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 (%)	2024 n (%)
*	*	*	*	0 / 44 (0.0)	0 / 53 (0.0)	0 / 13 (0.0)	0 / 1 (0.0)	0 / 16 (0.0)	0 / 19 (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),  
Camden, New Jersey, January 1, 2005-July 31, 2024

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 (%)	2024 n (%)
*	*	*	*	8 / 44 (18.2)	12 / 53 (22.6)	1 / 13 (7.7)	0 / 1 (0.0)	2 / 16 (12.5)	2 / 19 (10.5)

In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (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),  
Camden, New Jersey, January 1, 2005-July 31, 2024

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 (%)	2024 n (%)
*	*	*	*	19 / 44 (43.2)	34 / 53 (64.2)	6 / 13 (46.2)	1 / 1 (100.0)	5 / 16 (31.3)	10 / 19 (52.6)

Ciprofloxacin resistance MIC  $\geq 1.0$   $\mu\text{g/mL}$ .

\* 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), Chicago, Illinois, January 1-July 31, 2024

<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)	5 (45.5)	2 (18.2)	2 (18.2)	2 (18.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	11

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Chicago, Illinois, January 1-July 31, 2024

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)	6 (54.5)	0 (0.0)	1 (9.1)	3 (27.3)	0 (0.0)	1 (9.1)	11

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	6 (54.5)

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Chicago, Illinois, January 1-July 31, 2024

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	11 (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), Chicago, Illinois, January 1-July 31, 2024

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
1 (10.0)	9 (90.0)	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), Chicago, Illinois, January 1-July 31, 2024

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
2 (18.2)	5 (45.5)	3 (27.3)	1 (9.1)	0 (0.0)

Elevated MICs = ceftriaxone MIC  $\geq 0.125$   $\mu\text{g}/\text{mL}$ ; cefixime MIC  $\geq 0.25$   $\mu\text{g}/\text{mL}$ ;  
Resistance = azithromycin MIC  $\geq 2.0$   $\mu\text{g}/\text{mL}$ ; tetracycline MIC  $\geq 2.0$   $\mu\text{g}/\text{mL}$ ; ciprofloxacin MIC  $\geq 1.0$   $\mu\text{g}/\text{mL}$ ; penicillin MIC  $\geq 2.0$   $\mu\text{g}/\text{mL}$  or  $\beta$ -lactamase positive.  
In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g}/\text{mL}$  (FDA-STIC).

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

Year	$\leq 0.015$ n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	Total
2020	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
2024	10 (90.9)	1 (9.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	11

GISP Alert Value = cefixime MIC  $\geq 0.25$   $\mu\text{g}/\text{mL}$ ; CLSI Non-susceptible = cefixime MIC  $\geq 0.5$   $\mu\text{g}/\text{mL}$ .

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Chicago, Illinois, January 1, 2020-July 31, 2024

Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2020	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
2024	9 (81.8)	2 (18.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	11

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Chicago, Illinois, January 1, 2020-July 31, 2024

Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2020	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
2024	5 (45.5)	5 (45.5)	0 (0.0)	1 (9.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	11

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Chicago, Illinois, January 1, 2020-July 31, 2024

Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	≥2.0 n (%)	Total
2020	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
2024	7 (63.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4 (36.4)	11

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	2 / 129 (1.6)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 11 (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	0 / 129 (0.0)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 11 (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	7 / 129 (5.4)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 11 (0.0)

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

Table N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Chicago, Illinois, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	14 / 129 (10.9)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	4 / 11 (36.4)

Ciprofloxacin resistance MIC  $\geq 1.0$   $\mu\text{g/mL}$ .

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, January 1-July 31, 2024

<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 (14.3)	2 (14.3)	5 (35.7)	0 (0.0)	1 (7.1)	0 (0.0)	1 (7.1)	1 (7.1)	2 (14.3)	0 (0.0)	14

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Columbus, Ohio, January 1-July 31, 2024

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)	11 (78.6)	0 (0.0)	0 (0.0)	0 (0.0)	3 (21.4)	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), Columbus, Ohio, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
*	*	*	*	*	*	*	22 (19.8)	59 (19.9)	58 (19.8)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
65 (21.9)	71 (23.8)	69 (23.0)	58 (19.5)	51 (17.0)	21 (20.8)	*	*	9 (20.0)	4 (28.6)

\* 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), Columbus, Ohio, January 1-July 31, 2024

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
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), Columbus, Ohio, January 1-July 31, 2024

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
1 (7.1)	0 (0.0)	13 (92.9)

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, January 1-July 31, 2024

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
8 (57.1)	6 (42.9)	0 (0.0)	0 (0.0)	0 (0.0)

Elevated MICs = ceftriaxone MIC  $\geq 0.125$   $\mu\text{g/mL}$ ; cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ;  
Resistance = azithromycin MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; tetracycline MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; ciprofloxacin MIC  $\geq 1.0$   $\mu\text{g/mL}$ ; penicillin MIC  $\geq 2.0$   $\mu\text{g/mL}$  or  $\beta$ -lactamase positive.  
In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (FDA-STIC).

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

Year	$\leq 0.015$ n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	Total
2020	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
2024	14 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	14

GISP Alert Value = cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ; CLSI Non-susceptible = cefixime MIC  $\geq 0.5$   $\mu\text{g/mL}$ .

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*.

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

Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2020	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
2024	13 (92.9)	1 (7.1)	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*.

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

Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2020	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
2024	1 (7.1)	10 (71.4)	0 (0.0)	2 (14.3)	1 (7.1)	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).

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

Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	≥2.0 n (%)	Total
2020	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
2024	13 (92.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (7.1)	14

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 K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Columbus, Ohio, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
*	*	*	*	*	*	*	1 / 113 (0.9)	0 / 300 (0.0)	0 / 300 (0.0)

  

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 14 (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
*	*	*	*	*	*	*	0 / 113 (0.0)	0 / 300 (0.0)	0 / 300 (0.0)

  

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 14 (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
*	*	*	*	*	*	*	0 / 113 (0.0)	0 / 300 (0.0)	6 / 300 (2.0)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	1 / 14 (7.1)

In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g}/\text{mL}$  (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
*	*	*	*	*	*	*	8 / 113 (7.1)	10 / 300 (3.3)	16 / 300 (5.3)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	1 / 14 (7.1)

Ciprofloxacin resistance MIC  $\geq 1.0$   $\mu\text{g}/\text{mL}$ .

\* 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, January 1-July 31, 2024

<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
19 (10.6)	38 (21.2)	41 (22.9)	21 (11.7)	24 (13.4)	16 (8.9)	4 (2.2)	4 (2.2)	6 (3.4)	4 (2.2)	2 (1.1)	179

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Dallas, Texas, January 1-July 31, 2024

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	3 (1.7)	135 (74.6)	0 (0.0)	7 (3.9)	30 (16.6)	5 (2.8)	1 (0.6)	181

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	39 (22.0)

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Dallas, Texas, January 1-July 31, 2024

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	180 (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), Dallas, Texas, January 1-July 31, 2024

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
1 (0.6)	177 (97.8)	3 (1.7)

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, January 1-July 31, 2024

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
75 (41.4)	33 (18.2)	49 (27.1)	24 (13.3)	0 (0.0)

Elevated MICs = ceftriaxone MIC  $\geq 0.125$   $\mu\text{g/mL}$ ; cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ;

Resistance = azithromycin MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; tetracycline MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; ciprofloxacin MIC  $\geq 1.0$   $\mu\text{g/mL}$ ; penicillin MIC  $\geq 2.0$   $\mu\text{g/mL}$  or  $\beta$ -lactamase positive. In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (FDA-STIC).

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

Year	$\leq 0.015$ n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	Total
2020	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
2024	115 (63.5)	26 (14.4)	11 (6.1)	29 (16.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	181

GISP Alert Value = cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ; CLSI Non-susceptible = cefixime MIC  $\geq 0.5$   $\mu\text{g/mL}$ .

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Dallas, Texas, January 1, 2020-July 31, 2024

Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2020	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
2024	112 (61.9)	58 (32.0)	10 (5.5)	1 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	181

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Dallas, Texas, January 1, 2020-July 31, 2024

Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2020	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
2024	28 (15.5)	113 (62.4)	19 (10.5)	16 (8.8)	5 (2.8)	0 (0.0)	0 (0.0)	0 (0.0)	181

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Dallas, Texas, January 1, 2020-July 31, 2024

Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	≥2.0 n (%)	Total
2020	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
2024	85 (47.0)	0 (0.0)	0 (0.0)	1 (0.6)	10 (5.5)	13 (7.2)	3 (1.7)	69 (38.1)	181

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	0 / 300 (0.0)
2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 181 (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), Dallas, Texas, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	0 / 300 (0.0)
2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 181 (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	11 / 300 (3.7)

2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
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)	5 / 181 (2.8)

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

Table N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Dallas, Texas, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	32 / 300 (10.7)

2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
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)	72 / 181 (39.8)

Ciprofloxacin resistance MIC  $\geq 1.0$   $\mu\text{g/mL}$ .

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, January 1-July 31, 2024

<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 (6.0)	9 (13.4)	17 (25.4)	18 (26.9)	6 (9.0)	9 (13.4)	1 (1.5)	1 (1.5)	1 (1.5)	0 (0.0)	1 (1.5)	67

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Denver, Colorado, January 1-July 31, 2024

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	1 (1.5)	11 (16.4)	0 (0.0)	19 (28.4)	30 (44.8)	1 (1.5)	5 (7.5)	67

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	*

  

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
*	*	*	50 (43.5)	105 (38.0)	70 (28.6)	97 (39.3)	93 (40.4)	83 (56.8)	32 (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), Denver, Colorado, January 1-July 31, 2024

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	59 (88.1)	0 (0.0)	1 (1.5)	7 (10.4)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Denver, Colorado, January 1-July 31, 2024

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
2 (3.0)	0 (0.0)	65 (97.0)

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, January 1-July 31, 2024

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
25 (37.3)	23 (34.3)	16 (23.9)	3 (4.5)	0 (0.0)

Elevated MICs = ceftriaxone MIC  $\geq 0.125$   $\mu\text{g/mL}$ ; cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ;  
Resistance = azithromycin MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; tetracycline MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; ciprofloxacin MIC  $\geq 1.0$   $\mu\text{g/mL}$ ; penicillin MIC  $\geq 2.0$   $\mu\text{g/mL}$  or  $\beta$ -lactamase positive.  
In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (FDA-STIC).

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

Year	$\leq 0.015$ n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	Total
2020	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
2024	47 (70.1)	12 (17.9)	3 (4.5)	5 (7.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	67

GISP Alert Value = cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ; CLSI Non-susceptible = cefixime MIC  $\geq 0.5$   $\mu\text{g/mL}$ .

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Denver, Colorado, January 1, 2020-July 31, 2024

Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2020	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
2024	47 (70.1)	15 (22.4)	5 (7.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	67

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Denver, Colorado, January 1, 2020-July 31, 2024

Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2020	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
2024	11 (16.4)	34 (50.7)	6 (9.0)	13 (19.4)	2 (3.0)	1 (1.5)	0 (0.0)	0 (0.0)	67

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Denver, Colorado, January 1, 2020-July 31, 2024

Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	≥2.0 n (%)	Total
2020	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
2024	34 (50.7)	1 (1.5)	0 (0.0)	2 (3.0)	6 (9.0)	1 (1.5)	0 (0.0)	23 (34.3)	67

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	*
2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 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)	0 / 67 (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), Denver, Colorado, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	*
2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 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)	0 / 67 (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),  
Denver, Colorado, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	*

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 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)	3 / 67 (4.5)

In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	*

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 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)	23 / 67 (34.3)

Ciprofloxacin resistance MIC  $\geq 1.0$   $\mu\text{g/mL}$ .

\* 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, January 1-July 31, 2024

<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 (8.0)	20 (26.7)	14 (18.7)	15 (20.0)	8 (10.7)	4 (5.3)	4 (5.3)	1 (1.3)	1 (1.3)	1 (1.3)	1 (1.3)	75

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Greensboro, North Carolina, January 1-July 31, 2024

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)	64 (85.3)	0 (0.0)	3 (4.0)	3 (4.0)	0 (0.0)	5 (6.7)	75

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	13 (18.1)

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Greensboro, North Carolina, January 1-July 31, 2024

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	73 (97.3)	0 (0.0)	1 (1.3)	1 (1.3)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Greensboro, North Carolina, January 1-July 31, 2024

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
4 (5.3)	40 (53.3)	31 (41.3)

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, January 1-July 31, 2024

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
38 (50.7)	17 (22.7)	10 (13.3)	10 (13.3)	0 (0.0)

Elevated MICs = ceftriaxone MIC  $\geq 0.125$   $\mu\text{g/mL}$ ; cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ;

Resistance = azithromycin MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; tetracycline MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; ciprofloxacin MIC  $\geq 1.0$   $\mu\text{g/mL}$ ; penicillin MIC  $\geq 2.0$   $\mu\text{g/mL}$  or  $\beta$ -lactamase positive. In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (FDA-STIC).

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

Year	$\leq 0.015$ n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	Total
2020	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
2024	56 (74.7)	11 (14.7)	4 (5.3)	4 (5.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	75

GISP Alert Value = cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ; CLSI Non-susceptible = cefixime MIC  $\geq 0.5$   $\mu\text{g/mL}$ .

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Greensboro, North Carolina, January 1, 2020-July 31, 2024

Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2020	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
2024	53 (70.7)	19 (25.3)	3 (4.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	75

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Greensboro, North Carolina, January 1, 2020-July 31, 2024

Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2020	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
2024	14 (18.7)	55 (73.3)	1 (1.3)	3 (4.0)	1 (1.3)	0 (0.0)	1 (1.3)	0 (0.0)	75

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Greensboro, North Carolina, January 1, 2020-July 31, 2024

Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	≥2.0 n (%)	Total
2020	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
2024	44 (58.7)	0 (0.0)	0 (0.0)	0 (0.0)	2 (2.7)	5 (6.7)	0 (0.0)	24 (32.0)	75

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	2 / 213 (0.9)
2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 75 (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), Greensboro, North Carolina, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	0 / 213 (0.0)
2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 75 (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	1 / 213 (0.5)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	2 / 75 (2.7)

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

Table N. Percentage of Isolates with Resistance to Ciprofloxacin,  
Gonococcal Isolate Surveillance Project (GISP),  
Greensboro, North Carolina, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	27 / 213 (12.7)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	24 / 75 (32.0)

Ciprofloxacin resistance MIC  $\geq 1.0$   $\mu\text{g/mL}$ .

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, January 1-July 31, 2024

<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)	11 (33.3)	2 (6.1)	3 (9.1)	7 (21.2)	3 (9.1)	1 (3.0)	2 (6.1)	1 (3.0)	1 (3.0)	2 (6.1)	33

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Honolulu, Hawaii, January 1-July 31, 2024

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	4 (12.1)	5 (15.2)	5 (15.2)	8 (24.2)	5 (15.2)	5 (15.2)	1 (3.0)	33

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)

  

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	10 (31.3)

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Honolulu, Hawaii, January 1-July 31, 2024

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	32 (97.0)	0 (0.0)	0 (0.0)	1 (3.0)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Honolulu, Hawaii, January 1-July 31, 2024

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
3 (9.1)	29 (87.9)	1 (3.0)

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, January 1-July 31, 2024

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
12 (36.4)	10 (30.3)	6 (18.2)	4 (12.1)	1 (3.0)

Elevated MICs = ceftriaxone MIC  $\geq 0.125$   $\mu\text{g/mL}$ ; cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ;

Resistance = azithromycin MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; tetracycline MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; ciprofloxacin MIC  $\geq 1.0$   $\mu\text{g/mL}$ ; penicillin MIC  $\geq 2.0$   $\mu\text{g/mL}$  or  $\beta$ -lactamase positive. In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (FDA-STIC).

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

Year	$\leq 0.015$ n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	Total
2020	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
2024	25 (75.8)	3 (9.1)	0 (0.0)	4 (12.1)	1 (3.0)	0 (0.0)	0 (0.0)	0 (0.0)	33

GISP Alert Value = cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ; CLSI Non-susceptible = cefixime MIC  $\geq 0.5$   $\mu\text{g/mL}$ .

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Honolulu, Hawaii, January 1, 2020-July 31, 2024

Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2020	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
2024	21 (63.6)	8 (24.2)	3 (9.1)	1 (3.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	33

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Honolulu, Hawaii, January 1, 2020-July 31, 2024

Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2020	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
2024	6 (18.2)	16 (48.5)	1 (3.0)	5 (15.2)	5 (15.2)	0 (0.0)	0 (0.0)	0 (0.0)	33

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Honolulu, Hawaii, January 1, 2020-July 31, 2024

Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	≥2.0 n (%)	Total
2020	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
2024	17 (51.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (6.1)	0 (0.0)	14 (42.4)	33

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	6 / 122 (4.9)
2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	1 / 33 (3.0)

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), Honolulu, Hawaii, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	1 / 122 (0.8)
2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 33 (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), Honolulu, Hawaii, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	1 / 122 (0.8)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	5 / 33 (15.2)

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

Table N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Honolulu, Hawaii, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	48 / 122 (39.3)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	14 / 33 (42.4)

Ciprofloxacin resistance MIC  $\geq 1.0$   $\mu\text{g/mL}$ .

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, January 1-July 31, 2024

<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 (6.7)	21 (20.0)	26 (24.8)	17 (16.2)	12 (11.4)	7 (6.7)	5 (4.8)	5 (4.8)	2 (1.9)	2 (1.9)	1 (1.0)	105

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Indianapolis, Indiana, January 1-July 31, 2024

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	1 (0.9)	76 (71.7)	0 (0.0)	18 (17.0)	0 (0.0)	0 (0.0)	11 (10.4)	106

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
*	*	*	*	*	*	*	*	45 (15.3)	58 (19.3)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	28 (26.7)

\* 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), Indianapolis, Indiana, January 1-July 31, 2024

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	105 (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), Indianapolis, Indiana, January 1-July 31, 2024

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
10 (9.5)	77 (73.3)	18 (17.1)

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, January 1-July 31, 2024

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
57 (53.8)	19 (17.9)	25 (23.9)	5 (4.7)	0 (0.0)

Elevated MICs = ceftriaxone MIC  $\geq 0.125$   $\mu\text{g/mL}$ ; cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ;

Resistance = azithromycin MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; tetracycline MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; ciprofloxacin MIC  $\geq 1.0$   $\mu\text{g/mL}$ ; penicillin MIC  $\geq 2.0$   $\mu\text{g/mL}$  or  $\beta$ -lactamase positive. In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (FDA-STIC).

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

Year	$\leq 0.015$ n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	Total
2020	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
2024	83 (78.3)	17 (16.0)	2 (1.9)	4 (3.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	106

GISP Alert Value = cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ; CLSI Non-susceptible = cefixime MIC  $\geq 0.5$   $\mu\text{g/mL}$ .

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Indianapolis, Indiana, January 1, 2020-July 31, 2024

Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2020	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
2024	83 (78.3)	22 (20.8)	1 (0.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	106

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Indianapolis, Indiana, January 1, 2020-July 31, 2024

Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2020	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
2024	37 (34.9)	54 (50.9)	3 (2.8)	11 (10.4)	0 (0.0)	0 (0.0)	1 (0.9)	0 (0.0)	106

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Indianapolis, Indiana, January 1, 2020-July 31, 2024

Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	≥2.0 n (%)	Total
2020	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
2024	66 (62.3)	0 (0.0)	0 (0.0)	0 (0.0)	8 (7.5)	9 (8.5)	7 (6.6)	16 (15.1)	106

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
*	*	*	*	*	*	*	*	1 / 299 (0.3)	0 / 300 (0.0)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 106 (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
*	*	*	*	*	*	*	*	0 / 299 (0.0)	0 / 300 (0.0)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 106 (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
*	*	*	*	*	*	*	*	0 / 299 (0.0)	6 / 300 (2.0)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	1 / 106 (0.9)

In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
*	*	*	*	*	*	*	*	33 / 299 (11.0)	37 / 300 (12.3)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	23 / 106 (21.7)

Ciprofloxacin resistance MIC  $\geq 1.0$   $\mu\text{g/mL}$ .

\* 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, January 1-July 31, 2024

<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
9 (13.2)	10 (14.7)	16 (23.5)	14 (20.6)	7 (10.3)	6 (8.8)	2 (2.9)	3 (4.4)	0 (0.0)	1 (1.5)	0 (0.0)	68

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Kansas City, Missouri, January 1-July 31, 2024

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)	53 (77.9)	0 (0.0)	5 (7.4)	8 (11.8)	1 (1.5)	1 (1.5)	68

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 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)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	9 (13.2)

\* 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), Kansas City, Missouri, January 1-July 31, 2024

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	67 (98.5)	0 (0.0)	1 (1.5)	0 (0.0)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Kansas City, Missouri, January 1-July 31, 2024

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
4 (5.9)	64 (94.1)	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), Kansas City, Missouri, January 1-July 31, 2024

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
39 (57.4)	15 (22.1)	9 (13.2)	5 (7.4)	0 (0.0)

Elevated MICs = ceftriaxone MIC  $\geq 0.125$   $\mu\text{g/mL}$ ; cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ;

Resistance = azithromycin MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; tetracycline MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; ciprofloxacin MIC  $\geq 1.0$   $\mu\text{g/mL}$ ; penicillin MIC  $\geq 2.0$   $\mu\text{g/mL}$  or  $\beta$ -lactamase positive. In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (FDA-STIC).

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

Year	$\leq 0.015$ n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	Total
2020	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
2024	49 (72.1)	13 (19.1)	2 (2.9)	4 (5.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	68

GISP Alert Value = cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ; CLSI Non-susceptible = cefixime MIC  $\geq 0.5$   $\mu\text{g/mL}$ .

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Kansas City, Missouri, January 1, 2020-July 31, 2024

Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2020	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
2024	47 (69.1)	19 (27.9)	2 (2.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	68

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Kansas City, Missouri, January 1, 2020-July 31, 2024

Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2020	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
2024	17 (25.0)	34 (50.0)	5 (7.4)	10 (14.7)	2 (2.9)	0 (0.0)	0 (0.0)	0 (0.0)	68

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Kansas City, Missouri, January 1, 2020-July 31, 2024

Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	≥2.0 n (%)	Total
2020	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
2024	46 (67.6)	0 (0.0)	0 (0.0)	0 (0.0)	3 (4.4)	2 (2.9)	1 (1.5)	16 (23.5)	68

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
*	*	**	**	0 / 300 (0.0)	2 / 232 (0.9)				
2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 68 (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
*	*	0 / 55 (0.0)	0 / 252 (0.0)	0 / 300 (0.0)	1 / 232 (0.4)				
2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 68 (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
*	*	0 / 55 (0.0)	2 / 252 (0.8)	0 / 300 (0.0)	1 / 232 (0.4)				

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	2 / 68 (2.9)

In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 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)	25 / 232 (10.8)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	17 / 68 (25.0)

Ciprofloxacin resistance MIC  $\geq 1.0$   $\mu\text{g/mL}$ .

\* 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, January 1-July 31, 2024

<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 (12.0)	9 (18.0)	4 (8.0)	8 (16.0)	4 (8.0)	12 (24.0)	1 (2.0)	2 (4.0)	3 (6.0)	0 (0.0)	1 (2.0)	50

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Las Vegas, Nevada, January 1-July 31, 2024

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
1 (2.0)	0 (0.0)	21 (42.0)	0 (0.0)	6 (12.0)	19 (38.0)	0 (0.0)	3 (6.0)	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), Las Vegas, Nevada, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	16 (32.0)

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Las Vegas, Nevada, January 1-July 31, 2024

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	49 (98.0)	0 (0.0)	0 (0.0)	1 (2.0)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Las Vegas, Nevada, January 1-July 31, 2024

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
0 (0.0)	44 (88.0)	6 (12.0)

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, January 1-July 31, 2024

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
15 (30.0)	16 (32.0)	11 (22.0)	8 (16.0)	0 (0.0)

Elevated MICs = ceftriaxone MIC  $\geq 0.125$   $\mu\text{g/mL}$ ; cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ;

Resistance = azithromycin MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; tetracycline MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; ciprofloxacin MIC  $\geq 1.0$   $\mu\text{g/mL}$ ; penicillin MIC  $\geq 2.0$   $\mu\text{g/mL}$  or  $\beta$ -lactamase positive. In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (FDA-STIC).

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

Year	$\leq 0.015$ n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	Total
2020	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
2024	31 (62.0)	8 (16.0)	4 (8.0)	6 (12.0)	1 (2.0)	0 (0.0)	0 (0.0)	0 (0.0)	50

GISP Alert Value = cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ; CLSI Non-susceptible = cefixime MIC  $\geq 0.5$   $\mu\text{g/mL}$ .

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Las Vegas, Nevada, January 1, 2020-July 31, 2024

Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2020	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
2024	23 (46.0)	19 (38.0)	6 (12.0)	1 (2.0)	1 (2.0)	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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Las Vegas, Nevada, January 1, 2020-July 31, 2024

Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2020	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
2024	15 (30.0)	21 (42.0)	2 (4.0)	8 (16.0)	3 (6.0)	0 (0.0)	0 (0.0)	1 (2.0)	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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Las Vegas, Nevada, January 1, 2020-July 31, 2024

Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	≥2.0 n (%)	Total
2020	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
2024	21 (42.0)	1 (2.0)	0 (0.0)	0 (0.0)	2 (4.0)	2 (4.0)	1 (2.0)	23 (46.0)	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), Las Vegas, Nevada, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	4 / 300 (1.3)
2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	1 / 50 (2.0)

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	0 / 300 (0.0)
2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	1 / 50 (2.0)

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	3 / 300 (1.0)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	4 / 50 (8.0)

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

Table N. Percentage of Isolates with Resistance to Ciprofloxacin,  
Gonococcal Isolate Surveillance Project (GISP),  
Las Vegas, Nevada, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	51 / 300 (17.0)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	24 / 50 (48.0)

Ciprofloxacin resistance MIC  $\geq 1.0$   $\mu\text{g/mL}$ .

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, January 1-July 31, 2024

<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 (4.3)	4 (8.7)	8 (17.4)	16 (34.8)	9 (19.6)	3 (6.5)	2 (4.3)	1 (2.2)	0 (0.0)	1 (2.2)	0 (0.0)	46

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Los Angeles, California, January 1-July 31, 2024

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)	11 (22.9)	0 (0.0)	21 (43.8)	11 (22.9)	1 (2.1)	4 (8.3)	48

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)

  

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	33 (80.5)

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Los Angeles, California, January 1-July 31, 2024

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	46 (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, January 1-July 31, 2024

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
0 (0.0)	45 (97.8)	1 (2.2)

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, January 1-July 31, 2024

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
6 (12.5)	13 (27.1)	20 (41.7)	9 (18.8)	0 (0.0)

Elevated MICs = ceftriaxone MIC  $\geq 0.125$   $\mu\text{g/mL}$ ; cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ;

Resistance = azithromycin MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; tetracycline MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; ciprofloxacin MIC  $\geq 1.0$   $\mu\text{g/mL}$ ; penicillin MIC  $\geq 2.0$   $\mu\text{g/mL}$  or  $\beta$ -lactamase positive. In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (FDA-STIC).

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

Year	$\leq 0.015$ n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	Total
2020	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
2024	27 (56.3)	5 (10.4)	4 (8.3)	12 (25.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	48

GISP Alert Value = cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ; CLSI Non-susceptible = cefixime MIC  $\geq 0.5$   $\mu\text{g/mL}$ .

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Los Angeles, California, January 1, 2020-July 31, 2024

Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2020	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
2024	25 (52.1)	18 (37.5)	5 (10.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	48

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Los Angeles, California, January 1, 2020-July 31, 2024

Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2020	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
2024	1 (2.1)	34 (70.8)	0 (0.0)	10 (20.8)	3 (6.3)	0 (0.0)	0 (0.0)	0 (0.0)	48

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Los Angeles, California, January 1, 2020-July 31, 2024

Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	≥2.0 n (%)	Total
2020	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
2024	20 (41.7)	1 (2.1)	0 (0.0)	0 (0.0)	2 (4.2)	6 (12.5)	0 (0.0)	19 (39.6)	48

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	0 / 171 (0.0)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 48 (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	0 / 171 (0.0)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 48 (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	2 / 171 (1.2)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	3 / 48 (6.3)

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

Table N. Percentage of Isolates with Resistance to Ciprofloxacin,  
Gonococcal Isolate Surveillance Project (GISP),  
Los Angeles, California, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	43 / 171 (25.1)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	19 / 48 (39.6)

Ciprofloxacin resistance MIC  $\geq 1.0$   $\mu\text{g/mL}$ .

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, January 1-July 31, 2024

<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
15 (12.6)	31 (26.1)	15 (12.6)	35 (29.4)	7 (5.9)	3 (2.5)	4 (3.4)	2 (1.7)	3 (2.5)	3 (2.5)	1 (0.8)	119

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Milwaukee, Wisconsin, January 1-July 31, 2024

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)	104 (87.4)	0 (0.0)	3 (2.5)	3 (2.5)	3 (2.5)	6 (5.0)	119

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, January 1, 2005-July 31, 2024

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 (%)	2024 n (%)
*	*	*	5 (8.9)	18 (6.5)	25 (8.6)	16 (6.6)	23 (8.0)	11 (5.8)	17 (15.0)

\* 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), Milwaukee, Wisconsin, January 1-July 31, 2024

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	116 (97.5)	2 (1.7)	1 (0.8)	0 (0.0)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Milwaukee, Wisconsin, January 1-July 31, 2024

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
29 (24.4)	36 (30.3)	54 (45.4)

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, January 1-July 31, 2024

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
86 (72.3)	19 (16.0)	12 (10.1)	2 (1.7)	0 (0.0)

Elevated MICs = ceftriaxone MIC  $\geq 0.125$   $\mu\text{g/mL}$ ; cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ;

Resistance = azithromycin MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; tetracycline MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; ciprofloxacin MIC  $\geq 1.0$   $\mu\text{g/mL}$ ; penicillin MIC  $\geq 2.0$   $\mu\text{g/mL}$  or  $\beta$ -lactamase positive. In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (FDA-STIC).

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

Year	$\leq 0.015$ n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	Total
2020	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
2024	100 (84.0)	15 (12.6)	0 (0.0)	4 (3.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	119

GISP Alert Value = cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ; CLSI Non-susceptible = cefixime MIC  $\geq 0.5$   $\mu\text{g/mL}$ .

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Milwaukee, Wisconsin, January 1, 2020-July 31, 2024

Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2020	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
2024	96 (80.7)	21 (17.6)	2 (1.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	119

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Milwaukee, Wisconsin, January 1, 2020-July 31, 2024

Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2020	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
2024	15 (12.6)	88 (73.9)	8 (6.7)	8 (6.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	119

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Milwaukee, Wisconsin, January 1, 2020-July 31, 2024

Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	≥2.0 n (%)	Total
2020	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
2024	101 (84.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.8)	0 (0.0)	17 (14.3)	119

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, January 1, 2005-July 31, 2024

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 (%)	2024 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)	0 / 119 (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, January 1, 2005-July 31, 2024

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 (%)	2024 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)	0 / 119 (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, January 1, 2005-July 31, 2024

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 (%)	2024 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)	0 / 119 (0.0)

In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (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, January 1, 2005-July 31, 2024

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 (%)	2024 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)	17 / 119 (14.3)

Ciprofloxacin resistance MIC  $\geq 1.0$   $\mu\text{g/mL}$ .

\* 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, January 1-July 31, 2024

<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 (7.3)	3 (7.3)	4 (9.8)	9 (22.0)	8 (19.5)	3 (7.3)	6 (14.6)	1 (2.4)	2 (4.9)	1 (2.4)	1 (2.4)	41

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Minneapolis, Minnesota, January 1-July 31, 2024

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
2 (4.9)	1 (2.4)	23 (56.1)	0 (0.0)	8 (19.5)	5 (12.2)	2 (4.9)	0 (0.0)	41

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)

  

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	10 (25.6)

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Minneapolis, Minnesota, January 1-July 31, 2024

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	40 (97.6)	0 (0.0)	1 (2.4)	0 (0.0)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Minneapolis, Minnesota, January 1-July 31, 2024

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
0 (0.0)	35 (85.4)	6 (14.6)

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, January 1-July 31, 2024

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
25 (61.0)	6 (14.6)	5 (12.2)	5 (12.2)	0 (0.0)

Elevated MICs = ceftriaxone MIC  $\geq 0.125$   $\mu\text{g/mL}$ ; cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ;

Resistance = azithromycin MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; tetracycline MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; ciprofloxacin MIC  $\geq 1.0$   $\mu\text{g/mL}$ ; penicillin MIC  $\geq 2.0$   $\mu\text{g/mL}$  or  $\beta$ -lactamase positive. In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (FDA-STIC).

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

Year	$\leq 0.015$ n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	Total
2020	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
2024	39 (95.1)	1 (2.4)	0 (0.0)	1 (2.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	41

GISP Alert Value = cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ; CLSI Non-susceptible = cefixime MIC  $\geq 0.5$   $\mu\text{g/mL}$ .

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Minneapolis, Minnesota, January 1, 2020-July 31, 2024

Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2020	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
2024	37 (90.2)	4 (9.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	41

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Minneapolis, Minnesota, January 1, 2020-July 31, 2024

Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2020	11 (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
2024	5 (12.2)	30 (73.2)	3 (7.3)	2 (4.9)	1 (2.4)	0 (0.0)	0 (0.0)	0 (0.0)	41

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Minneapolis, Minnesota, January 1, 2020-July 31, 2024

Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	≥2.0 n (%)	Total
2020	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
2024	29 (70.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	3 (7.3)	0 (0.0)	9 (22.0)	41

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	0 / 103 (0.0)
2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 41 (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	0 / 103 (0.0)
2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 41 (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	23 / 103 (22.3)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	1 / 41 (2.4)

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

Table N. Percentage of Isolates with Resistance to Ciprofloxacin,  
Gonococcal Isolate Surveillance Project (GISP),  
Minneapolis, Minnesota, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	21 / 103 (20.4)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	9 / 41 (22.0)

Ciprofloxacin resistance MIC  $\geq 1.0$   $\mu\text{g/mL}$ .

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, January 1-July 31, 2024

<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 (3.4)	5 (17.2)	6 (20.7)	11 (37.9)	1 (3.4)	1 (3.4)	2 (6.9)	0 (0.0)	1 (3.4)	1 (3.4)	29

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), New Orleans, Louisiana, January 1-July 31, 2024

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)	21 (72.4)	0 (0.0)	6 (20.7)	1 (3.4)	1 (3.4)	0 (0.0)	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), New Orleans, Louisiana, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	10 (34.5)

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), New Orleans, Louisiana, January 1-July 31, 2024

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
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), New Orleans, Louisiana, January 1-July 31, 2024

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
2 (6.9)	27 (93.1)	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), New Orleans, Louisiana, January 1-July 31, 2024

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
12 (41.4)	10 (34.5)	4 (13.8)	3 (10.3)	0 (0.0)

Elevated MICs = ceftriaxone MIC  $\geq 0.125$   $\mu\text{g/mL}$ ; cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ;

Resistance = azithromycin MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; tetracycline MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; ciprofloxacin MIC  $\geq 1.0$   $\mu\text{g/mL}$ ; penicillin MIC  $\geq 2.0$   $\mu\text{g/mL}$  or  $\beta$ -lactamase positive. In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (FDA-STIC).

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

Year	$\leq 0.015$ n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	Total
2020	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
2024	21 (72.4)	6 (20.7)	1 (3.4)	1 (3.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	29

GISP Alert Value = cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ; CLSI Non-susceptible = cefixime MIC  $\geq 0.5$   $\mu\text{g/mL}$ .

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), New Orleans, Louisiana, January 1, 2020-July 31, 2024

Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2020	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
2024	21 (72.4)	5 (17.2)	3 (10.3)	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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), New Orleans, Louisiana, January 1, 2020-July 31, 2024

Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2020	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
2024	2 (6.9)	25 (86.2)	0 (0.0)	1 (3.4)	1 (3.4)	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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), New Orleans, Louisiana, January 1, 2020-July 31, 2024

Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	≥2.0 n (%)	Total
2020	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
2024	16 (55.2)	0 (0.0)	0 (0.0)	1 (3.4)	4 (13.8)	2 (6.9)	0 (0.0)	6 (20.7)	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), New Orleans, Louisiana, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	0 / 171 (0.0)
2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	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), New Orleans, Louisiana, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	0 / 171 (0.0)
2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	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),  
New Orleans, Louisiana, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	8 / 171 (4.7)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	1 / 29 (3.4)

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

Table N. Percentage of Isolates with Resistance to Ciprofloxacin,  
Gonococcal Isolate Surveillance Project (GISP),  
New Orleans, Louisiana, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	22 / 171 (12.9)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	6 / 29 (20.7)

Ciprofloxacin resistance MIC  $\geq 1.0$   $\mu\text{g/mL}$ .

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, January 1-July 31, 2024

<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
10 (6.6)	21 (13.9)	47 (31.1)	40 (26.5)	19 (12.6)	6 (4.0)	2 (1.3)	2 (1.3)	2 (1.3)	1 (0.7)	1 (0.7)	151

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), New York City, New York, January 1-July 31, 2024

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	5 (3.3)	88 (58.3)	0 (0.0)	26 (17.2)	28 (18.5)	2 (1.3)	2 (1.3)	151

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 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)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	76 (52.1)

\* 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, January 1-July 31, 2024

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	1 (0.7)	150 (99.3)	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), New York City, New York, January 1-July 31, 2024

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
3 (2.0)	131 (86.8)	17 (11.3)

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, January 1-July 31, 2024

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
31 (20.5)	31 (20.5)	49 (32.5)	39 (25.8)	1 (0.7)

Elevated MICs = ceftriaxone MIC  $\geq 0.125$   $\mu\text{g/mL}$ ; cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ;

Resistance = azithromycin MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; tetracycline MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; ciprofloxacin MIC  $\geq 1.0$   $\mu\text{g/mL}$ ; penicillin MIC  $\geq 2.0$   $\mu\text{g/mL}$  or  $\beta$ -lactamase positive. In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (FDA-STIC).

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

Year	$\leq 0.015$ n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	Total
2020	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
2024	104 (68.9)	19 (12.6)	6 (4.0)	20 (13.2)	2 (1.3)	0 (0.0)	0 (0.0)	0 (0.0)	151

GISP Alert Value = cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ; CLSI Non-susceptible = cefixime MIC  $\geq 0.5$   $\mu\text{g/mL}$ .

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), New York City, New York, January 1, 2020-July 31, 2024

Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2020	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
2024	73 (48.3)	53 (35.1)	24 (15.9)	1 (0.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	151

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), New York City, New York, January 1, 2020-July 31, 2024

Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2020	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
2024	23 (15.2)	93 (61.6)	10 (6.6)	21 (13.9)	3 (2.0)	1 (0.7)	0 (0.0)	0 (0.0)	151

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), New York City, New York, January 1, 2020-July 31, 2024

Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	≥2.0 n (%)	Total
2020	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

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
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
2024	68 (45.0)	0 (0.0)	0 (0.0)	1 (0.7)	8 (5.3)	3 (2.0)	4 (2.6)	67 (44.4)	151

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 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)	1 / 132 (0.8)
2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	2 / 151 (1.3)

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 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)	1 / 132 (0.8)
2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 151 (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 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)	5 / 132 (3.8)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	4 / 151 (2.6)

In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 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)	31 / 132 (23.5)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	71 / 151 (47.0)

Ciprofloxacin resistance MIC  $\geq 1.0$   $\mu\text{g/mL}$ .

\* 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, January 1-July 31, 2024

<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 (1.9)	4 (7.4)	11 (20.4)	12 (22.2)	10 (18.5)	9 (16.7)	4 (7.4)	2 (3.7)	0 (0.0)	1 (1.9)	0 (0.0)	54

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Orange County, California, January 1-July 31, 2024

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	8 (14.8)	0 (0.0)	0 (0.0)	4 (7.4)	33 (61.1)	0 (0.0)	9 (16.7)	54

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	29 (60.4)

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Orange County, California, January 1-July 31, 2024

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	53 (98.1)	0 (0.0)	1 (1.9)	0 (0.0)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Orange County, California, January 1-July 31, 2024

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
2 (3.7)	0 (0.0)	52 (96.3)

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, January 1-July 31, 2024

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
5 (9.3)	13 (24.1)	19 (35.2)	17 (31.5)	0 (0.0)

Elevated MICs = ceftriaxone MIC  $\geq 0.125$   $\mu\text{g/mL}$ ; cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ;

Resistance = azithromycin MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; tetracycline MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; ciprofloxacin MIC  $\geq 1.0$   $\mu\text{g/mL}$ ; penicillin MIC  $\geq 2.0$   $\mu\text{g/mL}$  or  $\beta$ -lactamase positive. In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (FDA-STIC).

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

Year	$\leq 0.015$ n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	Total
2020	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
2024	29 (53.7)	5 (9.3)	8 (14.8)	12 (22.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	54

GISP Alert Value = cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ; CLSI Non-susceptible = cefixime MIC  $\geq 0.5$   $\mu\text{g/mL}$ .

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Orange County, California, January 1, 2020-July 31, 2024

Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2020	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
2024	27 (50.0)	18 (33.3)	9 (16.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	54

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Orange County, California, January 1, 2020-July 31, 2024

Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2020	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
2024	3 (5.6)	40 (74.1)	2 (3.7)	4 (7.4)	5 (9.3)	0 (0.0)	0 (0.0)	0 (0.0)	54

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Orange County, California, January 1, 2020-July 31, 2024

Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	≥2.0 n (%)	Total
2020	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
2024	15 (27.8)	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.9)	4 (7.4)	3 (5.6)	31 (57.4)	54

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	3 / 171 (1.8)
2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 54 (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	0 / 171 (0.0)
2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 54 (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	0 / 171 (0.0)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	5 / 54 (9.3)

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

Table N. Percentage of Isolates with Resistance to Ciprofloxacin,  
Gonococcal Isolate Surveillance Project (GISP),  
Orange County, California, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	52 / 171 (30.4)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	34 / 54 (63.0)

Ciprofloxacin resistance MIC  $\geq 1.0$   $\mu\text{g/mL}$ .

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, January 1-July 31, 2024

<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 (6.4)	28 (25.7)	24 (22.0)	22 (20.2)	9 (8.3)	6 (5.5)	4 (3.7)	2 (1.8)	2 (1.8)	3 (2.8)	2 (1.8)	109

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Philadelphia, Pennsylvania, January 1-July 31, 2024

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)	71 (65.1)	0 (0.0)	6 (5.5)	6 (5.5)	15 (13.8)	11 (10.1)	109

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	29 (26.6)

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Philadelphia, Pennsylvania, January 1-July 31, 2024

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	106 (97.2)	0 (0.0)	0 (0.0)	3 (2.8)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Philadelphia, Pennsylvania, January 1-July 31, 2024

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
38 (34.9)	70 (64.2)	1 (0.9)

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, January 1-July 31, 2024

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
53 (48.6)	25 (22.9)	12 (11.0)	19 (17.4)	0 (0.0)

Elevated MICs = ceftriaxone MIC  $\geq 0.125$   $\mu\text{g}/\text{mL}$ ; cefixime MIC  $\geq 0.25$   $\mu\text{g}/\text{mL}$ ;

Resistance = azithromycin MIC  $\geq 2.0$   $\mu\text{g}/\text{mL}$ ; tetracycline MIC  $\geq 2.0$   $\mu\text{g}/\text{mL}$ ; ciprofloxacin MIC  $\geq 1.0$   $\mu\text{g}/\text{mL}$ ; penicillin MIC  $\geq 2.0$   $\mu\text{g}/\text{mL}$  or  $\beta$ -lactamase positive. In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g}/\text{mL}$  (FDA-STIC).

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

Year	$\leq 0.015$ n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	Total
2020	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
2024	83 (76.1)	13 (11.9)	9 (8.3)	4 (3.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	109

GISP Alert Value = cefixime MIC  $\geq 0.25$   $\mu\text{g}/\text{mL}$ ; CLSI Non-susceptible = cefixime MIC  $\geq 0.5$   $\mu\text{g}/\text{mL}$ .

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Philadelphia, Pennsylvania, January 1, 2020-July 31, 2024

Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2020	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
2024	67 (61.5)	33 (30.3)	8 (7.3)	1 (0.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	109

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Philadelphia, Pennsylvania, January 1, 2020-July 31, 2024

Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2020	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
2024	15 (13.8)	56 (51.4)	7 (6.4)	16 (14.7)	10 (9.2)	0 (0.0)	5 (4.6)	0 (0.0)	109

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Philadelphia, Pennsylvania, January 1, 2020-July 31, 2024

Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	≥2.0 n (%)	Total
2020	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
2024	66 (60.6)	1 (0.9)	0 (0.0)	0 (0.0)	5 (4.6)	2 (1.8)	3 (2.8)	32 (29.4)	109

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	2 / 300 (0.7)
2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 109 (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), Philadelphia, Pennsylvania, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	1 / 300 (0.3)
2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 109 (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	7 / 300 (2.3)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	15 / 109 (13.8)

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

Table N. Percentage of Isolates with Resistance to Ciprofloxacin,  
Gonococcal Isolate Surveillance Project (GISP),  
Philadelphia, Pennsylvania, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	69 / 300 (23.0)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	35 / 109 (32.1)

Ciprofloxacin resistance MIC  $\geq 1.0$   $\mu\text{g/mL}$ .

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, January 1-July 31, 2024

<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 (7.1)	36 (23.1)	38 (24.4)	22 (14.1)	21 (13.5)	9 (5.8)	3 (1.9)	5 (3.2)	3 (1.9)	6 (3.8)	2 (1.3)	156

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Phoenix, Arizona, January 1-July 31, 2024

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
3 (1.9)	0 (0.0)	38 (24.4)	3 (1.9)	33 (21.2)	74 (47.4)	3 (1.9)	2 (1.3)	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), Phoenix, Arizona, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	62 (39.7)

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Phoenix, Arizona, January 1-July 31, 2024

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	152 (97.4)	0 (0.0)	4 (2.6)	0 (0.0)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Phoenix, Arizona, January 1-July 31, 2024

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
4 (2.6)	112 (71.8)	40 (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, January 1-July 31, 2024

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
61 (39.1)	43 (27.6)	27 (17.3)	24 (15.4)	1 (0.6)

Elevated MICs = ceftriaxone MIC  $\geq 0.125$   $\mu\text{g/mL}$ ; cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ;

Resistance = azithromycin MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; tetracycline MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; ciprofloxacin MIC  $\geq 1.0$   $\mu\text{g/mL}$ ; penicillin MIC  $\geq 2.0$   $\mu\text{g/mL}$  or  $\beta$ -lactamase positive. In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (FDA-STIC).

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

Year	$\leq 0.015$ n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	Total
2020	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
2024	109 (69.9)	20 (12.8)	6 (3.8)	17 (10.9)	2 (1.3)	2 (1.3)	0 (0.0)	0 (0.0)	156

GISP Alert Value = cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ; CLSI Non-susceptible = cefixime MIC  $\geq 0.5$   $\mu\text{g/mL}$ .

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Phoenix, Arizona, January 1, 2020-July 31, 2024

Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2020	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
2024	104 (66.7)	33 (21.2)	14 (9.0)	4 (2.6)	0 (0.0)	1 (0.6)	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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Phoenix, Arizona, January 1, 2020-July 31, 2024

Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2020	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
2024	24 (15.4)	90 (57.7)	8 (5.1)	23 (14.7)	10 (6.4)	0 (0.0)	0 (0.0)	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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Phoenix, Arizona, January 1, 2020-July 31, 2024

Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	≥2.0 n (%)	Total
2020	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
2024	81 (51.9)	4 (2.6)	3 (1.9)	0 (0.0)	5 (3.2)	2 (1.3)	2 (1.3)	59 (37.8)	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), Phoenix, Arizona, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	8 / 300 (2.7)
2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	4 / 156 (2.6)

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), Phoenix, Arizona, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	1 / 300 (0.3)
2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	1 / 156 (0.6)

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	10 / 300 (3.3)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	11 / 156 (7.1)

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

Table N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Phoenix, Arizona, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	63 / 300 (21.0)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	61 / 156 (39.1)

Ciprofloxacin resistance MIC  $\geq 1.0$   $\mu\text{g/mL}$ .

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, January 1-July 31, 2024

<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 (13.5)	5 (13.5)	5 (13.5)	8 (21.6)	4 (10.8)	0 (0.0)	5 (13.5)	1 (2.7)	0 (0.0)	2 (5.4)	2 (5.4)	37

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Pittsburgh, Pennsylvania, January 1-July 31, 2024

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)	27 (38.0)	0 (0.0)	6 (8.5)	2 (2.8)	0 (0.0)	36 (50.7)	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), Pittsburgh, Pennsylvania, January 1, 2005-July 31, 2024

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 (%)	2024 n (%)
*	*	*	*	*	*	*	0 (0.0)	8 (11.6)	8 (29.6)

\* 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, January 1-July 31, 2024

**DATA NOT AVAILABLE**

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Pittsburgh, Pennsylvania, January 1-July 31, 2024

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
3 (15.8)	11 (57.9)	5 (26.3)

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, January 1-July 31, 2024

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
37 (52.1)	18 (25.4)	8 (11.3)	8 (11.3)	0 (0.0)

Elevated MICs = ceftriaxone MIC  $\geq 0.125$   $\mu\text{g/mL}$ ; cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ;

Resistance = azithromycin MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; tetracycline MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; ciprofloxacin MIC  $\geq 1.0$   $\mu\text{g/mL}$ ; penicillin MIC  $\geq 2.0$   $\mu\text{g/mL}$  or  $\beta$ -lactamase positive. In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (FDA-STIC).

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

Year	$\leq 0.015$ n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	Total
2020	*	*	*	*	*	*	*	*	*
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
2024	60 (84.5)	7 (9.9)	1 (1.4)	2 (2.8)	1 (1.4)	0 (0.0)	0 (0.0)	0 (0.0)	71

GISP Alert Value = cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ; CLSI Non-susceptible = cefixime MIC  $\geq 0.5$   $\mu\text{g/mL}$ .

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*.

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

Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2020	*	*	*	*	*	*	*	*	*
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
2024	39 (54.9)	28 (39.4)	4 (5.6)	0 (0.0)	0 (0.0)	0 (0.0)	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*.

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

Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2020	*	*	*	*	*	*	*	*	*
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
2024	13 (18.3)	38 (53.5)	2 (2.8)	9 (12.7)	9 (12.7)	0 (0.0)	0 (0.0)	0 (0.0)	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).

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

Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	≥2.0 n (%)	Total
2020	*	*	*	*	*	*	*	*	*
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
2024	47 (66.2)	0 (0.0)	0 (0.0)	1 (1.4)	4 (5.6)	1 (1.4)	5 (7.0)	13 (18.3)	71

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 K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Pittsburgh, Pennsylvania, January 1, 2005-July 31, 2024

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 (%)	2024 n (%)
*	*	*	*	*	*	*	0 / 111 (0.0)	0 / 122 (0.0)	1 / 71 (1.4)

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, January 1, 2005-July 31, 2024

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 (%)	2024 n (%)
*	*	*	*	*	*	*	0 / 111 (0.0)	0 / 122 (0.0)	0 / 71 (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, January 1, 2005-July 31, 2024

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 (%)	2024 n (%)
*	*	*	*	*	*	*	3 / 111 (2.7)	8 / 122 (6.6)	9 / 71 (12.7)

In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (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, January 1, 2005-July 31, 2024

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 (%)	2024 n (%)
*	*	*	*	*	*	*	33 / 111 (29.7)	28 / 122 (23.0)	18 / 71 (25.4)

Ciprofloxacin resistance MIC  $\geq 1.0$   $\mu\text{g/mL}$ .

\* 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, January 1-July 31, 2024

<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 (12.2)	6 (12.2)	9 (18.4)	9 (18.4)	4 (8.2)	3 (6.1)	2 (4.1)	6 (12.2)	3 (6.1)	1 (2.0)	0 (0.0)	49

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Pontiac, Michigan, January 1-July 31, 2024

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)	36 (73.5)	1 (2.0)	11 (22.4)	0 (0.0)	0 (0.0)	0 (0.0)	49

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
*	*	*	*	*	*	*	26 (13.5)	33 (17.5)	66 (48.9)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	21 (44.7)

\* 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, January 1-July 31, 2024

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	1 (2.0)	48 (98.0)	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, January 1-July 31, 2024

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
2 (4.1)	47 (95.9)	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), Pontiac, Michigan, January 1-July 31, 2024

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
16 (32.7)	21 (42.9)	10 (20.4)	2 (4.1)	0 (0.0)

Elevated MICs = ceftriaxone MIC  $\geq 0.125$   $\mu\text{g/mL}$ ; cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ;

Resistance = azithromycin MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; tetracycline MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; ciprofloxacin MIC  $\geq 1.0$   $\mu\text{g/mL}$ ; penicillin MIC  $\geq 2.0$   $\mu\text{g/mL}$  or  $\beta$ -lactamase positive. In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (FDA-STIC).

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

Year	$\leq 0.015$ n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	Total
2020	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
2024	36 (73.5)	6 (12.2)	2 (4.1)	5 (10.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	49

GISP Alert Value = cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ; CLSI Non-susceptible = cefixime MIC  $\geq 0.5$   $\mu\text{g/mL}$ .

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Pontiac, Michigan, January 1, 2020-July 31, 2024

Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2020	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
2024	35 (71.4)	9 (18.4)	5 (10.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	49

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Pontiac, Michigan, January 1, 2020-July 31, 2024

Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2020	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
2024	10 (20.4)	20 (40.8)	6 (12.2)	8 (16.3)	5 (10.2)	0 (0.0)	0 (0.0)	0 (0.0)	49

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Pontiac, Michigan, January 1, 2020-July 31, 2024

Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	≥2.0 n (%)	Total
2020	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
2024	20 (40.8)	0 (0.0)	0 (0.0)	0 (0.0)	1 (2.0)	1 (2.0)	0 (0.0)	27 (55.1)	49

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
*	*	*	*	*	*	*	1 / 194 (0.5)	0 / 190 (0.0)	0 / 135 (0.0)
2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 49 (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
*	*	*	*	*	*	*	0 / 194 (0.0)	0 / 190 (0.0)	0 / 135 (0.0)
2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 49 (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
*	*	*	*	*	*	*	1 / 194 (0.5)	4 / 190 (2.1)	5 / 135 (3.7)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	5 / 49 (10.2)

In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
*	*	*	*	*	*	*	6 / 194 (3.1)	12 / 190 (6.3)	15 / 135 (11.1)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	27 / 49 (55.1)

Ciprofloxacin resistance MIC  $\geq 1.0$   $\mu\text{g/mL}$ .

\* 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, January 1-July 31, 2024

<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)	3 (16.7)	2 (11.1)	6 (33.3)	0 (0.0)	5 (27.8)	1 (5.6)	0 (0.0)	0 (0.0)	1 (5.6)	0 (0.0)	18

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Portland, Oregon, January 1-July 31, 2024

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 (27.8)	0 (0.0)	9 (50.0)	3 (16.7)	1 (5.6)	0 (0.0)	18

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	10 (55.6)

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Portland, Oregon, January 1-July 31, 2024

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	18 (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, January 1-July 31, 2024

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
1 (5.6)	17 (94.4)	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), Portland, Oregon, January 1-July 31, 2024

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
3 (16.7)	11 (61.1)	4 (22.2)	0 (0.0)	0 (0.0)

Elevated MICs = ceftriaxone MIC  $\geq 0.125$   $\mu\text{g/mL}$ ; cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ;

Resistance = azithromycin MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; tetracycline MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; ciprofloxacin MIC  $\geq 1.0$   $\mu\text{g/mL}$ ; penicillin MIC  $\geq 2.0$   $\mu\text{g/mL}$  or  $\beta$ -lactamase positive. In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (FDA-STIC).

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

Year	$\leq 0.015$ n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	Total
2020	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
2024	16 (88.9)	1 (5.6)	0 (0.0)	1 (5.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	18

GISP Alert Value = cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ; CLSI Non-susceptible = cefixime MIC  $\geq 0.5$   $\mu\text{g/mL}$ .

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Portland, Oregon, January 1, 2020-July 31, 2024

Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2020	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
2024	15 (83.3)	2 (11.1)	1 (5.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	18

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Portland, Oregon, January 1, 2020-July 31, 2024

Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2020	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
2024	0 (0.0)	18 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	18

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Portland, Oregon, January 1, 2020-July 31, 2024

Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	≥2.0 n (%)	Total
2020	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
2024	10 (55.6)	1 (5.6)	0 (0.0)	0 (0.0)	0 (0.0)	2 (11.1)	0 (0.0)	5 (27.8)	18

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	0 / 128 (0.0)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 18 (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	0 / 128 (0.0)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 18 (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	6 / 128 (4.7)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 18 (0.0)

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

Table N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Portland, Oregon, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	48 / 128 (37.5)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	5 / 18 (27.8)

Ciprofloxacin resistance MIC  $\geq 1.0$   $\mu\text{g/mL}$ .

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, January 1-July 31, 2024

<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 (5.0)	6 (30.0)	7 (35.0)	2 (10.0)	2 (10.0)	1 (5.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (5.0)	20

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), San Diego, California, January 1-July 31, 2024

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	2 (10.0)	8 (40.0)	0 (0.0)	3 (15.0)	7 (35.0)	0 (0.0)	0 (0.0)	20

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	12 (60.0)

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), San Diego, California, January 1-July 31, 2024

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	20 (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, January 1-July 31, 2024

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
1 (5.0)	19 (95.0)	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, January 1-July 31, 2024

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
3 (15.0)	11 (55.0)	4 (20.0)	2 (10.0)	0 (0.0)

Elevated MICs = ceftriaxone MIC  $\geq 0.125$   $\mu\text{g/mL}$ ; cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ;

Resistance = azithromycin MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; tetracycline MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; ciprofloxacin MIC  $\geq 1.0$   $\mu\text{g/mL}$ ; penicillin MIC  $\geq 2.0$   $\mu\text{g/mL}$  or  $\beta$ -lactamase positive. In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (FDA-STIC).

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

Year	$\leq 0.015$ n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	Total
2020	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
2024	15 (75.0)	4 (20.0)	0 (0.0)	1 (5.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	20

GISP Alert Value = cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ; CLSI Non-susceptible = cefixime MIC  $\geq 0.5$   $\mu\text{g/mL}$ .

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), San Diego, California, January 1, 2020-July 31, 2024

Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2020	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
2024	14 (70.0)	5 (25.0)	1 (5.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	20

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), San Diego, California, January 1, 2020-July 31, 2024

Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2020	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
2024	1 (5.0)	12 (60.0)	4 (20.0)	1 (5.0)	2 (10.0)	0 (0.0)	0 (0.0)	0 (0.0)	20

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), San Diego, California, January 1, 2020-July 31, 2024

Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	≥2.0 n (%)	Total
2020	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
2024	10 (50.0)	0 (0.0)	1 (5.0)	0 (0.0)	0 (0.0)	2 (10.0)	1 (5.0)	6 (30.0)	20

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	4 / 218 (1.8)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 20 (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 Diego, California, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	0 / 218 (0.0)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 20 (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	0 / 218 (0.0)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	2 / 20 (10.0)

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

Table N. Percentage of Isolates with Resistance to Ciprofloxacin,  
Gonococcal Isolate Surveillance Project (GISP),  
San Diego, California, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	66 / 218 (30.3)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	7 / 20 (35.0)

Ciprofloxacin resistance MIC  $\geq 1.0$   $\mu\text{g/mL}$ .

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, January 1-July 31, 2024

<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)	7 (6.9)	21 (20.6)	14 (13.7)	19 (18.6)	10 (9.8)	11 (10.8)	6 (5.9)	4 (3.9)	4 (3.9)	6 (5.9)	102

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), San Francisco, California, January 1-July 31, 2024

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	7 (6.9)	27 (26.5)	0 (0.0)	24 (23.5)	31 (30.4)	9 (8.8)	4 (3.9)	102

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	68 (66.7)

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), San Francisco, California, January 1-July 31, 2024

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	99 (97.1)	0 (0.0)	3 (2.9)	0 (0.0)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), San Francisco, California, January 1-July 31, 2024

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
3 (2.9)	83 (81.4)	16 (15.7)

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, January 1-July 31, 2024

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
20 (19.6)	17 (16.7)	33 (32.4)	32 (31.4)	0 (0.0)

Elevated MICs = ceftriaxone MIC  $\geq 0.125$   $\mu\text{g/mL}$ ; cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ;

Resistance = azithromycin MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; tetracycline MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; ciprofloxacin MIC  $\geq 1.0$   $\mu\text{g/mL}$ ; penicillin MIC  $\geq 2.0$   $\mu\text{g/mL}$  or  $\beta$ -lactamase positive. In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (FDA-STIC).

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

Year	$\leq 0.015$ n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	Total
2020	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
2024	56 (54.9)	11 (10.8)	12 (11.8)	23 (22.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	102

GISP Alert Value = cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ; CLSI Non-susceptible = cefixime MIC  $\geq 0.5$   $\mu\text{g/mL}$ .

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), San Francisco, California, January 1, 2020-July 31, 2024

Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2020	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
2024	59 (57.8)	35 (34.3)	8 (7.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	102

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), San Francisco, California, January 1, 2020-July 31, 2024

Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2020	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
2024	10 (9.8)	81 (79.4)	1 (1.0)	6 (5.9)	4 (3.9)	0 (0.0)	0 (0.0)	0 (0.0)	102

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), San Francisco, California, January 1, 2020-July 31, 2024

Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	≥2.0 n (%)	Total
2020	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
2024	36 (35.3)	0 (0.0)	0 (0.0)	0 (0.0)	3 (2.9)	13 (12.7)	3 (2.9)	47 (46.1)	102

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	0 / 300 (0.0)
2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 102 (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	0 / 300 (0.0)
2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 102 (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	3 / 300 (1.0)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	4 / 102 (3.9)

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

Table N. Percentage of Isolates with Resistance to Ciprofloxacin,  
Gonococcal Isolate Surveillance Project (GISP),  
San Francisco, California, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	99 / 300 (33.0)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	50 / 102 (49.0)

Ciprofloxacin resistance MIC  $\geq 1.0$   $\mu\text{g/mL}$ .

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, January 1-July 31, 2024

<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 (2.1)	7 (7.4)	27 (28.4)	26 (27.4)	11 (11.6)	9 (9.5)	6 (6.3)	0 (0.0)	2 (2.1)	3 (3.2)	2 (2.1)	95

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Seattle, Washington, January 1-July 31, 2024

AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
2 (2.1)	4 (4.2)	30 (31.3)	3 (3.1)	38 (39.6)	8 (8.3)	2 (2.1)	9 (9.4)	96

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	66 (72.5)

Table D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Seattle, Washington, January 1-July 31, 2024

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
0 (0.0)	0 (0.0)	94 (98.9)	0 (0.0)	1 (1.1)	0 (0.0)

Table E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Seattle, Washington, January 1-July 31, 2024

Azithromycin/Erythromycin n (%)	Doxycycline/Tetracycline n (%)	None/Other n (%)
6 (6.3)	0 (0.0)	89 (93.7)

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, January 1-July 31, 2024

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
22 (22.9)	32 (33.3)	15 (15.6)	27 (28.1)	0 (0.0)

Elevated MICs = ceftriaxone MIC  $\geq 0.125$   $\mu\text{g/mL}$ ; cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ;

Resistance = azithromycin MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; tetracycline MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; ciprofloxacin MIC  $\geq 1.0$   $\mu\text{g/mL}$ ; penicillin MIC  $\geq 2.0$   $\mu\text{g/mL}$  or  $\beta$ -lactamase positive. In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (FDA-STIC).

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

Year	$\leq 0.015$ n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	Total
2020	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
2024	48 (50.0)	15 (15.6)	9 (9.4)	24 (25.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	96

GISP Alert Value = cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ; CLSI Non-susceptible = cefixime MIC  $\geq 0.5$   $\mu\text{g/mL}$ .

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Seattle, Washington, January 1, 2020-July 31, 2024

Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2020	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
2024	43 (44.8)	45 (46.9)	8 (8.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	96

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Seattle, Washington, January 1, 2020-July 31, 2024

Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2020	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
2024	7 (7.3)	77 (80.2)	4 (4.2)	3 (3.1)	5 (5.2)	0 (0.0)	0 (0.0)	0 (0.0)	96

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Seattle, Washington, January 1, 2020-July 31, 2024

Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	≥2.0 n (%)	Total
2020	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
2024	30 (31.3)	0 (0.0)	0 (0.0)	0 (0.0)	7 (7.3)	7 (7.3)	1 (1.0)	51 (53.1)	96

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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	1 / 194 (0.5)
2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 96 (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	1 / 194 (0.5)
2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	0 / 96 (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, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	9 / 194 (4.6)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	5 / 96 (5.2)

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

Table N. Percentage of Isolates with Resistance to Ciprofloxacin,  
Gonococcal Isolate Surveillance Project (GISP),  
Seattle, Washington, January 1, 2005-July 31, 2024

2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)
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)	74 / 194 (38.1)

2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)	2023 n (%)	2024 n (%)
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)	52 / 96 (54.2)

Ciprofloxacin resistance MIC  $\geq 1.0$   $\mu\text{g/mL}$ .

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, January 1-July 31, 2024

<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)	3 (15.0)	4 (20.0)	7 (35.0)	1 (5.0)	3 (15.0)	1 (5.0)	1 (5.0)	0 (0.0)	0 (0.0)	0 (0.0)	20

Cases with unknown age were excluded.

Table B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Washington, DC, January 1-July 31, 2024

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)	12 (57.1)	0 (0.0)	2 (9.5)	6 (28.6)	0 (0.0)	1 (4.8)	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), Washington, DC, January 1, 2005-July 31, 2024

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 (%)	2024 n (%)
*	*	*	1 (25.0)	31 (40.8)	21 (38.9)	30 (56.6)	33 (67.3)	11 (47.8)	6 (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), Washington, DC, January 1-July 31, 2024

Azithromycin 2g n (%)	Cefixime 400mg n (%)	Ceftriaxone 500mg n (%)	Ceftriaxone 1g n (%)	Gentamicin 240mg n (%)	None n (%)
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), Washington, DC, January 1-July 31, 2024

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), Washington, DC, January 1-July 31, 2024

Susceptible n (%)	1 antimicrobial n (%)	2 antimicrobials n (%)	3 antimicrobials n (%)	4+ antimicrobials n (%)
10 (47.6)	4 (19.0)	3 (14.3)	4 (19.0)	0 (0.0)

Elevated MICs = ceftriaxone MIC  $\geq 0.125$   $\mu\text{g/mL}$ ; cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ;

Resistance = azithromycin MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; tetracycline MIC  $\geq 2.0$   $\mu\text{g/mL}$ ; ciprofloxacin MIC  $\geq 1.0$   $\mu\text{g/mL}$ ; penicillin MIC  $\geq 2.0$   $\mu\text{g/mL}$  or  $\beta$ -lactamase positive. In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (FDA-STIC).

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

Year	$\leq 0.015$ n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	Total
2020	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
2024	12 (57.1)	2 (9.5)	2 (9.5)	5 (23.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	21

GISP Alert Value = cefixime MIC  $\geq 0.25$   $\mu\text{g/mL}$ ; CLSI Non-susceptible = cefixime MIC  $\geq 0.5$   $\mu\text{g/mL}$ .

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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Washington, DC, January 1, 2020-July 31, 2024

Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2020	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
2024	9 (42.9)	6 (28.6)	6 (28.6)	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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Washington, DC, January 1, 2020-July 31, 2024

Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2020	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
2024	2 (9.5)	12 (57.1)	2 (9.5)	4 (19.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (4.8)	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) Among *Neisseria gonorrhoeae* Isolates, Gonococcal Isolate Surveillance Project (GISP), Washington, DC, January 1, 2020-July 31, 2024

Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	≥2.0 n (%)	Total
2020	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
2024	11 (52.4)	0 (0.0)	0 (0.0)	0 (0.0)	1 (4.8)	1 (4.8)	1 (4.8)	7 (33.3)	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), Washington, DC, January 1, 2005-July 31, 2024

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 (%)	2024 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)	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), Washington, DC, January 1, 2005-July 31, 2024

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 (%)	2024 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)	0 / 21 (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, January 1, 2005-July 31, 2024

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 (%)	2024 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)	1 / 21 (4.8)

In 2025, azithromycin resistance was established as  $\geq 2.0$   $\mu\text{g/mL}$  (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, January 1, 2005-July 31, 2024

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 (%)	2024 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)	8 / 21 (38.1)

Ciprofloxacin resistance MIC  $\geq 1.0$   $\mu\text{g/mL}$ .

\* 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.