

**Sexually
Transmitted
Disease
Surveillance
2022:
Gonococcal Isolate Surveillance Project
Site-Specific Profiles**

**Division of STD Prevention
April 2024**

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

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Web Site

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).

2022 Gonococcal Isolate Surveillance Project
Clinical Sites and Years Participated

Albuquerque, New Mexico <i>(1987–2022)</i>	Greensboro, North Carolina <i>(2002–2022)</i>	Philadelphia, Pennsylvania <i>(1987–2022)</i>
Anchorage, Alaska <i>(1987–2003, 2018–2022)</i>	Honolulu, Hawaii <i>(1987–2022)</i>	Phoenix, Arizona <i>(1987–2022)</i>
Birmingham, Alabama <i>(1987–2022)</i>	Indianapolis, Indiana <i>(2013–2022)</i>	Pittsburgh, Pennsylvania <i>(2021–2022)</i>
Baltimore, Maryland <i>(1987–2013, 2019–2022)</i>	Kansas City, Missouri <i>(1991–2001, 2007–2022)</i>	Pontiac, Michigan <i>(2012–2022)</i>
Buffalo, New York <i>(2014–2022)</i>	Las Vegas, Nevada <i>(2002–2022)</i>	Portland, Oregon <i>(1987–2022)</i>
Camden, New Jersey <i>(2019–2022)</i>	Los Angeles, California <i>(2003–2022)</i>	San Diego, California <i>(1987–2022)</i>
Chicago, Illinois <i>(1996–2022)</i>	Milwaukee, Wisconsin <i>(2018–2022)</i>	San Francisco, California <i>(1987–2022)</i>
Cleveland, Ohio <i>(1991–2022)</i>	Minneapolis, Minnesota <i>(1992–2022)</i>	Seattle, Washington <i>(1987–2022)</i>
Columbus, Ohio <i>(2012–2022)</i>	New Orleans, Louisiana <i>(1987–2022)</i>	Tripler Army Medical Center, Hawaii <i>(2001–2022)</i>
Dallas, Texas <i>(2000–2022)</i>	New York, New York <i>(2006–2022)</i>	Washington, District of Columbia <i>(2018–2022)</i>
Denver, Colorado <i>(1987–2013, 2018–2022)</i>	Orange County, California <i>(1991–2022)</i>	

2022 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>

2022 Gonococcal Isolate Surveillance Project Site-Specific Profiles
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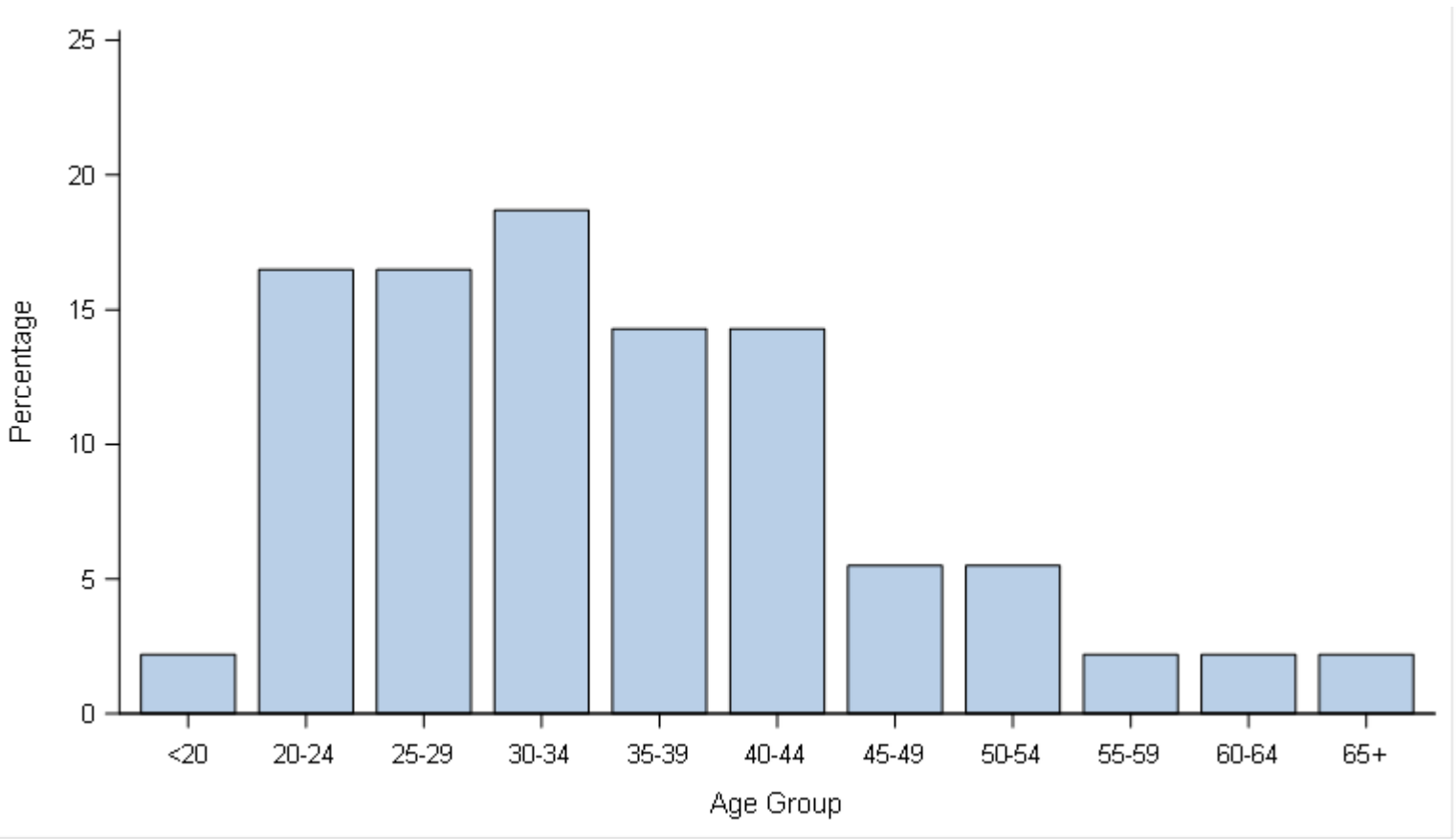
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- Figure B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), 2022
- Figure C. Percentage of Participants Identifying as Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), 2003–2022
- Figure D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), 2022
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- Figure I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), 2018–2022
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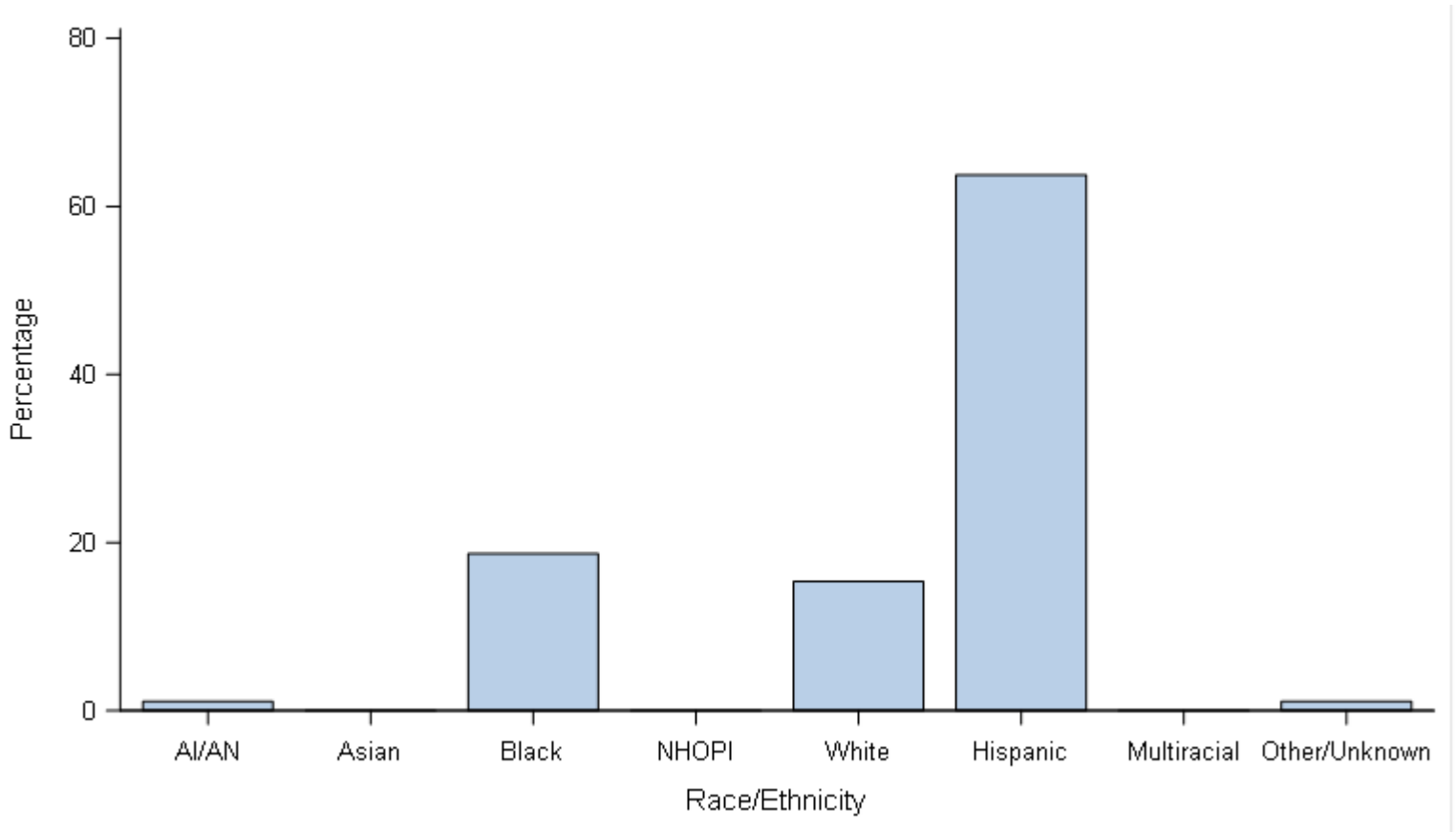
Figure A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Albuquerque, New Mexico, 2022



<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 (2.2)	15 (16.5)	15 (16.5)	17 (18.7)	13 (14.3)	13 (14.3)	5 (5.5)	5 (5.5)	2 (2.2)	2 (2.2)	2 (2.2)	91

Cases with unknown age were excluded.

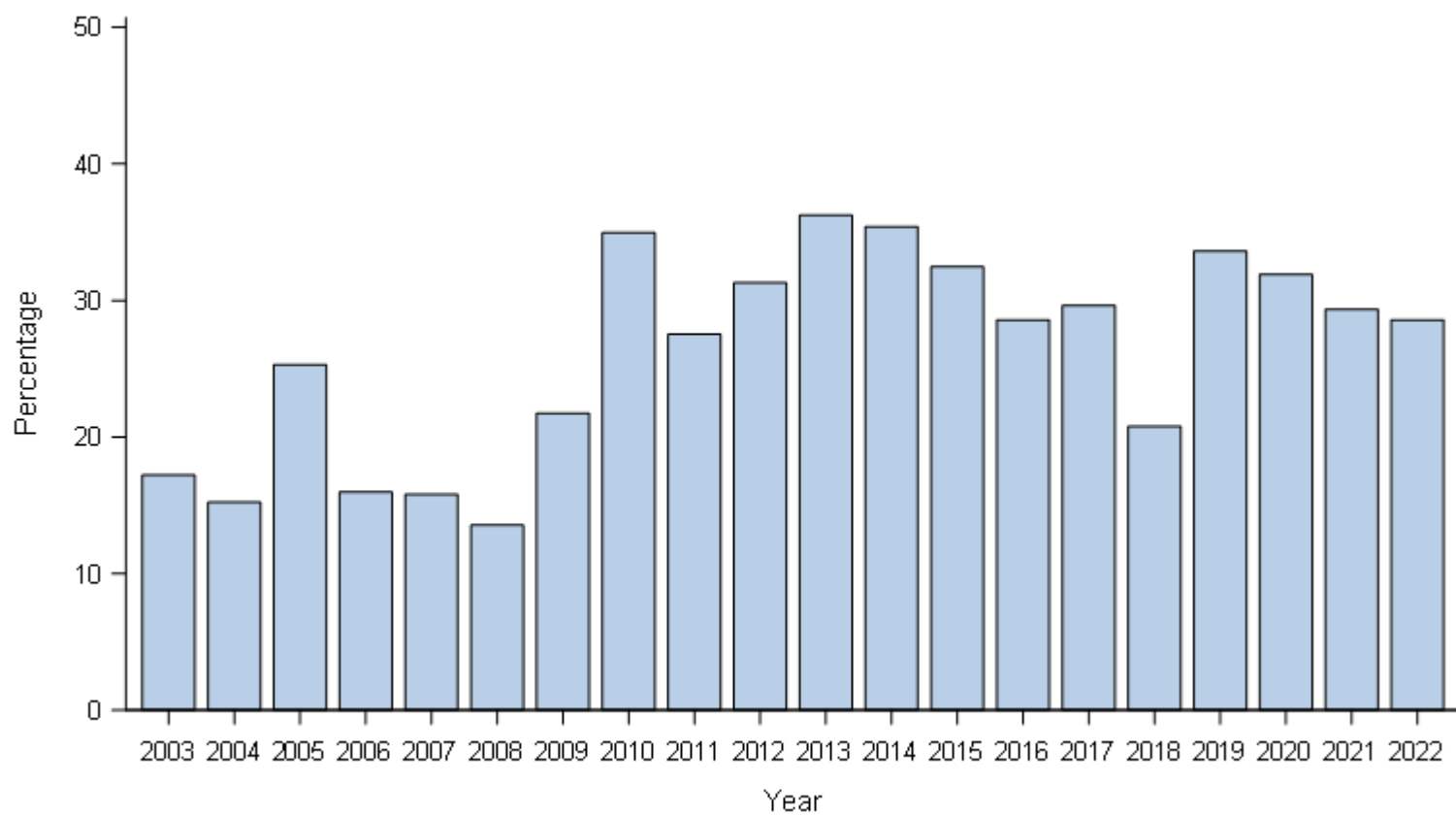
Figure B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Albuquerque, New Mexico, 2022



AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
1 (1.1)	0 (0.0)	17 (18.7)	0 (0.0)	14 (15.4)	58 (63.7)	0 (0.0)	1 (1.1)	91

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.

Figure C. Percentage of Participants Identifying as Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Albuquerque, New Mexico, 2003-2022

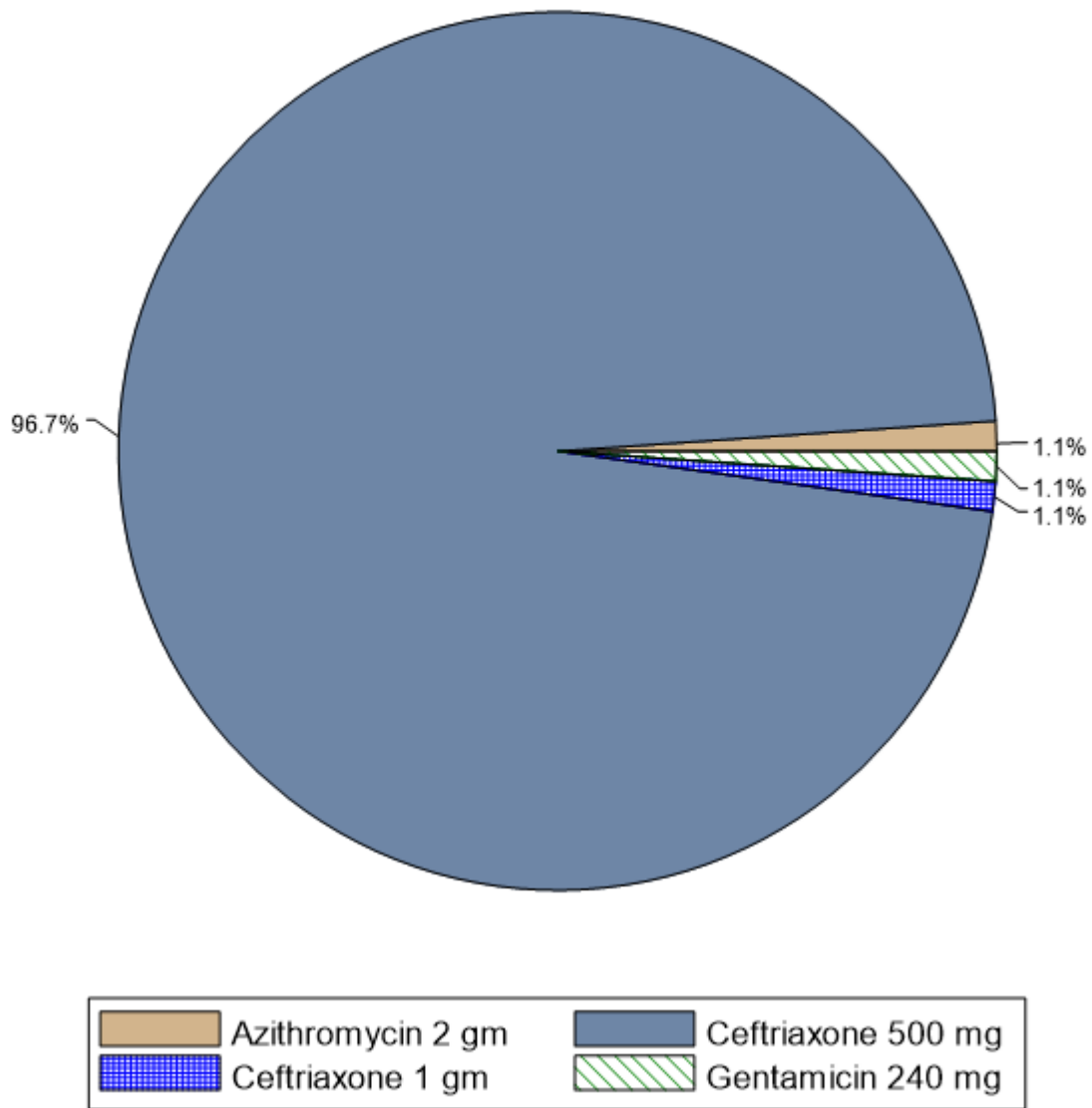


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
26 (17.2)	7 (15.2)	21 (25.3)	23 (16.0)	24 (15.8)	13 (13.5)	20 (21.7)	36 (35.0)	41 (27.5)	46 (31.3)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
50 (36.2)	40 (35.4)	37 (32.5)	40 (28.6)	40 (29.6)	37 (20.8)	40 (33.6)	37 (31.9)	27 (29.3)	26 (28.6)

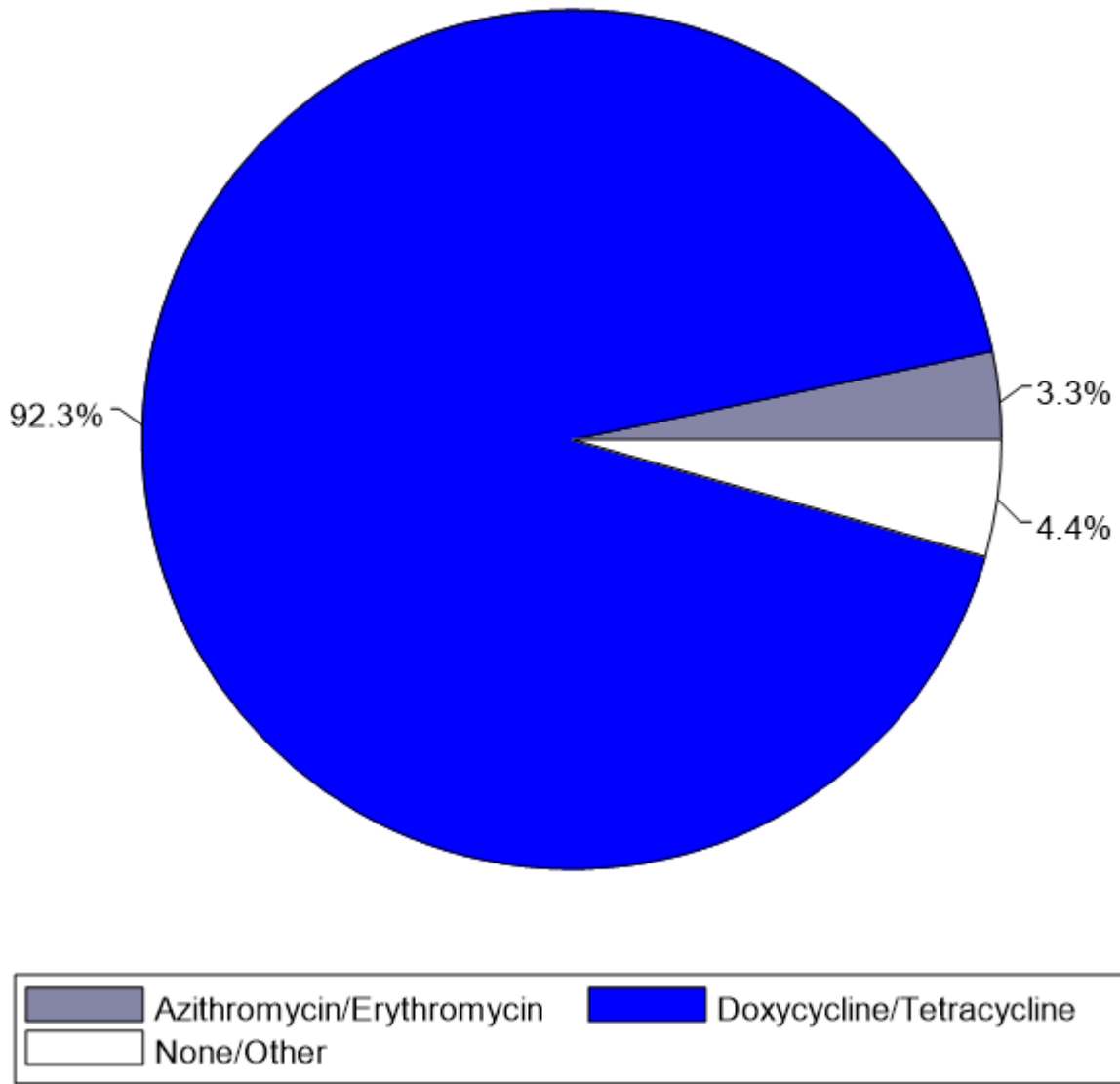
Men who have sex with men = men who self-identified as gay or bisexual or reported recent male sex partners.

Figure D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Albuquerque, New Mexico, 2022



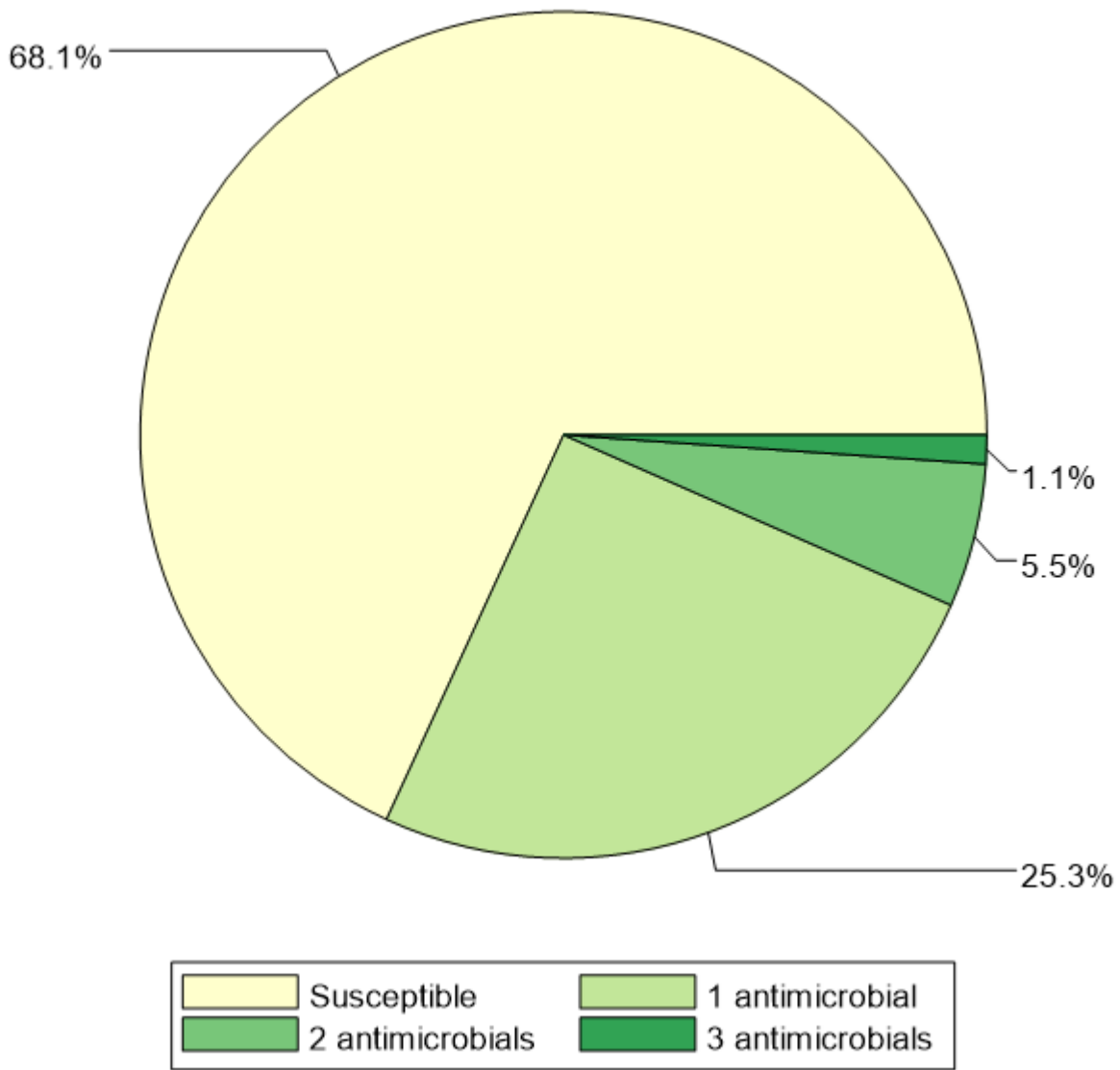
Primary Treatment	Count	Percentage
Azithromycin 2 gm	1	1.1
Ceftriaxone 500 mg	88	96.7
Ceftriaxone 1 gm	1	1.1
Gentamicin 240 mg	1	1.1

Figure E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Albuquerque, New Mexico, 2022



Secondary Treatment	Count	Percentage
Azithromycin/Erythromycin	3	3.3
Doxycycline/Tetracycline	84	92.3
None/Other	4	4.4

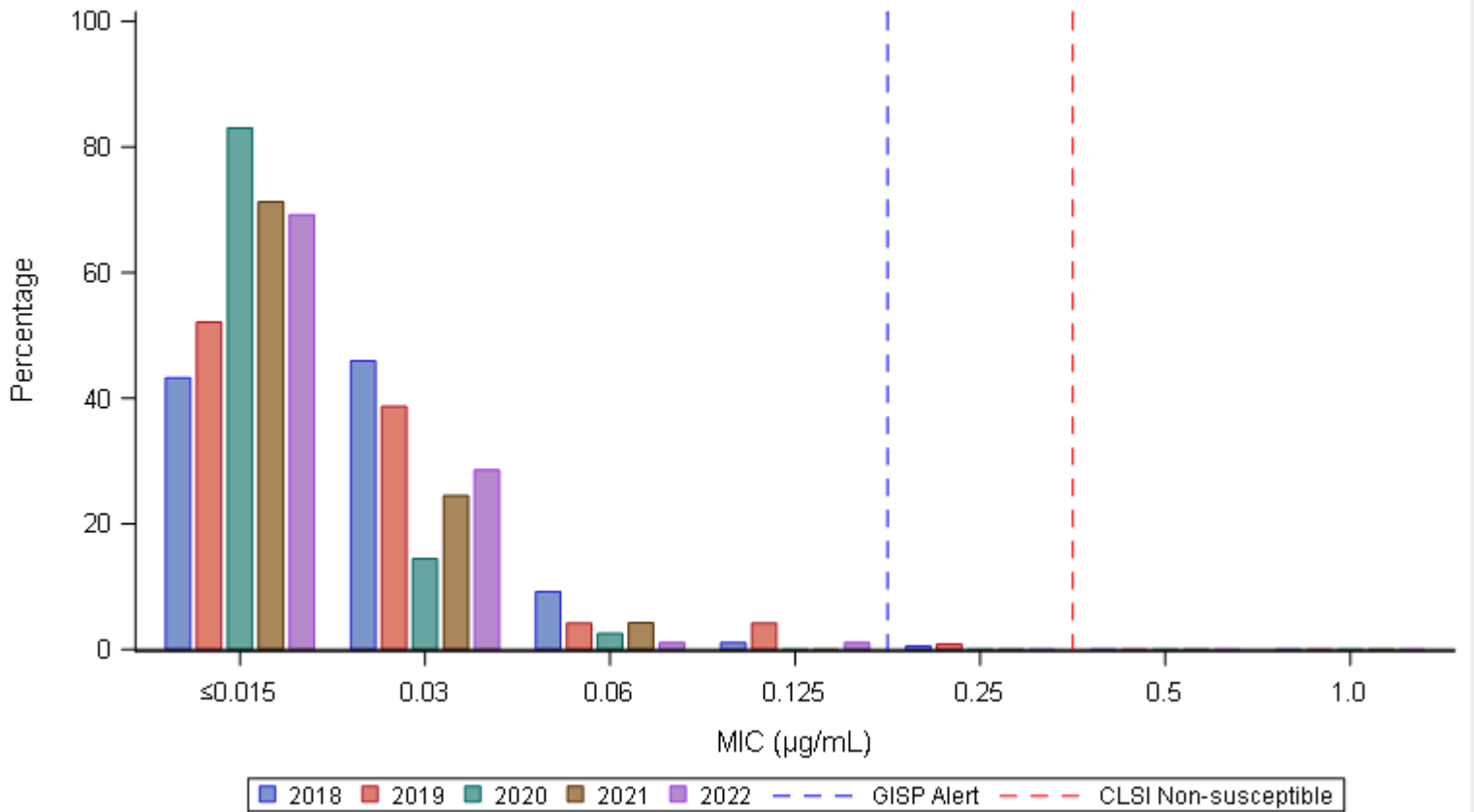
Figure F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Albuquerque, New Mexico, 2022



Number of Antimicrobials	Count	Percentage
Susceptible	62	68.1
1 antimicrobial	23	25.3
2 antimicrobials	5	5.5
3 antimicrobials	1	1.1
4+ antimicrobials	0	0.0

Elevated MICs = ceftriaxone MIC ≥ 0.125 $\mu\text{g/mL}$; cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; Resistance = tetracycline MIC ≥ 2.0 $\mu\text{g/mL}$; ciprofloxacin MIC ≥ 1.0 $\mu\text{g/mL}$; penicillin MIC ≥ 2.0 $\mu\text{g/mL}$ or β -lactamase positive.

Figure G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Albuquerque, New Mexico, 2018-2022



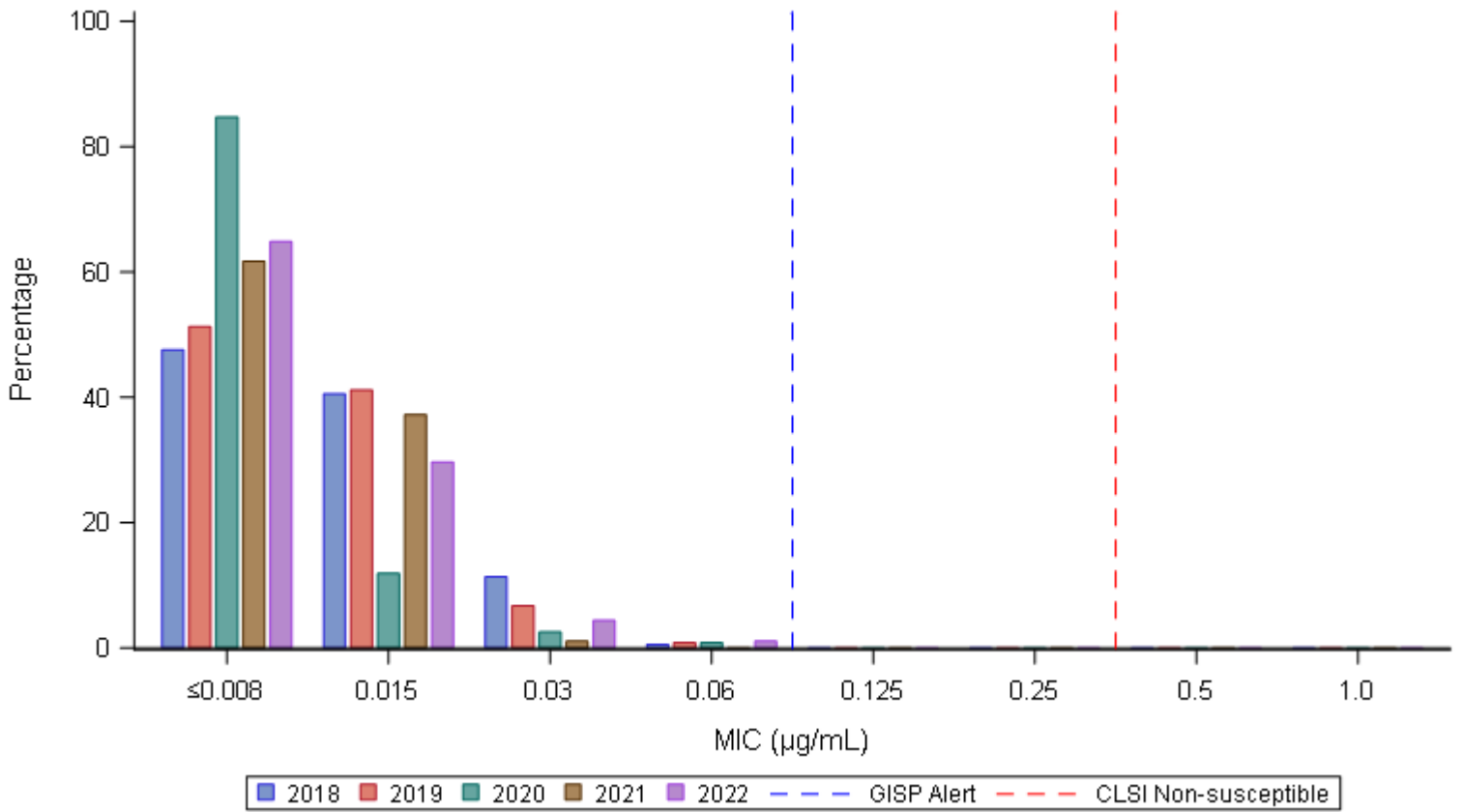
Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	80 (43.2)	85 (45.9)	17 (9.2)	2 (1.1)	1 (0.5)	0 (0.0)	0 (0.0)	185
2019	62 (52.1)	46 (38.7)	5 (4.2)	5 (4.2)	1 (0.8)	0 (0.0)	0 (0.0)	119
2020	98 (83.1)	17 (14.4)	3 (2.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	118
2021	67 (71.3)	23 (24.5)	4 (4.3)	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)	91

GISP Alert Value = cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; CLSI Non-susceptible = cefixime MIC ≥ 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 the end of 2022, the CLSI has not established a cefixime resistance breakpoint for *N. gonorrhoeae*.

Figure H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Albuquerque, New Mexico, 2018-2022



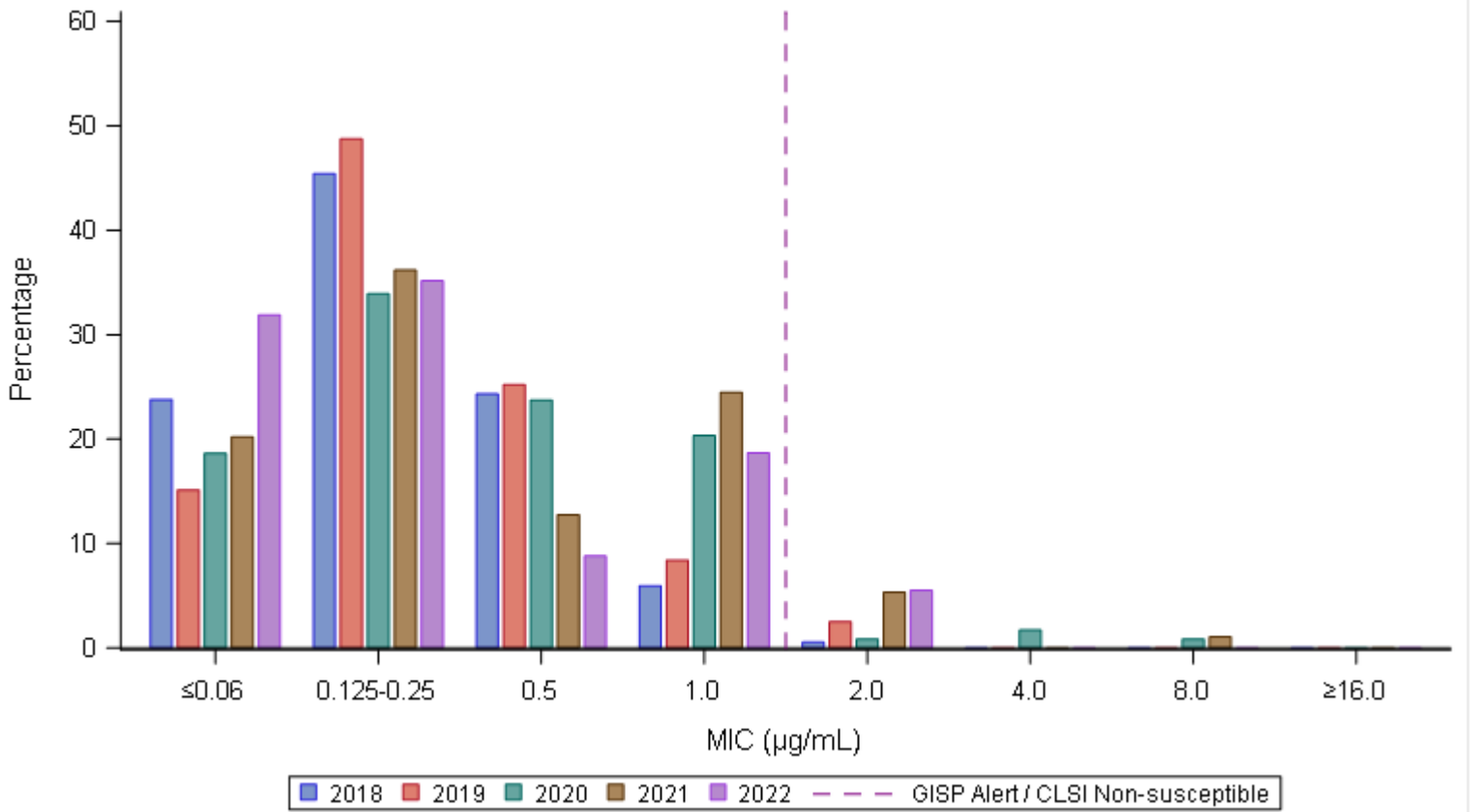
Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	88 (47.6)	75 (40.5)	21 (11.4)	1 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	185
2019	61 (51.3)	49 (41.2)	8 (6.7)	1 (0.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	119
2020	100 (84.7)	14 (11.9)	3 (2.5)	1 (0.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	118
2021	58 (61.7)	35 (37.2)	1 (1.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	94
2022	59 (64.8)	27 (29.7)	4 (4.4)	1 (1.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	91

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 the end of 2022, the CLSI has not established a ceftriaxone resistance breakpoint for *N. gonorrhoeae*.

Figure I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Albuquerque, New Mexico, 2018-2022



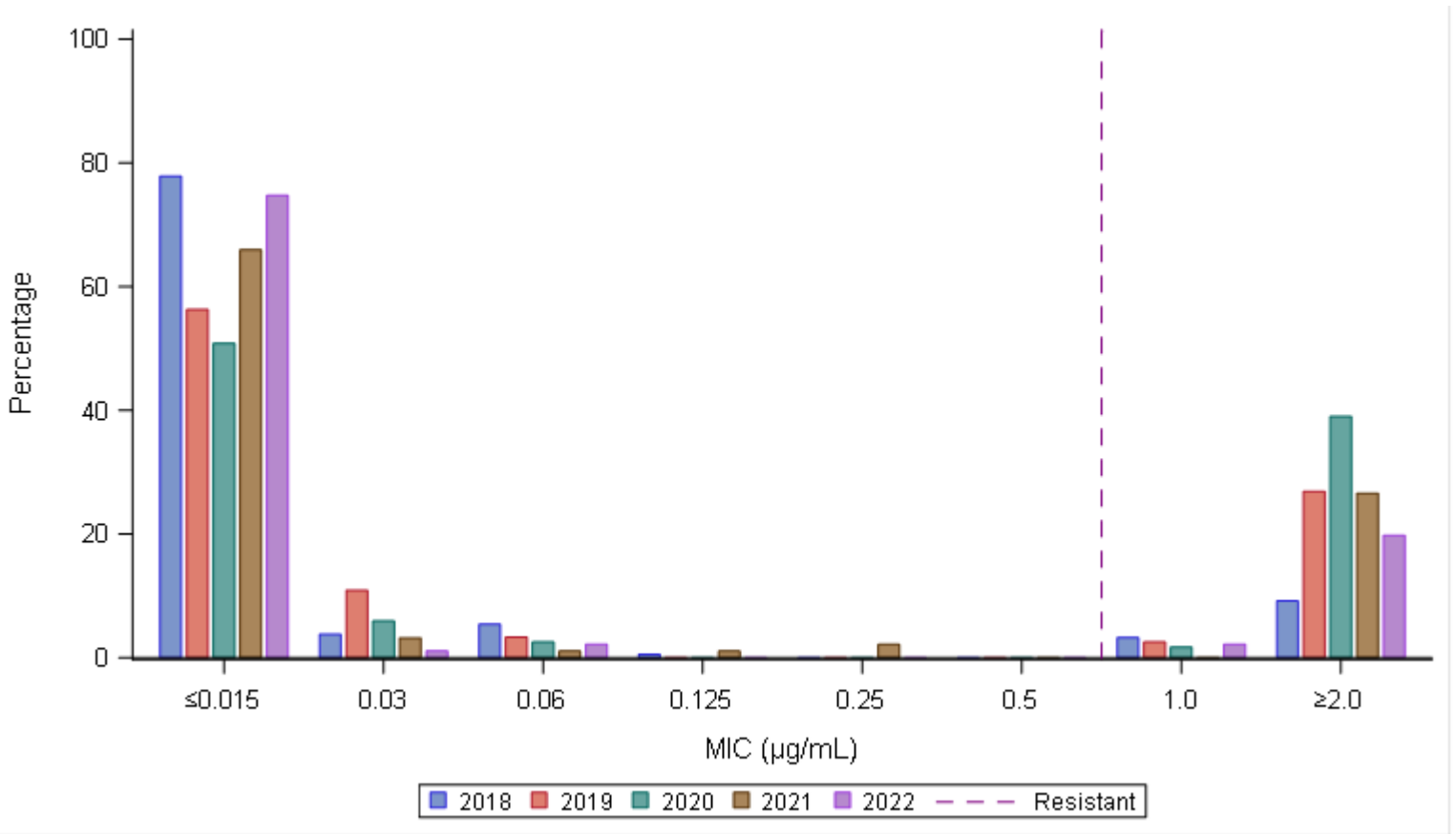
Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2018	44 (23.8)	84 (45.4)	45 (24.3)	11 (5.9)	1 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)	185
2019	18 (15.1)	58 (48.7)	30 (25.2)	10 (8.4)	3 (2.5)	0 (0.0)	0 (0.0)	0 (0.0)	119
2020	22 (18.6)	40 (33.9)	28 (23.7)	24 (20.3)	1 (0.8)	2 (1.7)	1 (0.8)	0 (0.0)	118
2021	19 (20.2)	34 (36.2)	12 (12.8)	23 (24.5)	5 (5.3)	0 (0.0)	1 (1.1)	0 (0.0)	94
2022	29 (31.9)	32 (35.2)	8 (8.8)	17 (18.7)	5 (5.5)	0 (0.0)	0 (0.0)	0 (0.0)	91

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; CLSI Non-susceptible = azithromycin MIC ≥2.0 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 the end of 2022, the CLSI has not established an azithromycin resistance breakpoint for *N. gonorrhoeae*.

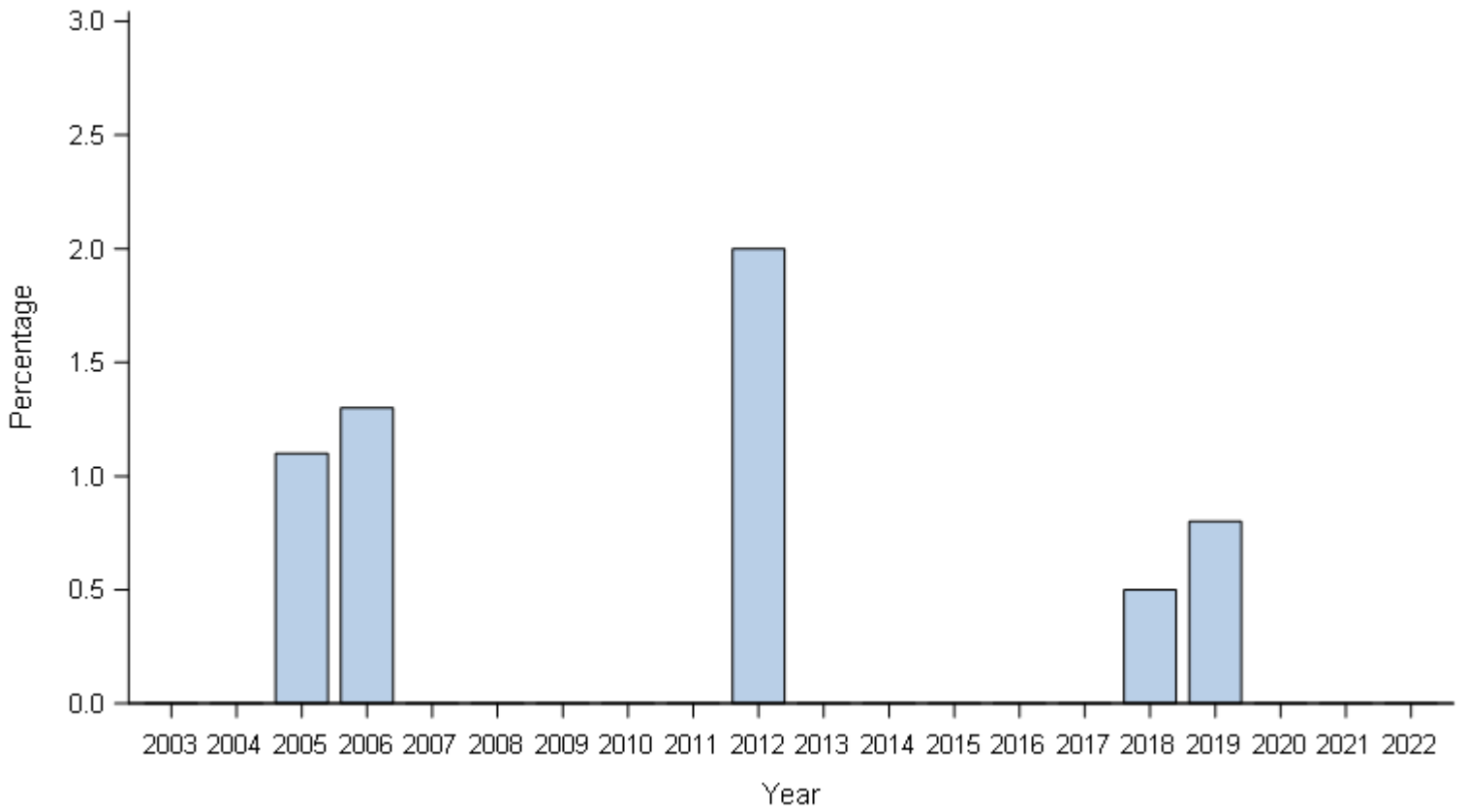
Figure J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Albuquerque, New Mexico, 2018-2022



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
2018	144 (77.8)	7 (3.8)	10 (5.4)	1 (0.5)	0 (0.0)	0 (0.0)	6 (3.2)	17 (9.2)	185
2019	67 (56.3)	13 (10.9)	4 (3.4)	0 (0.0)	0 (0.0)	0 (0.0)	3 (2.5)	32 (26.9)	119
2020	60 (50.8)	7 (5.9)	3 (2.5)	0 (0.0)	0 (0.0)	0 (0.0)	2 (1.7)	46 (39.0)	118
2021	62 (66.0)	3 (3.2)	1 (1.1)	1 (1.1)	2 (2.1)	0 (0.0)	0 (0.0)	25 (26.6)	94
2022	68 (74.7)	1 (1.1)	2 (2.2)	0 (0.0)	0 (0.0)	0 (0.0)	2 (2.2)	18 (19.8)	91

Ciprofloxacin resistance MIC ≥1.0 µg/mL.

Figure K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Albuquerque, New Mexico, 2003-2022

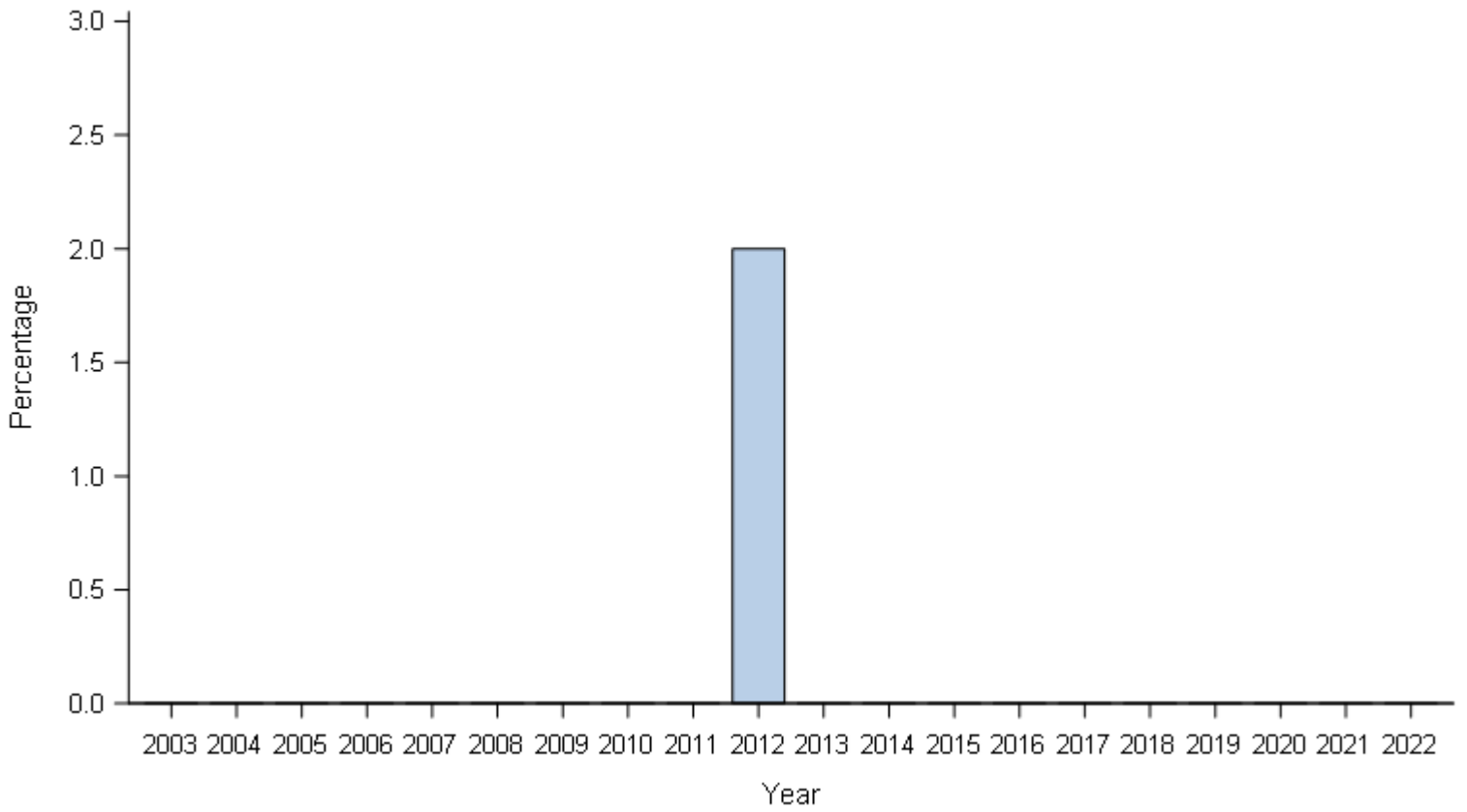


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	1 (1.1)	2 (1.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	3 (2.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.5)	1 (0.8)	0 (0.0)	0 (0.0)	0 (0.0)

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

Figure L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Albuquerque, New Mexico, 2003-2022

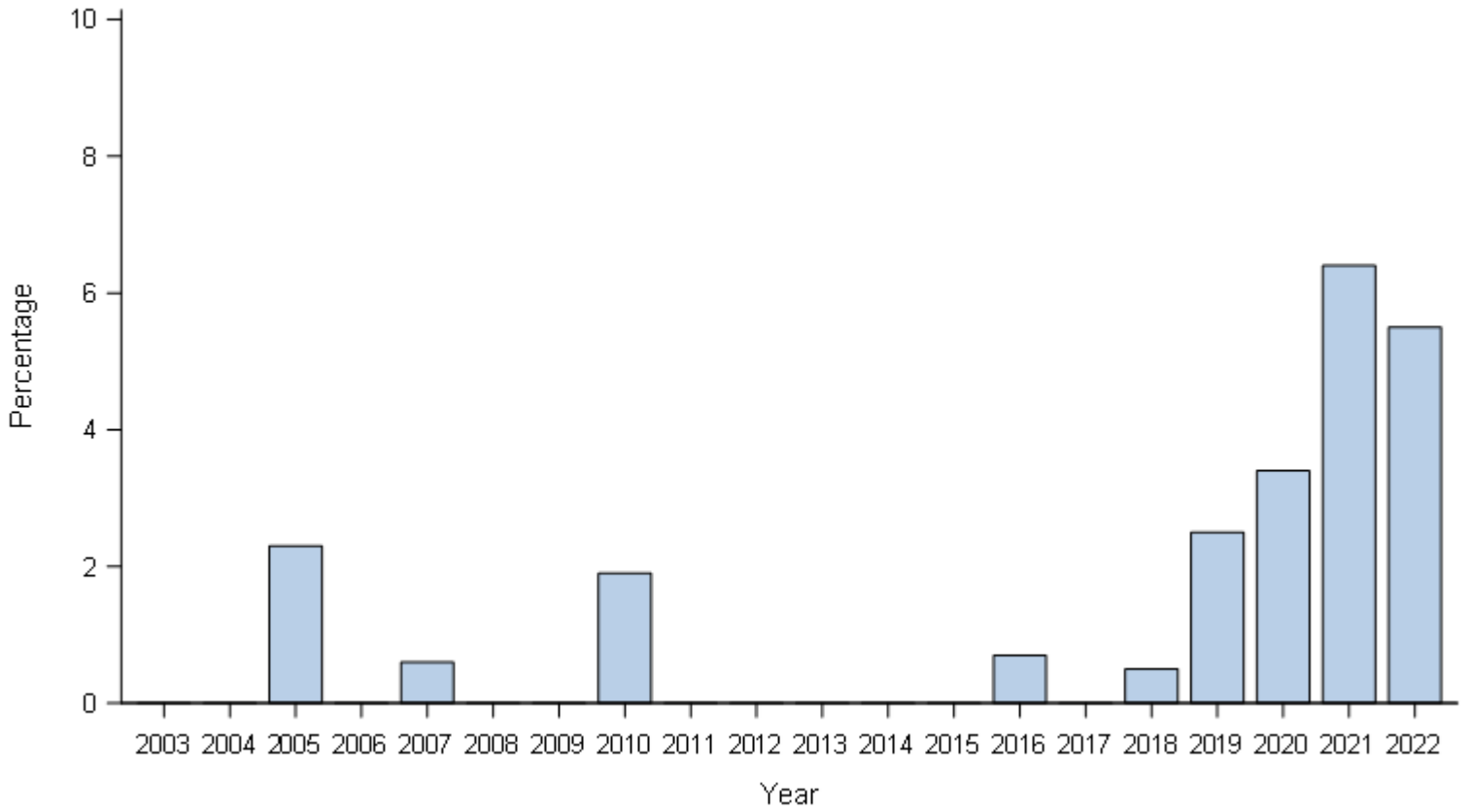


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	3 (2.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

Ceftriaxone elevated MIC \geq 0.125 μ g/mL.

Figure M. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Albuquerque, New Mexico, 2003-2022

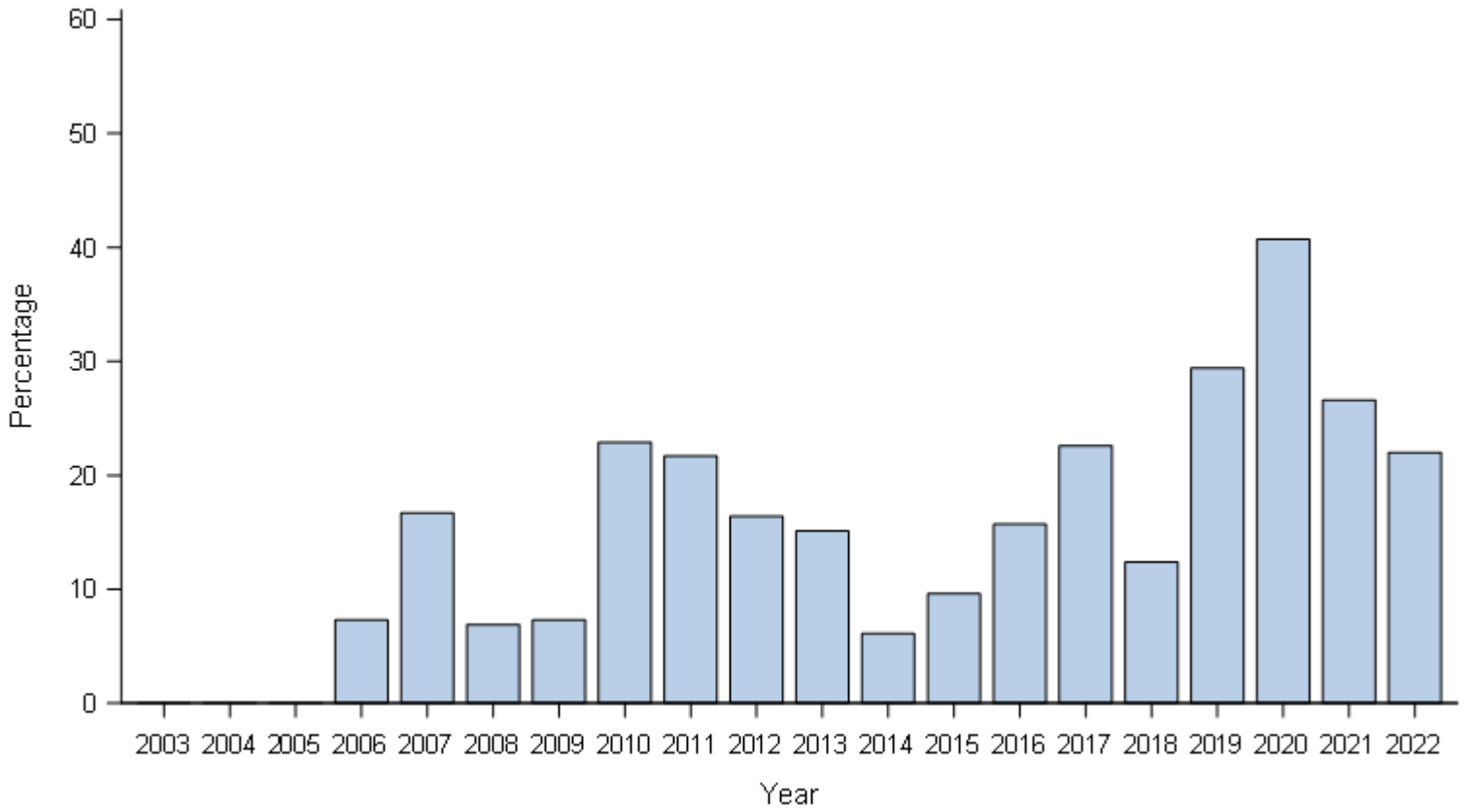


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	2 (2.3)	0 (0.0)	1 (0.6)	0 (0.0)	0 (0.0)	2 (1.9)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	1 (0.7)	0 (0.0)	1 (0.5)	3 (2.5)	4 (3.4)	6 (6.4)	5 (5.5)

Azithromycin elevated MIC ≥ 1.0 $\mu\text{g/mL}$ prior to 2005 and ≥ 2.0 $\mu\text{g/mL}$ during 2005-2022.

Figure N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Albuquerque, New Mexico, 2003-2022

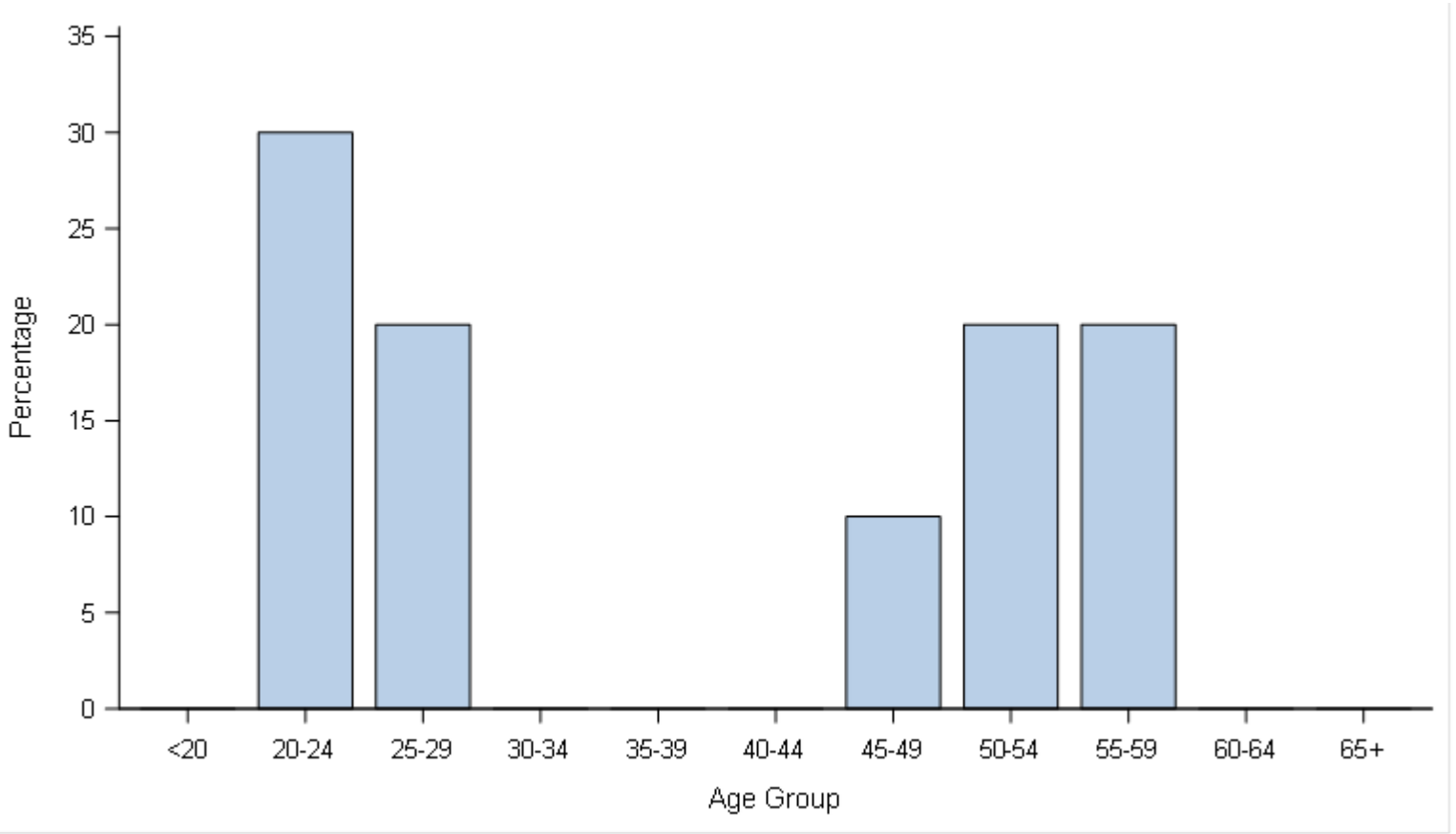


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	11 (7.3)	26 (16.7)	7 (6.9)	7 (7.3)	24 (22.9)	33 (21.7)	25 (16.4)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
21 (15.1)	7 (6.1)	11 (9.6)	22 (15.7)	31 (22.6)	23 (12.4)	35 (29.4)	48 (40.7)	25 (26.6)	20 (22.0)

Ciprofloxacin resistance MIC \geq 1.0 μ g/mL.

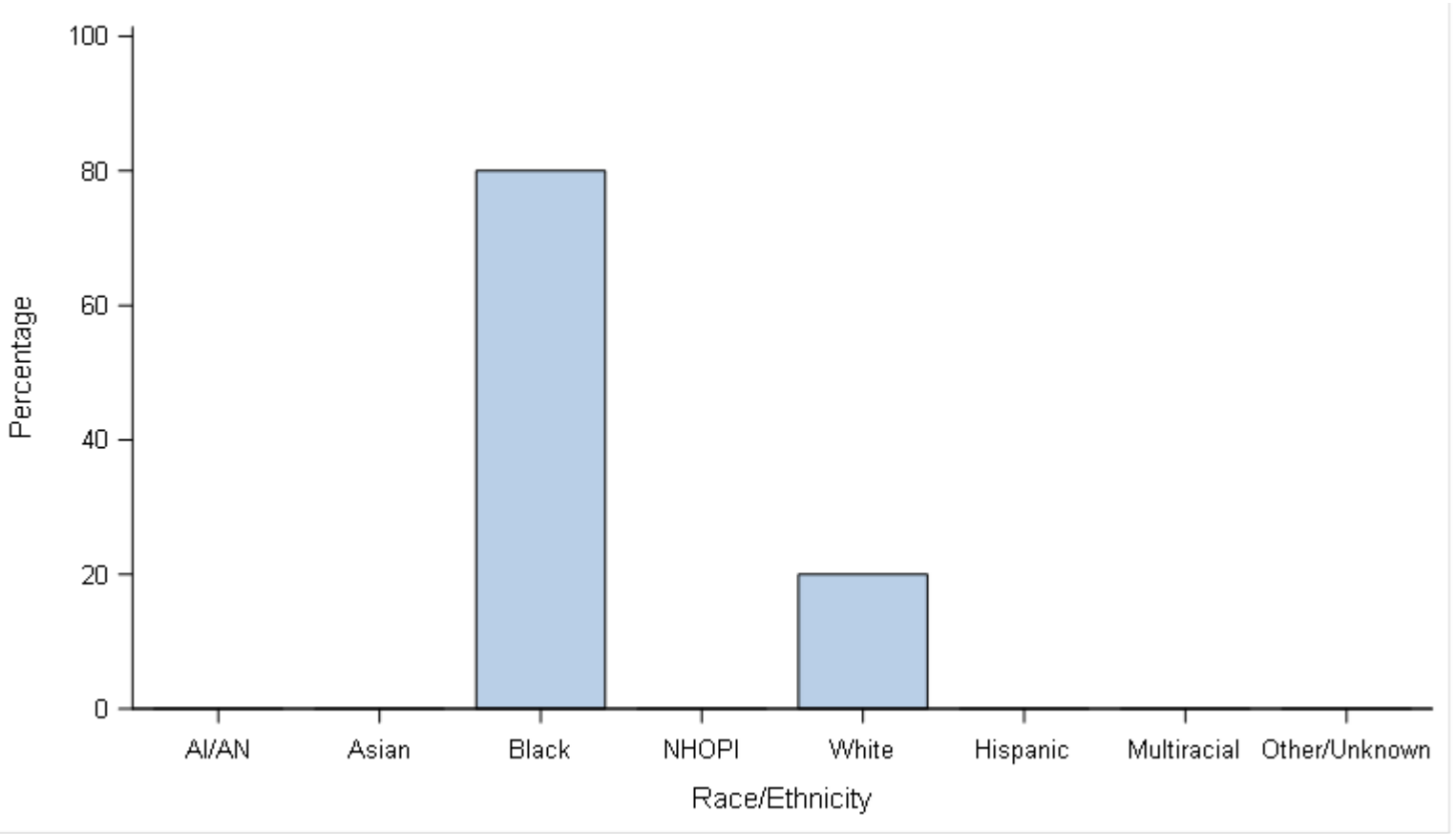
Figure A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Anchorage, Alaska, 2022



<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 (30.0)	2 (20.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (10.0)	2 (20.0)	2 (20.0)	0 (0.0)	0 (0.0)	10

Cases with unknown age were excluded.

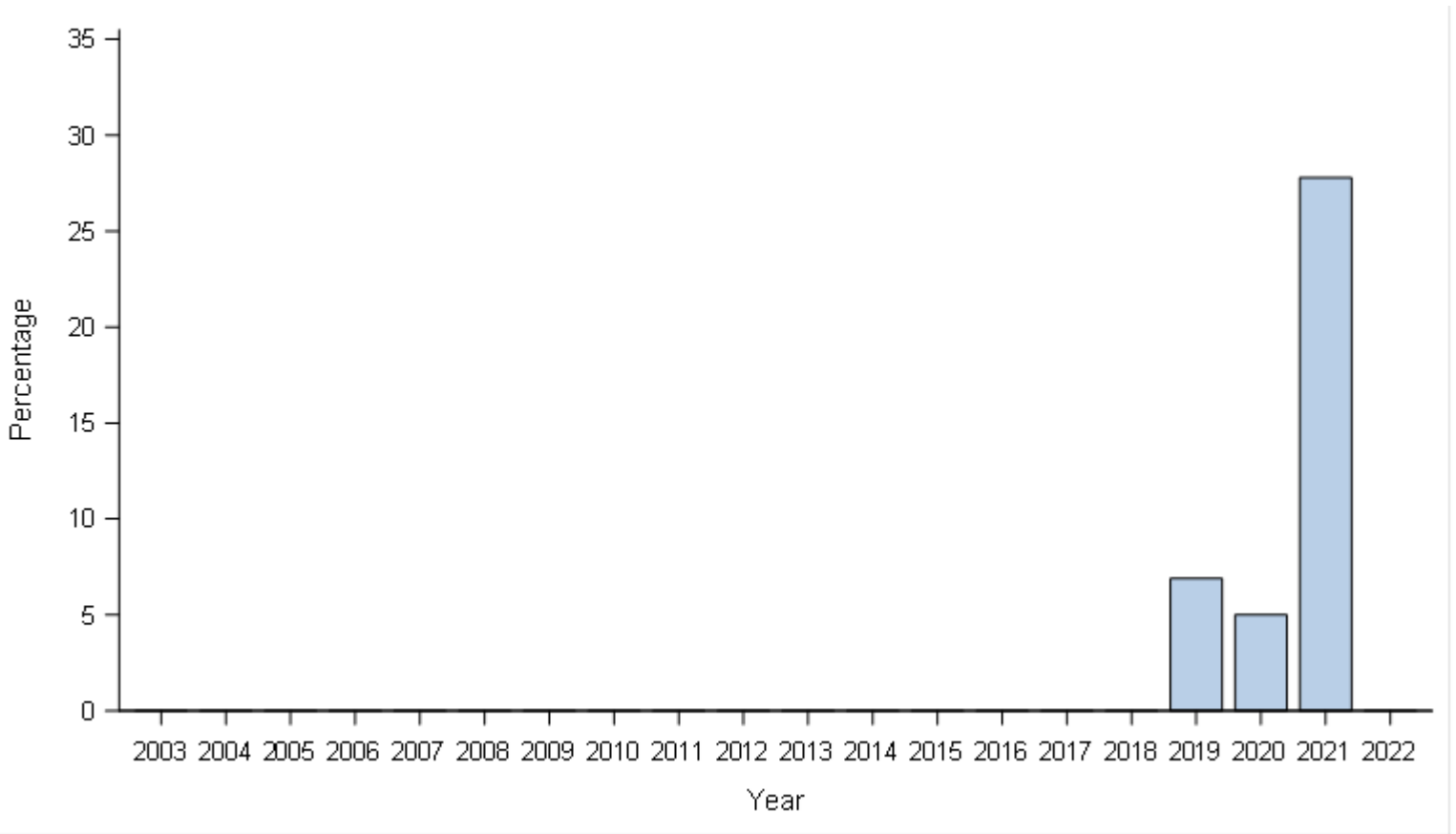
Figure B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Anchorage, Alaska, 2022



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)	8 (80.0)	0 (0.0)	2 (20.0)	0 (0.0)	0 (0.0)	0 (0.0)	10

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.

Figure C. Percentage of Participants Identifying as Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Anchorage, Alaska, 2003-2022

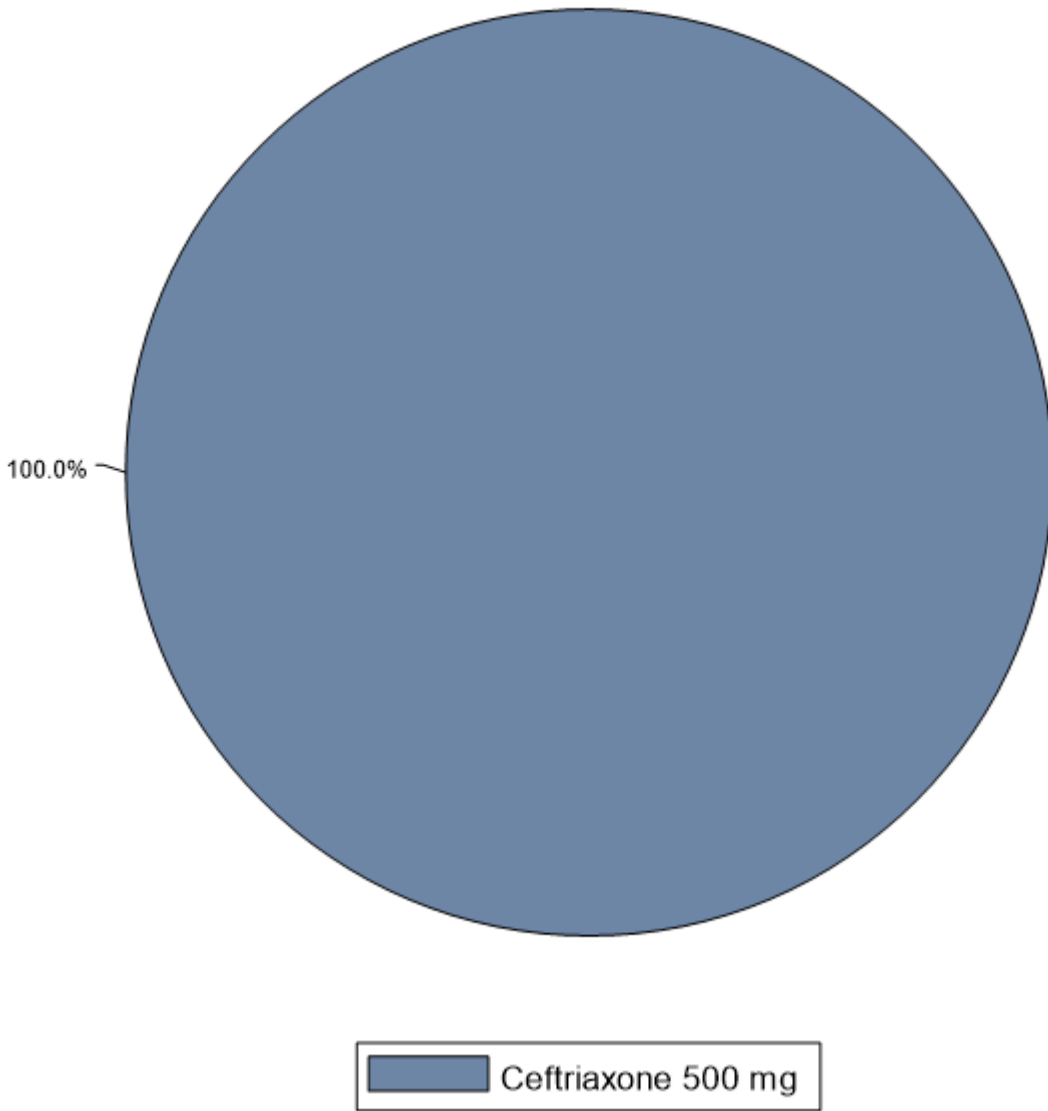


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4 (6.9)	1 (5.0)	5 (27.8)	0 (0.0)

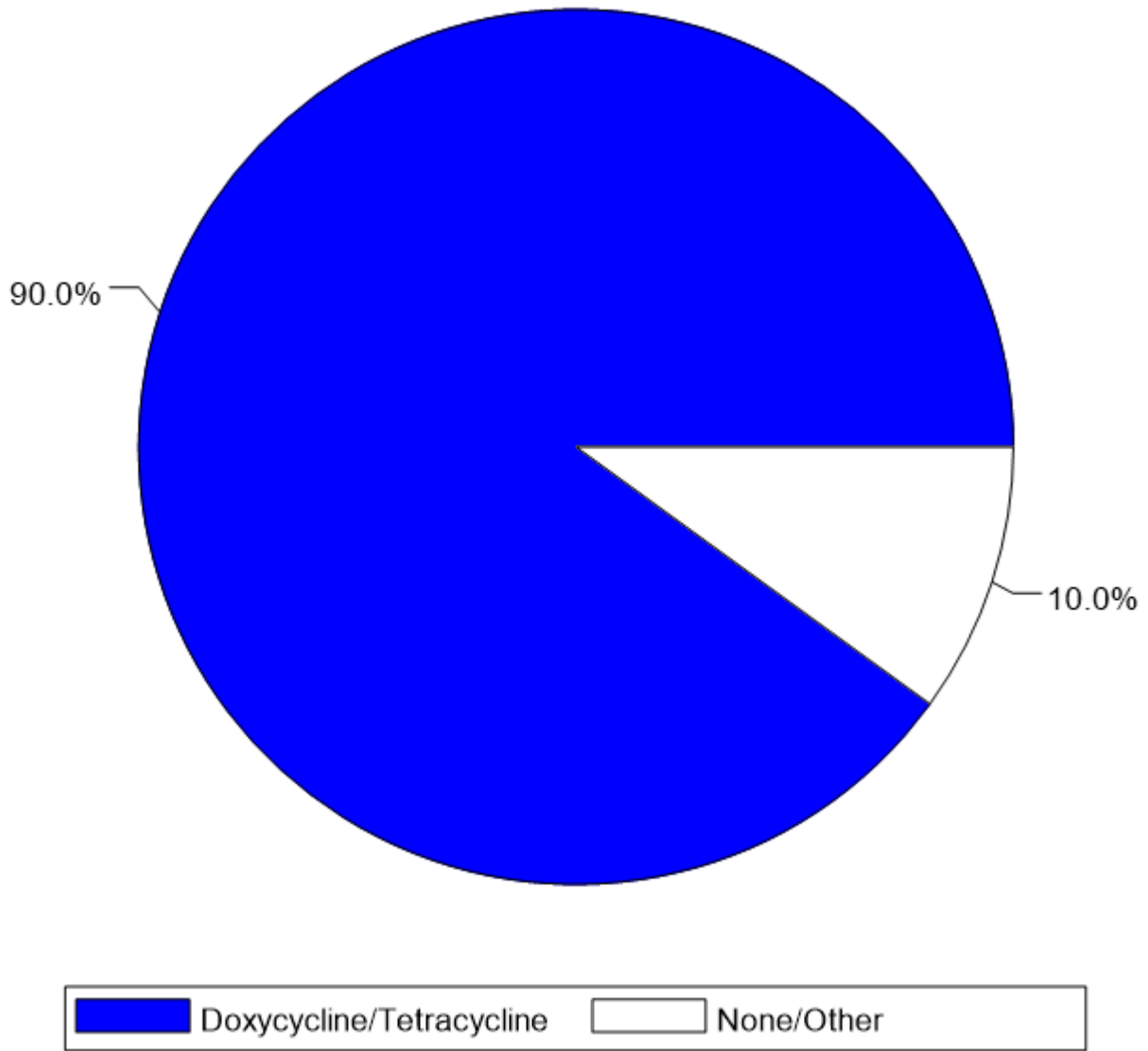
Men who have sex with men = men who self-identified as gay or bisexual or reported recent male sex partners.
 Site participated in GISP in 2003 and 2018-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Anchorage, Alaska, 2022



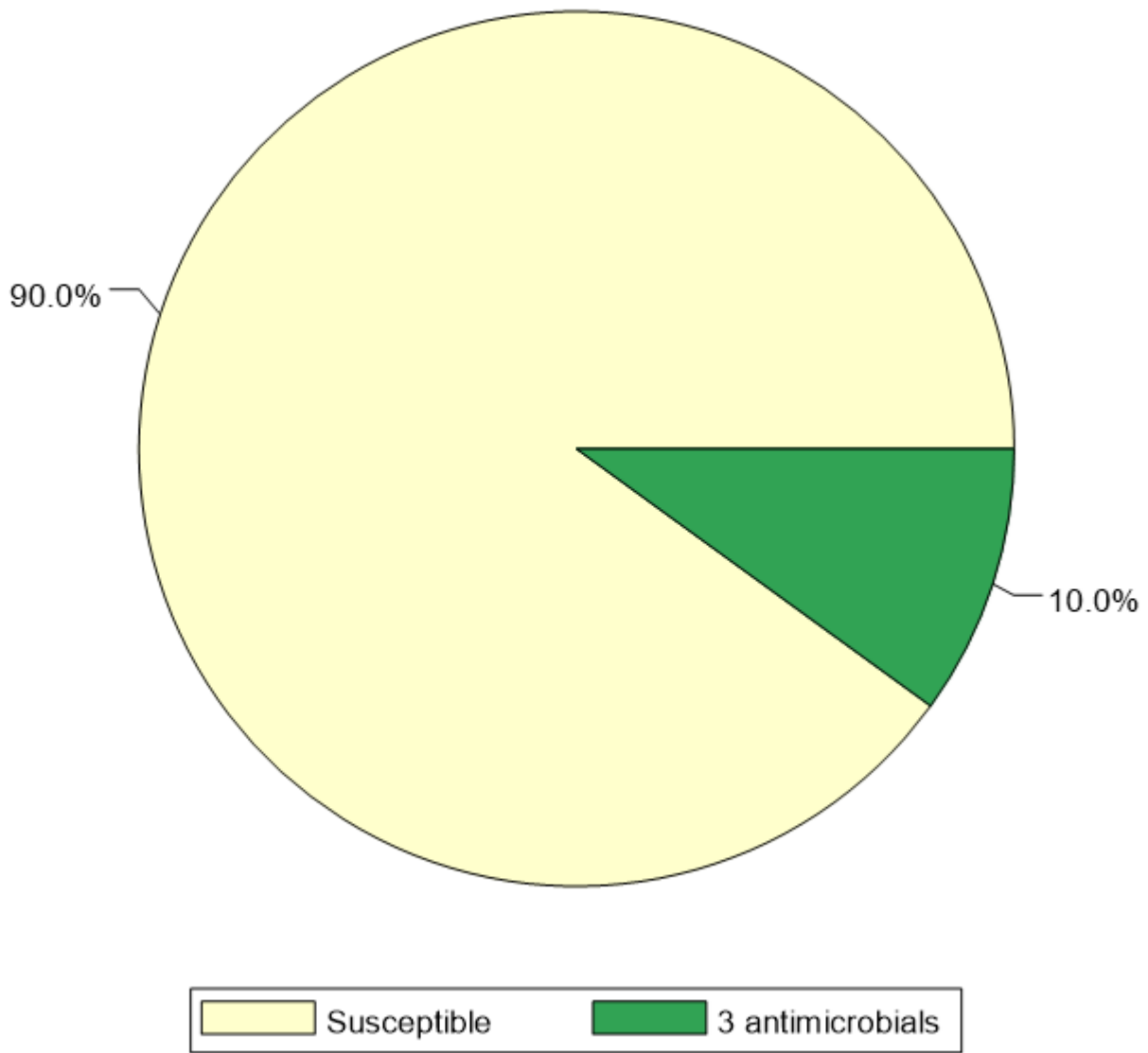
Primary Treatment	Count	Percentage
Ceftriaxone 500 mg	10	100.0

Figure E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Anchorage, Alaska, 2022



Secondary Treatment	Count	Percentage
Doxycycline/Tetracycline	9	90.0
None/Other	1	10.0

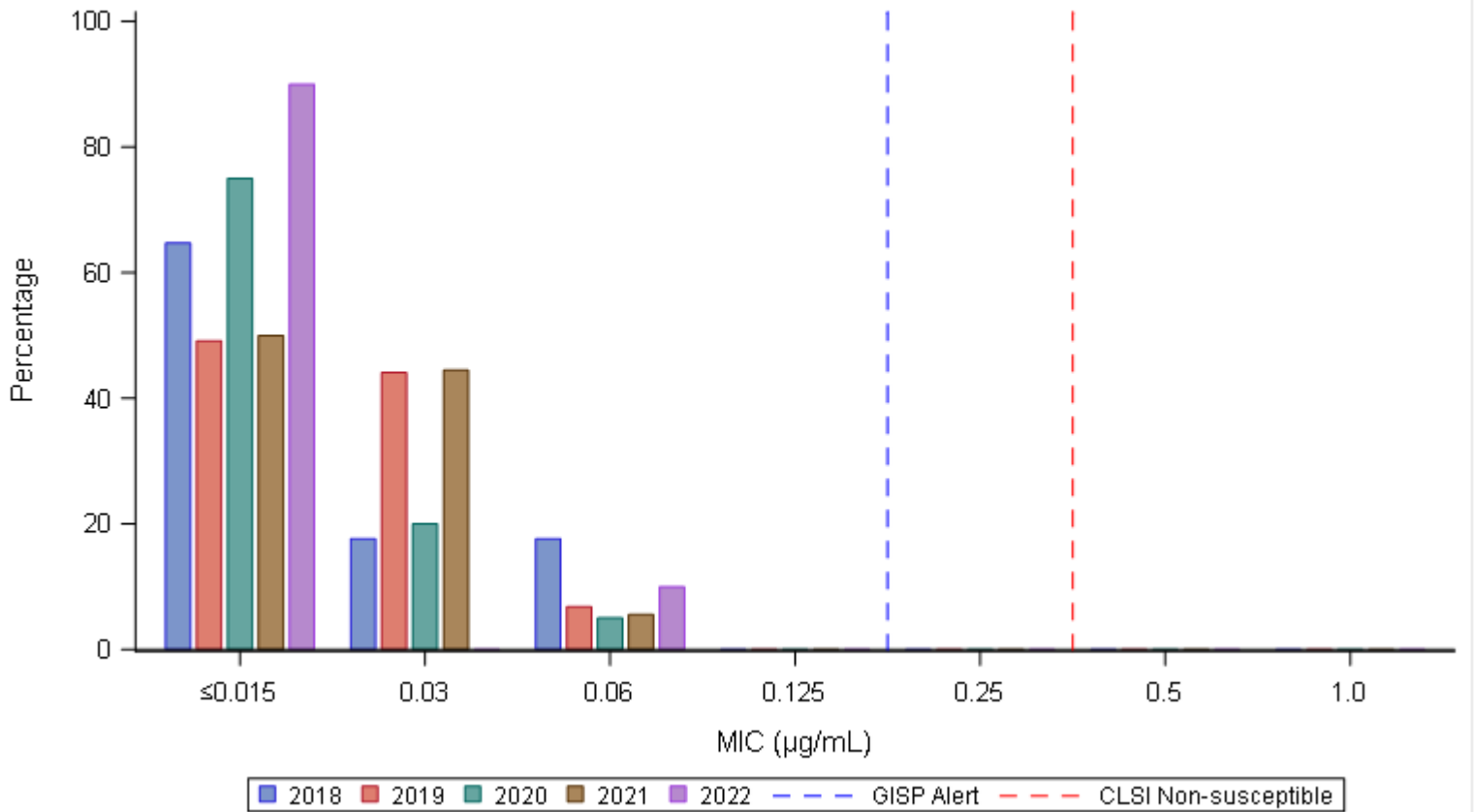
Figure F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Anchorage, Alaska, 2022



Number of Antimicrobials	Count	Percentage
Susceptible	9	90.0
1 antimicrobial	0	0.0
2 antimicrobials	0	0.0
3 antimicrobials	1	10.0
4+ antimicrobials	0	0.0

Elevated MICs = ceftriaxone MIC ≥ 0.125 $\mu\text{g/mL}$; cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; Resistance = tetracycline MIC ≥ 2.0 $\mu\text{g/mL}$; ciprofloxacin MIC ≥ 1.0 $\mu\text{g/mL}$; penicillin MIC ≥ 2.0 $\mu\text{g/mL}$ or β -lactamase positive.

Figure G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Anchorage, Alaska, 2018-2022



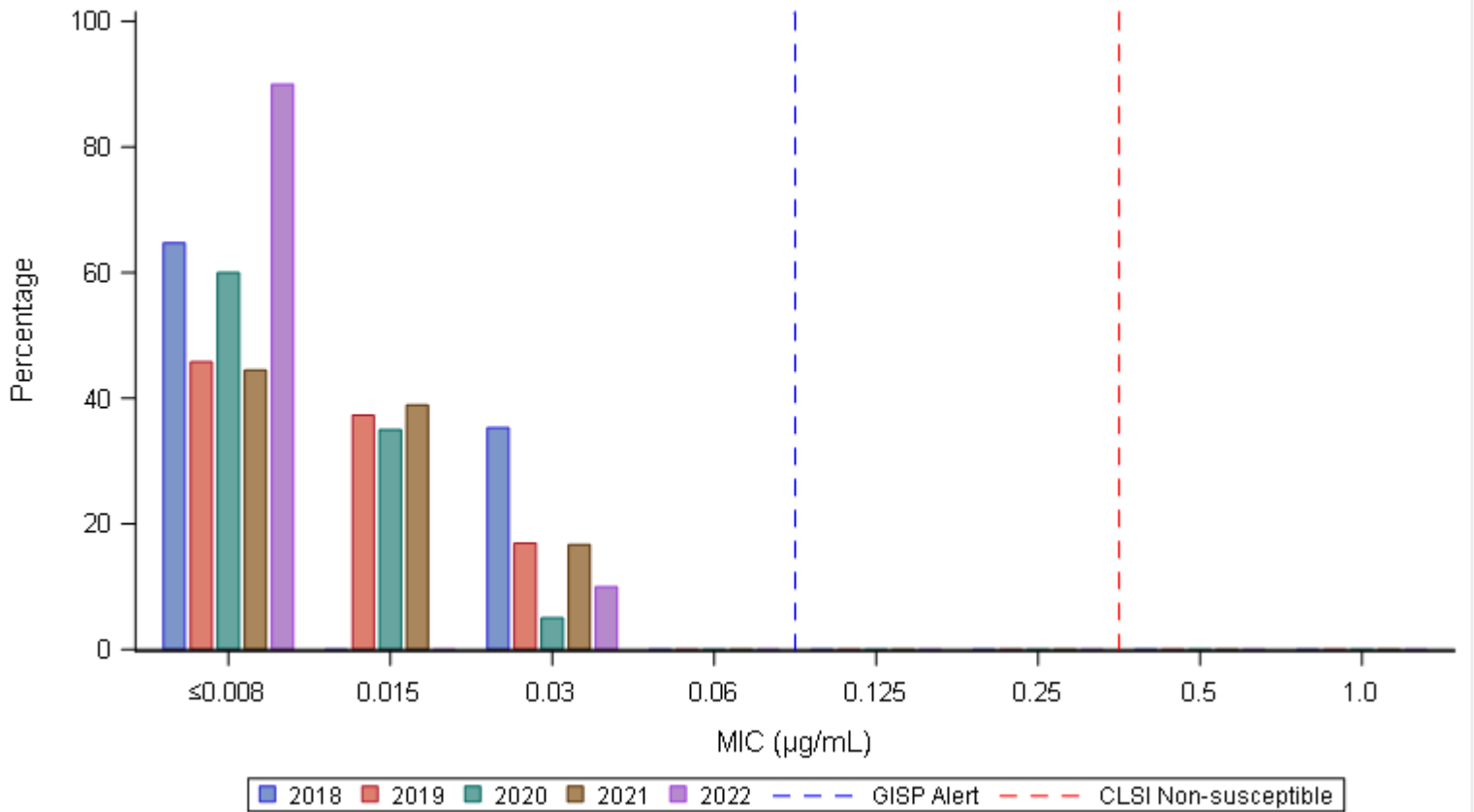
Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	11 (64.7)	3 (17.6)	3 (17.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	17
2019	29 (49.2)	26 (44.1)	4 (6.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	59
2020	15 (75.0)	4 (20.0)	1 (5.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	20
2021	9 (50.0)	8 (44.4)	1 (5.6)	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)	10

GISP Alert Value = cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; CLSI Non-susceptible = cefixime MIC ≥ 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 the end of 2022, the CLSI has not established a cefixime resistance breakpoint for *N. gonorrhoeae*.

Figure H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Anchorage, Alaska, 2018-2022



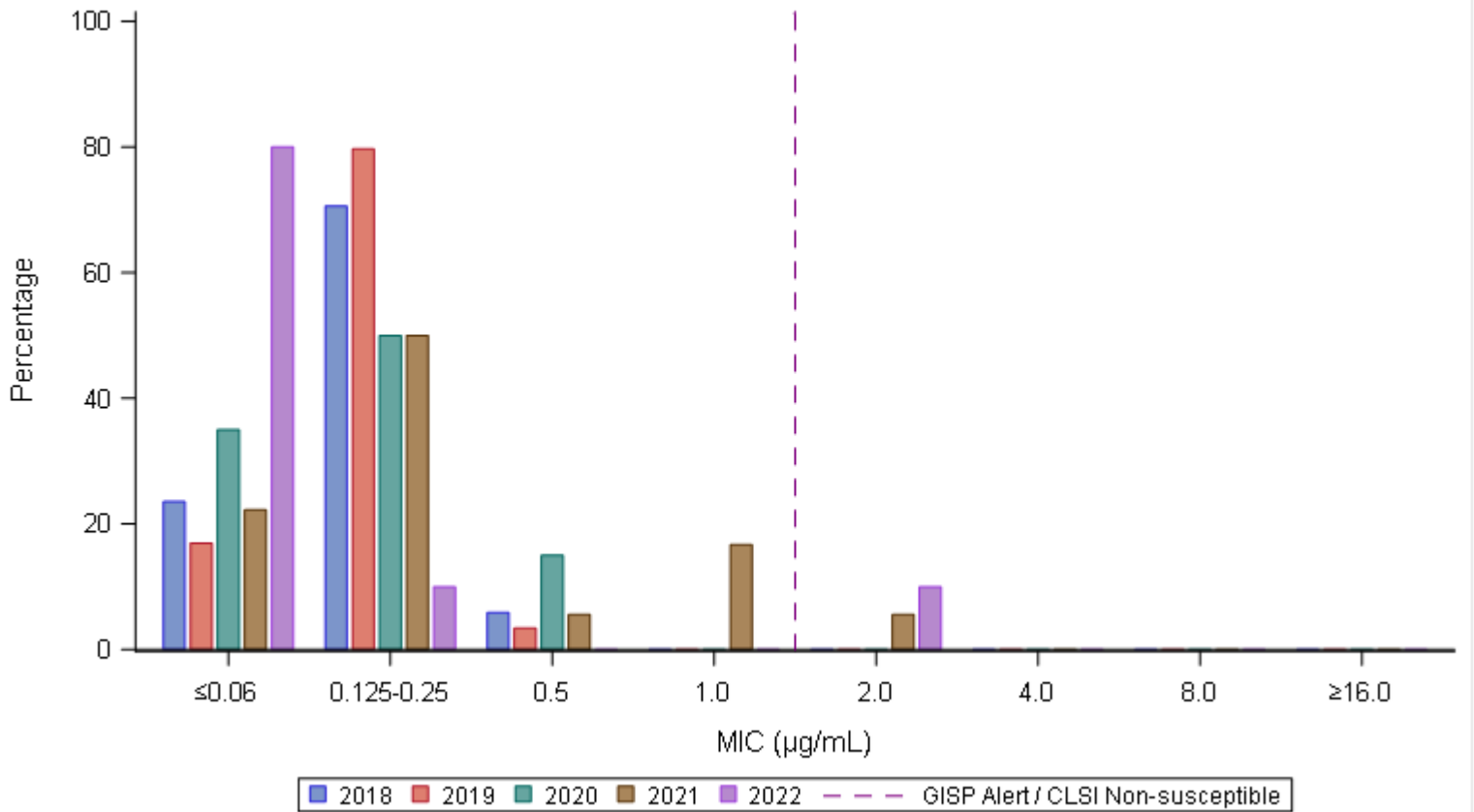
Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	11 (64.7)	0 (0.0)	6 (35.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	17
2019	27 (45.8)	22 (37.3)	10 (16.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	59
2020	12 (60.0)	7 (35.0)	1 (5.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	20
2021	8 (44.4)	7 (38.9)	3 (16.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	18
2022	9 (90.0)	0 (0.0)	1 (10.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	10

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 the end of 2022, the CLSI has not established a ceftriaxone resistance breakpoint for *N. gonorrhoeae*.

Figure I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Anchorage, Alaska, 2018-2022



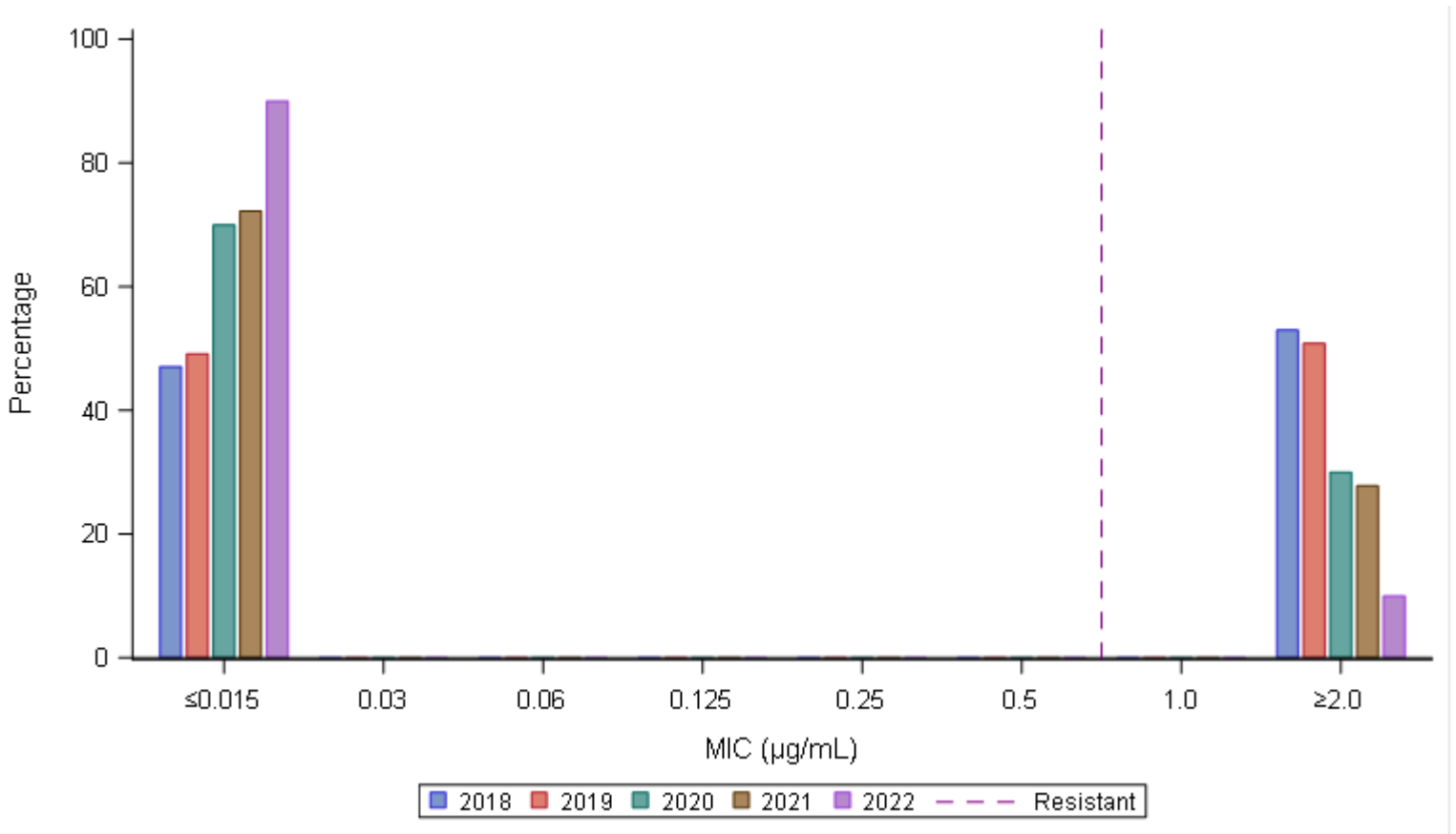
Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2018	4 (23.5)	12 (70.6)	1 (5.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	17
2019	10 (16.9)	47 (79.7)	2 (3.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	59
2020	7 (35.0)	10 (50.0)	3 (15.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	20
2021	4 (22.2)	9 (50.0)	1 (5.6)	3 (16.7)	1 (5.6)	0 (0.0)	0 (0.0)	0 (0.0)	18
2022	8 (80.0)	1 (10.0)	0 (0.0)	0 (0.0)	1 (10.0)	0 (0.0)	0 (0.0)	0 (0.0)	10

GISP Alert Value: azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; CLSI Non-susceptible = azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$.

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 the end of 2022, the CLSI has not established an azithromycin resistance breakpoint for *N. gonorrhoeae*.

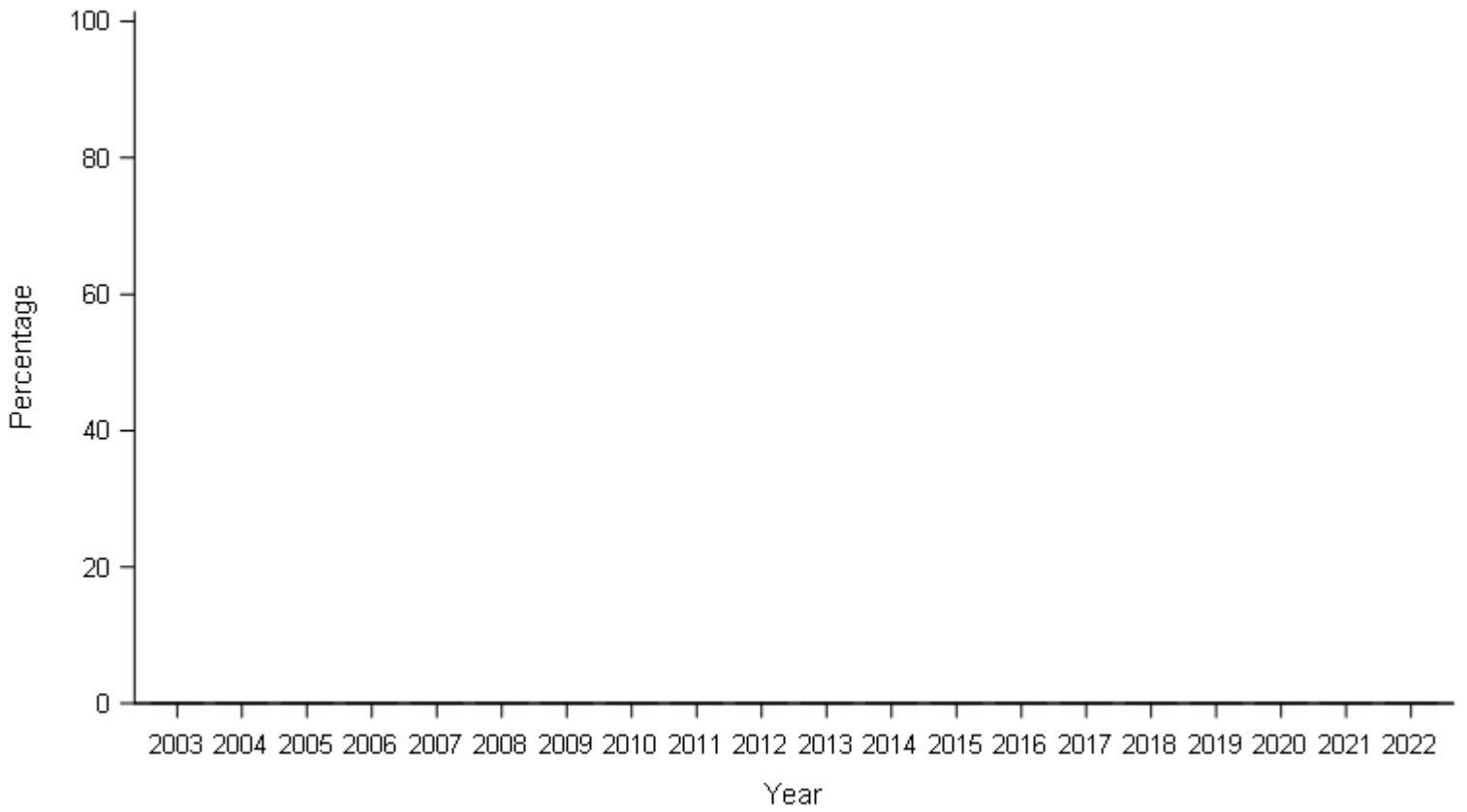
Figure J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Anchorage, Alaska, 2018-2022



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
2018	8 (47.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	9 (52.9)	17
2019	29 (49.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	30 (50.8)	59
2020	14 (70.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	6 (30.0)	20
2021	13 (72.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	5 (27.8)	18
2022	9 (90.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (10.0)	10

Ciprofloxacin resistance MIC ≥1.0 µg/mL.

Figure K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Anchorage, Alaska, 2003-2022



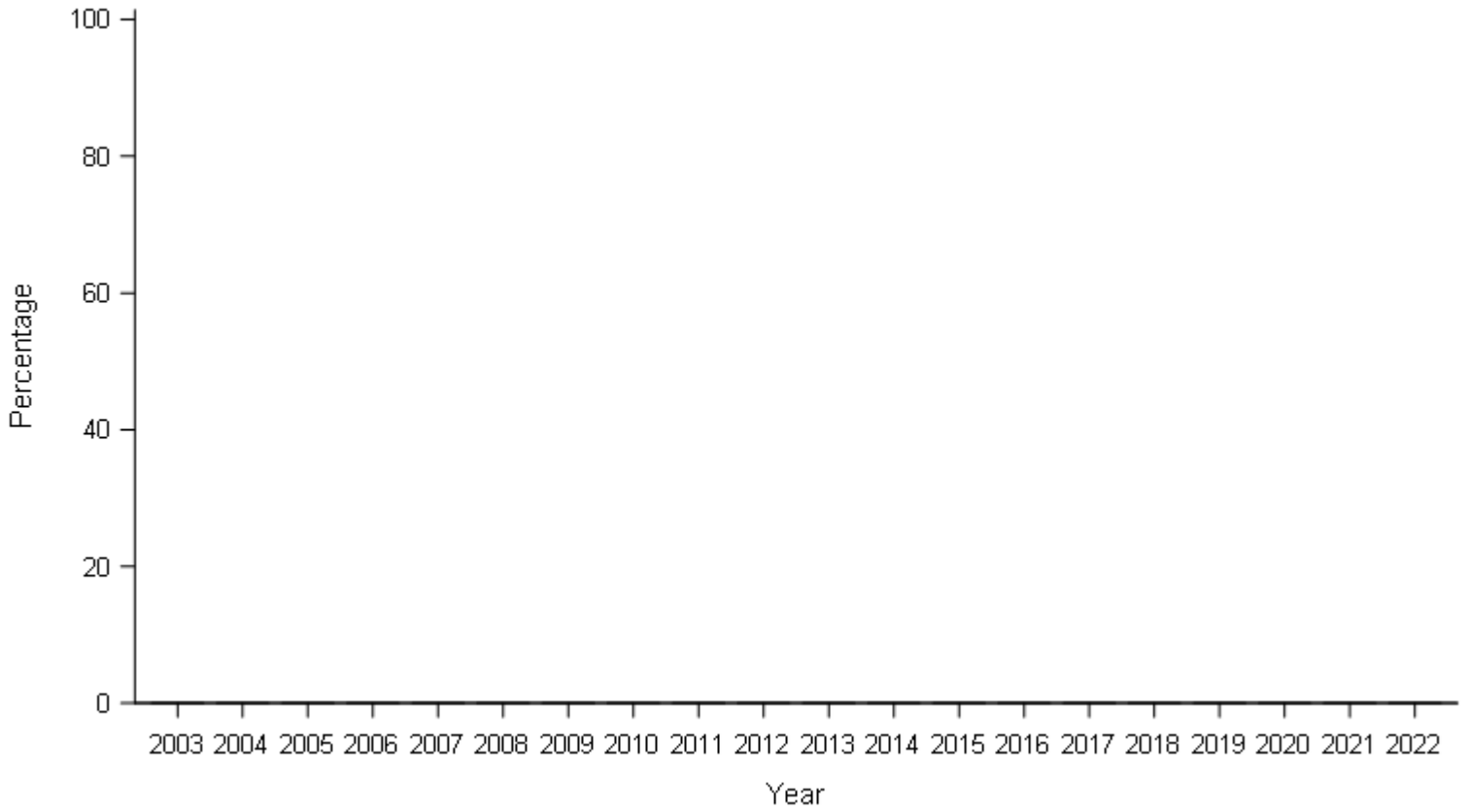
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

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

Site participated in GISP in 2003 and 2018-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Anchorage, Alaska, 2003-2022



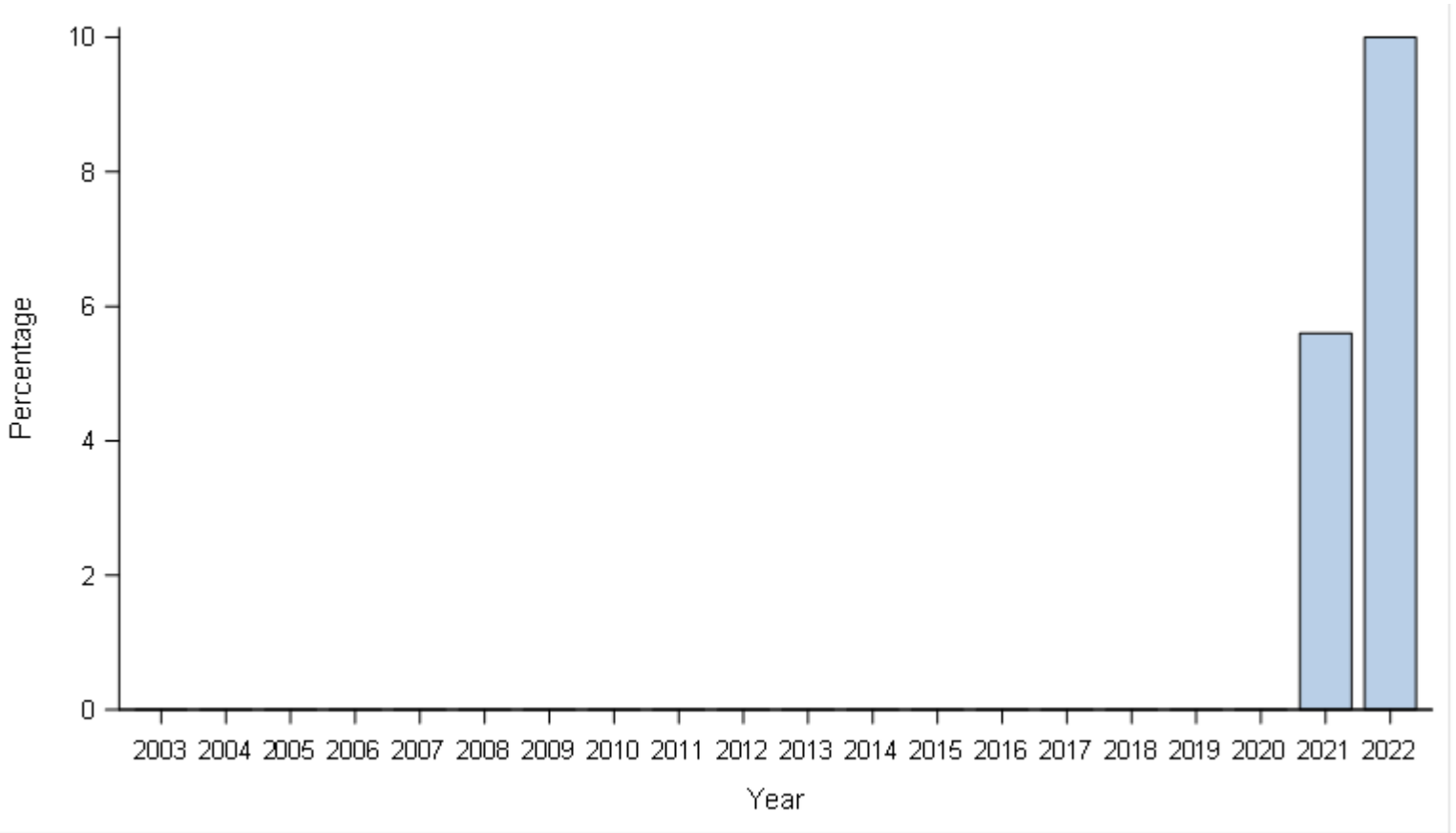
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

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

Site participated in GISP in 2003 and 2018-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure M. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Anchorage, Alaska, 2003-2022

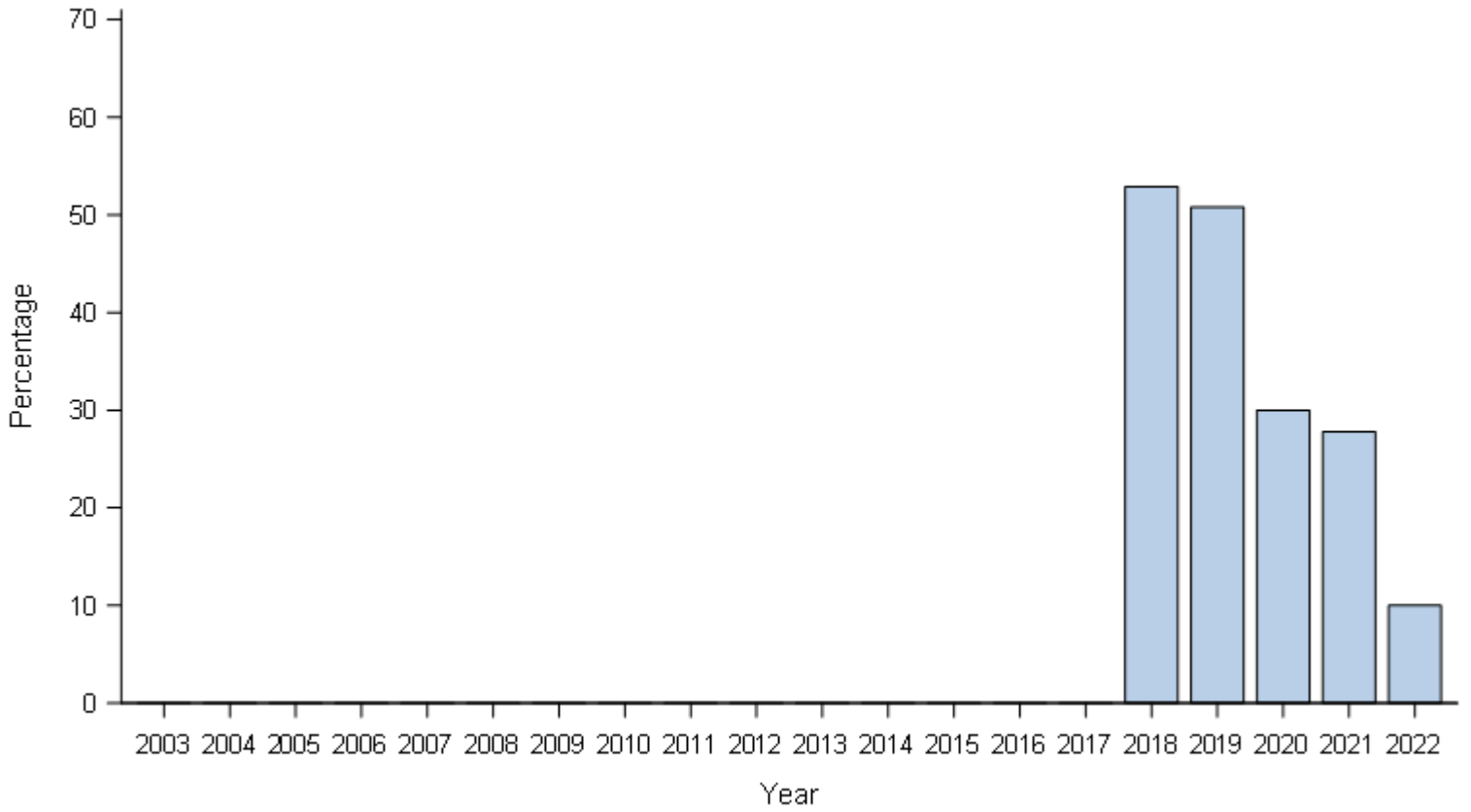


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (5.6)	1 (10.0)

Azithromycin elevated MIC ≥ 1.0 $\mu\text{g/mL}$ prior to 2005 and ≥ 2.0 $\mu\text{g/mL}$ during 2005-2022. Site participated in GISP in 2003 and 2018-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Anchorage, Alaska, 2003-2022



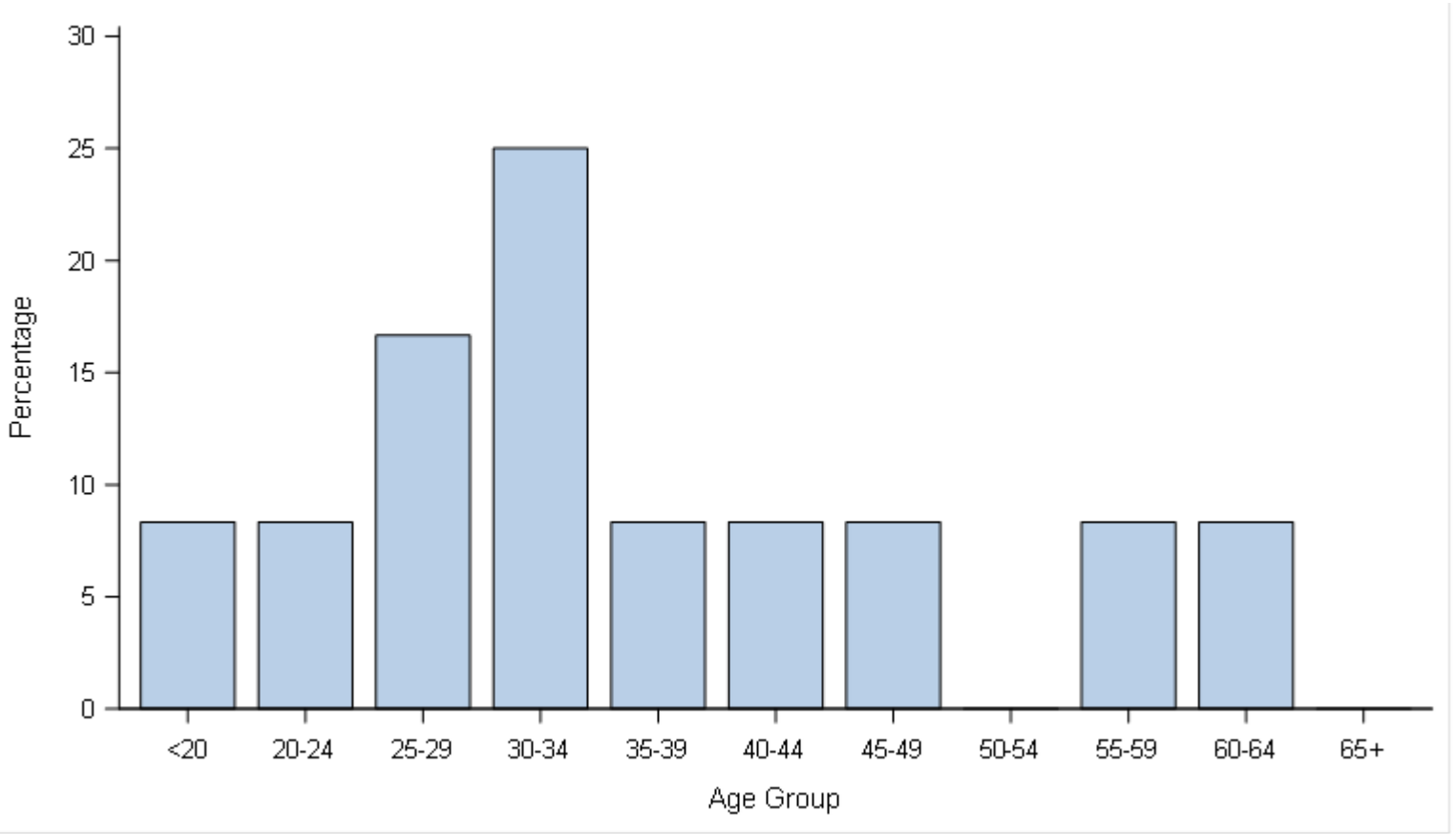
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	9 (52.9)	30 (50.8)	6 (30.0)	5 (27.8)	1 (10.0)

Ciprofloxacin resistance MIC \geq 1.0 μ g/mL.

Site participated in GISP in 2003 and 2018-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

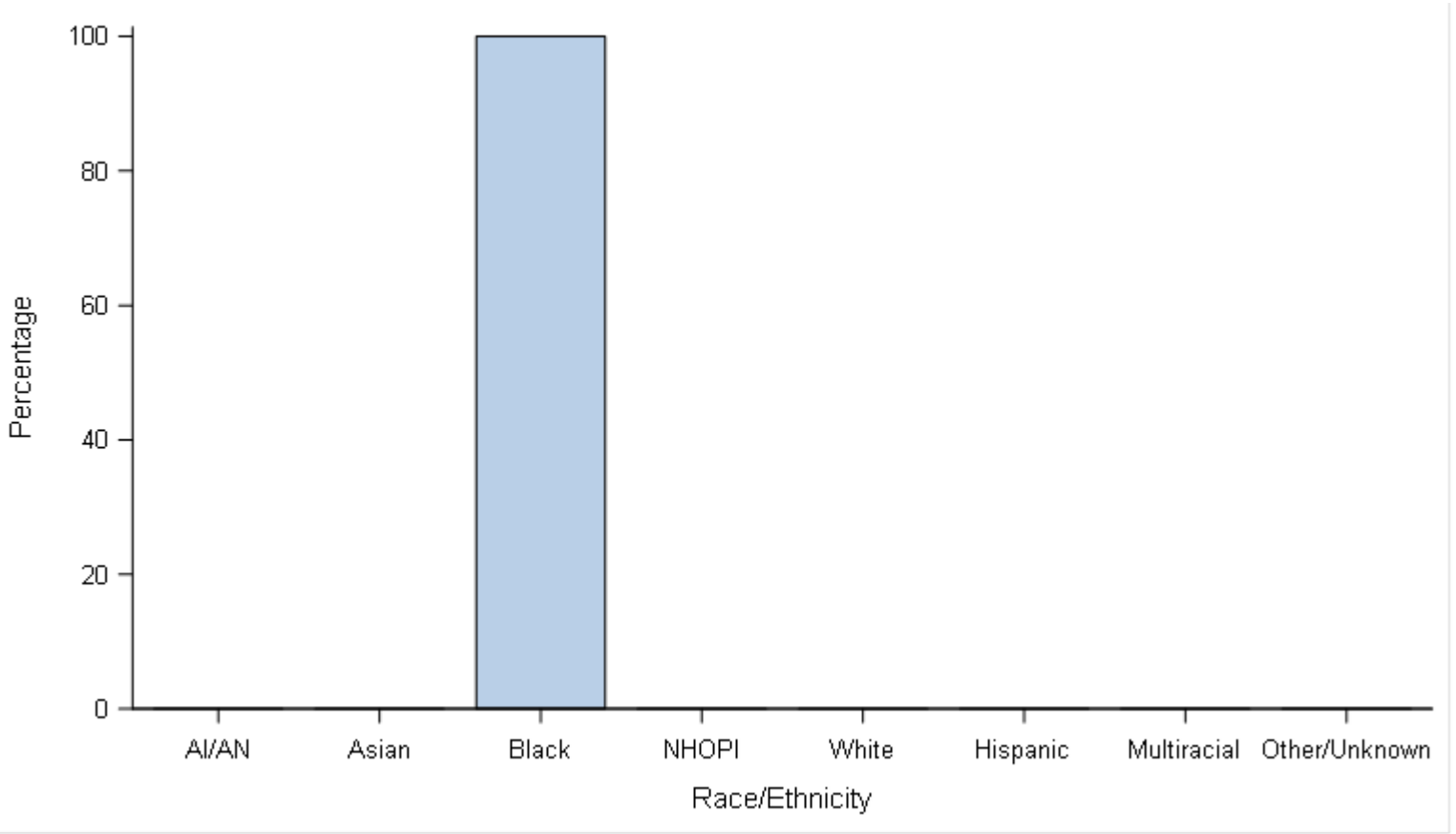
Figure A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Baltimore, Maryland, 2022



<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 (8.3)	1 (8.3)	2 (16.7)	3 (25.0)	1 (8.3)	1 (8.3)	1 (8.3)	0 (0.0)	1 (8.3)	1 (8.3)	0 (0.0)	12

Cases with unknown age were excluded.

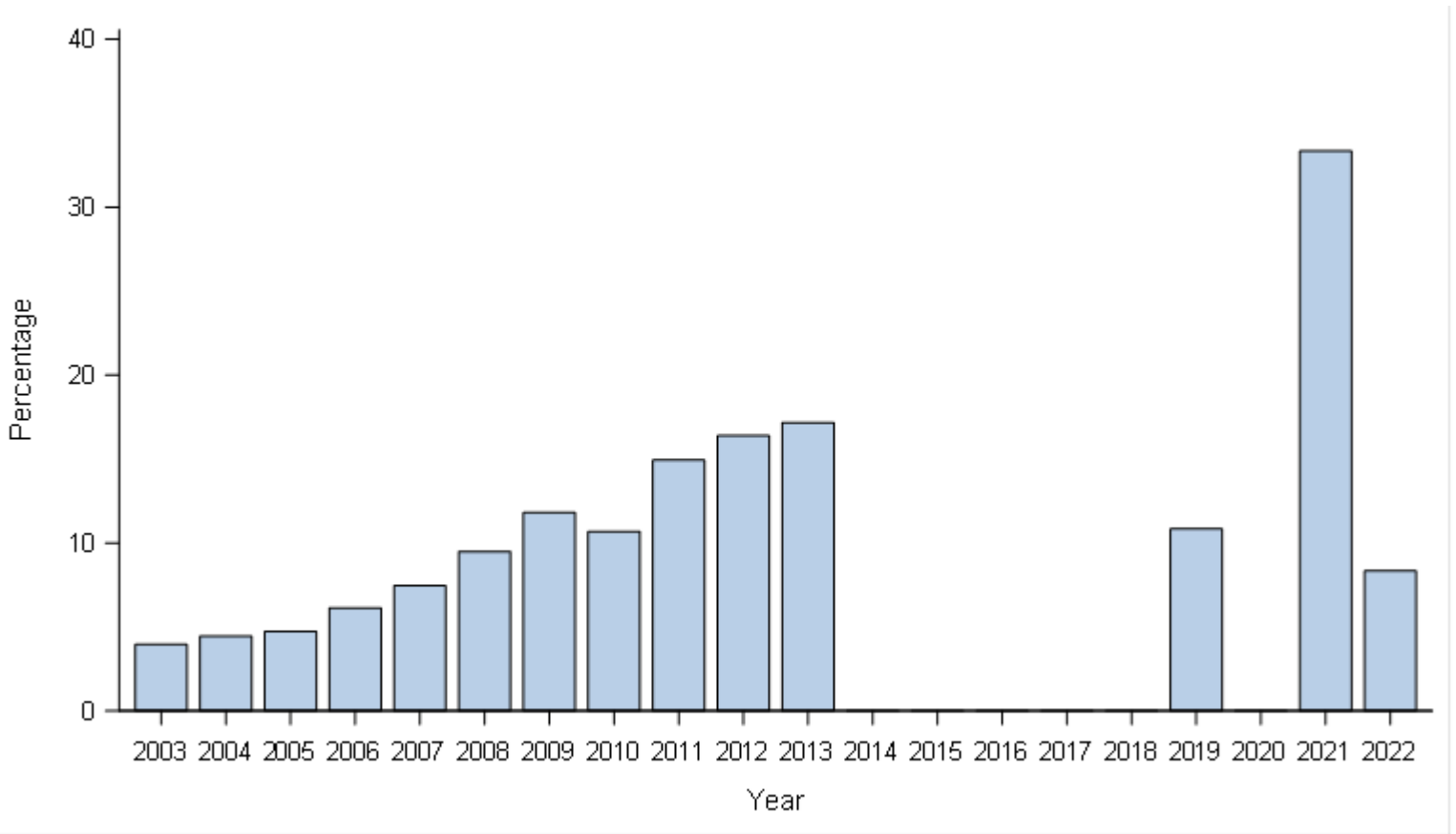
Figure B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Baltimore, Maryland, 2022



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 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	12

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.

Figure C. Percentage of Participants Identifying as Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Baltimore, Maryland, 2003-2022

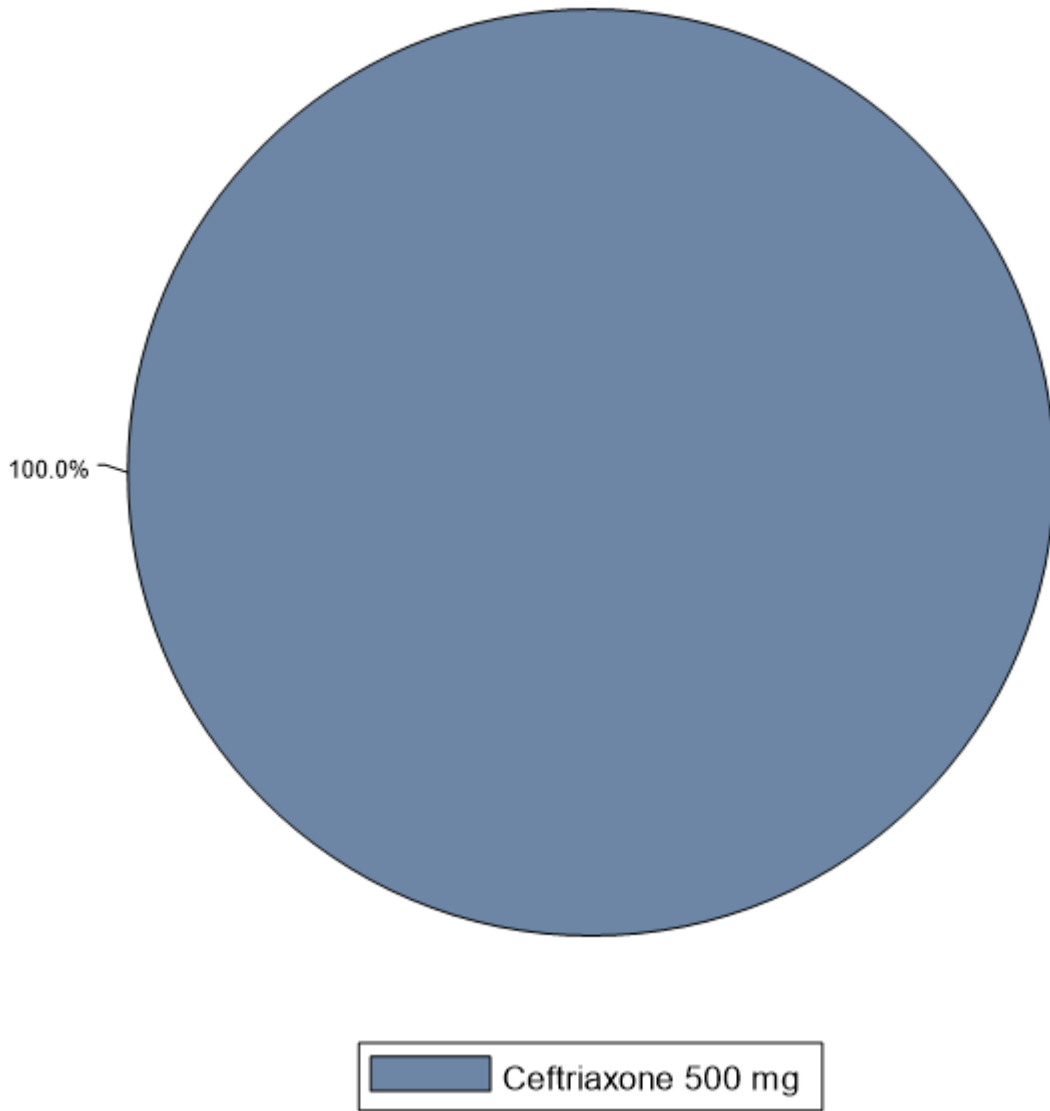


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
11 (4.0)	13 (4.5)	14 (4.7)	17 (6.1)	22 (7.5)	28 (9.5)	32 (11.8)	25 (10.7)	43 (14.9)	48 (16.4)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
51 (17.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	9 (10.8)	0 (0.0)	1 (33.3)	1 (8.3)

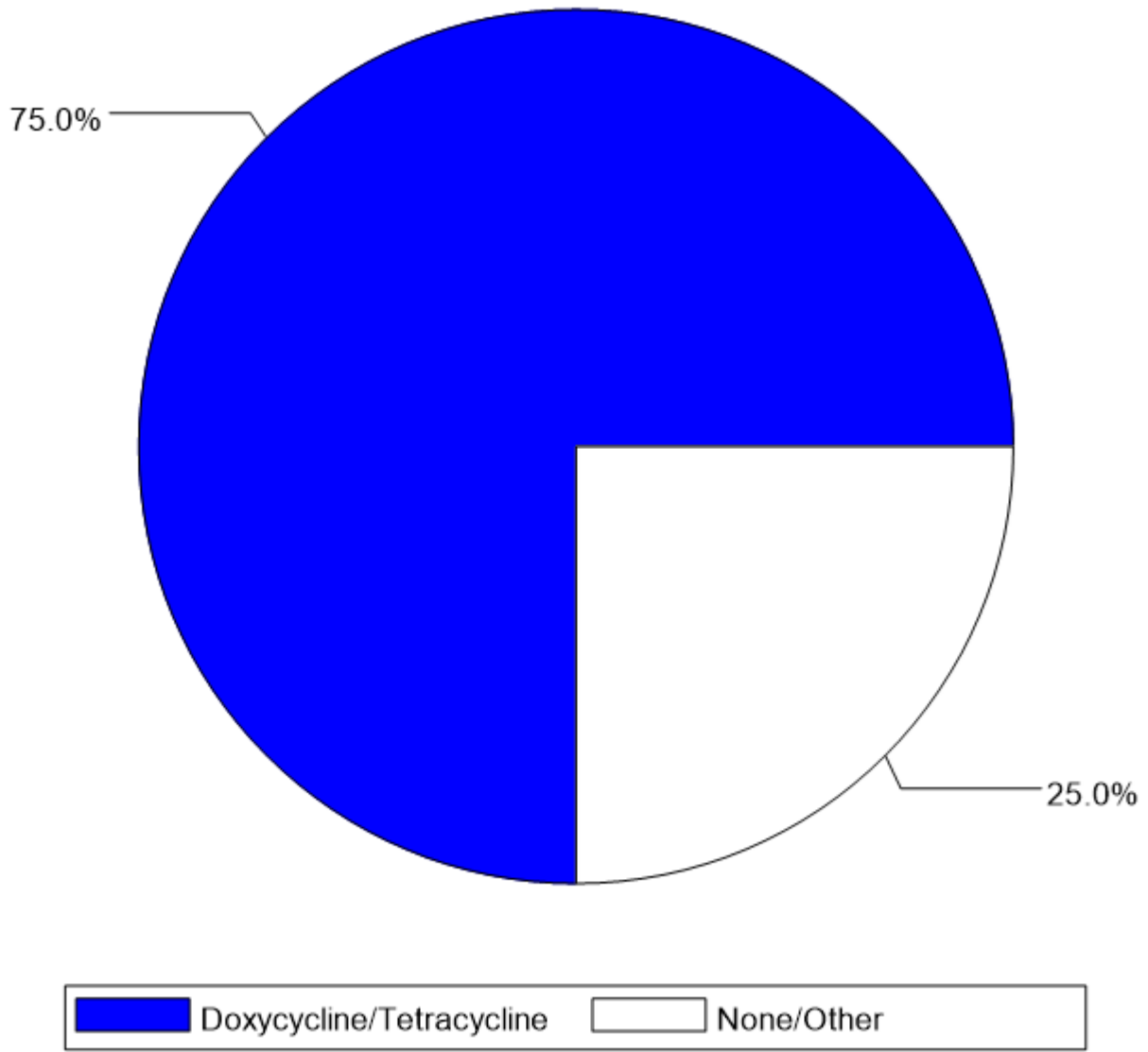
Men who have sex with men = men who self-identified as gay or bisexual or reported recent male sex partners. Site participated in GISP during 2003-2013 and 2019-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Baltimore, Maryland, 2022



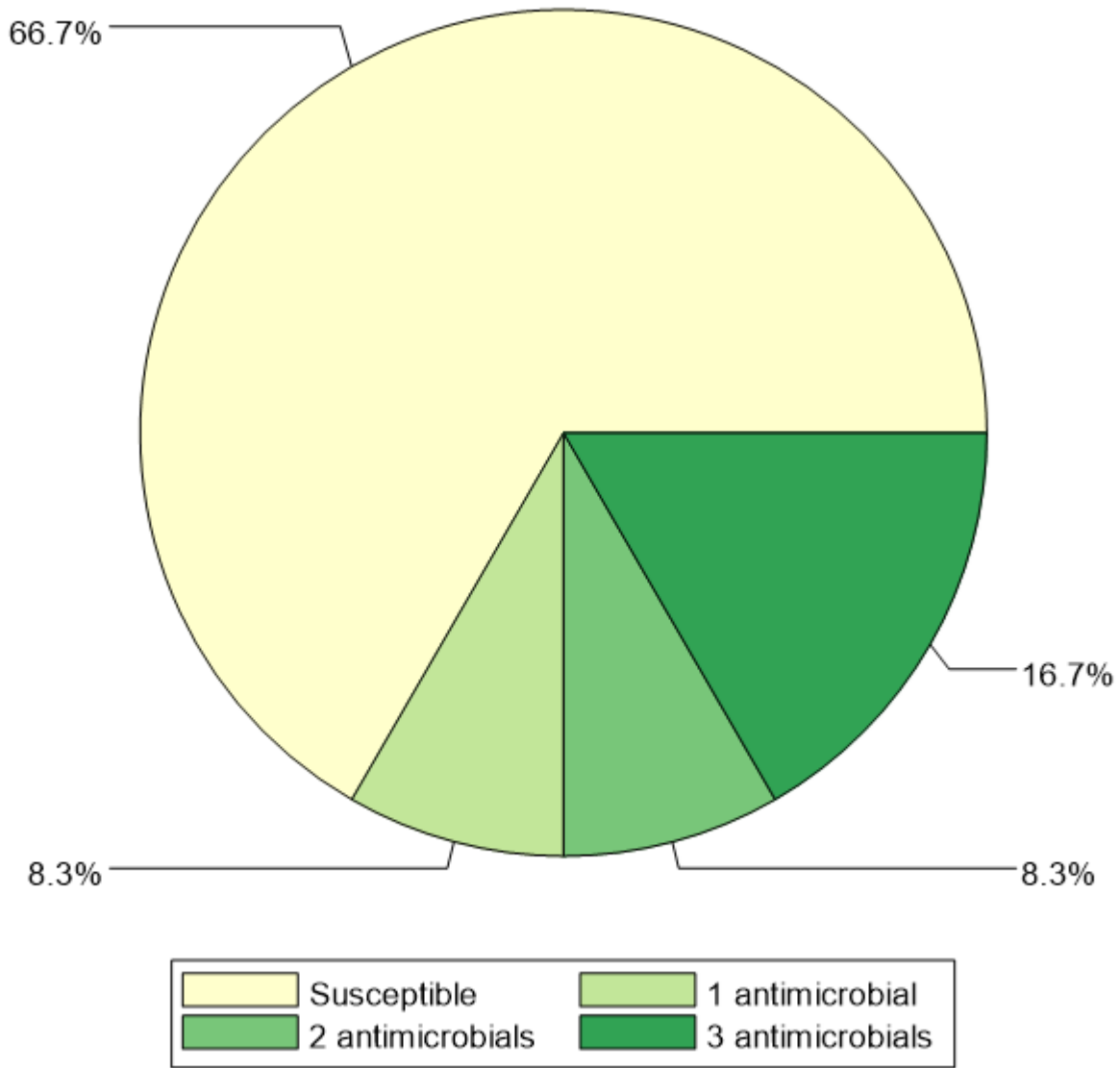
Primary Treatment	Count	Percentage
Ceftriaxone 500 mg	12	100.0

Figure E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Baltimore, Maryland, 2022



Secondary Treatment	Count	Percentage
Doxycycline/Tetracycline	9	75.0
None/Other	3	25.0

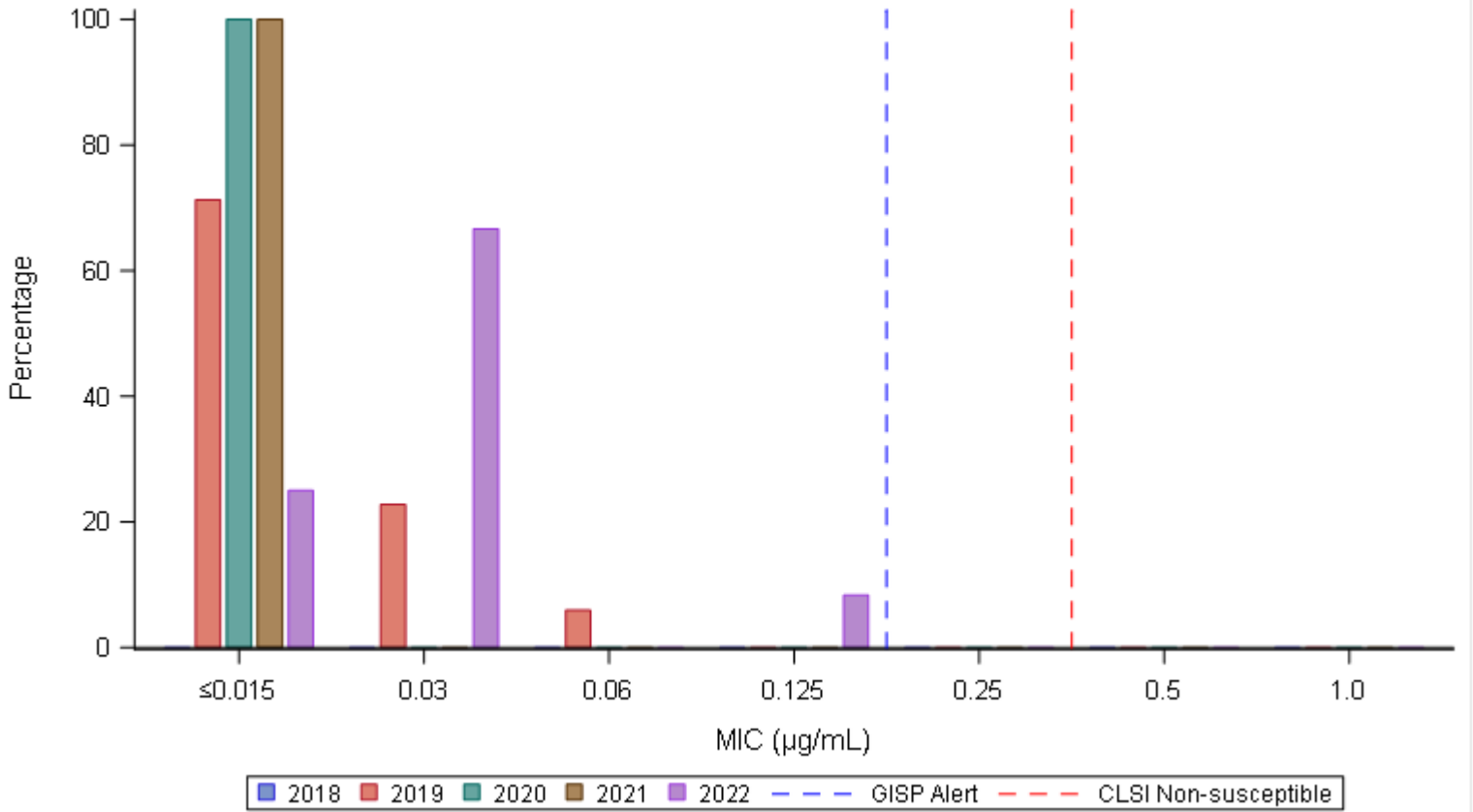
Figure F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Baltimore, Maryland, 2022



Number of Antimicrobials	Count	Percentage
Susceptible	8	66.7
1 antimicrobial	1	8.3
2 antimicrobials	1	8.3
3 antimicrobials	2	16.7
4+ antimicrobials	0	0.0

Elevated MICs = ceftriaxone MIC ≥ 0.125 $\mu\text{g}/\text{mL}$; cefixime MIC ≥ 0.25 $\mu\text{g}/\text{mL}$; azithromycin MIC ≥ 2.0 $\mu\text{g}/\text{mL}$; Resistance = tetracycline MIC ≥ 2.0 $\mu\text{g}/\text{mL}$; ciprofloxacin MIC ≥ 1.0 $\mu\text{g}/\text{mL}$; penicillin MIC ≥ 2.0 $\mu\text{g}/\text{mL}$ or β -lactamase positive.

Figure G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Baltimore, Maryland, 2018-2022



Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0
2019	72 (71.3)	23 (22.8)	6 (5.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	101
2020	3 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	3
2021	3 (100.0)	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)	12

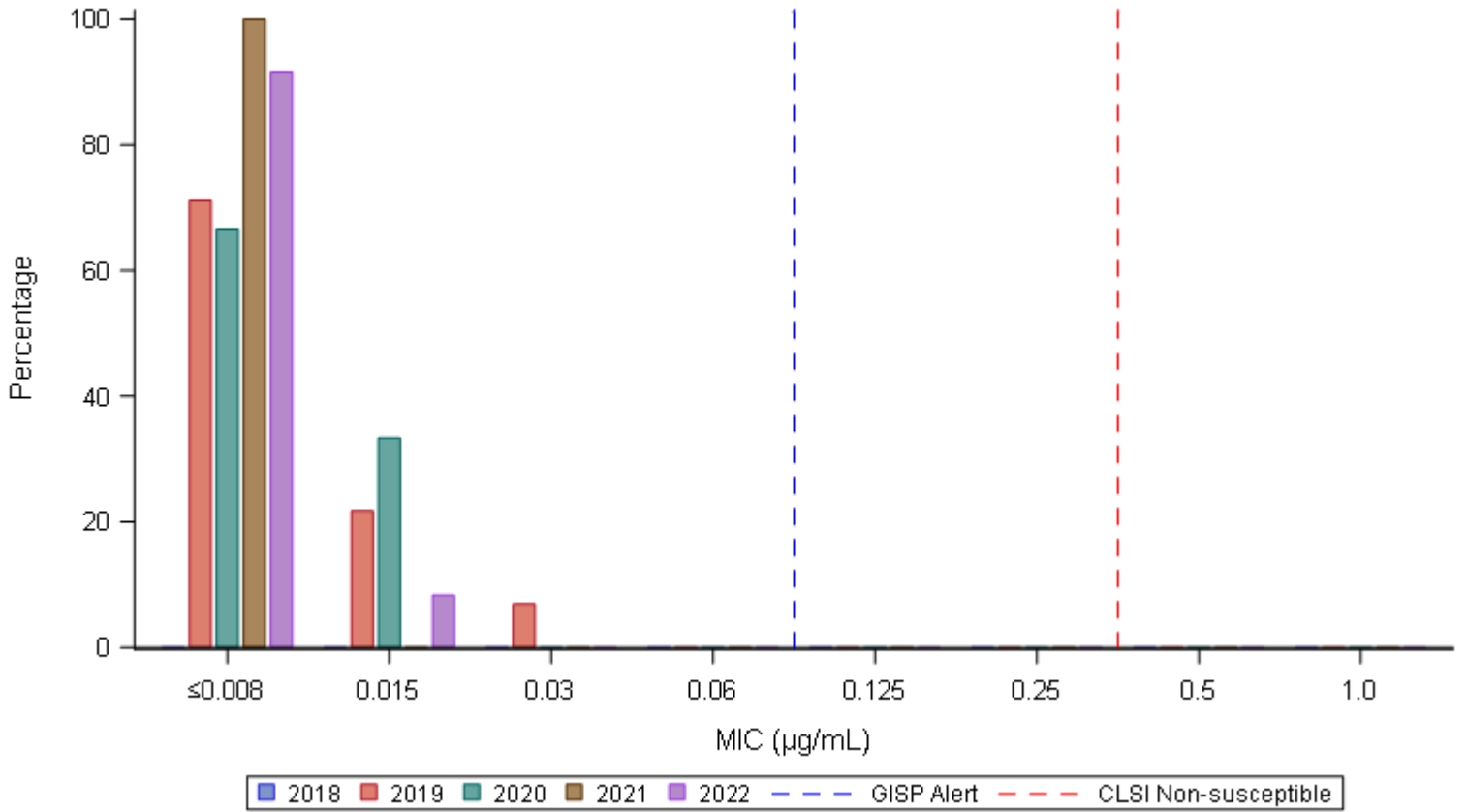
GISP Alert Value = cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; CLSI Non-susceptible = cefixime MIC ≥ 0.5 $\mu\text{g/mL}$.

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 the end of 2022, the CLSI has not established a cefixime resistance breakpoint for *N. gonorrhoeae*.

Site participated in GISP during 2019-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Baltimore, Maryland, 2018-2022



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
2018	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0
2019	72 (71.3)	22 (21.8)	7 (6.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	101
2020	2 (66.7)	1 (33.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	3
2021	3 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	3
2022	11 (91.7)	1 (8.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	12

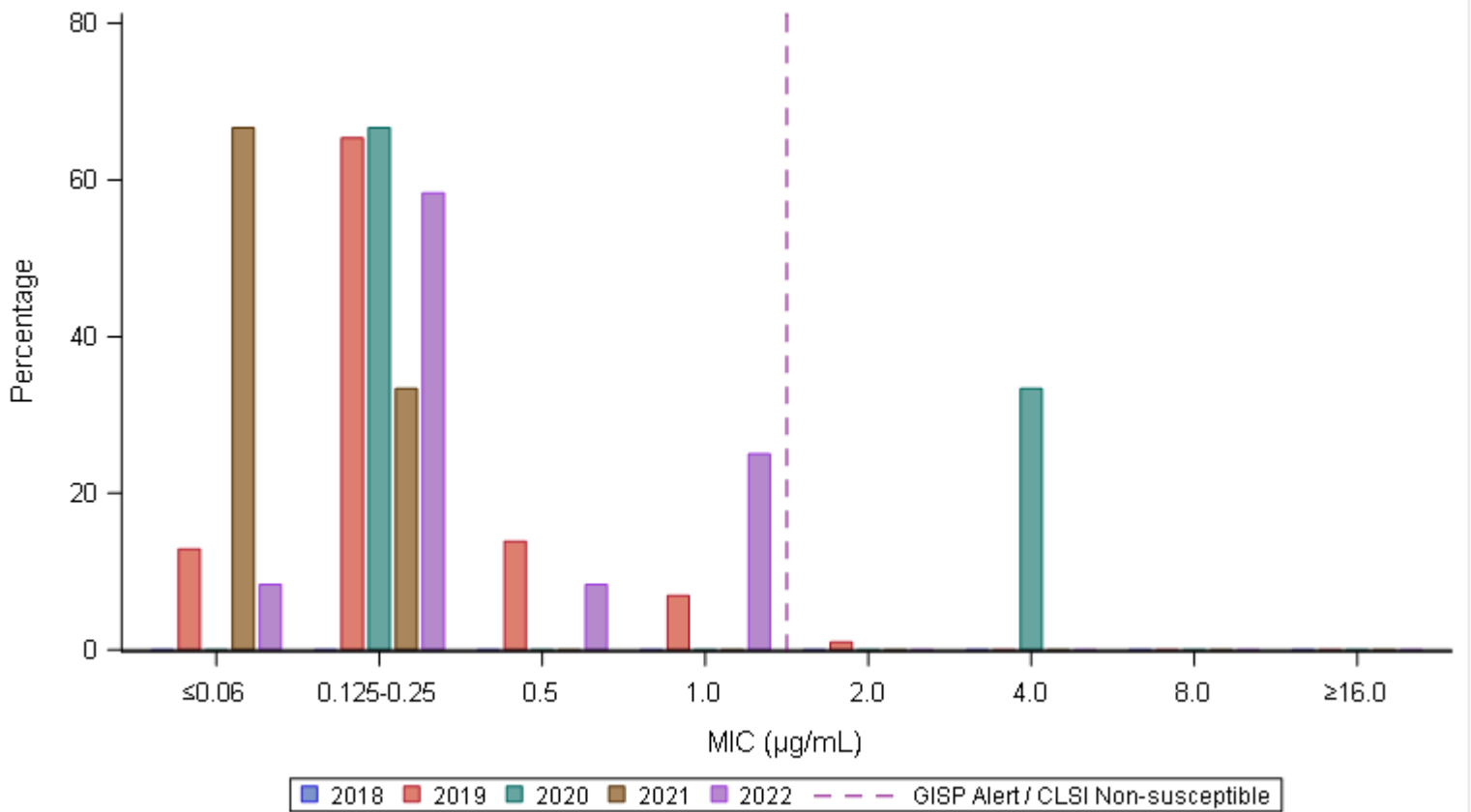
GISP Alert Value = ceftriaxone MIC ≥0.125 µg/mL; CLSI Non-susceptible = ceftriaxone MIC ≥0.5 µg/mL.

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 the end of 2022, the CLSI has not established a ceftriaxone resistance breakpoint for *N. gonorrhoeae*.

Site participated in GISP during 2019-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Baltimore, Maryland, 2018-2022



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
2018	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0
2019	13 (12.9)	66 (65.3)	14 (13.9)	7 (6.9)	1 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)	101
2020	0 (0.0)	2 (66.7)	0 (0.0)	0 (0.0)	0 (0.0)	1 (33.3)	0 (0.0)	0 (0.0)	3
2021	2 (66.7)	1 (33.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	3
2022	1 (8.3)	7 (58.3)	1 (8.3)	3 (25.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	12

GISP Alert Value: azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; CLSI Non-susceptible = azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$.

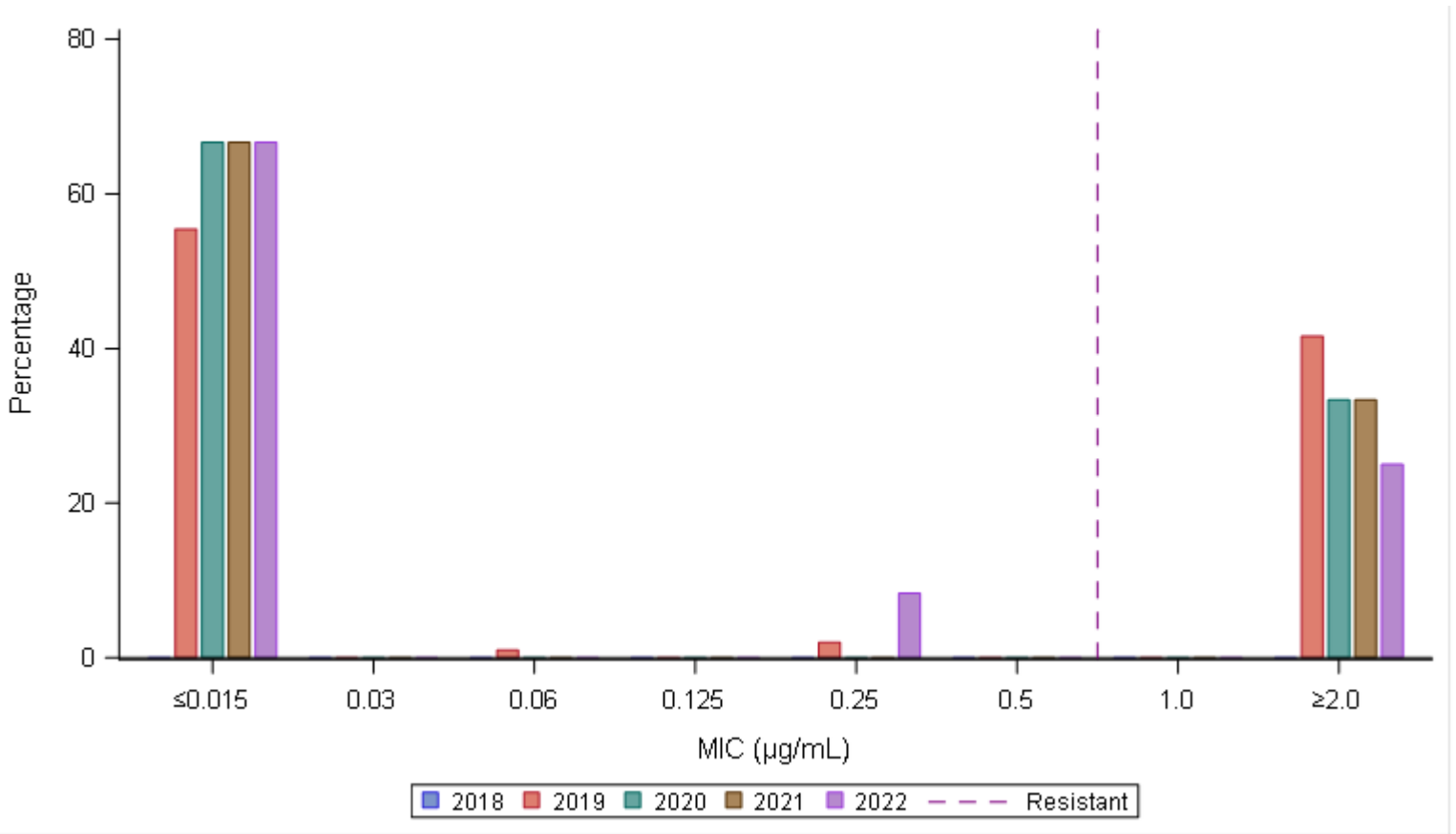
CLSI = Clinical & Laboratory Standards Institute.

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

As of the end of 2022, the CLSI has not established an azithromycin resistance breakpoint for *N. gonorrhoeae*.

Site participated in GISP during 2019-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Baltimore, Maryland, 2018-2022

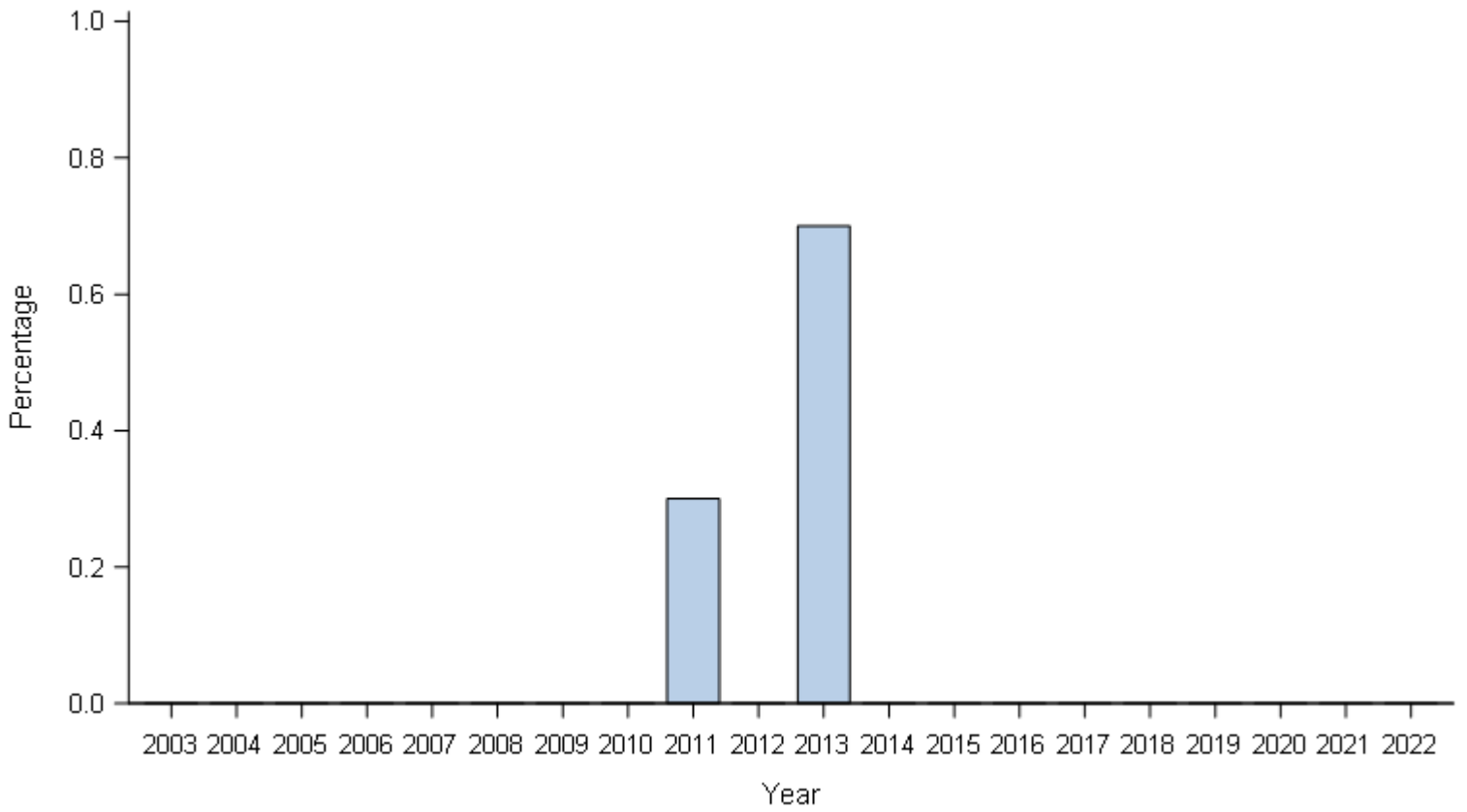


Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	≥2.0 n (%)	Total
2018	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0
2019	56 (55.4)	0 (0.0)	1 (1.0)	0 (0.0)	2 (2.0)	0 (0.0)	0 (0.0)	42 (41.6)	101
2020	2 (66.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (33.3)	3
2021	2 (66.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (33.3)	3
2022	8 (66.7)	0 (0.0)	0 (0.0)	0 (0.0)	1 (8.3)	0 (0.0)	0 (0.0)	3 (25.0)	12

Ciprofloxacin resistance MIC ≥1.0 µg/mL.

Site participated in GISP during 2019-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Baltimore, Maryland, 2003-2022



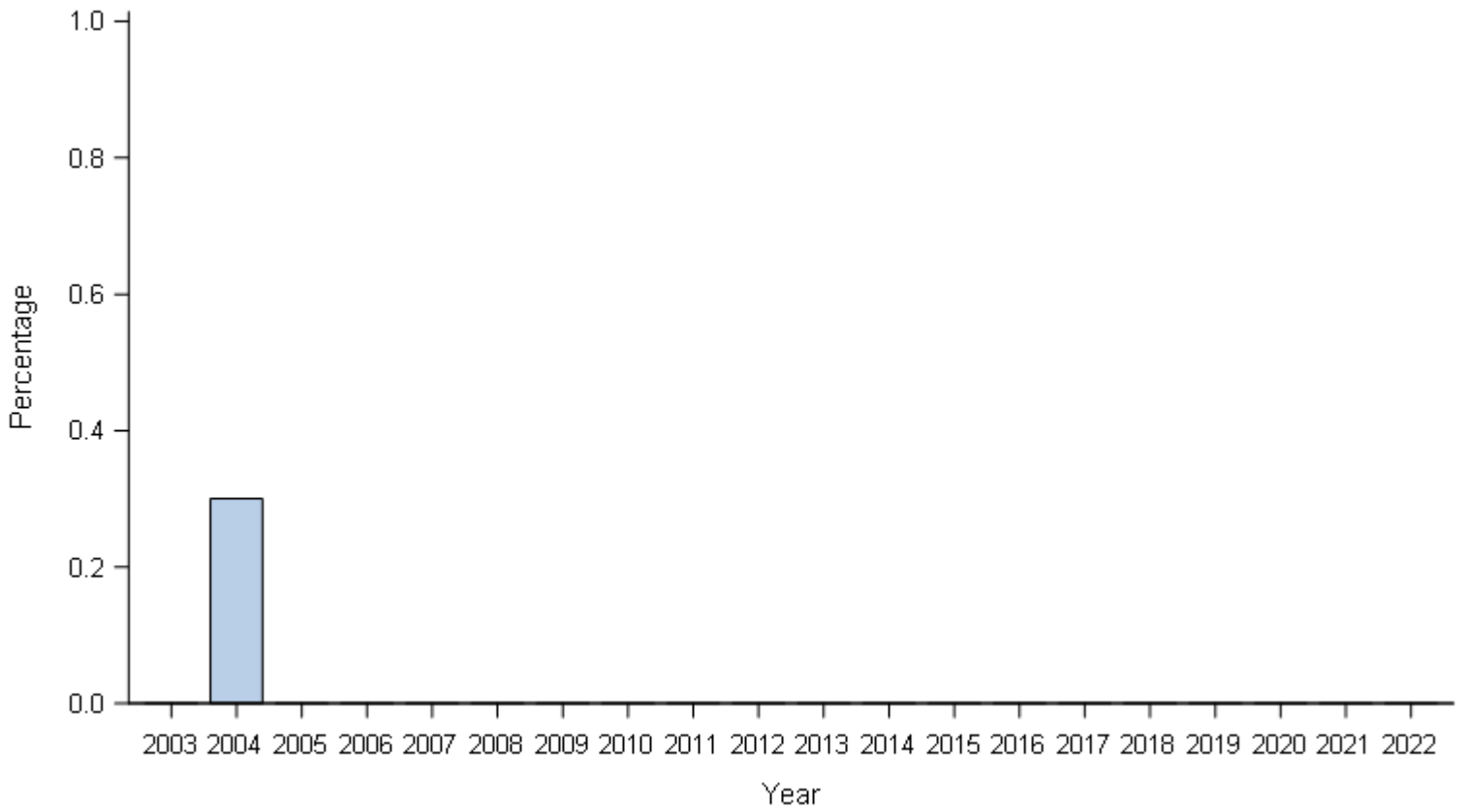
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.3)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
2 (0.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

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

Site participated in GISP during 2003-2013 and 2019-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Baltimore, Maryland, 2003-2022



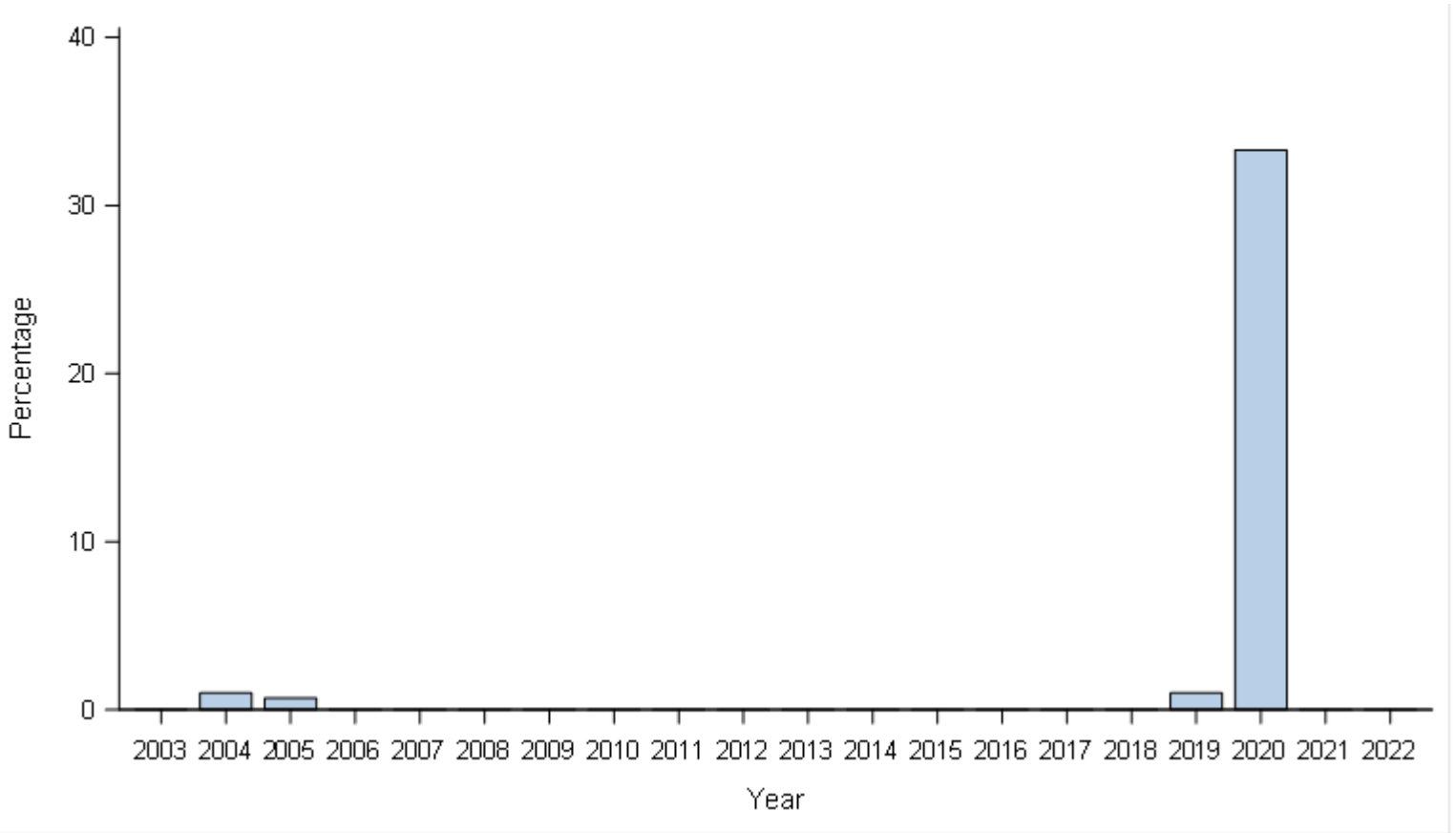
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	1 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

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

Site participated in GISP during 2003-2013 and 2019-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure M. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Baltimore, Maryland, 2003-2022



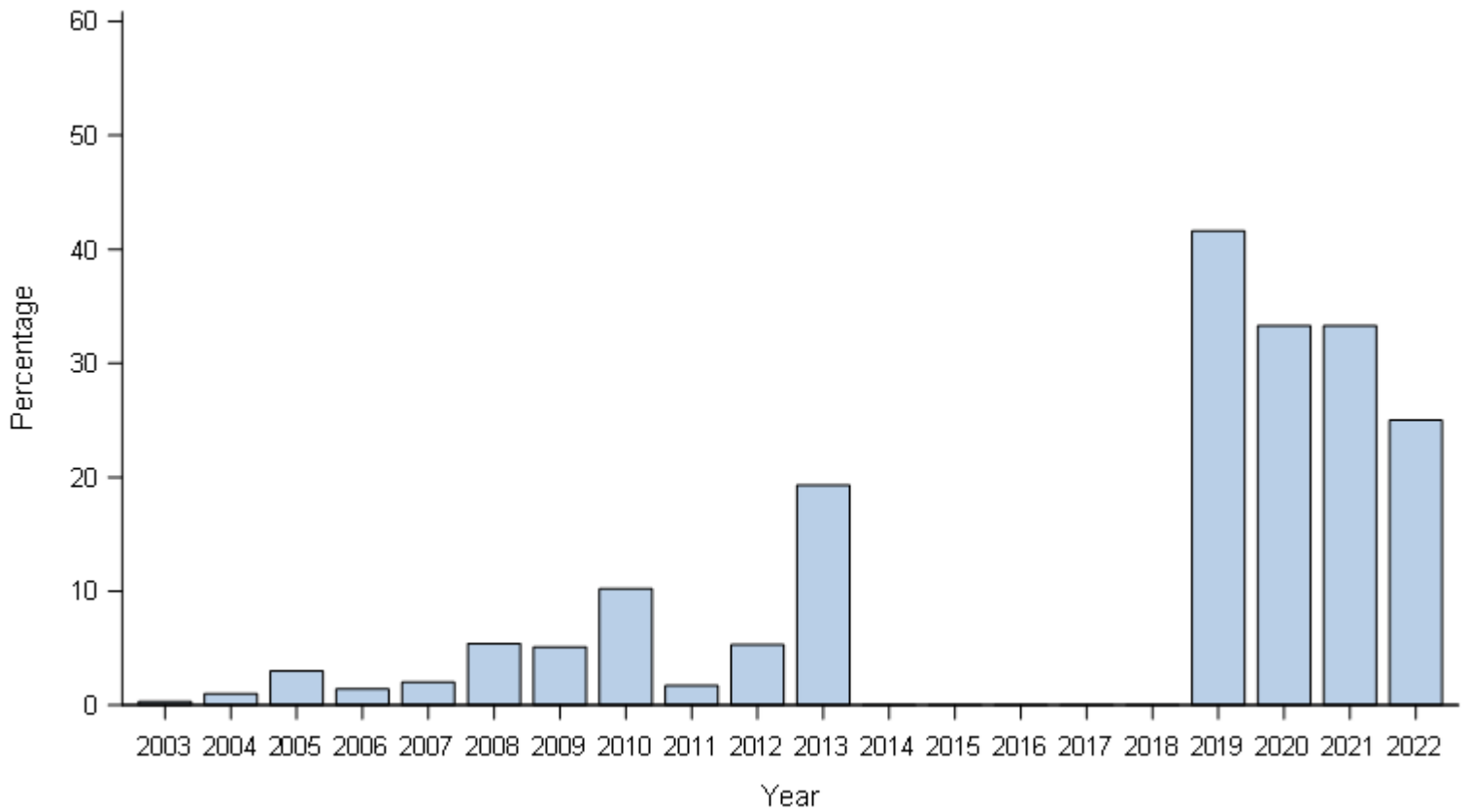
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	3 (1.0)	2 (0.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.0)	1 (33.3)	0 (0.0)	0 (0.0)

Azithromycin elevated MIC ≥ 1.0 $\mu\text{g/mL}$ prior to 2005 and ≥ 2.0 $\mu\text{g/mL}$ during 2005-2022.

Site participated in GISP during 2003-2013 and 2019-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Baltimore, Maryland, 2003-2022



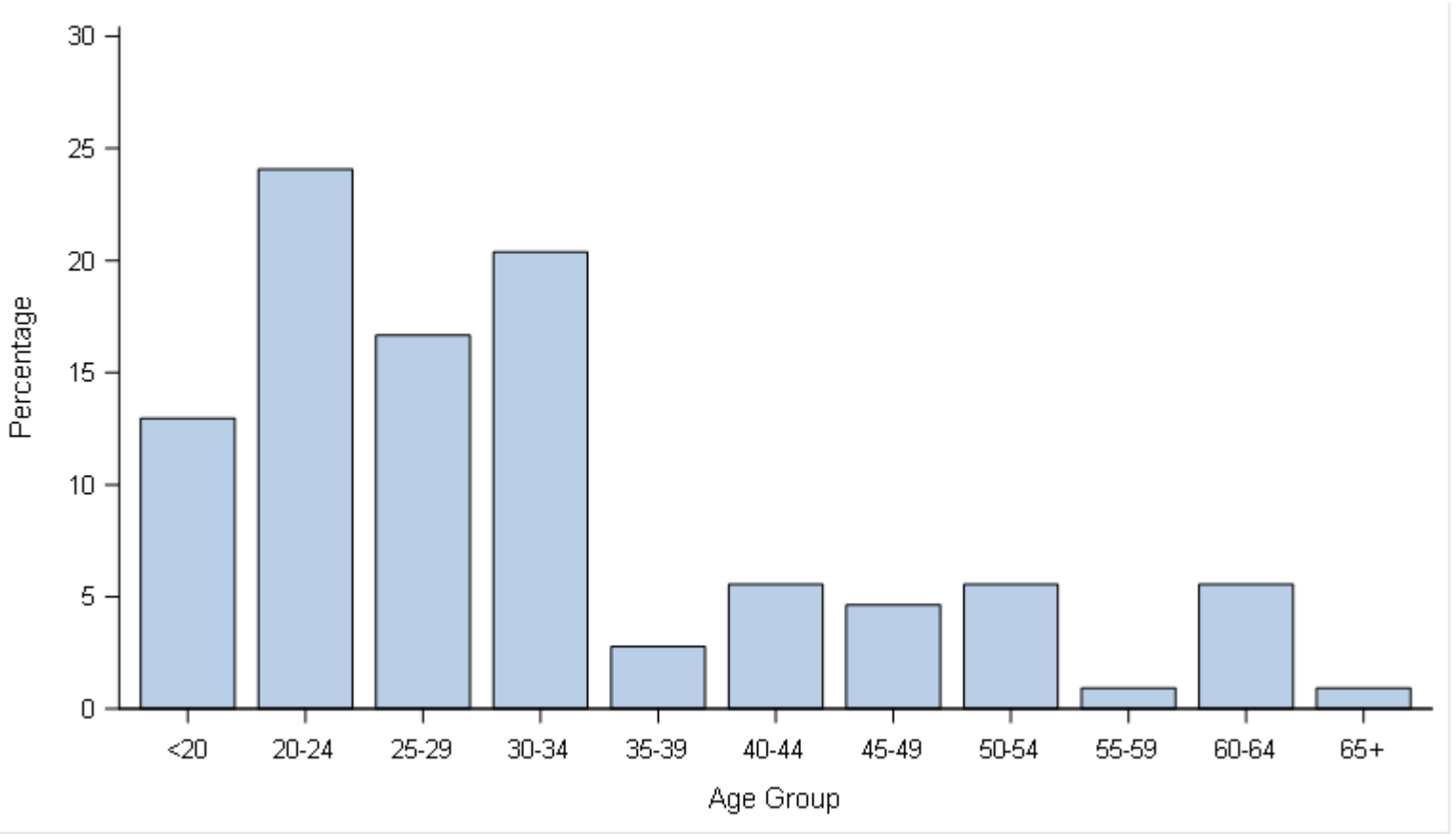
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
1 (0.3)	3 (1.0)	9 (3.0)	4 (1.4)	6 (2.0)	16 (5.4)	14 (5.1)	25 (10.2)	5 (1.7)	16 (5.3)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
58 (19.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	42 (41.6)	1 (33.3)	1 (33.3)	3 (25.0)

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

Site participated in GISP during 2003-2013 and 2019-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

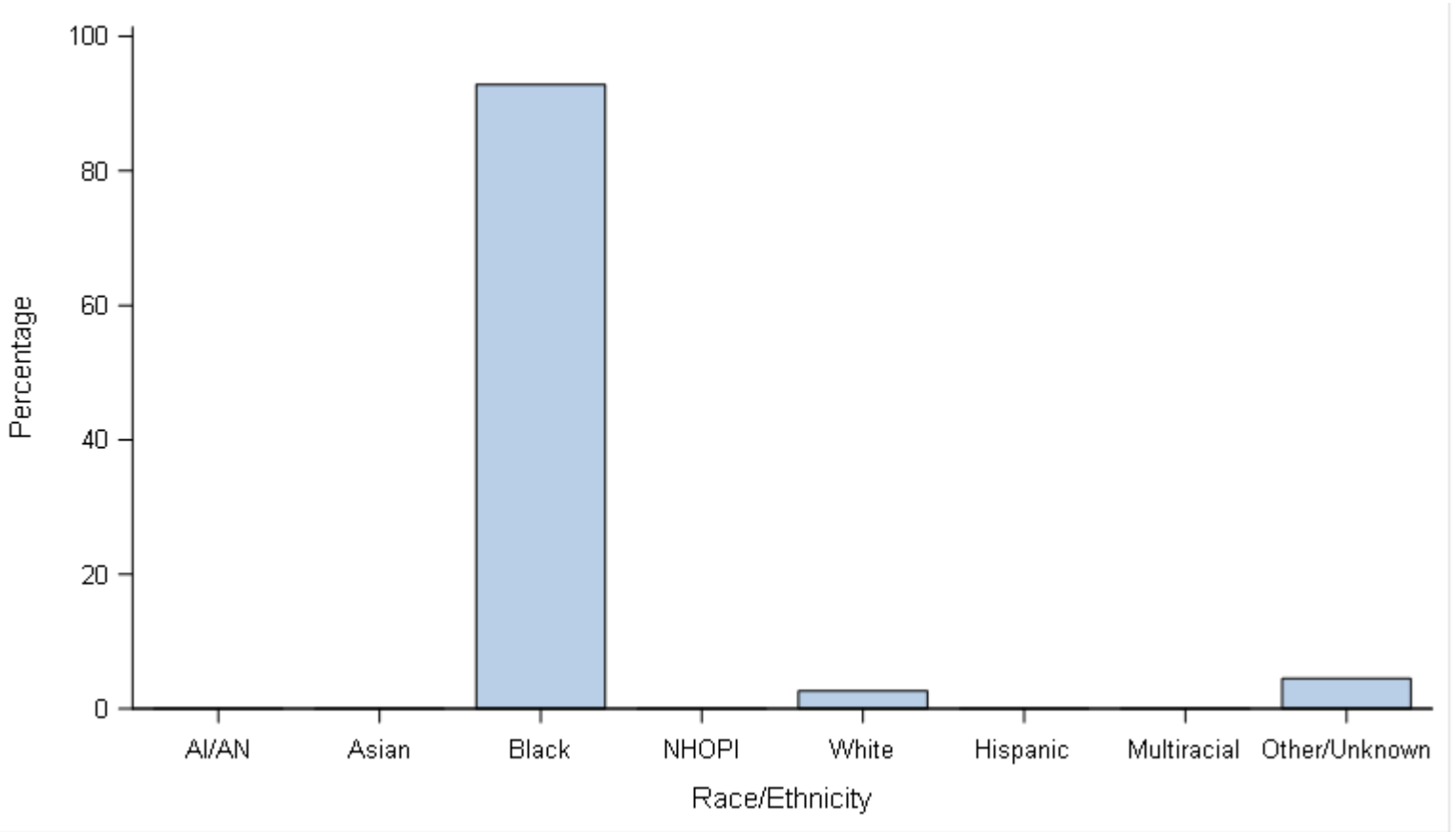
Figure A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Birmingham, Alabama, 2022



<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
14 (13.0)	26 (24.1)	18 (16.7)	22 (20.4)	3 (2.8)	6 (5.6)	5 (4.6)	6 (5.6)	1 (0.9)	6 (5.6)	1 (0.9)	108

Cases with unknown age were excluded.

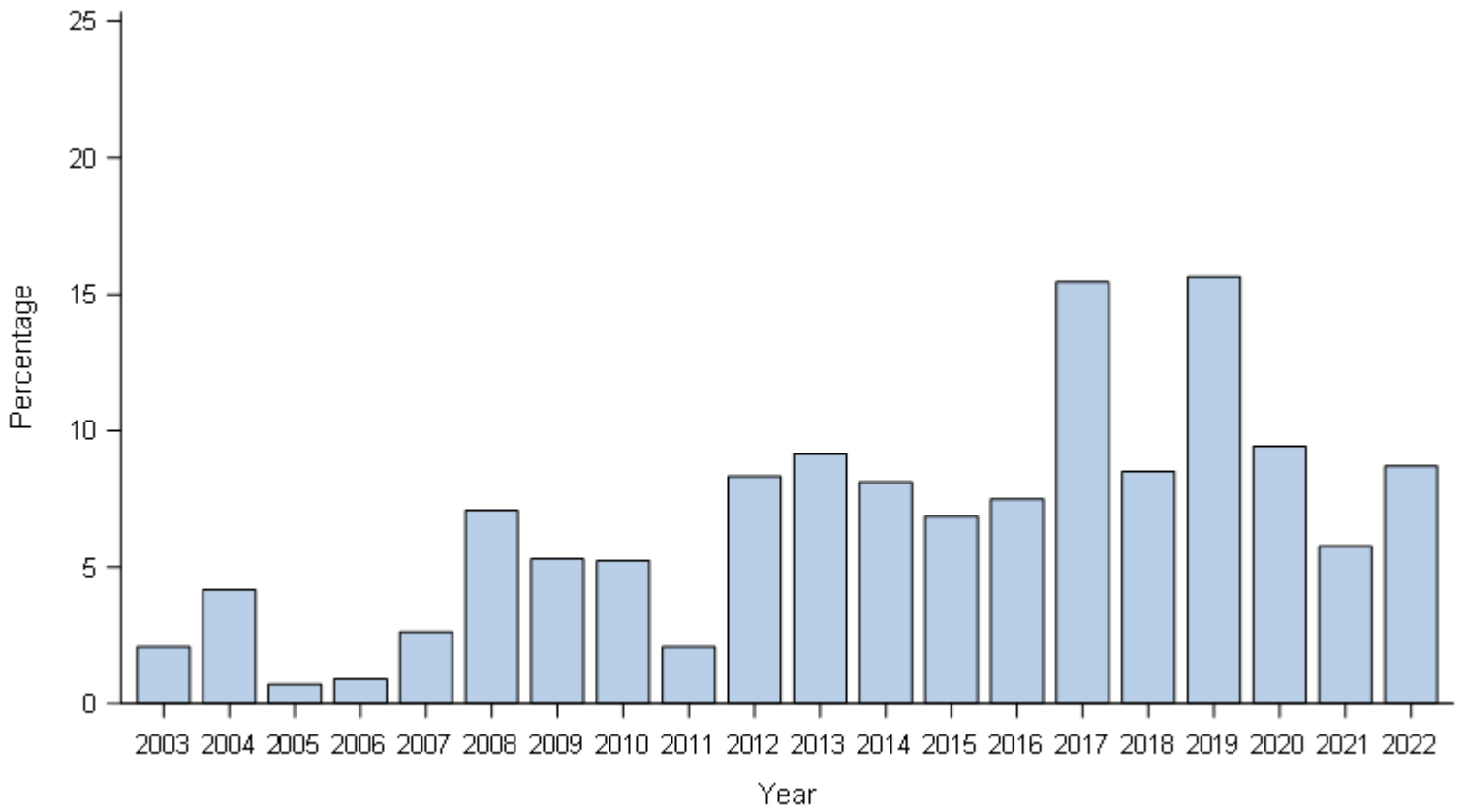
Figure B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Birmingham, Alabama, 2022



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 (92.9)	0 (0.0)	3 (2.7)	0 (0.0)	0 (0.0)	5 (4.5)	112

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.

Figure C. Percentage of Participants Identifying as Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Birmingham, Alabama, 2003-2022

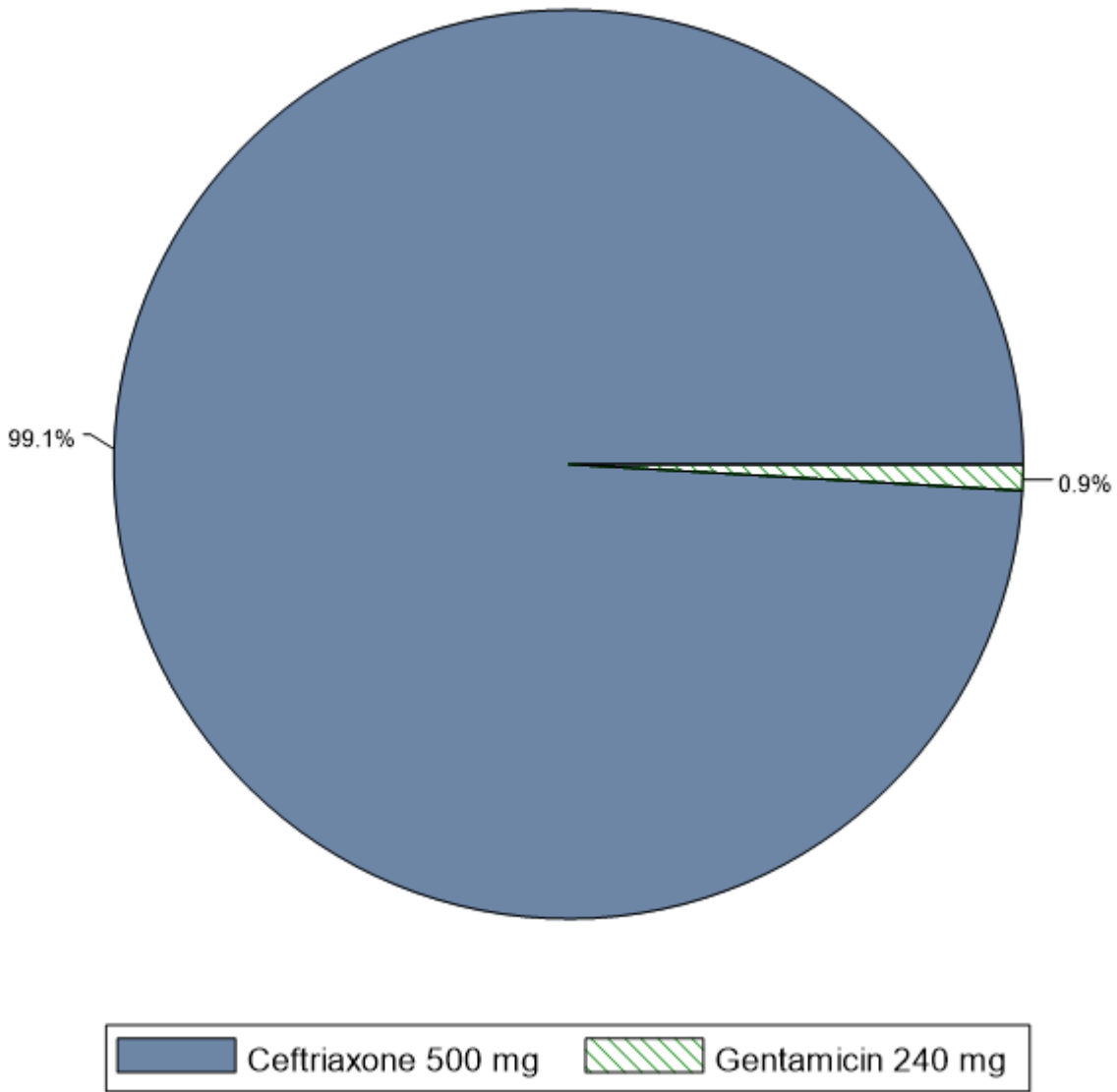


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
6 (2.1)	12 (4.2)	2 (0.7)	2 (0.9)	6 (2.6)	16 (7.1)	9 (5.3)	12 (5.2)	4 (2.1)	25 (8.3)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
14 (9.2)	18 (8.1)	12 (6.9)	14 (7.5)	19 (15.4)	8 (8.5)	15 (15.6)	10 (9.4)	9 (5.8)	8 (8.7)

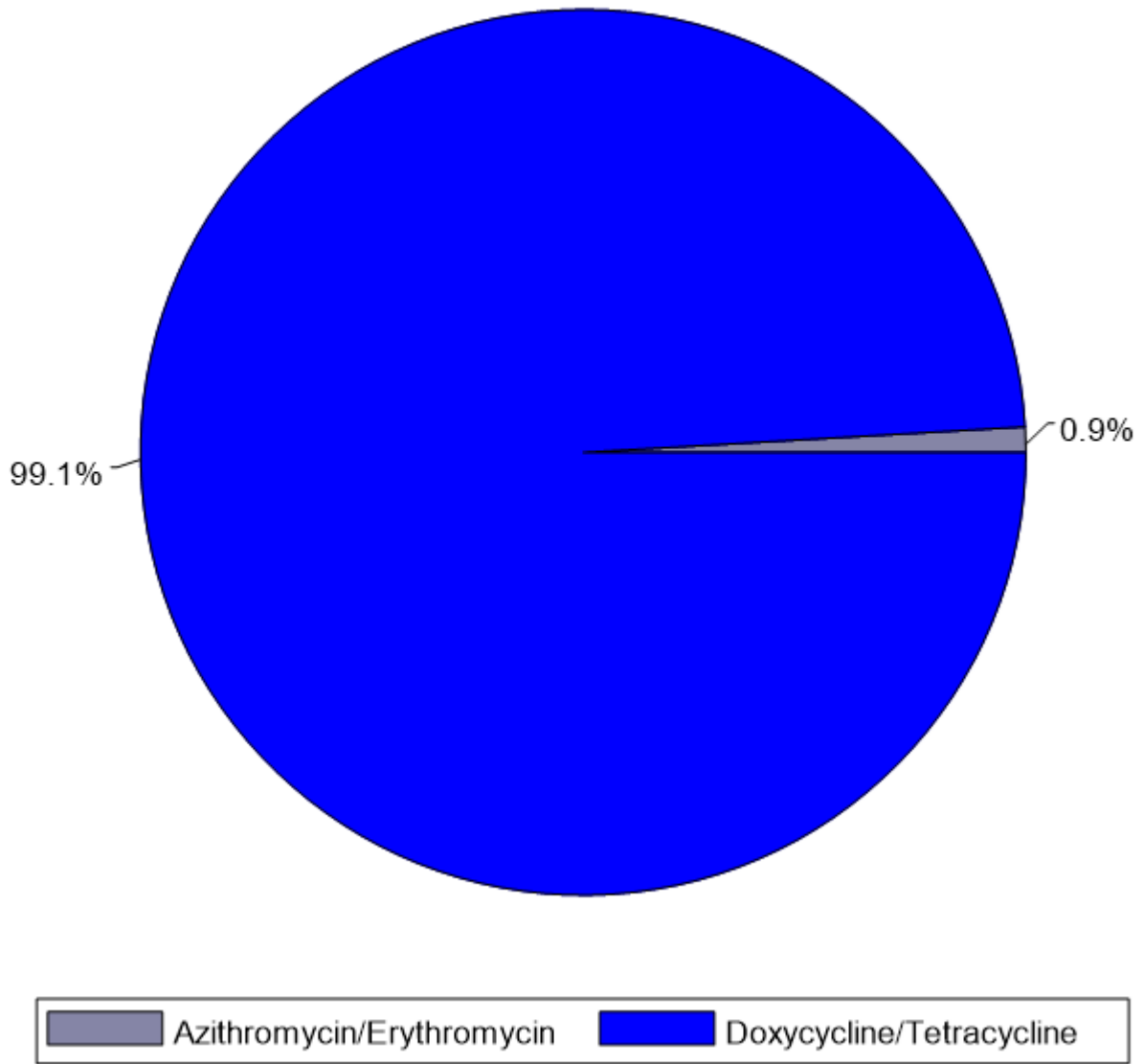
Men who have sex with men = men who self-identified as gay or bisexual or reported recent male sex partners.

Figure D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Birmingham, Alabama, 2022



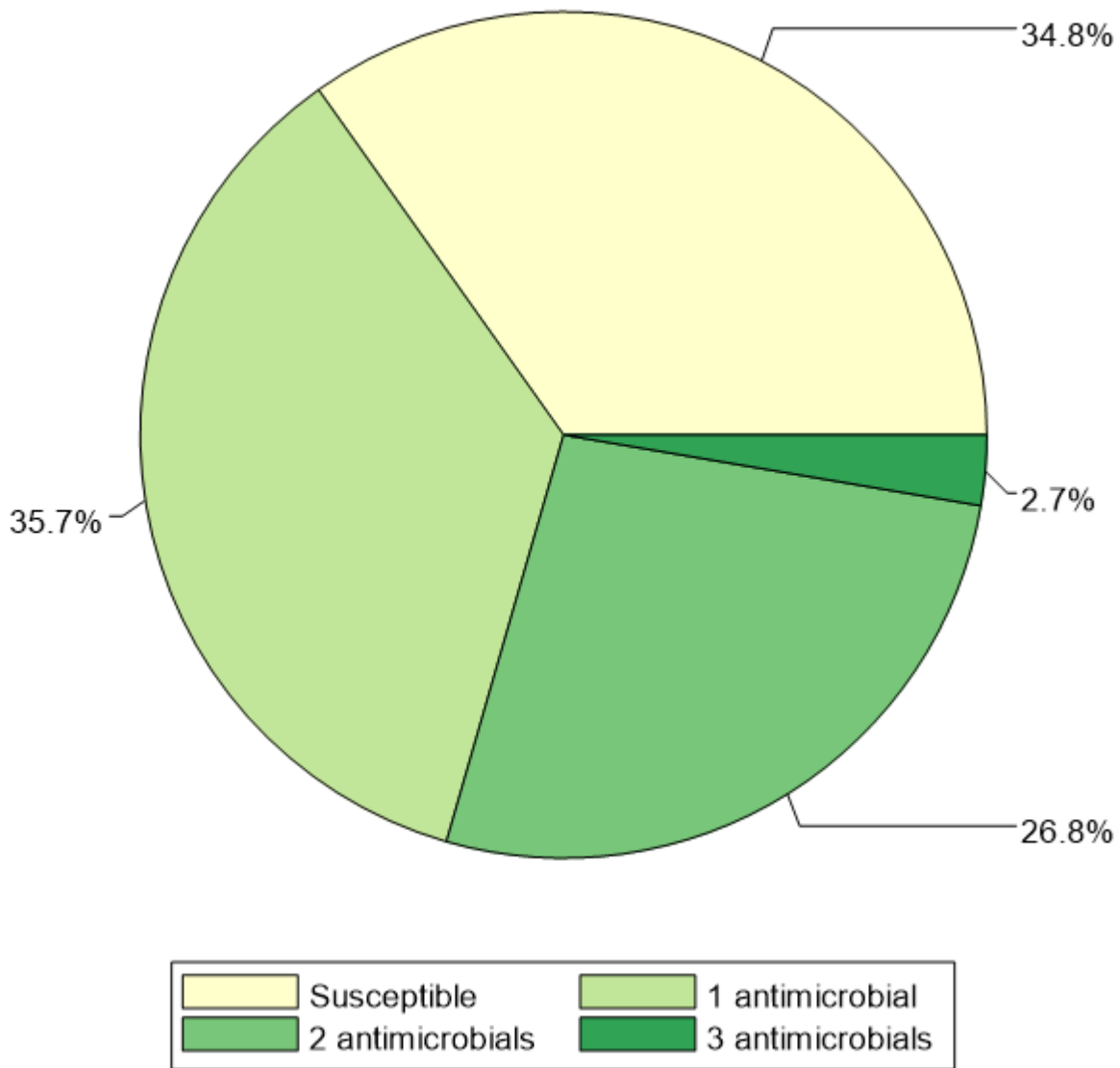
Primary Treatment	Count	Percentage
Ceftriaxone 500 mg	107	99.1
Gentamicin 240 mg	1	0.9

Figure E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Birmingham, Alabama, 2022



Secondary Treatment	Count	Percentage
Azithromycin/Erythromycin	1	0.9
Doxycycline/Tetracycline	107	99.1

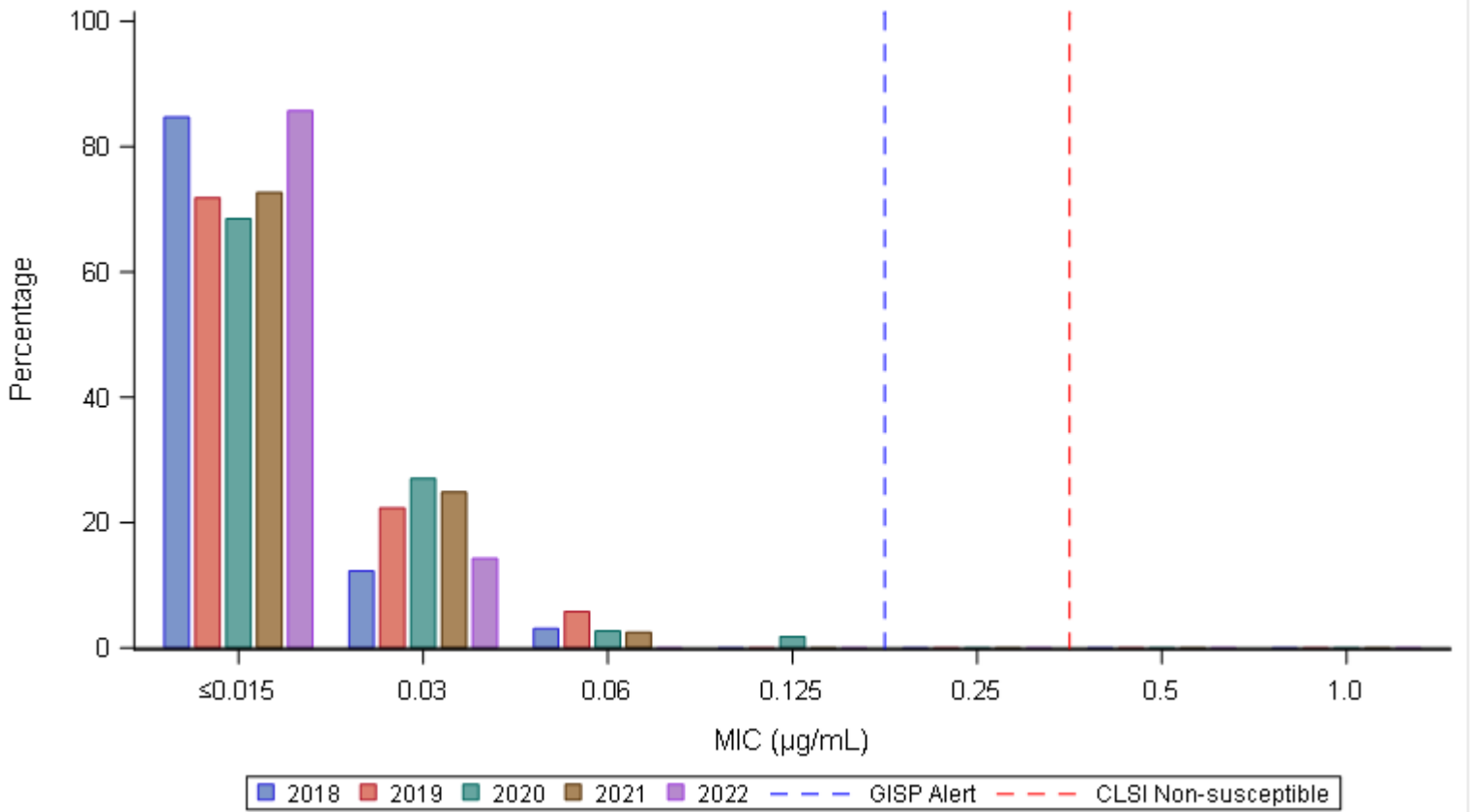
Figure F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Birmingham, Alabama, 2022



Number of Antimicrobials	Count	Percentage
Susceptible	39	34.8
1 antimicrobial	40	35.7
2 antimicrobials	30	26.8
3 antimicrobials	3	2.7
4+ antimicrobials	0	0.0

Elevated MICs = ceftriaxone MIC ≥ 0.125 $\mu\text{g}/\text{mL}$; cefixime MIC ≥ 0.25 $\mu\text{g}/\text{mL}$; azithromycin MIC ≥ 2.0 $\mu\text{g}/\text{mL}$; Resistance = tetracycline MIC ≥ 2.0 $\mu\text{g}/\text{mL}$; ciprofloxacin MIC ≥ 1.0 $\mu\text{g}/\text{mL}$; penicillin MIC ≥ 2.0 $\mu\text{g}/\text{mL}$ or β -lactamase positive.

Figure G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Birmingham, Alabama, 2018-2022



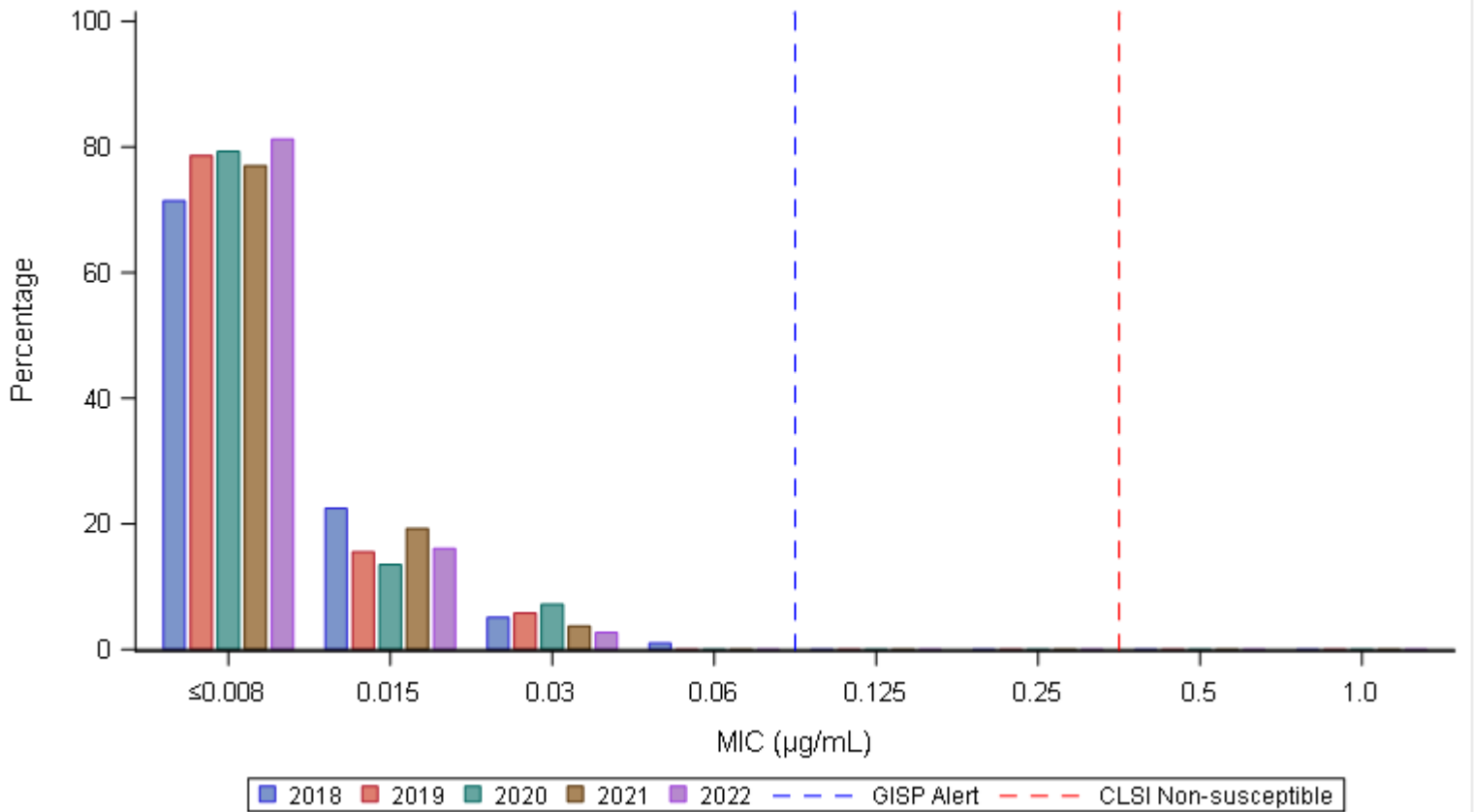
Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	83 (84.7)	12 (12.2)	3 (3.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	98
2019	74 (71.8)	23 (22.3)	6 (5.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	103
2020	76 (68.5)	30 (27.0)	3 (2.7)	2 (1.8)	0 (0.0)	0 (0.0)	0 (0.0)	111
2021	117 (72.7)	40 (24.8)	4 (2.5)	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)	112

GISP Alert Value = cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; CLSI Non-susceptible = cefixime MIC ≥ 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 the end of 2022, the CLSI has not established a cefixime resistance breakpoint for *N. gonorrhoeae*.

Figure H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Birmingham, Alabama, 2018-2022



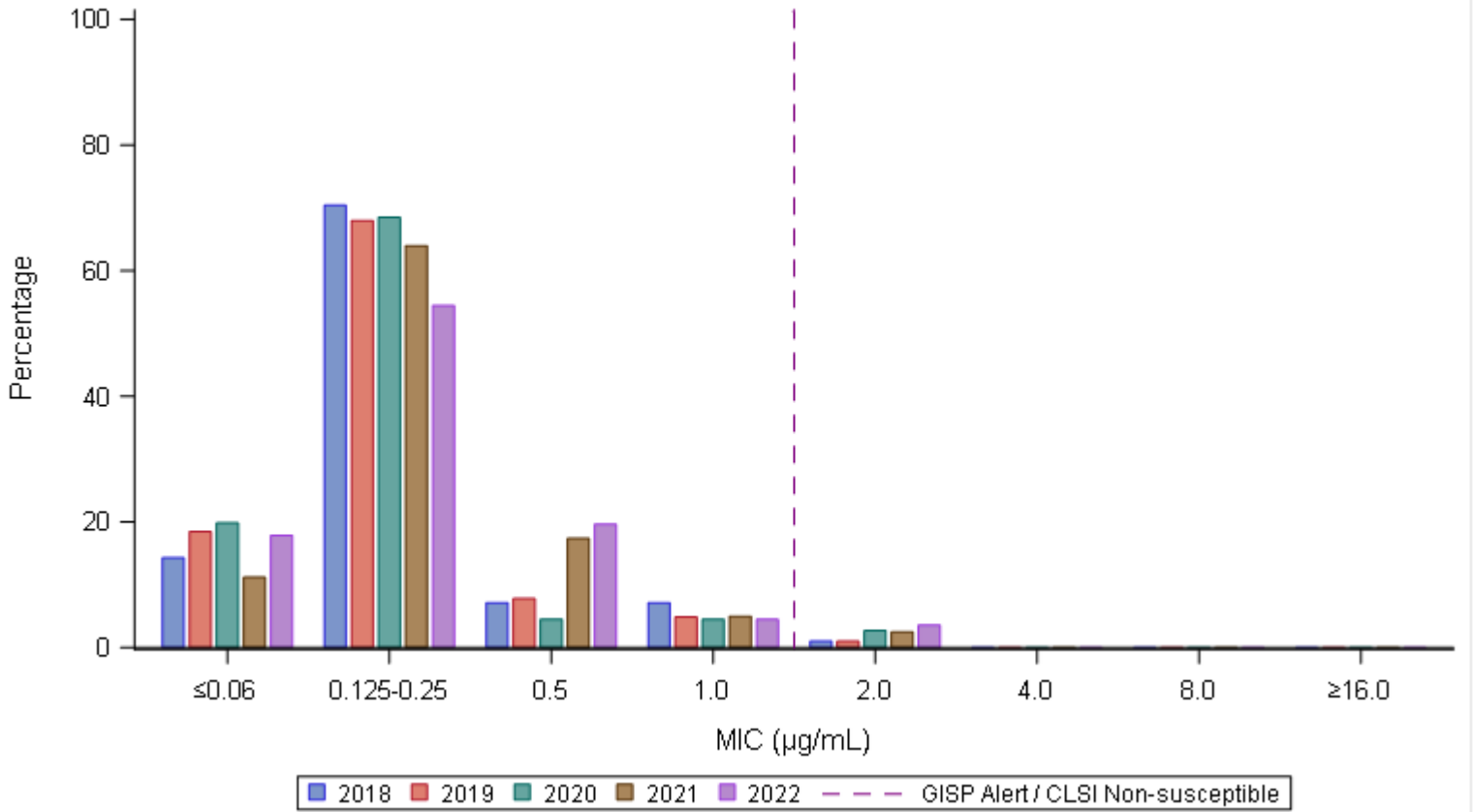
Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	70 (71.4)	22 (22.4)	5 (5.1)	1 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	98
2019	81 (78.6)	16 (15.5)	6 (5.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	103
2020	88 (79.3)	15 (13.5)	8 (7.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	111
2021	124 (77.0)	31 (19.3)	6 (3.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	161
2022	91 (81.3)	18 (16.1)	3 (2.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	112

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 the end of 2022, the CLSI has not established a ceftriaxone resistance breakpoint for *N. gonorrhoeae*.

Figure I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Birmingham, Alabama, 2018-2022



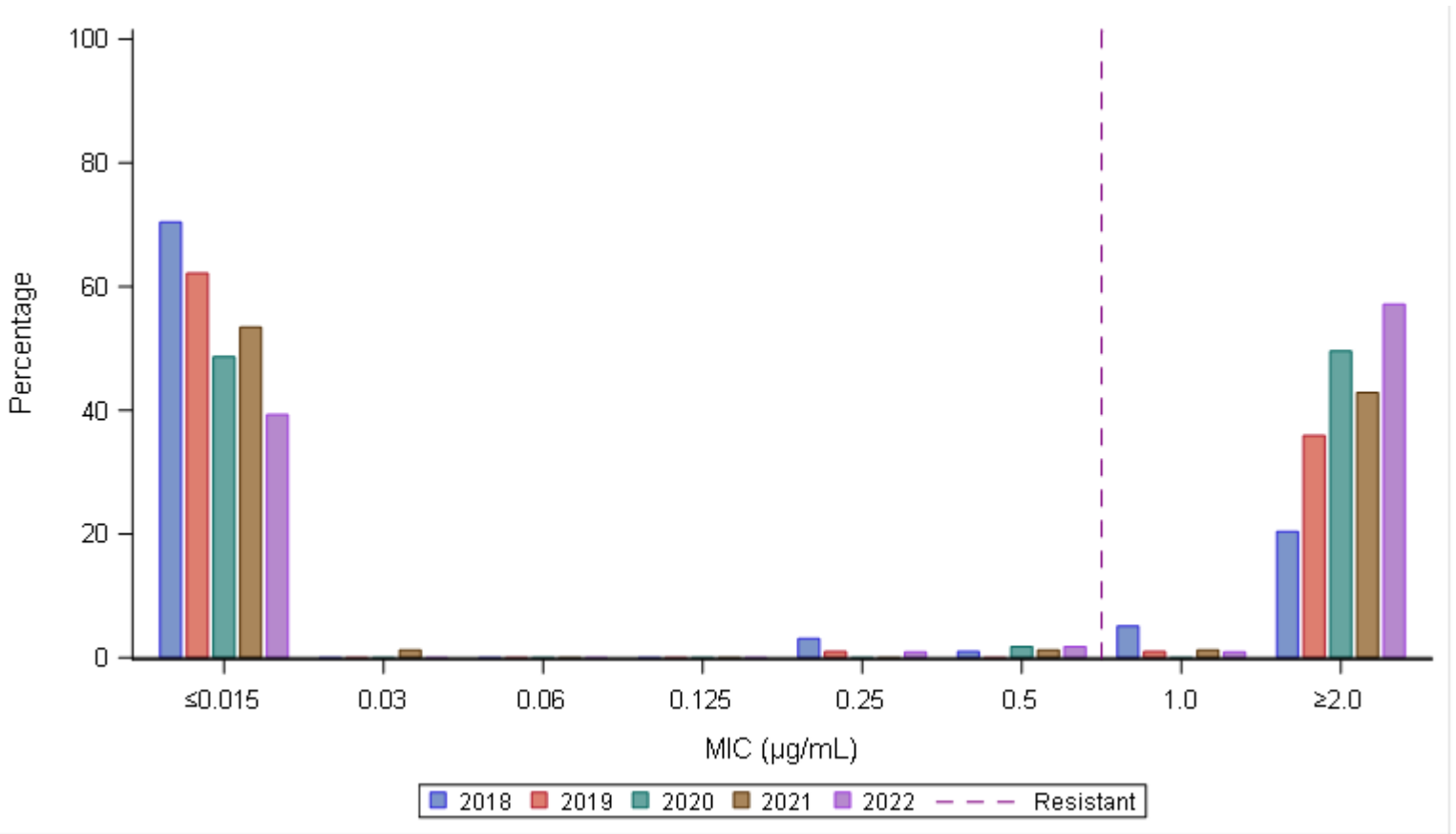
Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2018	14 (14.3)	69 (70.4)	7 (7.1)	7 (7.1)	1 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)	98
2019	19 (18.4)	70 (68.0)	8 (7.8)	5 (4.9)	1 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)	103
2020	22 (19.8)	76 (68.5)	5 (4.5)	5 (4.5)	3 (2.7)	0 (0.0)	0 (0.0)	0 (0.0)	111
2021	18 (11.2)	103 (64.0)	28 (17.4)	8 (5.0)	4 (2.5)	0 (0.0)	0 (0.0)	0 (0.0)	161
2022	20 (17.9)	61 (54.5)	22 (19.6)	5 (4.5)	4 (3.6)	0 (0.0)	0 (0.0)	0 (0.0)	112

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; CLSI Non-susceptible = azithromycin MIC ≥2.0 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 the end of 2022, the CLSI has not established an azithromycin resistance breakpoint for *N. gonorrhoeae*.

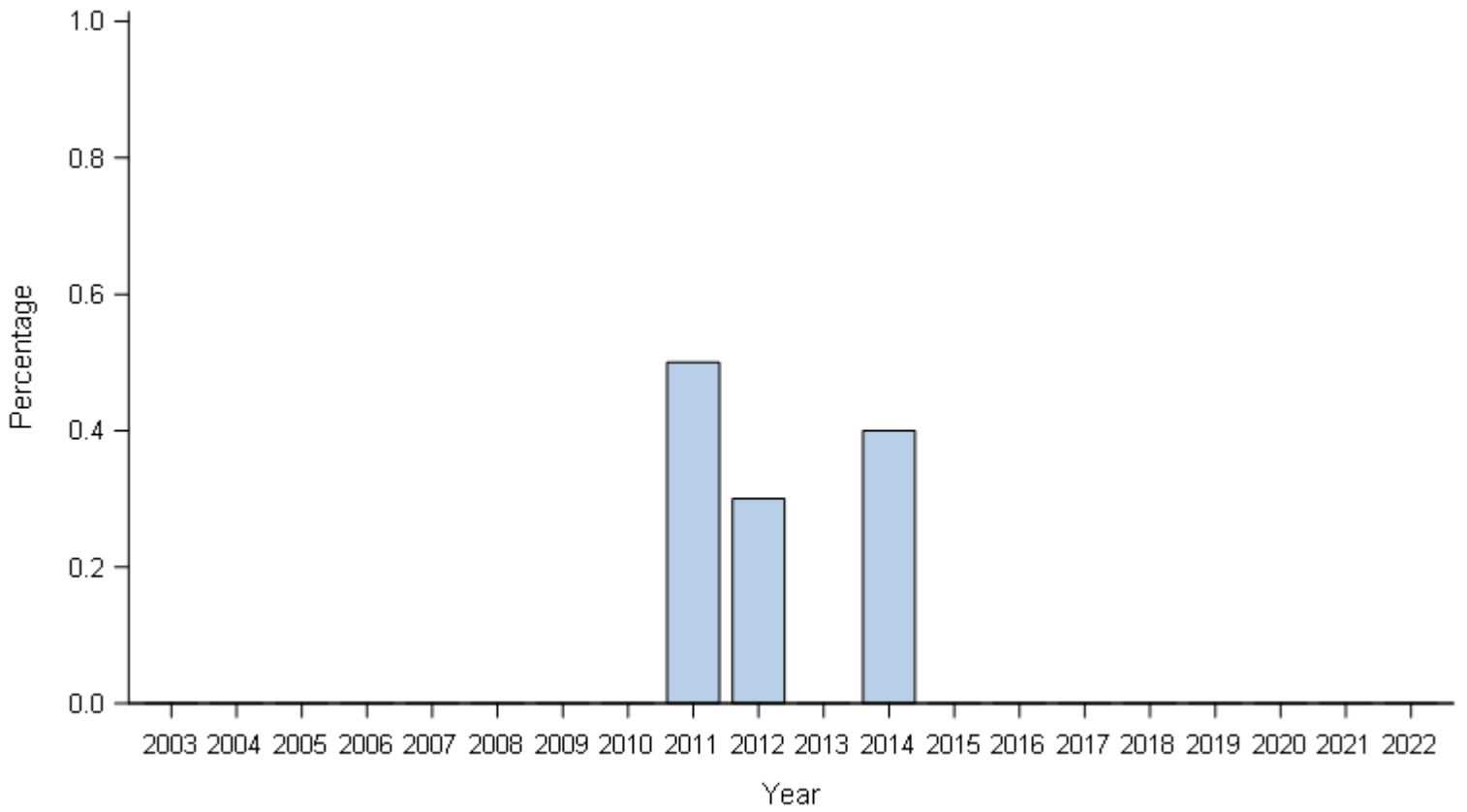
Figure J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Birmingham, Alabama, 2018-2022



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
2018	69 (70.4)	0 (0.0)	0 (0.0)	0 (0.0)	3 (3.1)	1 (1.0)	5 (5.1)	20 (20.4)	98
2019	64 (62.1)	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.0)	0 (0.0)	1 (1.0)	37 (35.9)	103
2020	54 (48.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (1.8)	0 (0.0)	55 (49.5)	111
2021	86 (53.4)	2 (1.2)	0 (0.0)	0 (0.0)	0 (0.0)	2 (1.2)	2 (1.2)	69 (42.9)	161
2022	44 (39.3)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.9)	2 (1.8)	1 (0.9)	64 (57.1)	112

Ciprofloxacin resistance MIC ≥1.0 µg/mL.

Figure K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Birmingham, Alabama, 2003-2022

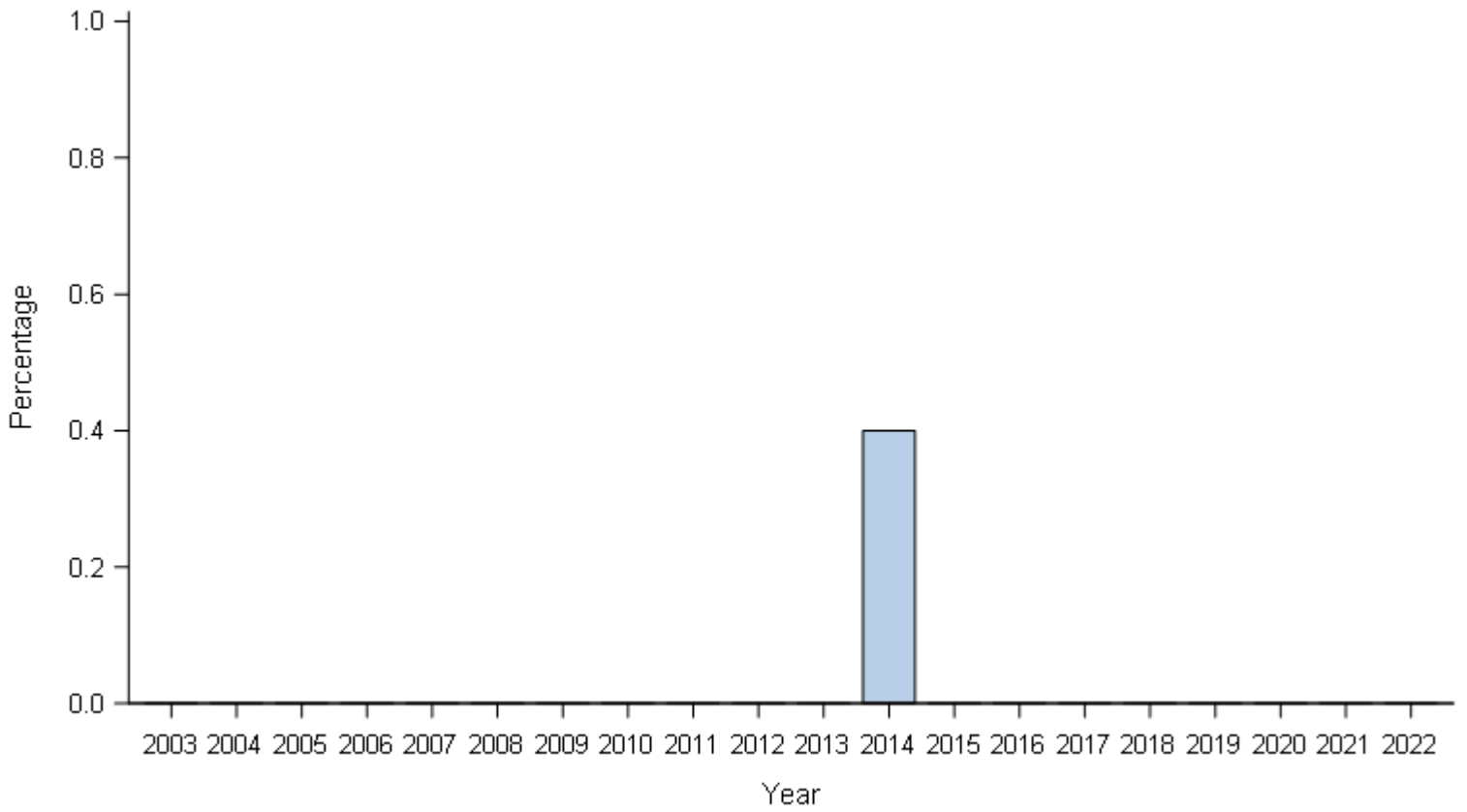


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.5)	1 (0.3)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

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

Figure L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Birmingham, Alabama, 2003-2022

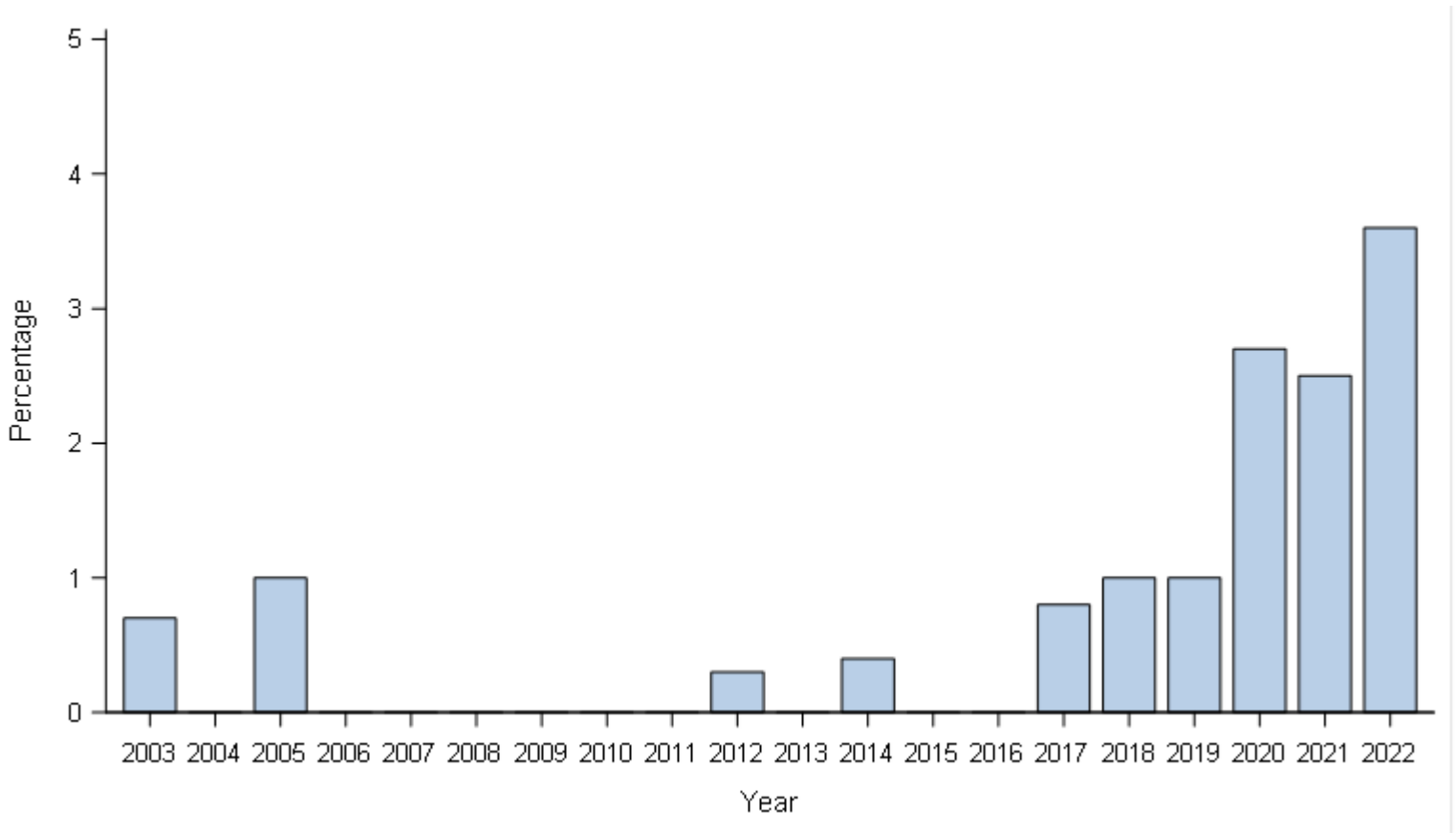


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

Ceftriaxone elevated MIC \geq 0.125 μ g/mL.

Figure M. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Birmingham, Alabama, 2003-2022

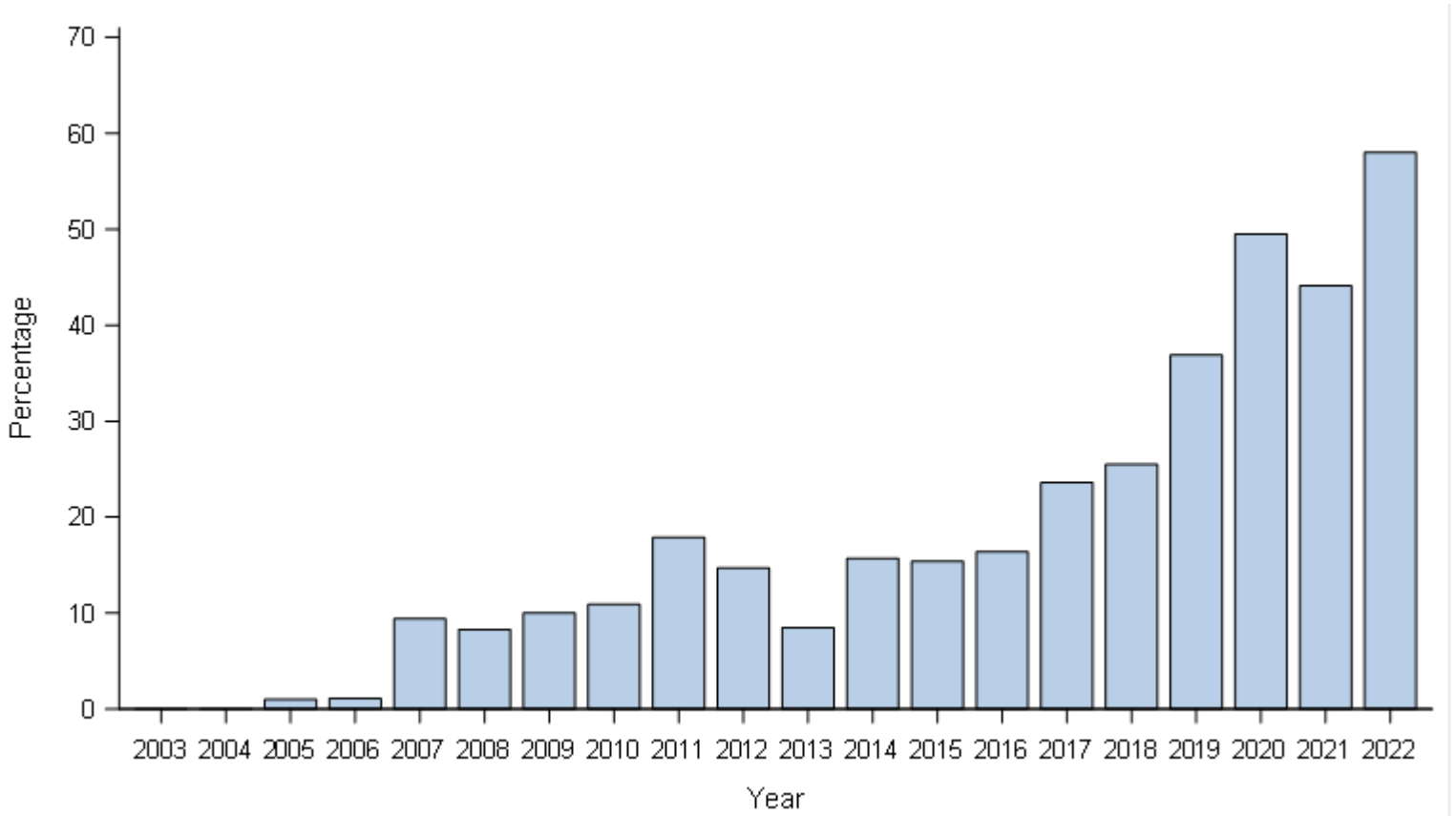


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
2 (0.7)	0 (0.0)	3 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.3)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	1 (0.4)	0 (0.0)	0 (0.0)	1 (0.8)	1 (1.0)	1 (1.0)	3 (2.7)	4 (2.5)	4 (3.6)

Azithromycin elevated MIC ≥ 1.0 $\mu\text{g/mL}$ prior to 2005 and ≥ 2.0 $\mu\text{g/mL}$ during 2005-2022.

Figure N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Birmingham, Alabama, 2003-2022

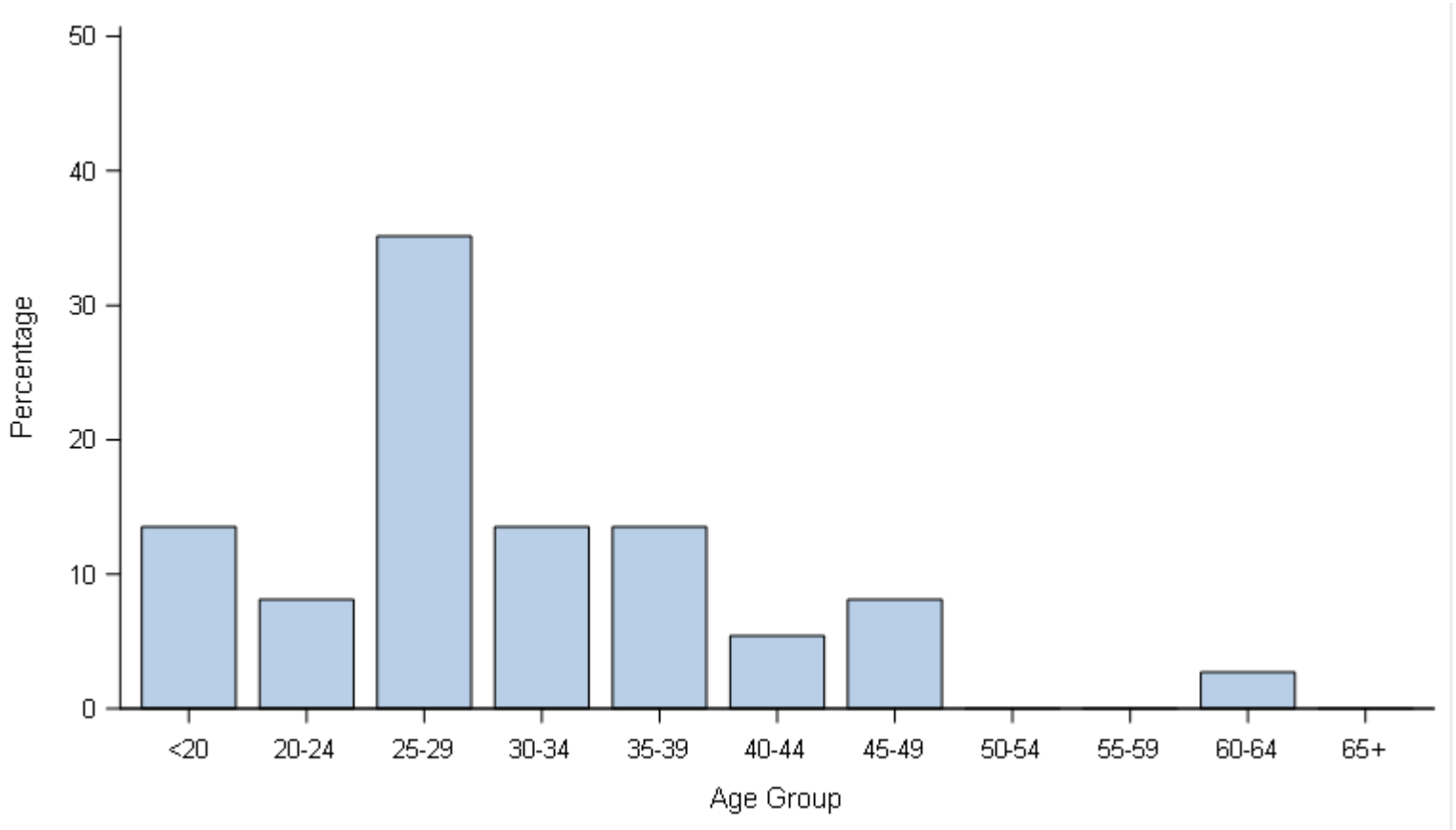


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	3 (1.0)	3 (1.1)	26 (9.4)	20 (8.3)	21 (10.0)	29 (10.9)	38 (17.9)	44 (14.7)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
13 (8.5)	35 (15.7)	27 (15.4)	31 (16.4)	29 (23.6)	25 (25.5)	38 (36.9)	55 (49.5)	71 (44.1)	65 (58.0)

Ciprofloxacin resistance MIC \geq 1.0 μ g/mL.

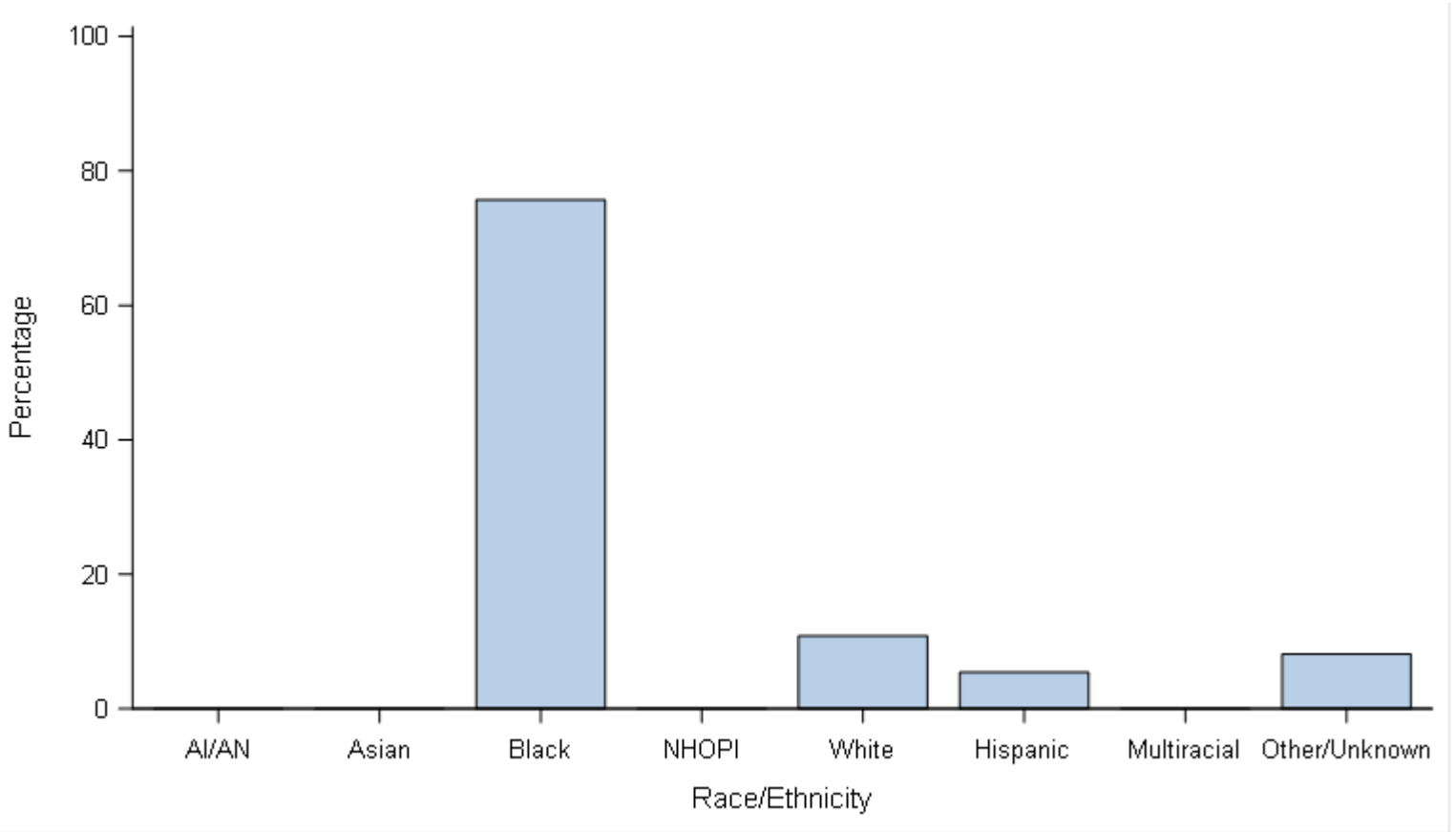
Figure A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Buffalo, New York, 2022



<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)	3 (8.1)	13 (35.1)	5 (13.5)	5 (13.5)	2 (5.4)	3 (8.1)	0 (0.0)	0 (0.0)	1 (2.7)	0 (0.0)	37

Cases with unknown age were excluded.

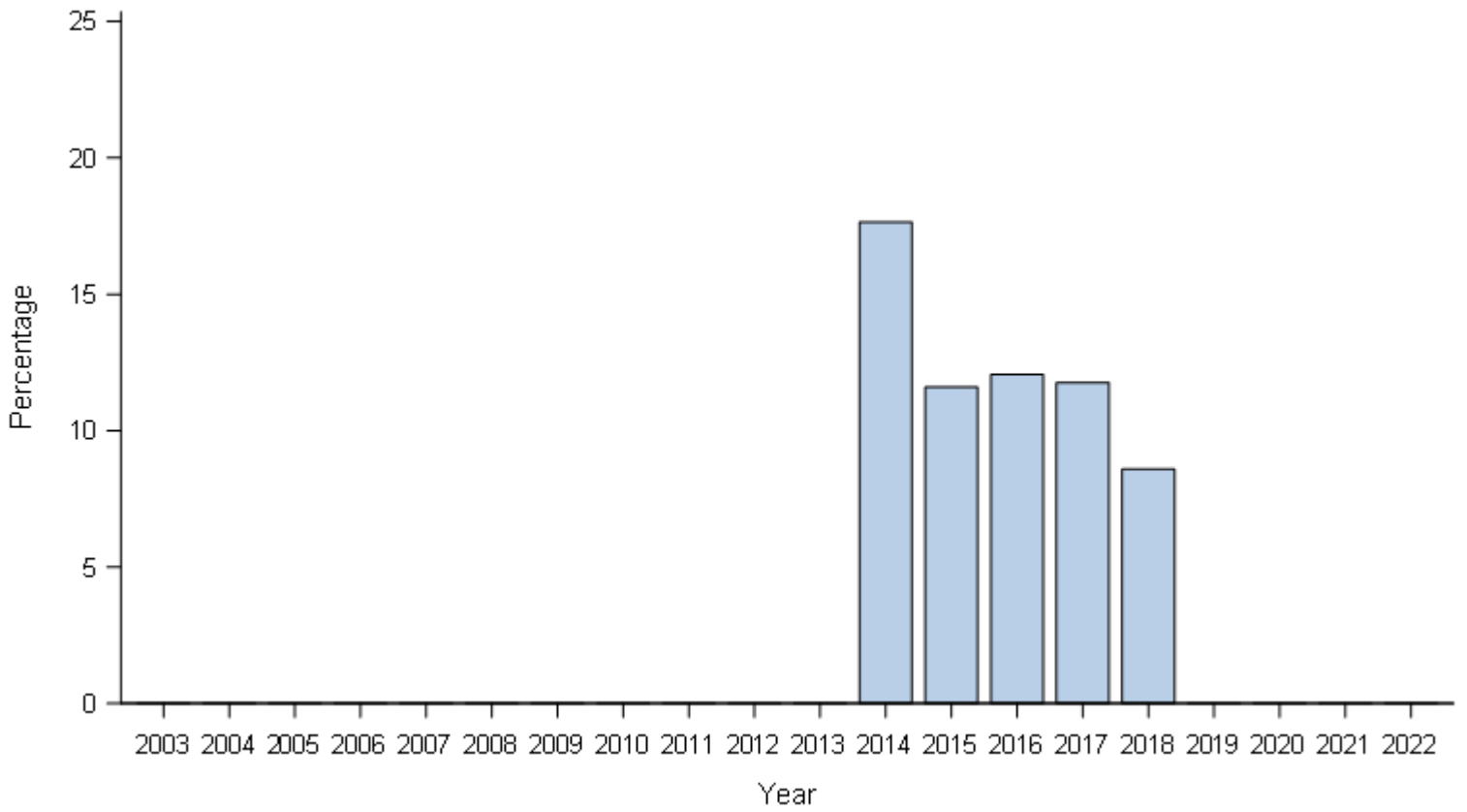
Figure B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Buffalo, New York, 2022



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)	28 (75.7)	0 (0.0)	4 (10.8)	2 (5.4)	0 (0.0)	3 (8.1)	37

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.

Figure C. Percentage of Participants Identifying as Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Buffalo, New York, 2003-2022

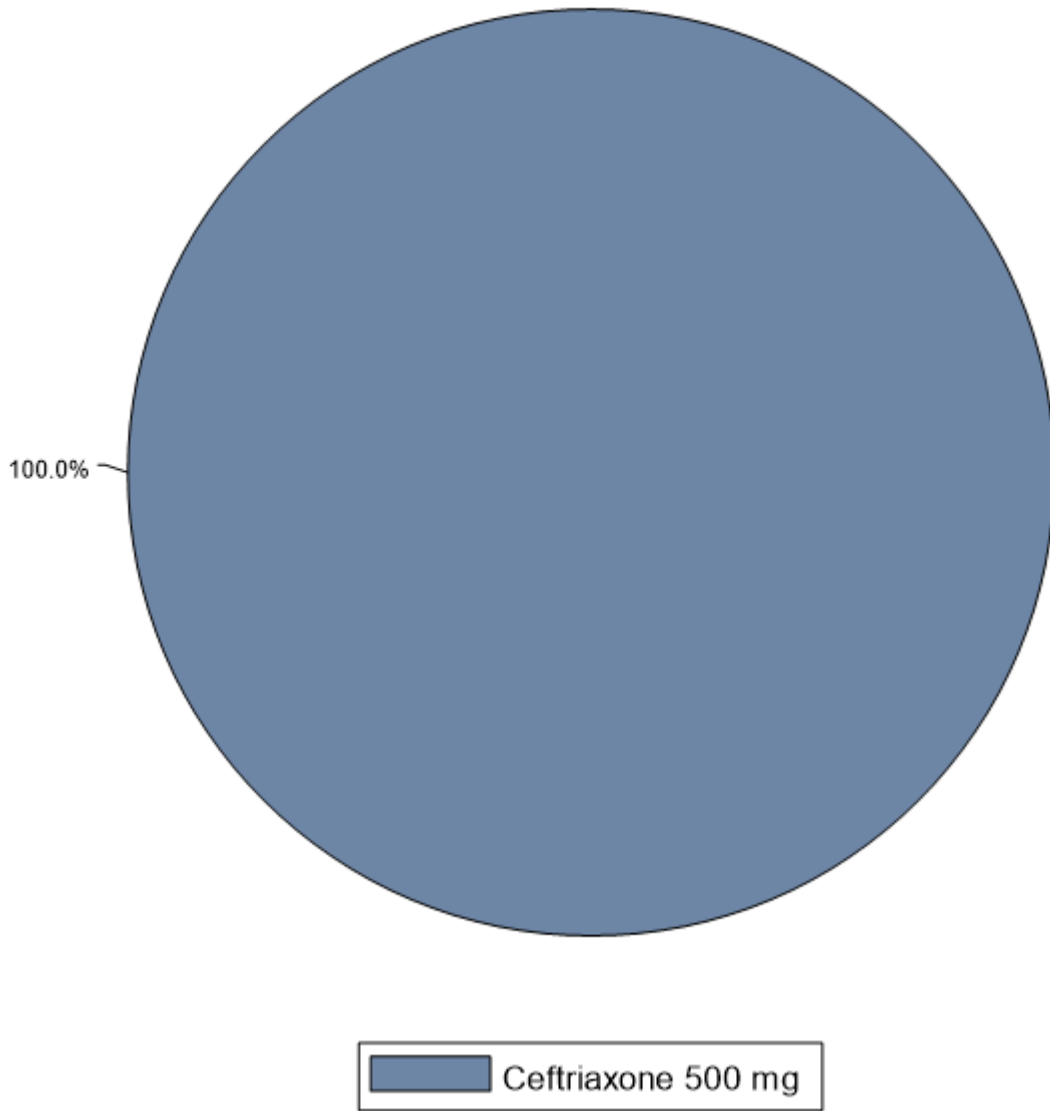


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	15 (17.6)	16 (11.6)	17 (12.1)	16 (11.8)	14 (8.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

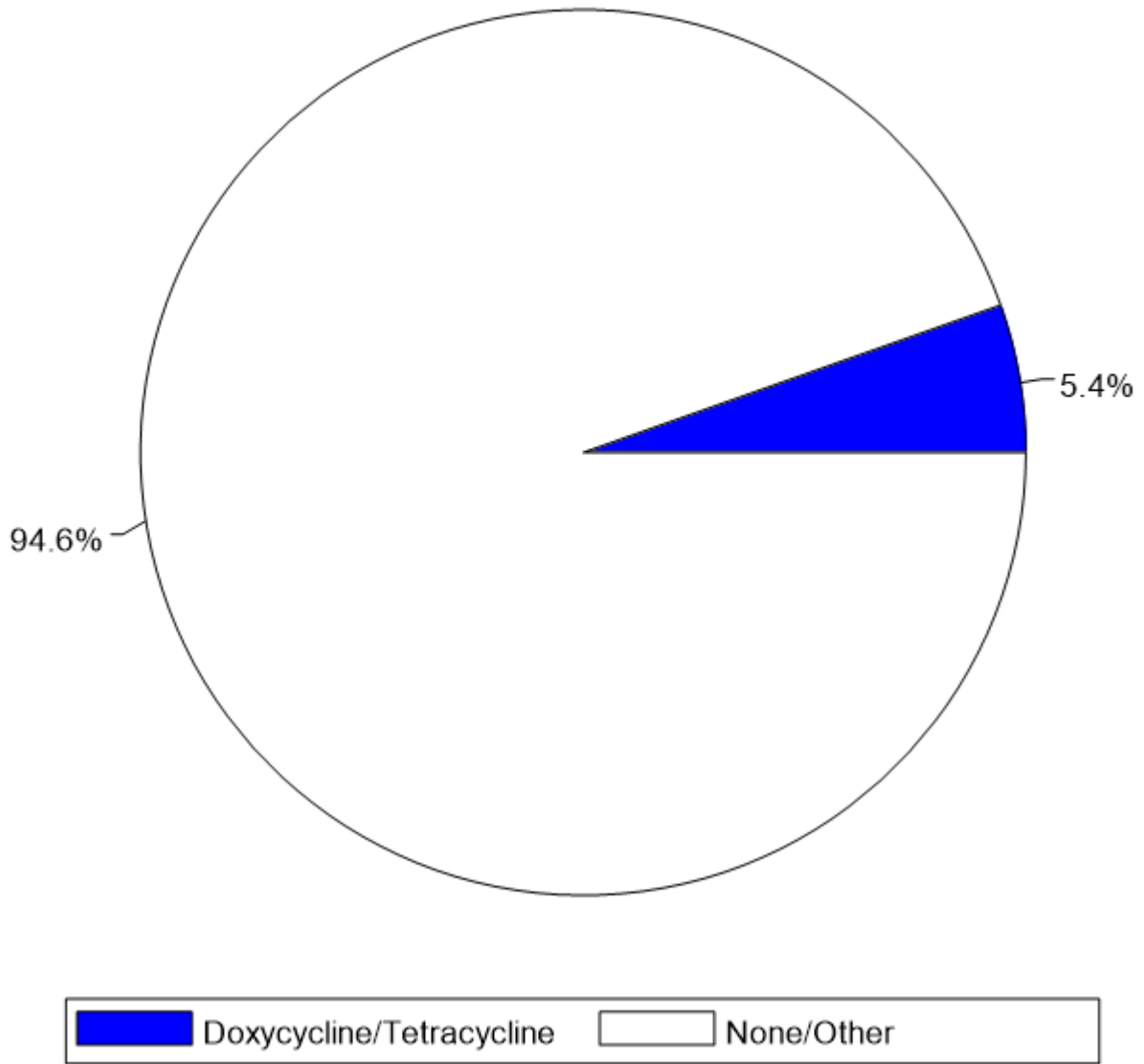
Men who have sex with men = men who self-identified as gay or bisexual or reported recent male sex partners.
 Site participated in GISP during 2014-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Buffalo, New York, 2022



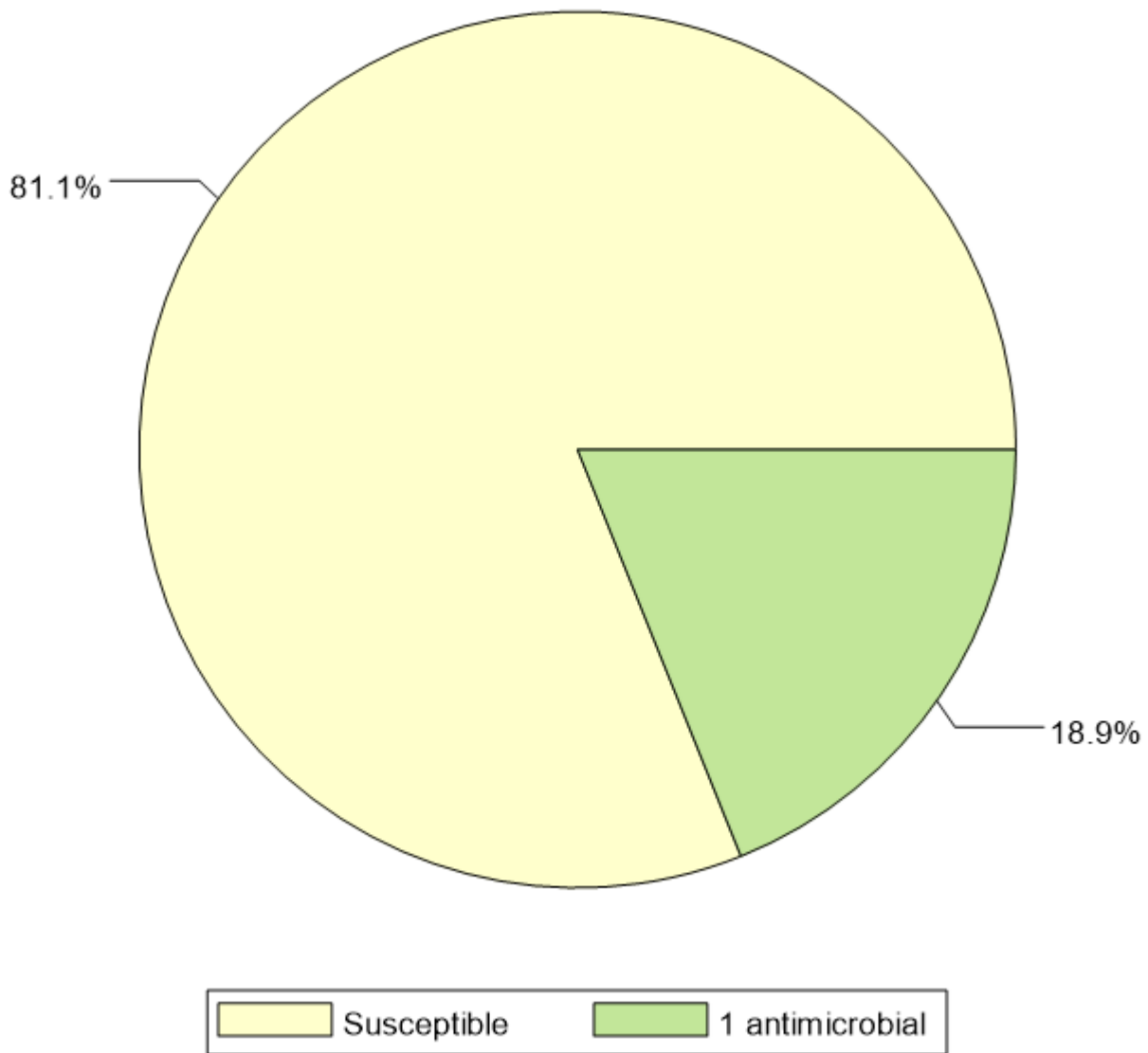
Primary Treatment	Count	Percentage
Ceftriaxone 500 mg	37	100.0

Figure E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Buffalo, New York, 2022



Secondary Treatment	Count	Percentage
Doxycycline/Tetracycline	2	5.4
None/Other	35	94.6

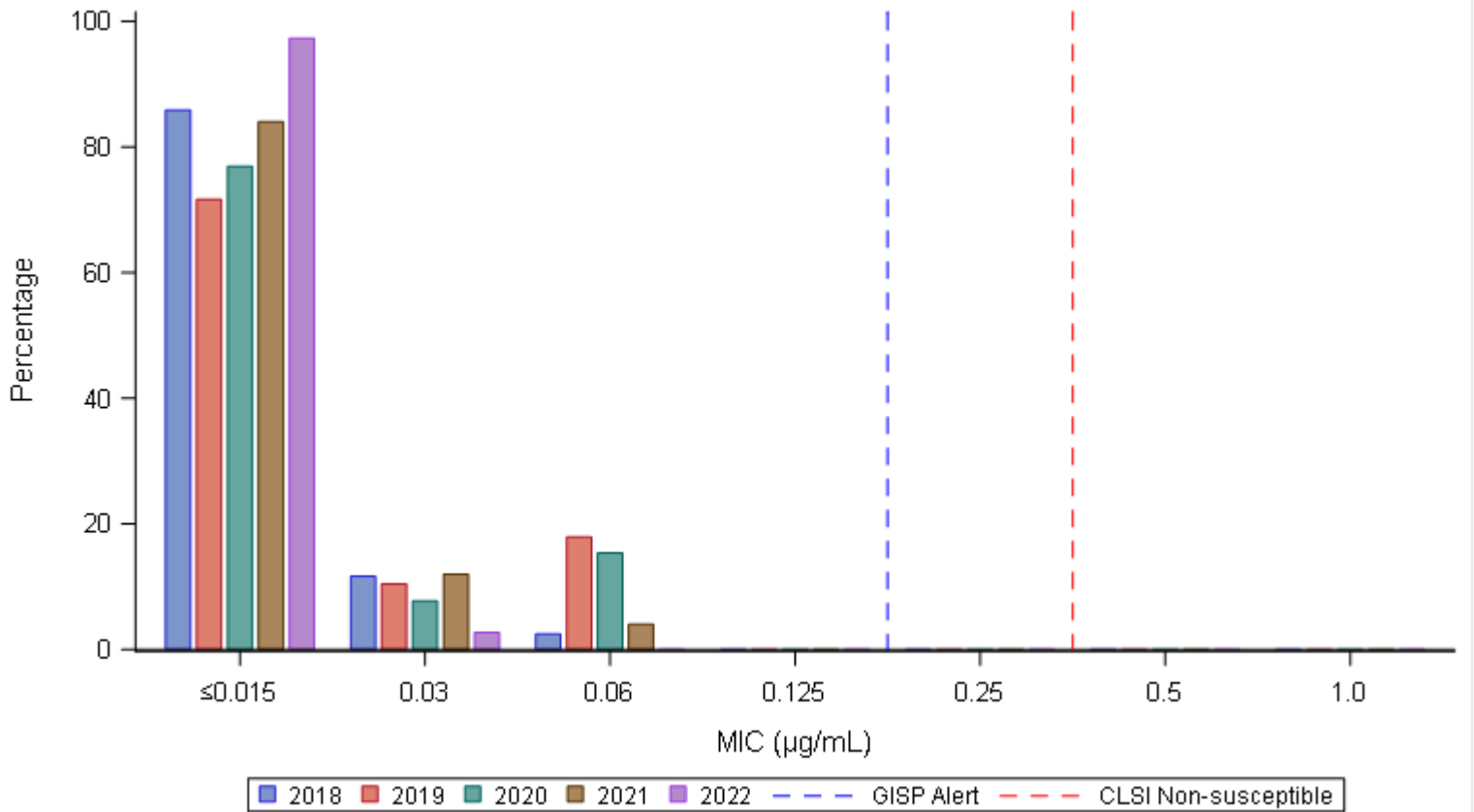
Figure F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Buffalo, New York, 2022



Number of Antimicrobials	Count	Percentage
Susceptible	30	81.1
1 antimicrobial	7	18.9
2 antimicrobials	0	0.0
3 antimicrobials	0	0.0
4+ antimicrobials	0	0.0

Elevated MICs = ceftriaxone MIC ≥ 0.125 $\mu\text{g/mL}$; cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; Resistance = tetracycline MIC ≥ 2.0 $\mu\text{g/mL}$; ciprofloxacin MIC ≥ 1.0 $\mu\text{g/mL}$; penicillin MIC ≥ 2.0 $\mu\text{g/mL}$ or β -lactamase positive.

Figure G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Buffalo, New York, 2018-2022



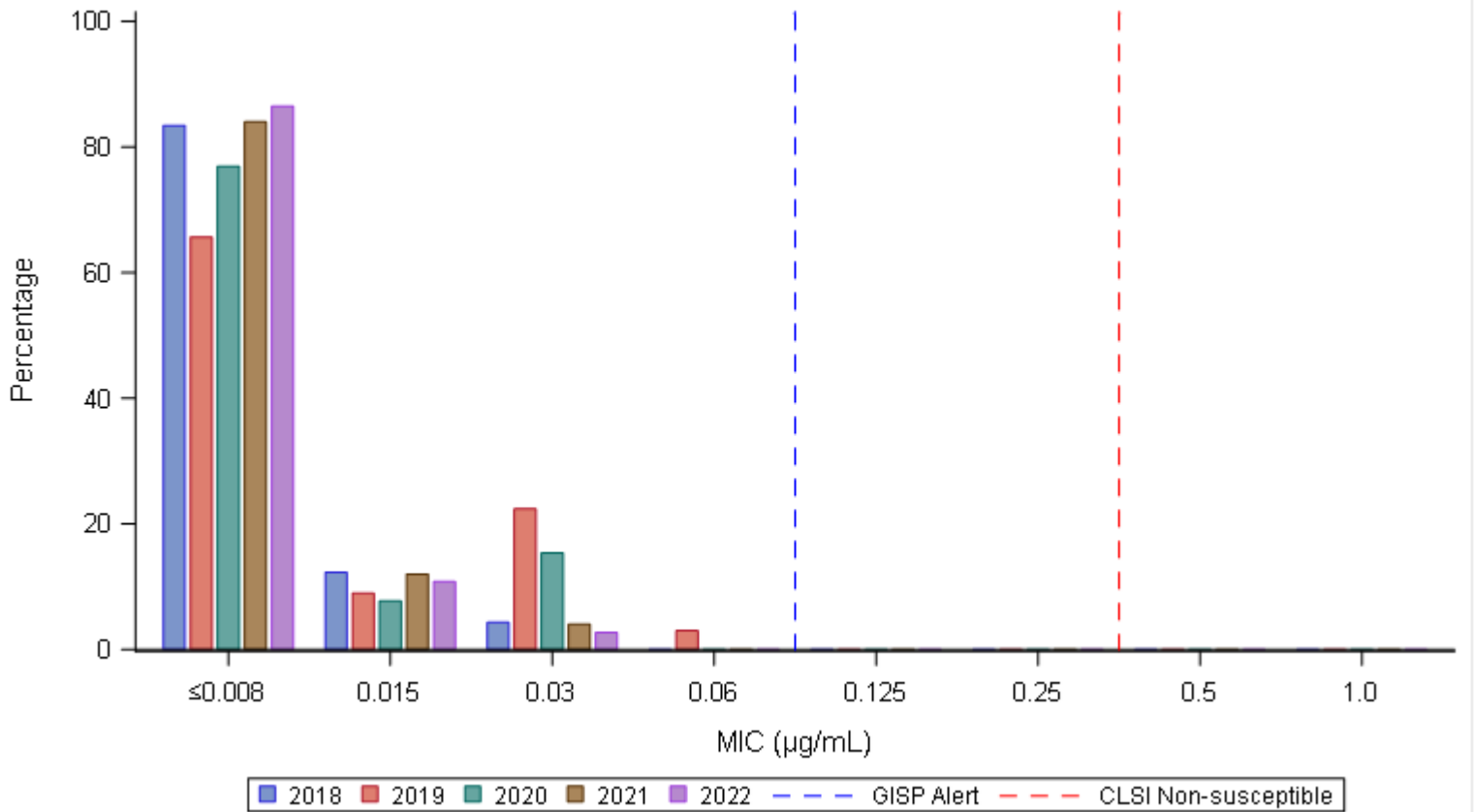
Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	140 (85.9)	19 (11.7)	4 (2.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	163
2019	48 (71.6)	7 (10.4)	12 (17.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	67
2020	10 (76.9)	1 (7.7)	2 (15.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	13
2021	21 (84.0)	3 (12.0)	1 (4.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	25
2022	36 (97.3)	1 (2.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	37

GISP Alert Value = cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; CLSI Non-susceptible = cefixime MIC ≥ 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 the end of 2022, the CLSI has not established a cefixime resistance breakpoint for *N. gonorrhoeae*.

Figure H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Buffalo, New York, 2018-2022



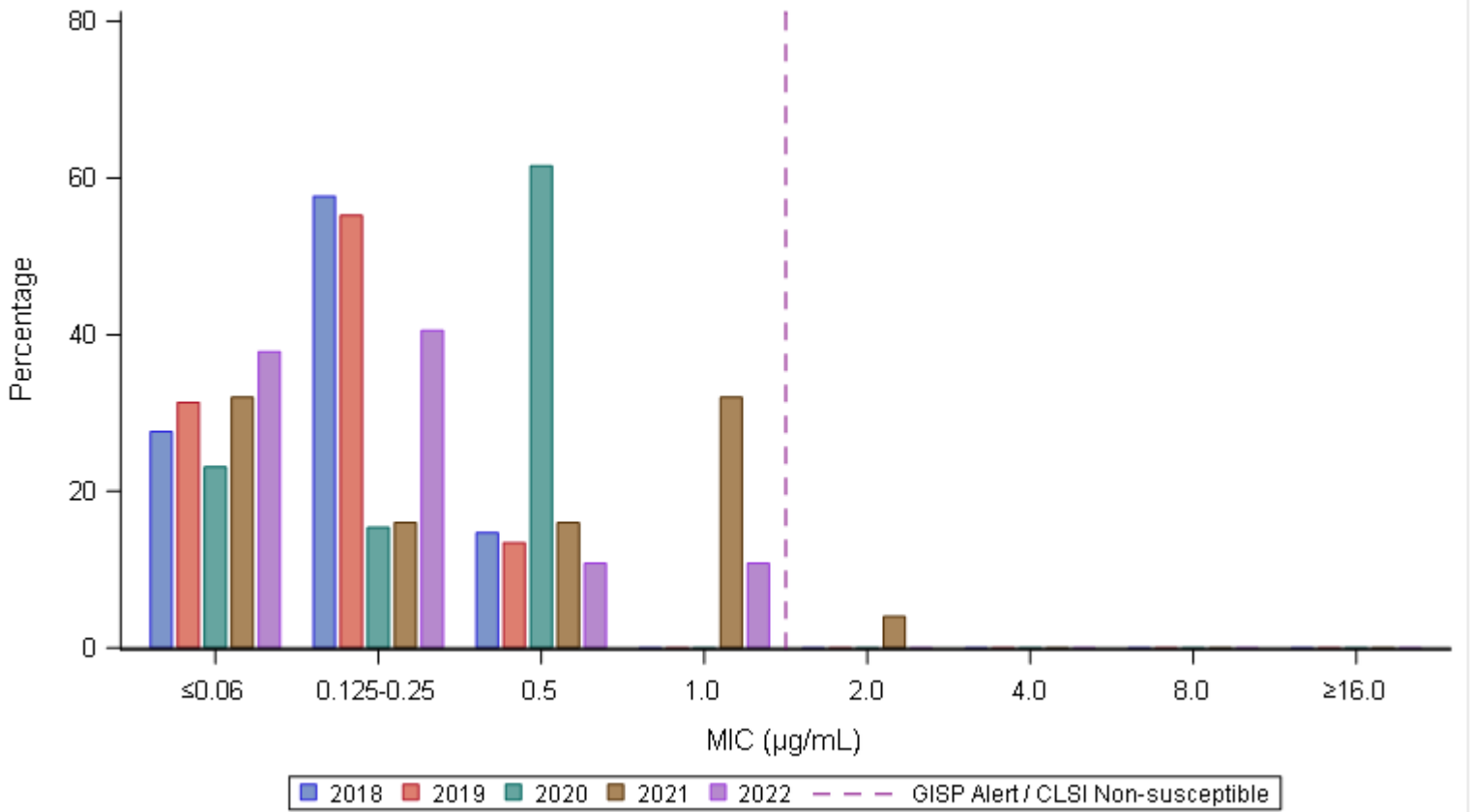
Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	136 (83.4)	20 (12.3)	7 (4.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	163
2019	44 (65.7)	6 (9.0)	15 (22.4)	2 (3.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	67
2020	10 (76.9)	1 (7.7)	2 (15.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	13
2021	21 (84.0)	3 (12.0)	1 (4.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	25
2022	32 (86.5)	4 (10.8)	1 (2.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	37

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 the end of 2022, the CLSI has not established a ceftriaxone resistance breakpoint for *N. gonorrhoeae*.

Figure I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Buffalo, New York, 2018-2022



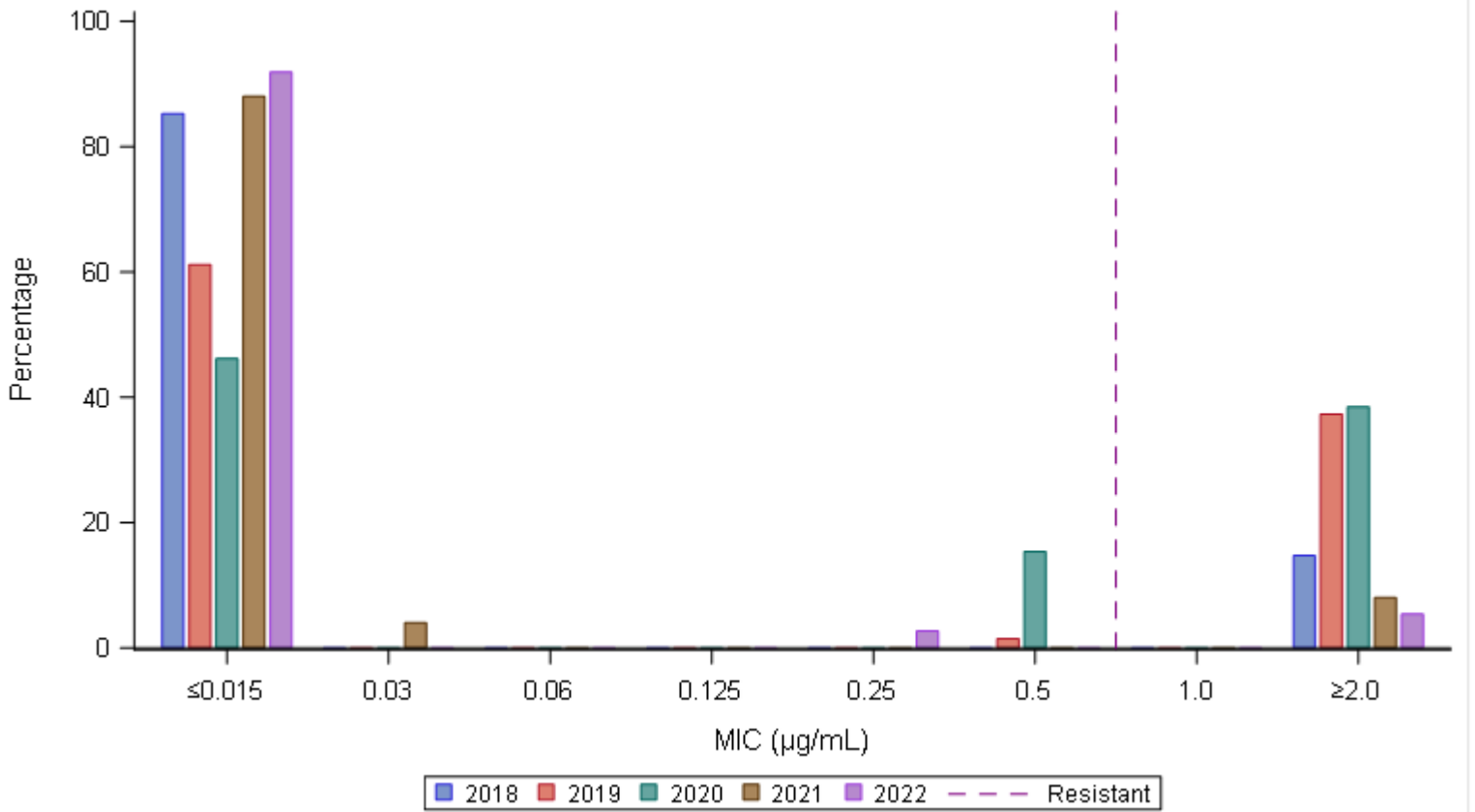
Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2018	45 (27.6)	94 (57.7)	24 (14.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	163
2019	21 (31.3)	37 (55.2)	9 (13.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	67
2020	3 (23.1)	2 (15.4)	8 (61.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	13
2021	8 (32.0)	4 (16.0)	4 (16.0)	8 (32.0)	1 (4.0)	0 (0.0)	0 (0.0)	0 (0.0)	25
2022	14 (37.8)	15 (40.5)	4 (10.8)	4 (10.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	37

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; CLSI Non-susceptible = azithromycin MIC ≥2.0 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 the end of 2022, the CLSI has not established an azithromycin resistance breakpoint for *N. gonorrhoeae*.

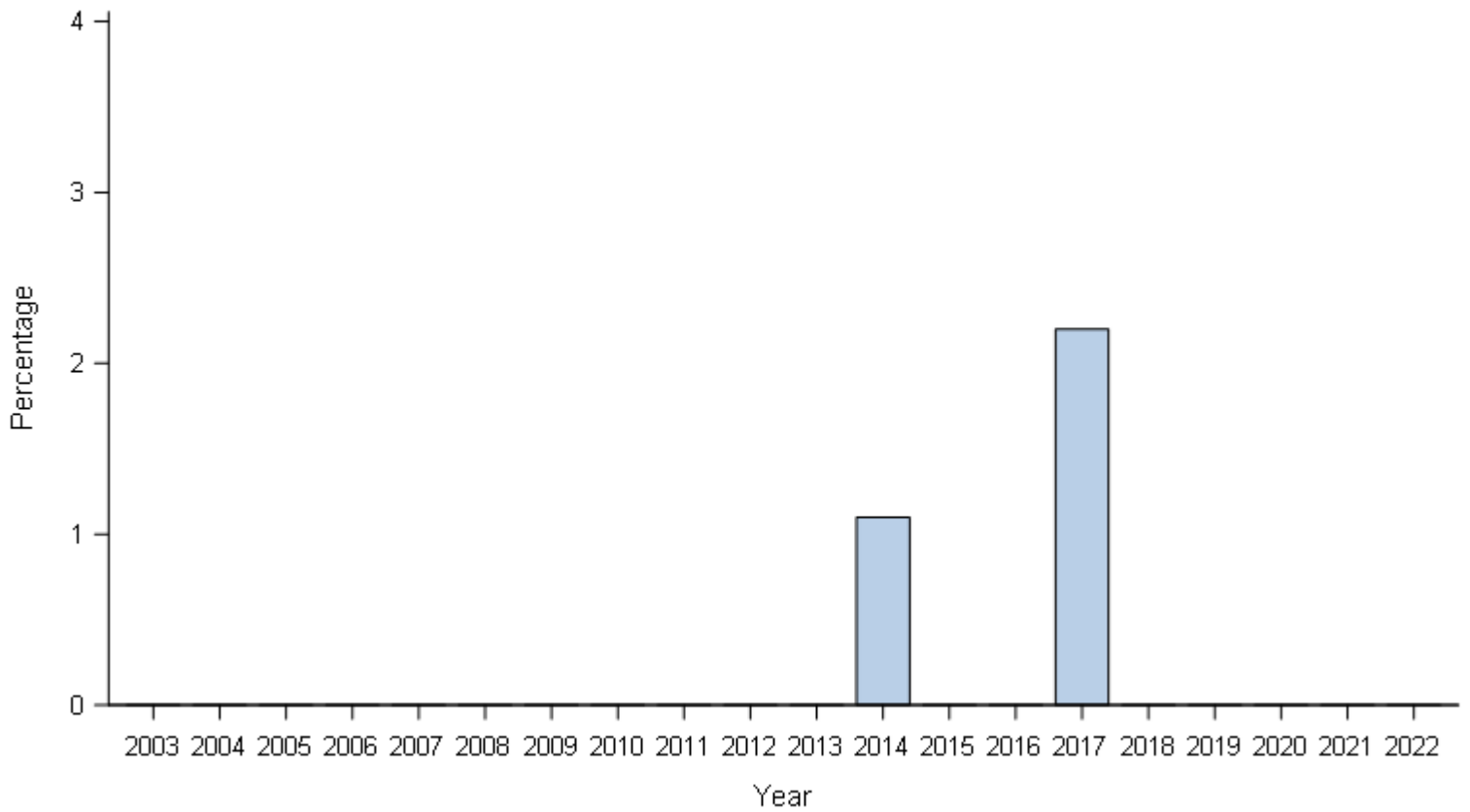
Figure J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Buffalo, New York, 2018-2022



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
2018	139 (85.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	24 (14.7)	163
2019	41 (61.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.5)	0 (0.0)	25 (37.3)	67
2020	6 (46.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (15.4)	0 (0.0)	5 (38.5)	13
2021	22 (88.0)	1 (4.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (8.0)	25
2022	34 (91.9)	0 (0.0)	0 (0.0)	0 (0.0)	1 (2.7)	0 (0.0)	0 (0.0)	2 (5.4)	37

Ciprofloxacin resistance MIC ≥1.0 µg/mL.

Figure K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Buffalo, New York, 2003-2022



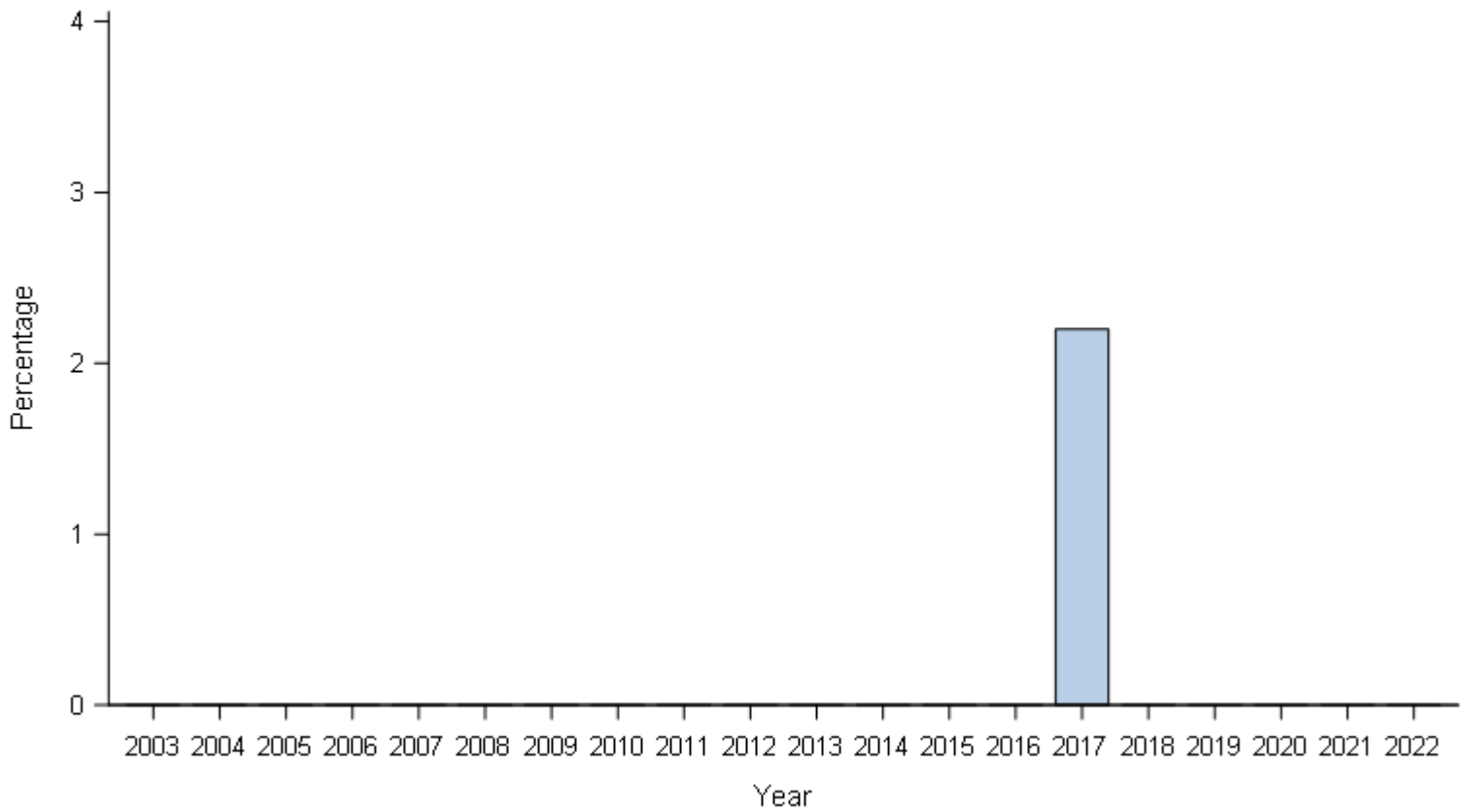
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	1 (1.1)	0 (0.0)	0 (0.0)	3 (2.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

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

Site participated in GISP during 2014-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Buffalo, New York, 2003-2022



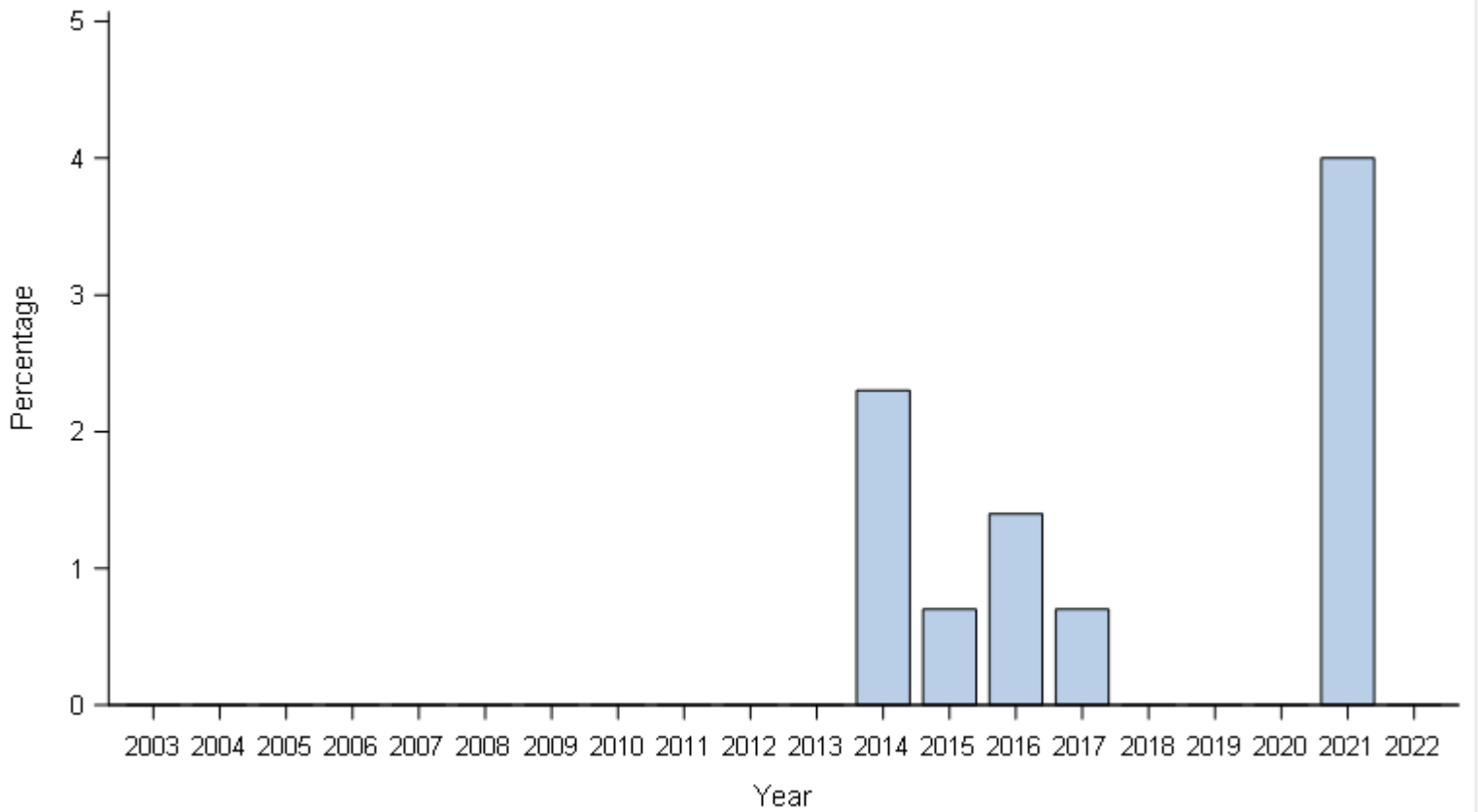
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	3 (2.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

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

Site participated in GISP during 2014-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure M. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Buffalo, New York, 2003-2022



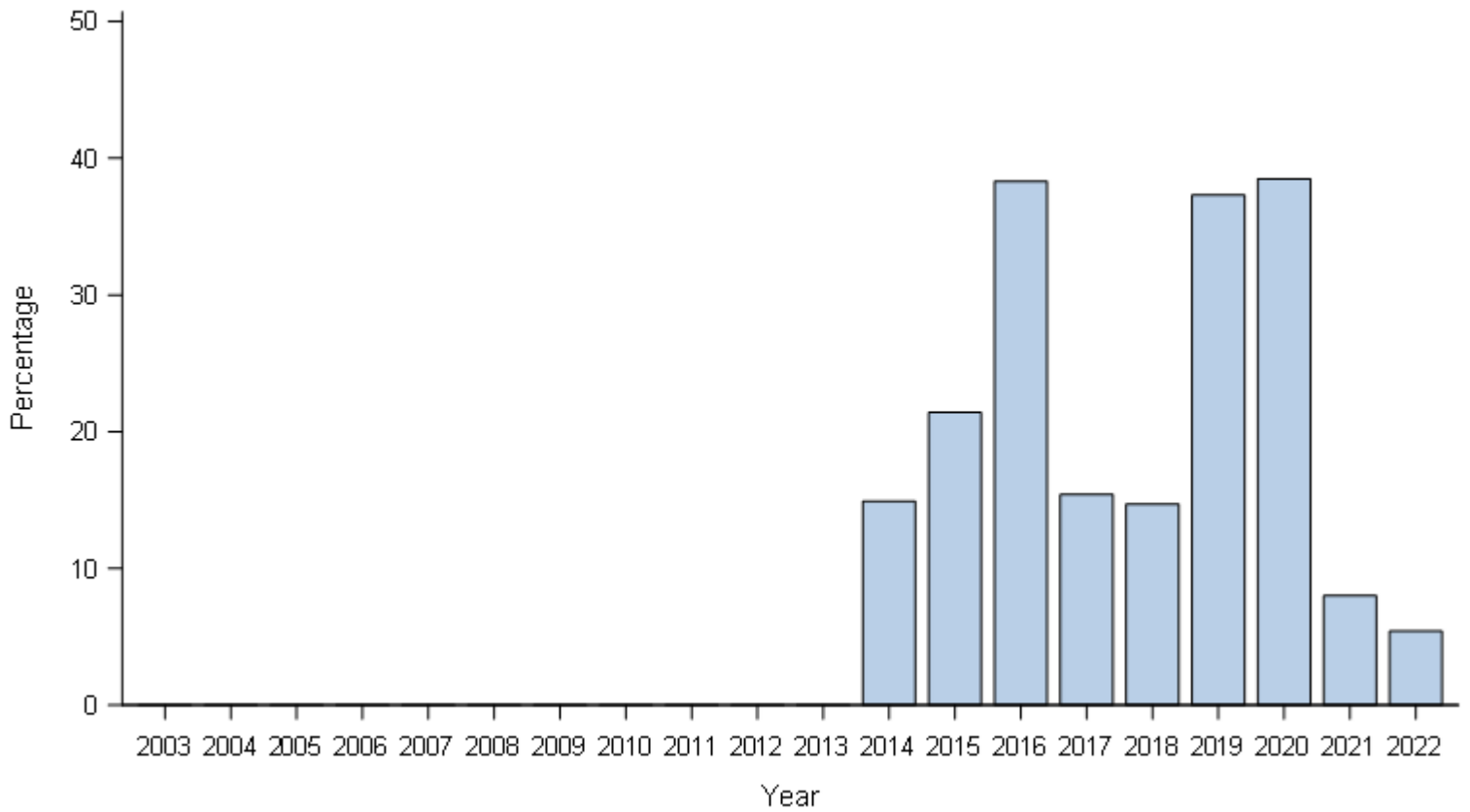
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	2 (2.3)	1 (0.7)	2 (1.4)	1 (0.7)	0 (0.0)	0 (0.0)	0 (0.0)	1 (4.0)	0 (0.0)

Azithromycin elevated MIC ≥ 1.0 $\mu\text{g/mL}$ prior to 2005 and ≥ 2.0 $\mu\text{g/mL}$ during 2005-2022.

Site participated in GISP during 2014-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Buffalo, New York, 2003-2022



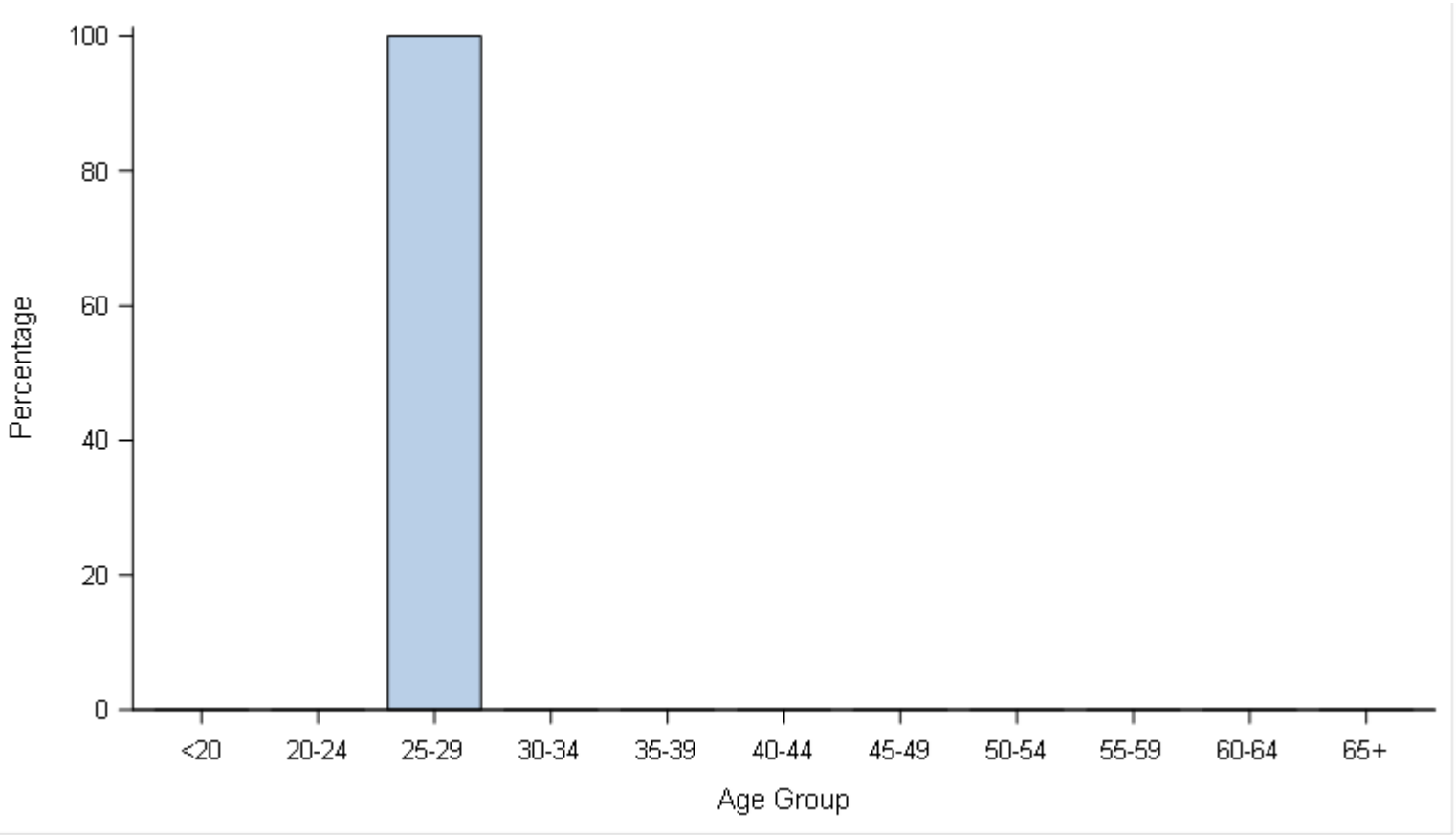
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	13 (14.9)	30 (21.4)	54 (38.3)	21 (15.4)	24 (14.7)	25 (37.3)	5 (38.5)	2 (8.0)	2 (5.4)

Ciprofloxacin resistance MIC \geq 1.0 μ g/mL.

Site participated in GISP during 2014-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

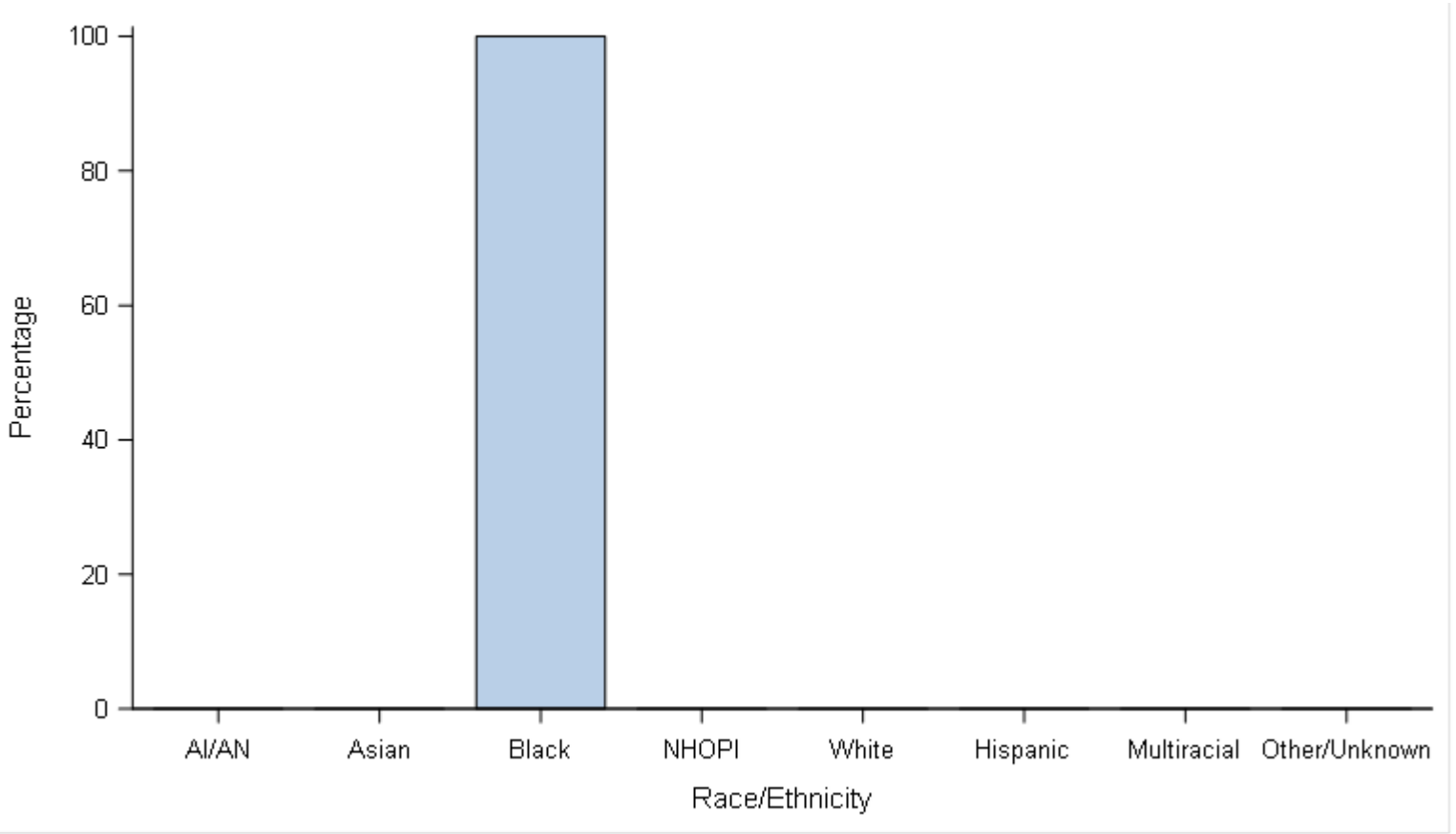
Figure A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Camden, New Jersey, 2022



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

Cases with unknown age were excluded.

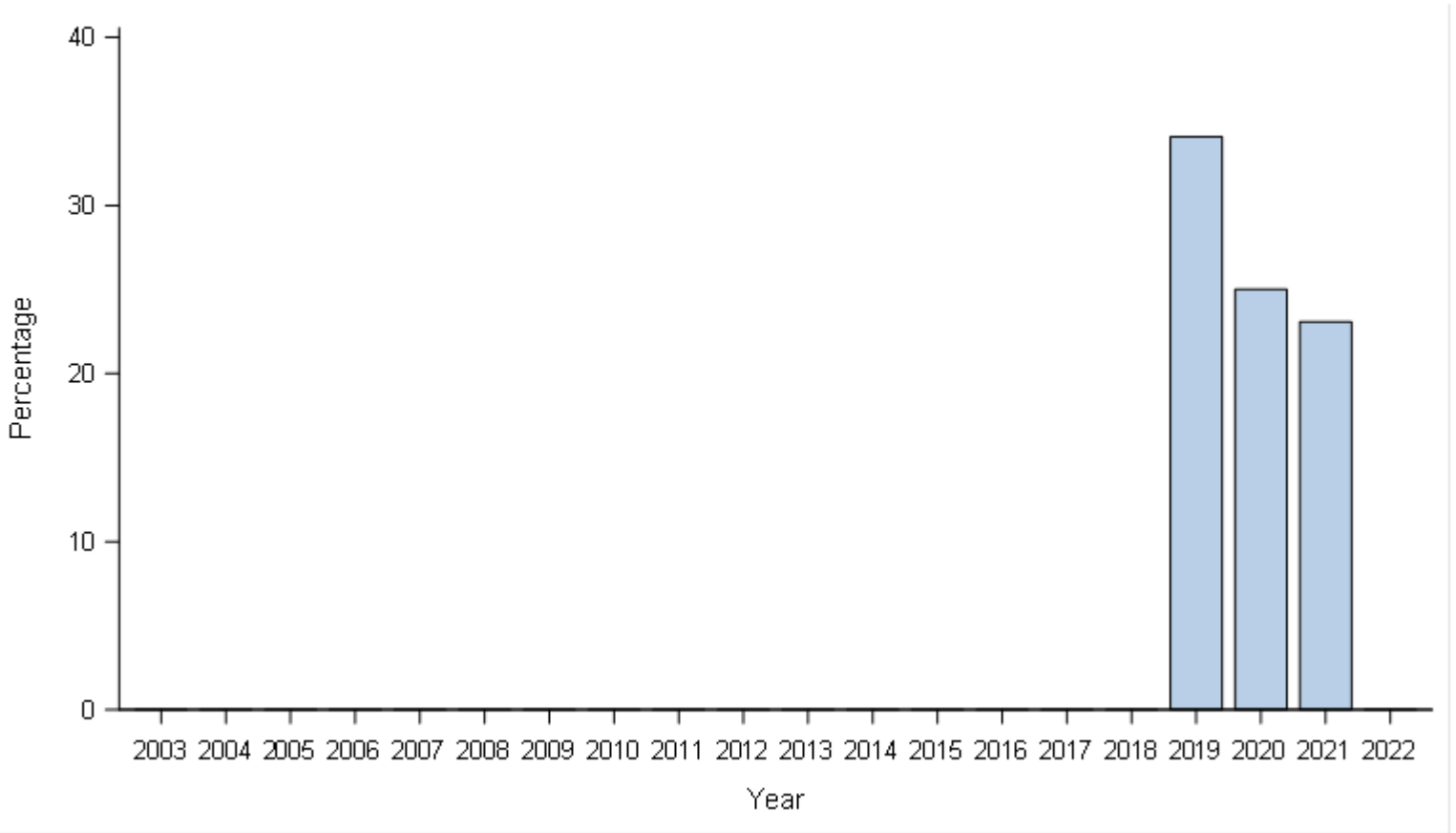
Figure B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Camden, New Jersey, 2022



AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	0 (0.0)	1 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	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.

Figure C. Percentage of Participants Identifying as Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Camden, New Jersey, 2003-2022

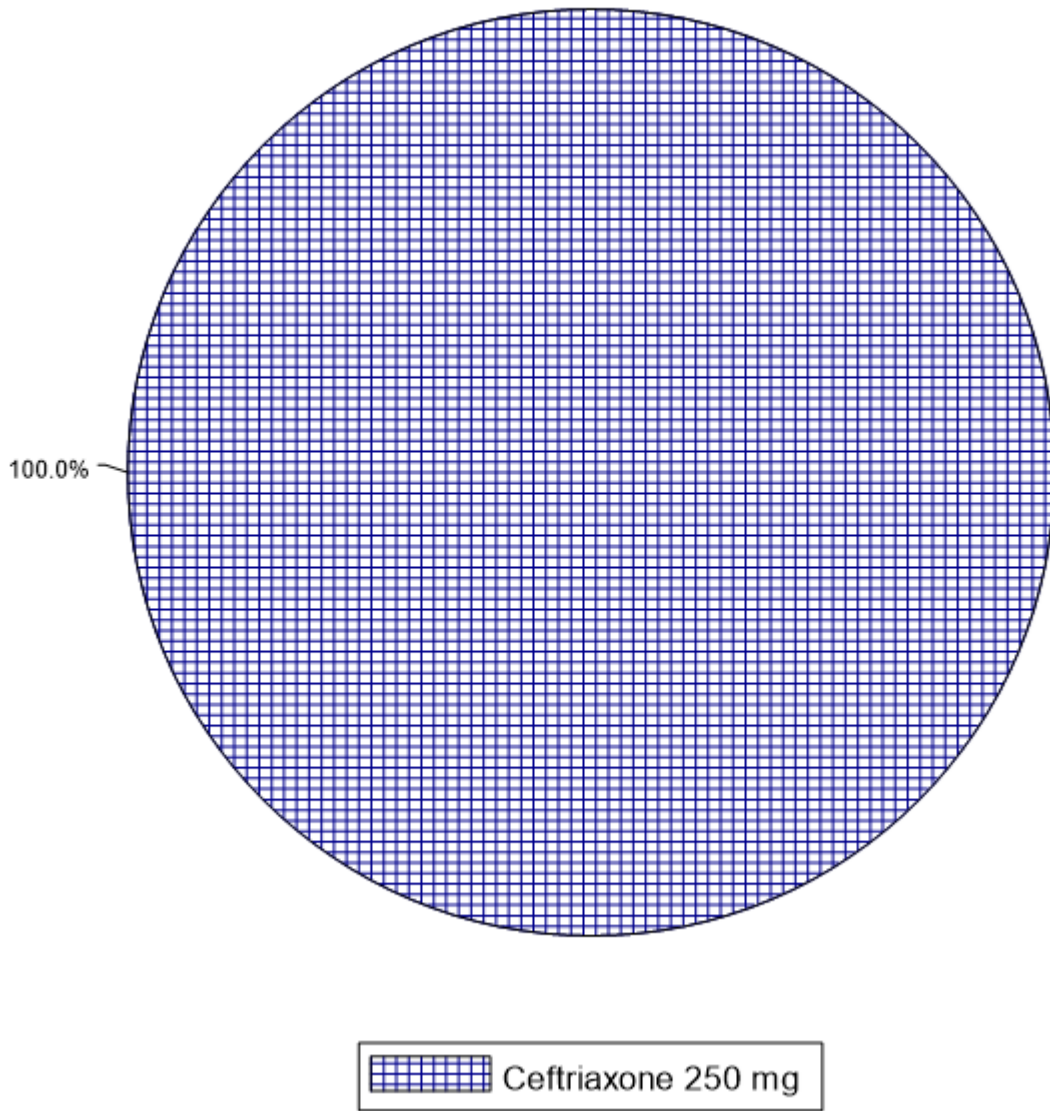


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	15 (34.1)	13 (25.0)	3 (23.1)	0 (0.0)

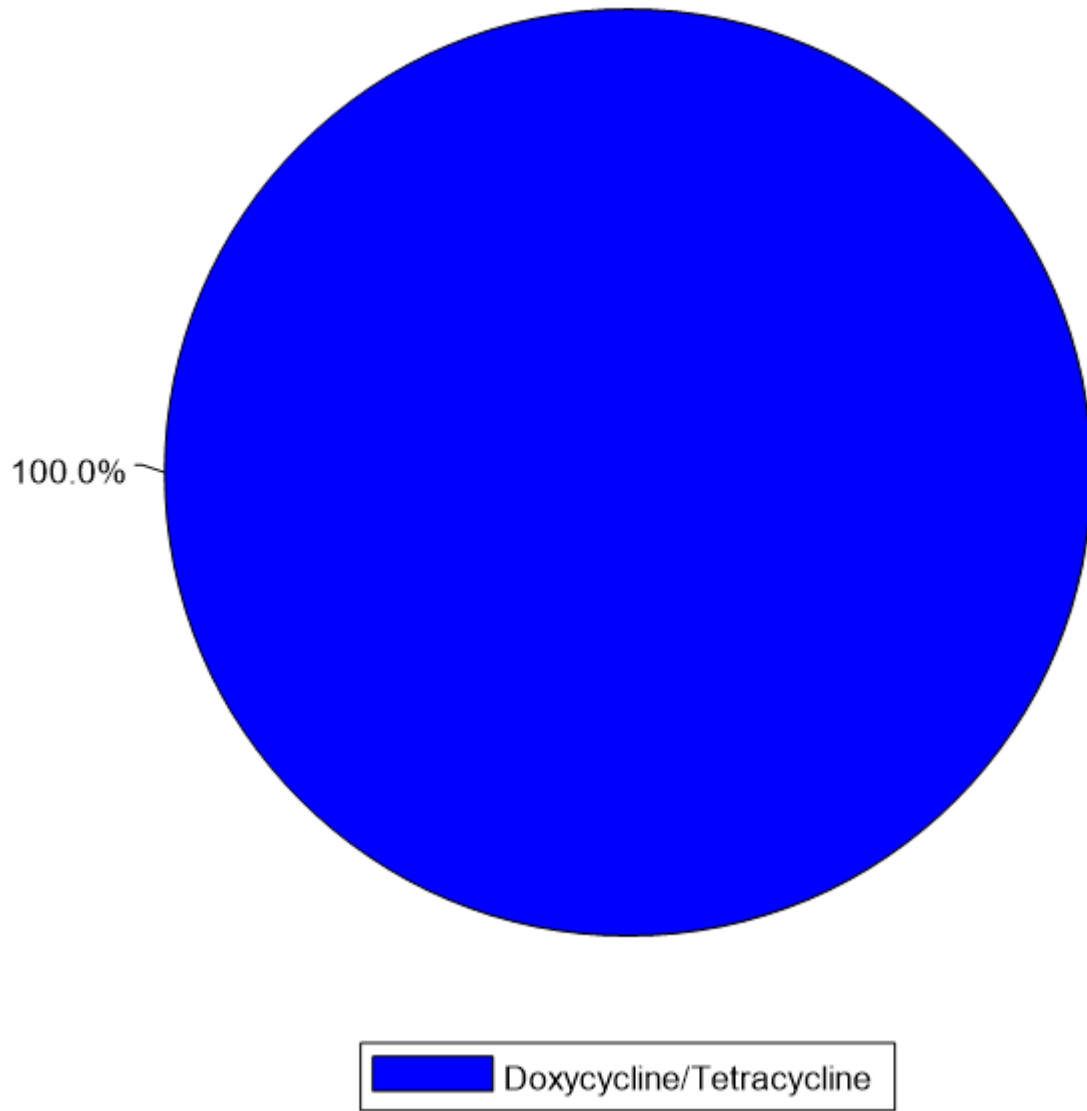
Men who have sex with men = men who self-identified as gay or bisexual or reported recent male sex partners.
 Site participated in GISP during 2019-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Camden, New Jersey, 2022



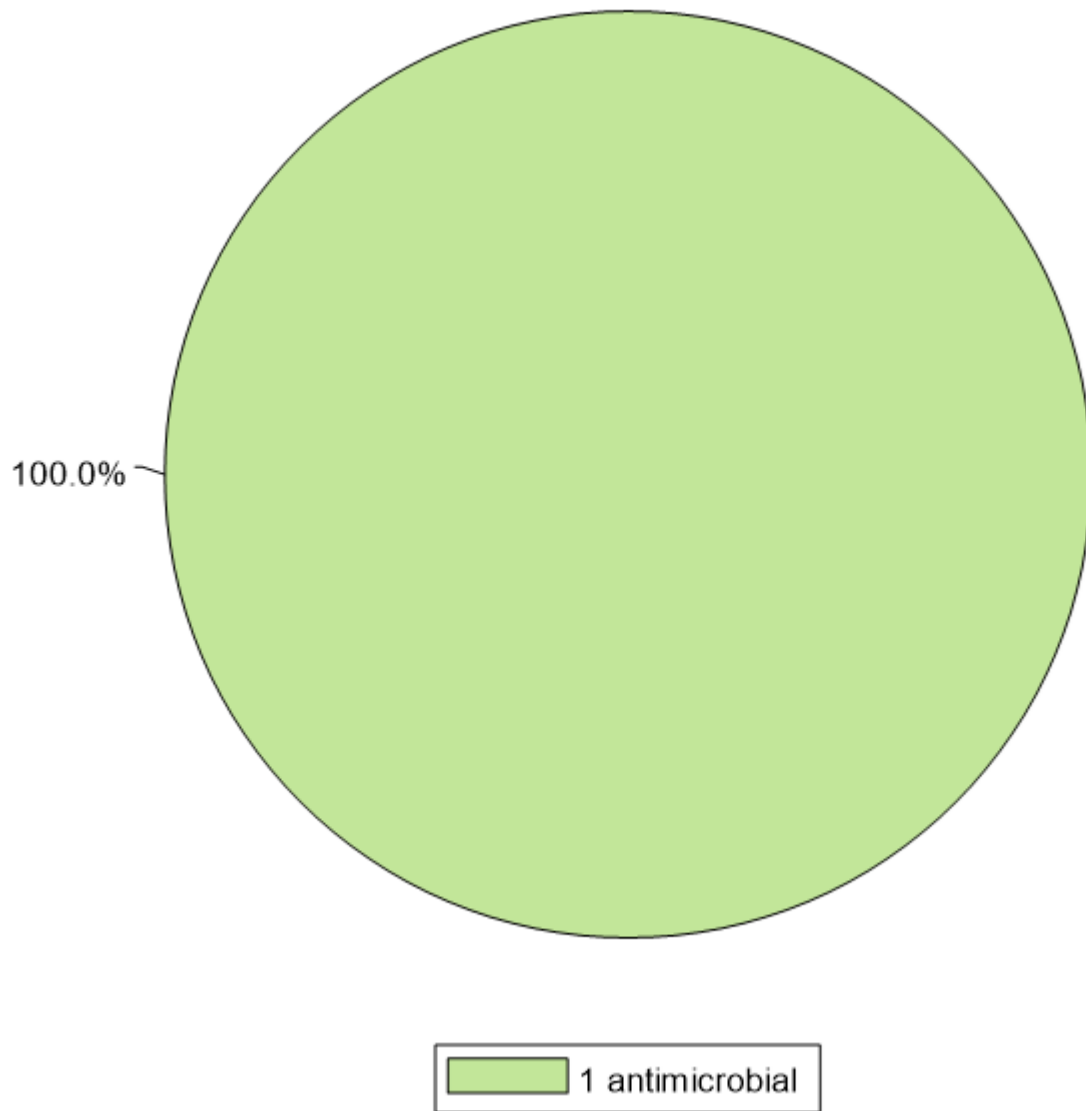
Primary Treatment	Count	Percentage
Ceftriaxone 250 mg	1	100.0

Figure E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Camden, New Jersey, 2022



Secondary Treatment	Count	Percentage
Doxycycline/Tetracycline	1	100.0

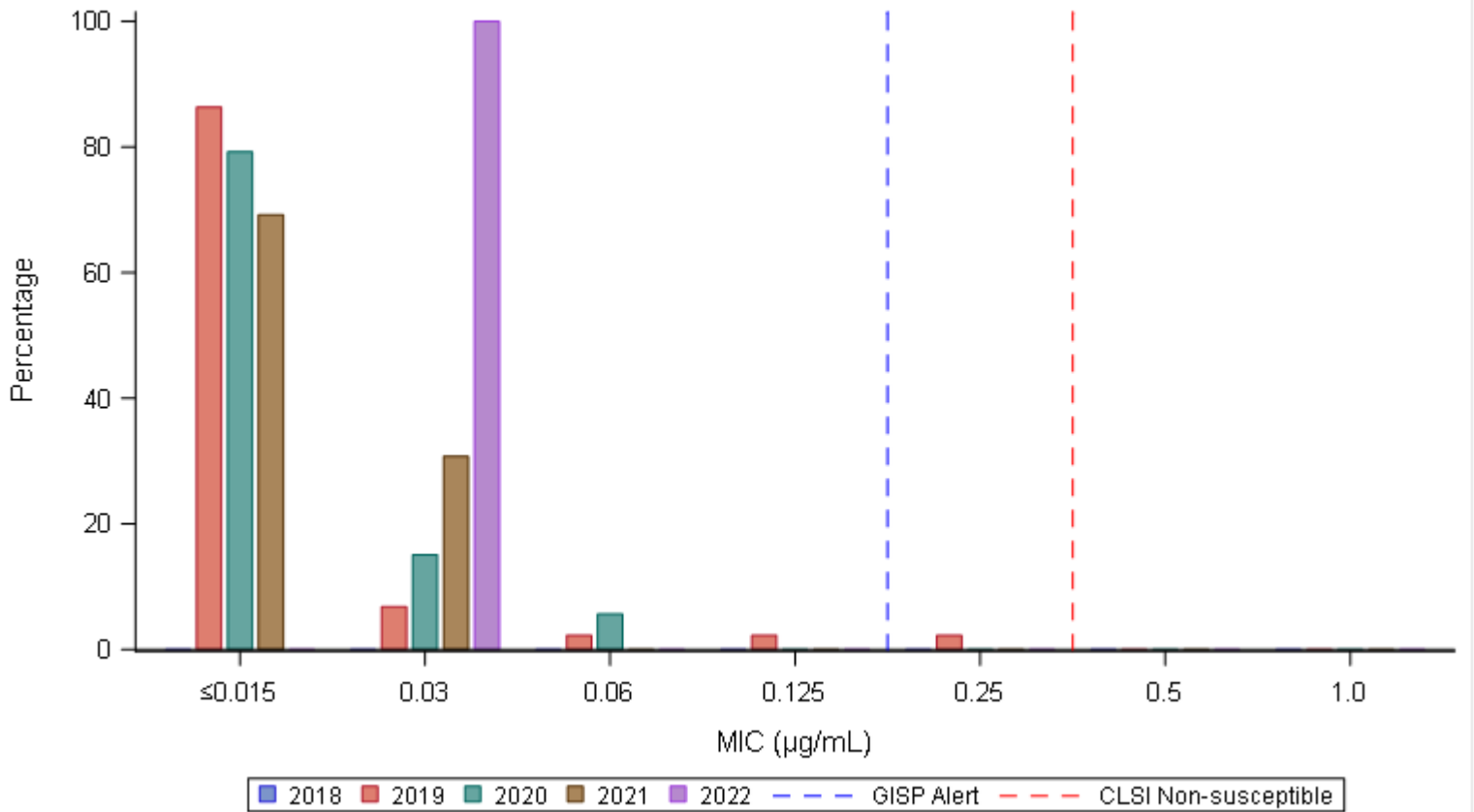
Figure F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Camden, New Jersey, 2022



Number of Antimicrobials	Count	Percentage
Susceptible	0	0.0
1 antimicrobial	1	100.0
2 antimicrobials	0	0.0
3 antimicrobials	0	0.0
4+ antimicrobials	0	0.0

Elevated MICs = ceftriaxone MIC ≥ 0.125 $\mu\text{g/mL}$; cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; Resistance = tetracycline MIC ≥ 2.0 $\mu\text{g/mL}$; ciprofloxacin MIC ≥ 1.0 $\mu\text{g/mL}$; penicillin MIC ≥ 2.0 $\mu\text{g/mL}$ or β -lactamase positive.

Figure G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Camden, New Jersey, 2018-2022



Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0
2019	38 (86.4)	3 (6.8)	1 (2.3)	1 (2.3)	1 (2.3)	0 (0.0)	0 (0.0)	44
2020	42 (79.2)	8 (15.1)	3 (5.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	53
2021	9 (69.2)	4 (30.8)	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)	1

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

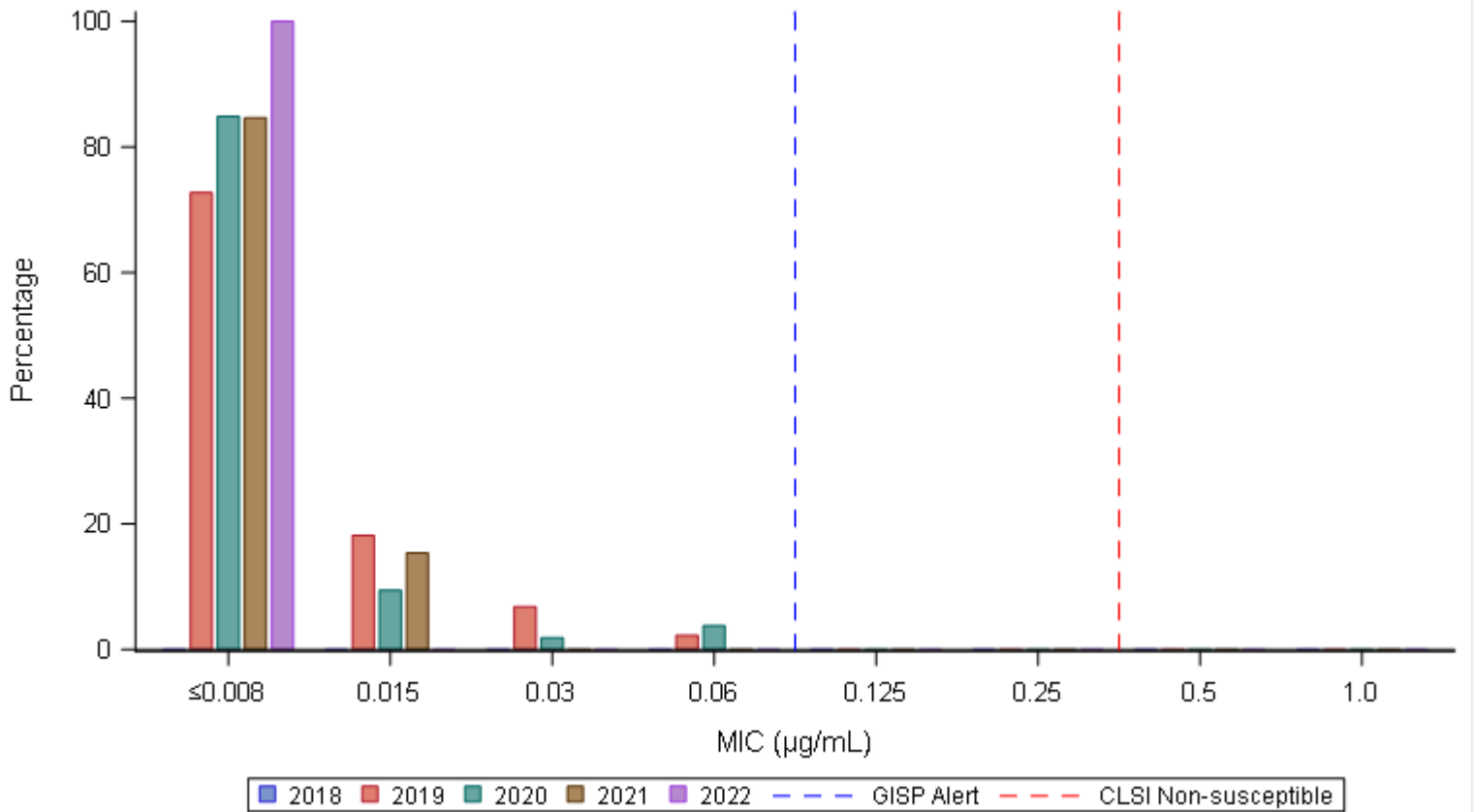
CLSI = Clinical & Laboratory Standards Institute.

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

As of the end of 2022, the CLSI has not established a cefixime resistance breakpoint for *N. gonorrhoeae*.

Site participated in GISP during 2019-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Camden, New Jersey, 2018-2022



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
2018	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0
2019	32 (72.7)	8 (18.2)	3 (6.8)	1 (2.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	44
2020	45 (84.9)	5 (9.4)	1 (1.9)	2 (3.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	53
2021	11 (84.6)	2 (15.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	13
2022	1 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1

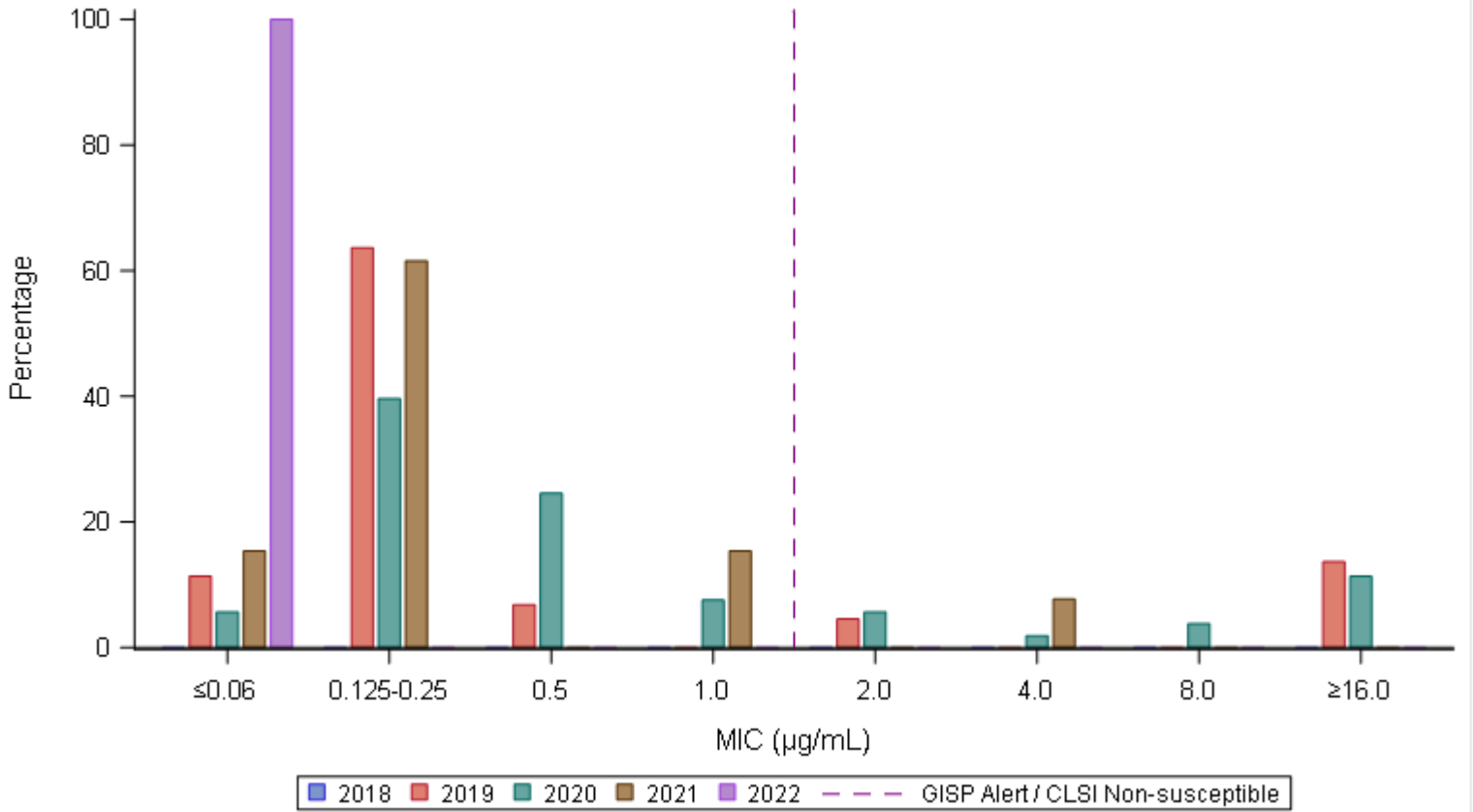
GISP Alert Value = ceftriaxone MIC ≥ 0.125 $\mu\text{g/mL}$; CLSI Non-susceptible = ceftriaxone MIC ≥ 0.5 $\mu\text{g/mL}$.

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 the end of 2022, the CLSI has not established a ceftriaxone resistance breakpoint for *N. gonorrhoeae*.

Site participated in GISP during 2019-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Camden, New Jersey, 2018-2022



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
2018	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0
2019	5 (11.4)	28 (63.6)	3 (6.8)	0 (0.0)	2 (4.5)	0 (0.0)	0 (0.0)	6 (13.6)	44
2020	3 (5.7)	21 (39.6)	13 (24.5)	4 (7.5)	3 (5.7)	1 (1.9)	2 (3.8)	6 (11.3)	53
2021	2 (15.4)	8 (61.5)	0 (0.0)	2 (15.4)	0 (0.0)	1 (7.7)	0 (0.0)	0 (0.0)	13
2022	1 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1

GISP Alert Value: azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; CLSI Non-susceptible = azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$.

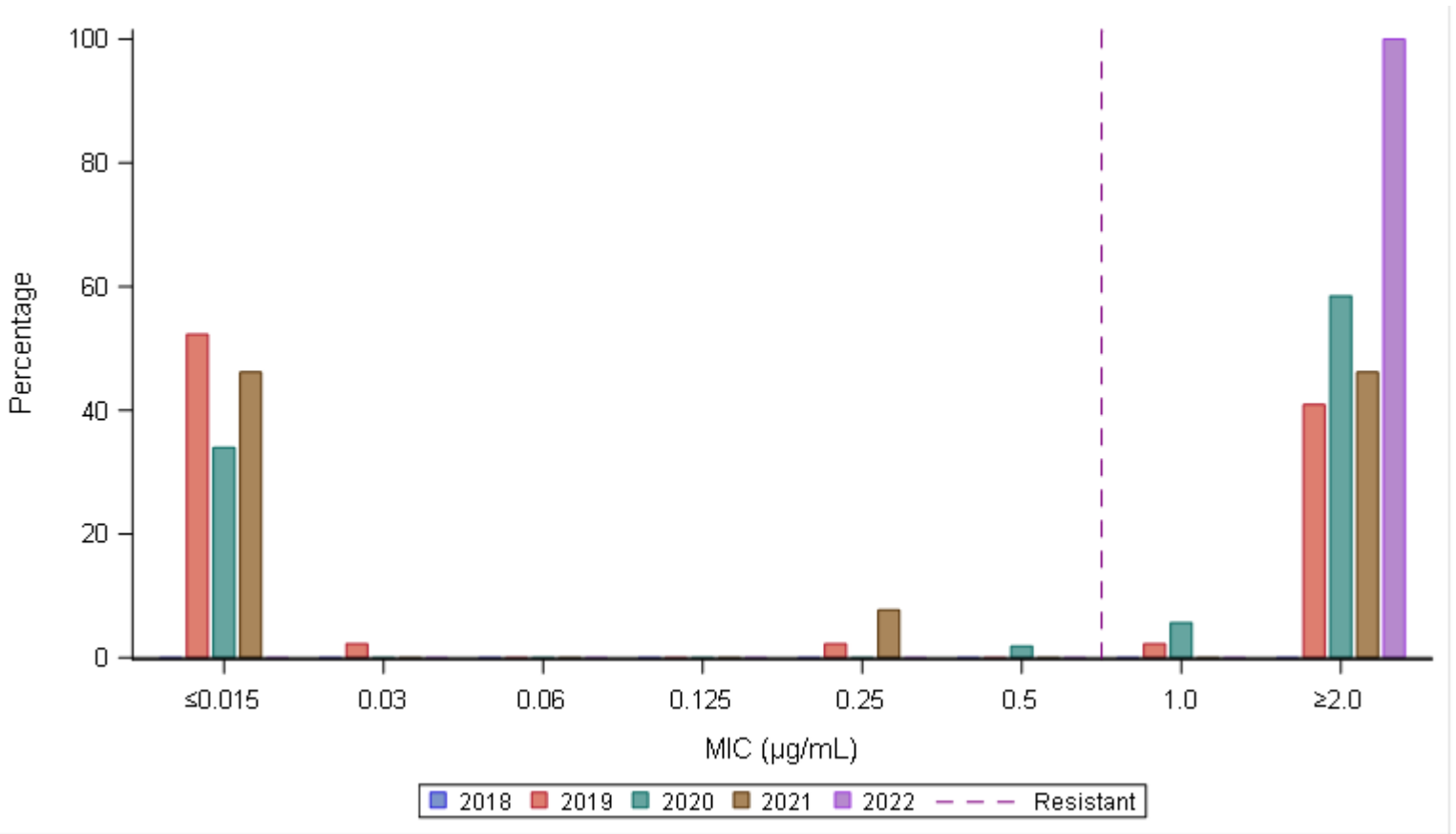
CLSI = Clinical & Laboratory Standards Institute.

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

As of the end of 2022, the CLSI has not established an azithromycin resistance breakpoint for *N. gonorrhoeae*.

Site participated in GISP during 2019-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Camden, New Jersey, 2018-2022

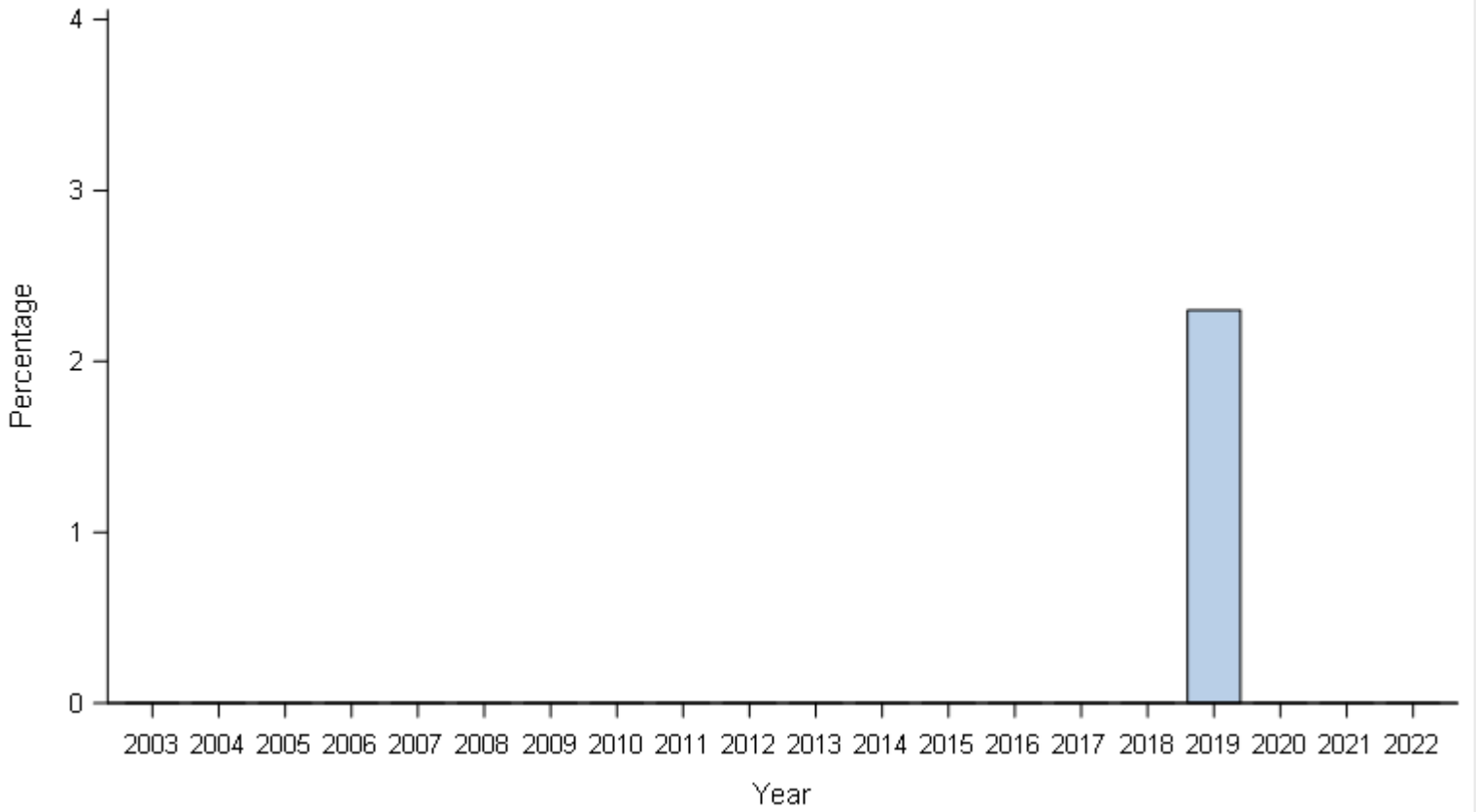


Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	≥2.0 n (%)	Total
2018	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0
2019	23 (52.3)	1 (2.3)	0 (0.0)	0 (0.0)	1 (2.3)	0 (0.0)	1 (2.3)	18 (40.9)	44
2020	18 (34.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.9)	3 (5.7)	31 (58.5)	53
2021	6 (46.2)	0 (0.0)	0 (0.0)	0 (0.0)	1 (7.7)	0 (0.0)	0 (0.0)	6 (46.2)	13
2022	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (100.0)	1

Ciprofloxacin resistance MIC ≥1.0 µg/mL.

Site participated in GISP during 2019-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Camden, New Jersey, 2003-2022



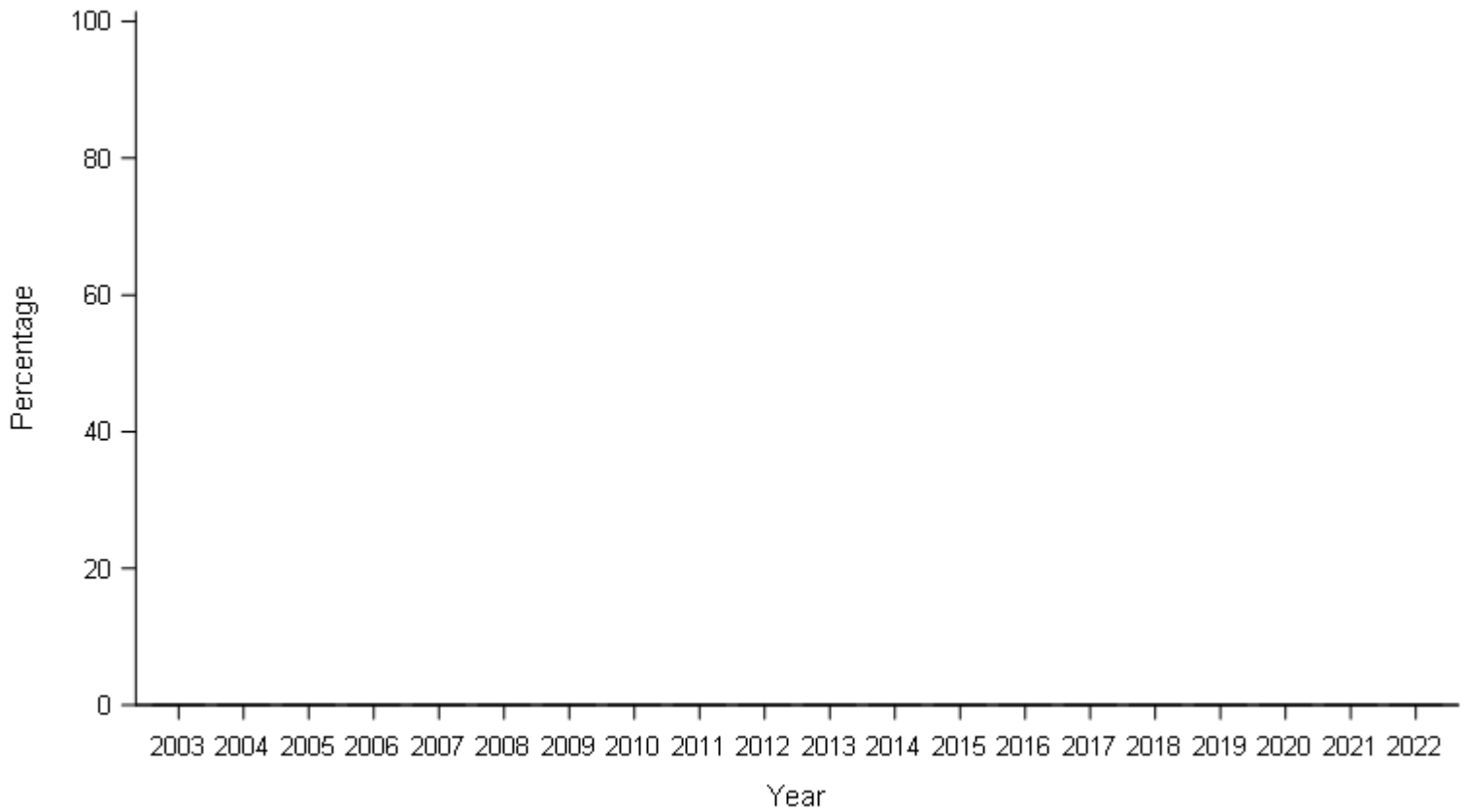
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (2.3)	0 (0.0)	0 (0.0)	0 (0.0)

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

Site participated in GISP during 2019-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Camden, New Jersey, 2003-2022



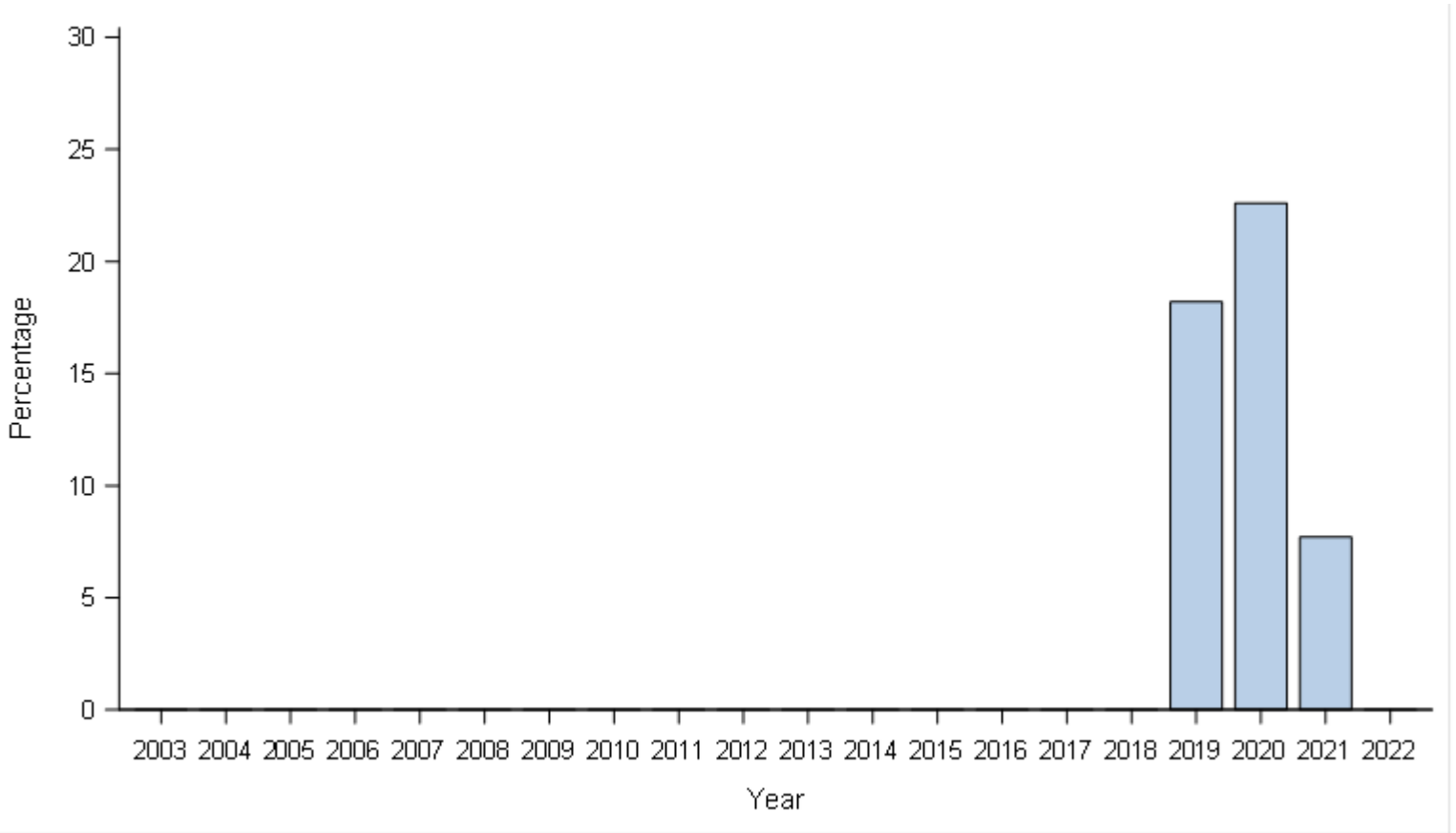
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

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

Site participated in GISP during 2019-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure M. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Camden, New Jersey, 2003-2022



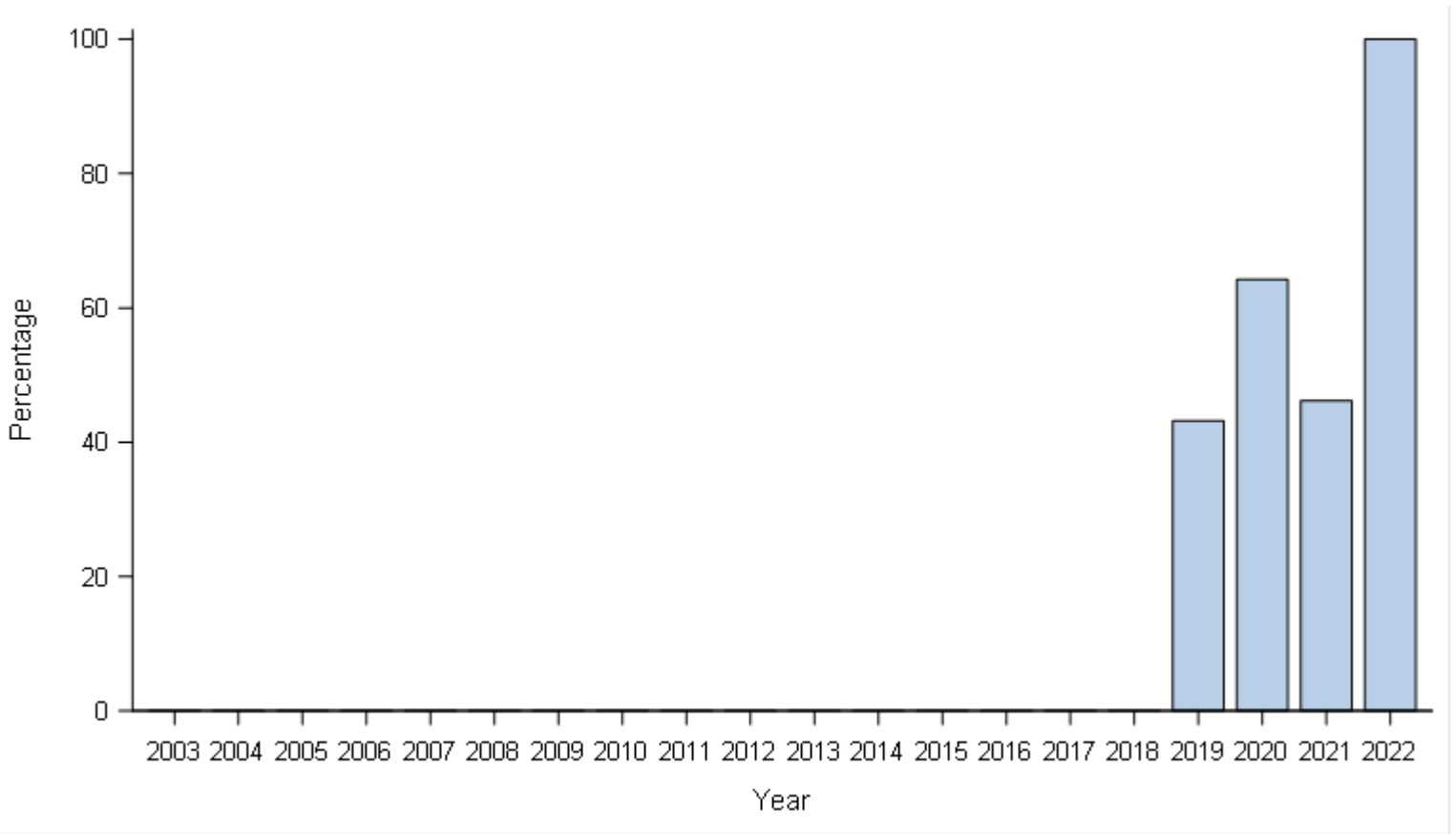
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	8 (18.2)	12 (22.6)	1 (7.7)	0 (0.0)

Azithromycin elevated MIC ≥ 1.0 $\mu\text{g/mL}$ prior to 2005 and ≥ 2.0 $\mu\text{g/mL}$ during 2005-2022.

Site participated in GISP during 2019-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Camden, New Jersey, 2003-2022



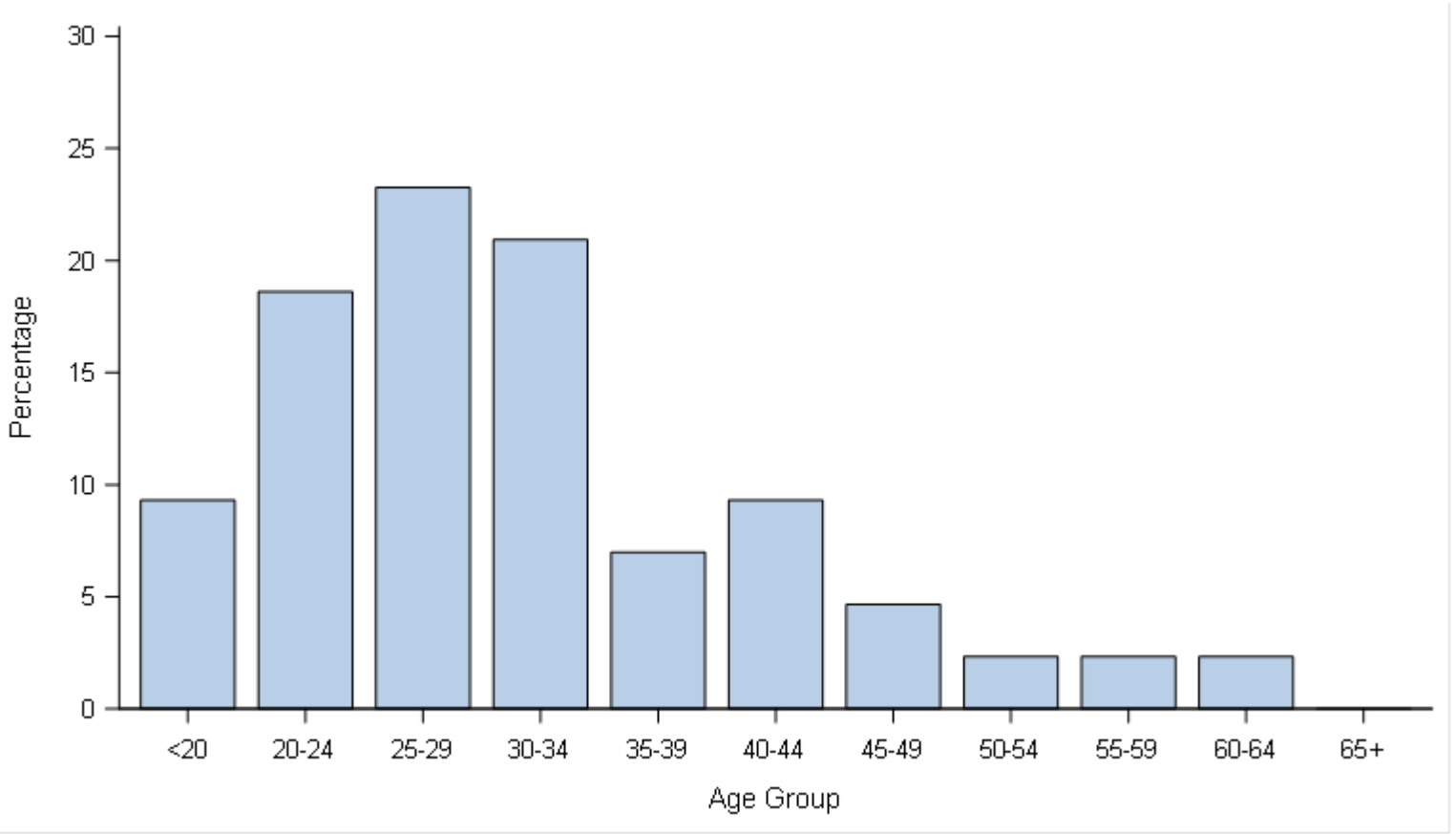
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	19 (43.2)	34 (64.2)	6 (46.2)	1 (100.0)

Ciprofloxacin resistance MIC \geq 1.0 μ g/mL.

Site participated in GISP during 2019-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

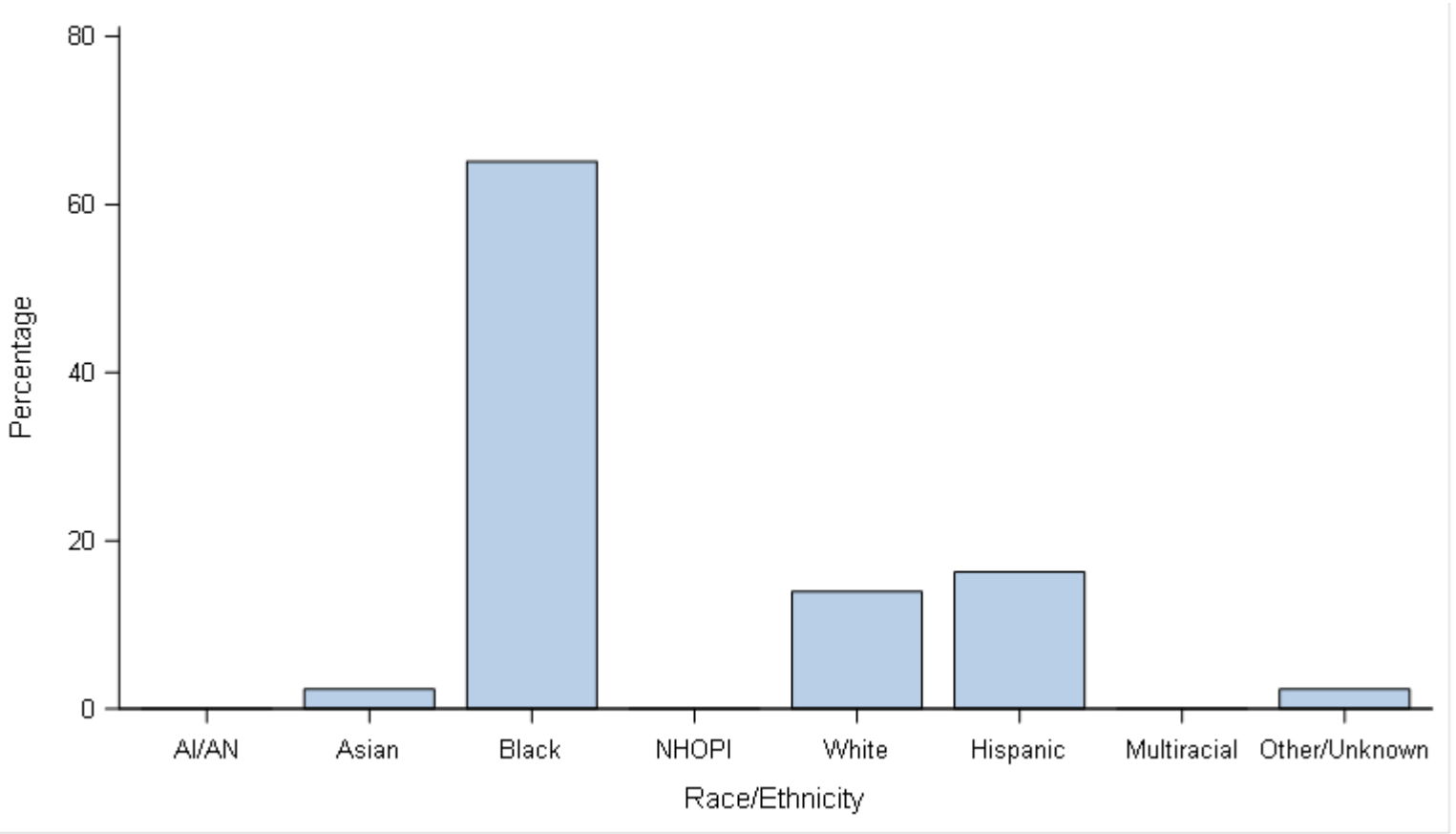
Figure A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Chicago, Illinois, 2022



<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 (9.3)	8 (18.6)	10 (23.3)	9 (20.9)	3 (7.0)	4 (9.3)	2 (4.7)	1 (2.3)	1 (2.3)	1 (2.3)	0 (0.0)	43

Cases with unknown age were excluded.

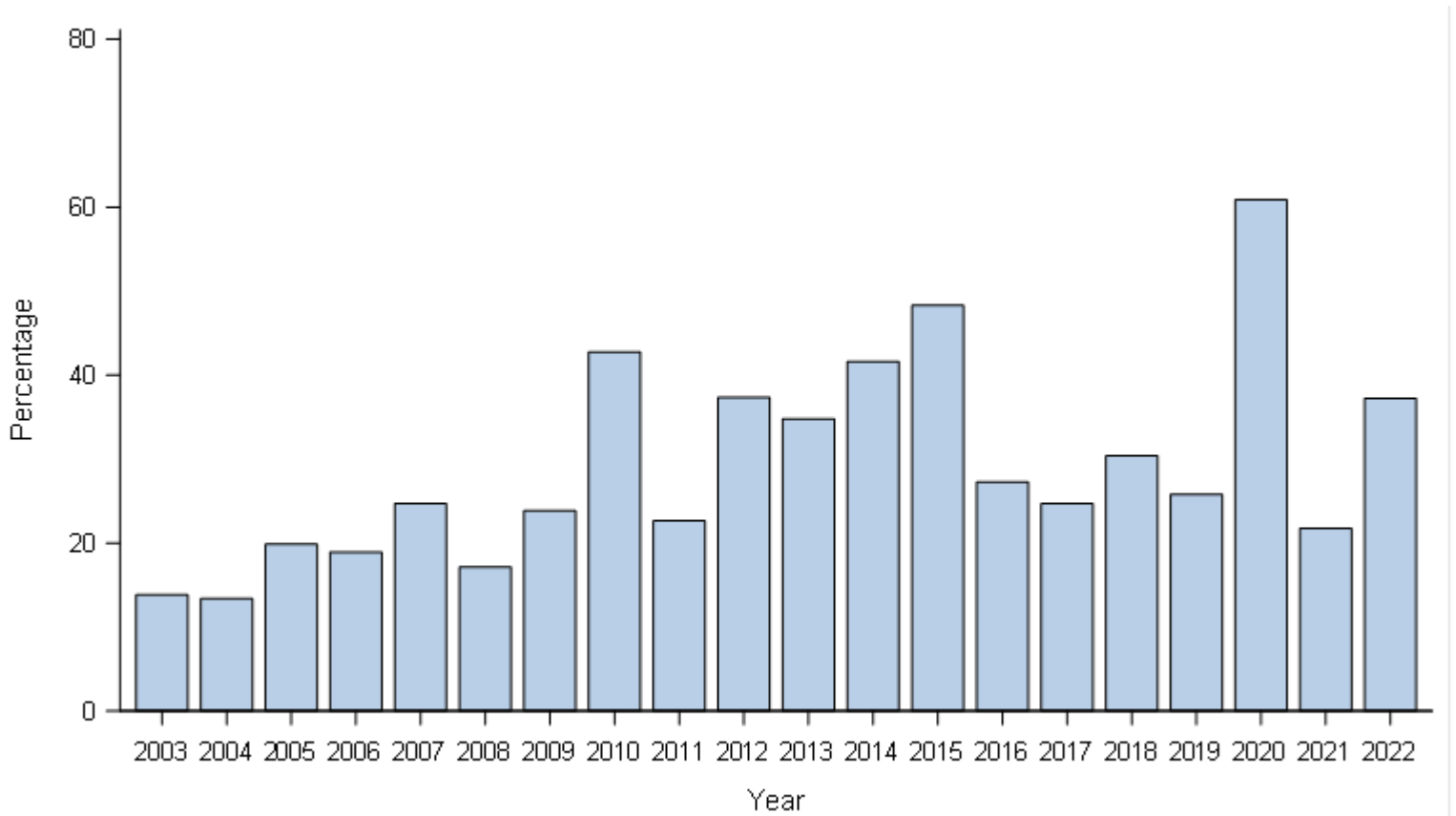
Figure B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Chicago, Illinois, 2022



AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	1 (2.3)	28 (65.1)	0 (0.0)	6 (14.0)	7 (16.3)	0 (0.0)	1 (2.3)	43

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.

Figure C. Percentage of Participants Identifying as Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Chicago, Illinois, 2003-2022

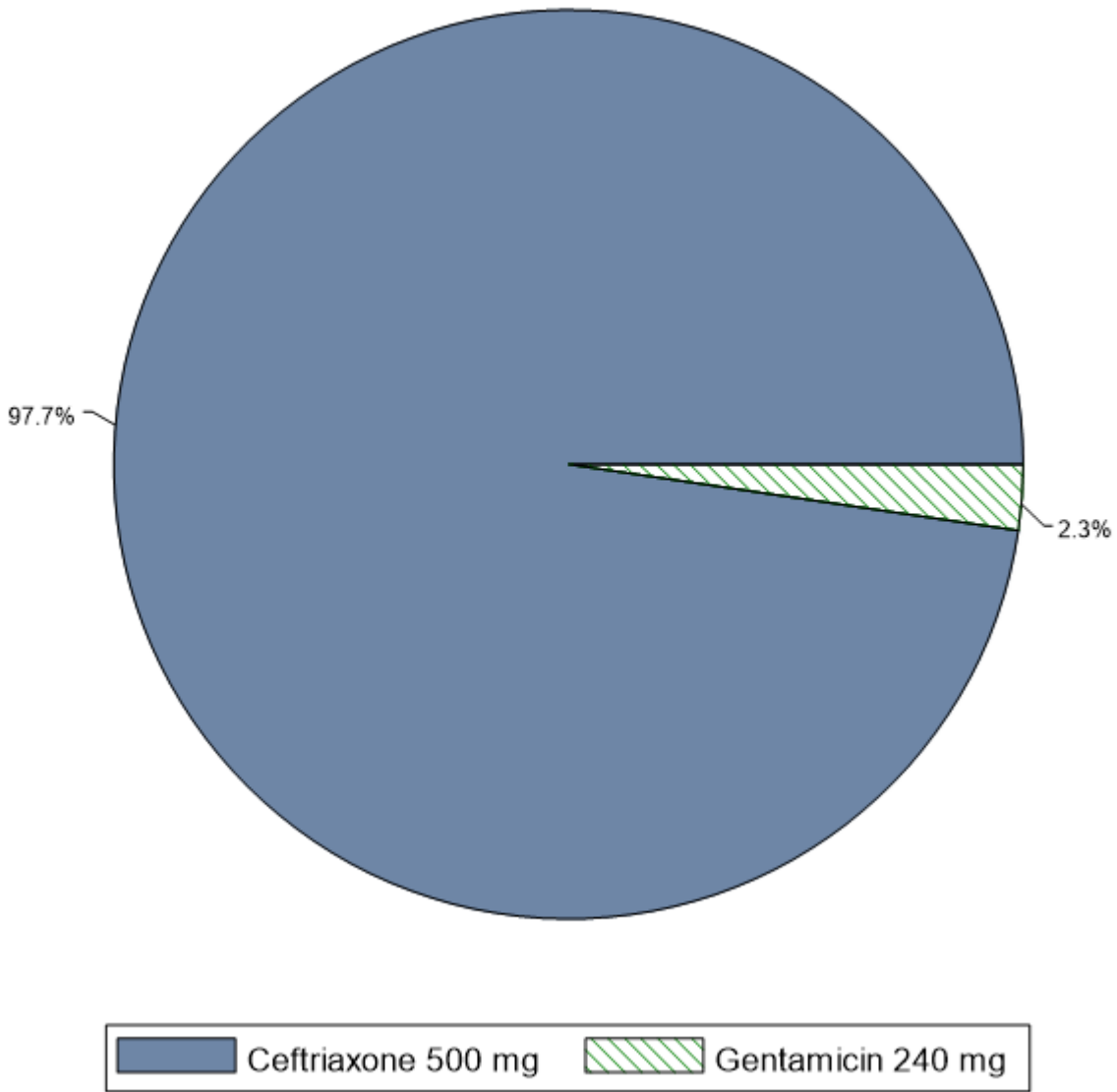


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
39 (13.8)	40 (13.4)	55 (19.9)	56 (18.9)	66 (24.7)	43 (17.1)	56 (23.8)	53 (42.7)	58 (22.7)	102 (37.4)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
103 (34.8)	52 (41.6)	71 (48.3)	33 (27.3)	39 (24.7)	31 (30.4)	32 (25.8)	14 (60.9)	5 (21.7)	16 (37.2)

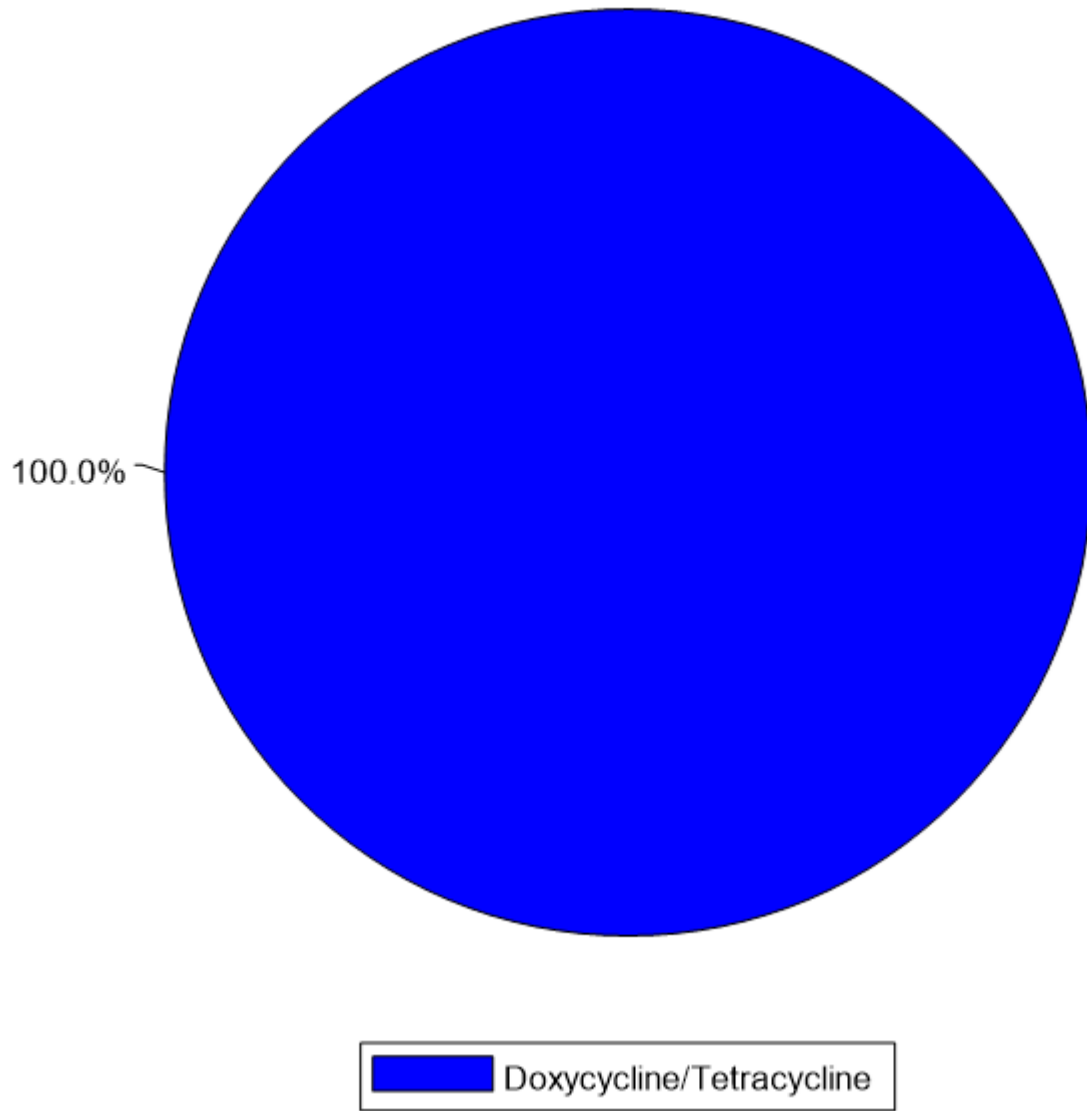
Men who have sex with men = men who self-identified as gay or bisexual or reported recent male sex partners.

Figure D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Chicago, Illinois, 2022



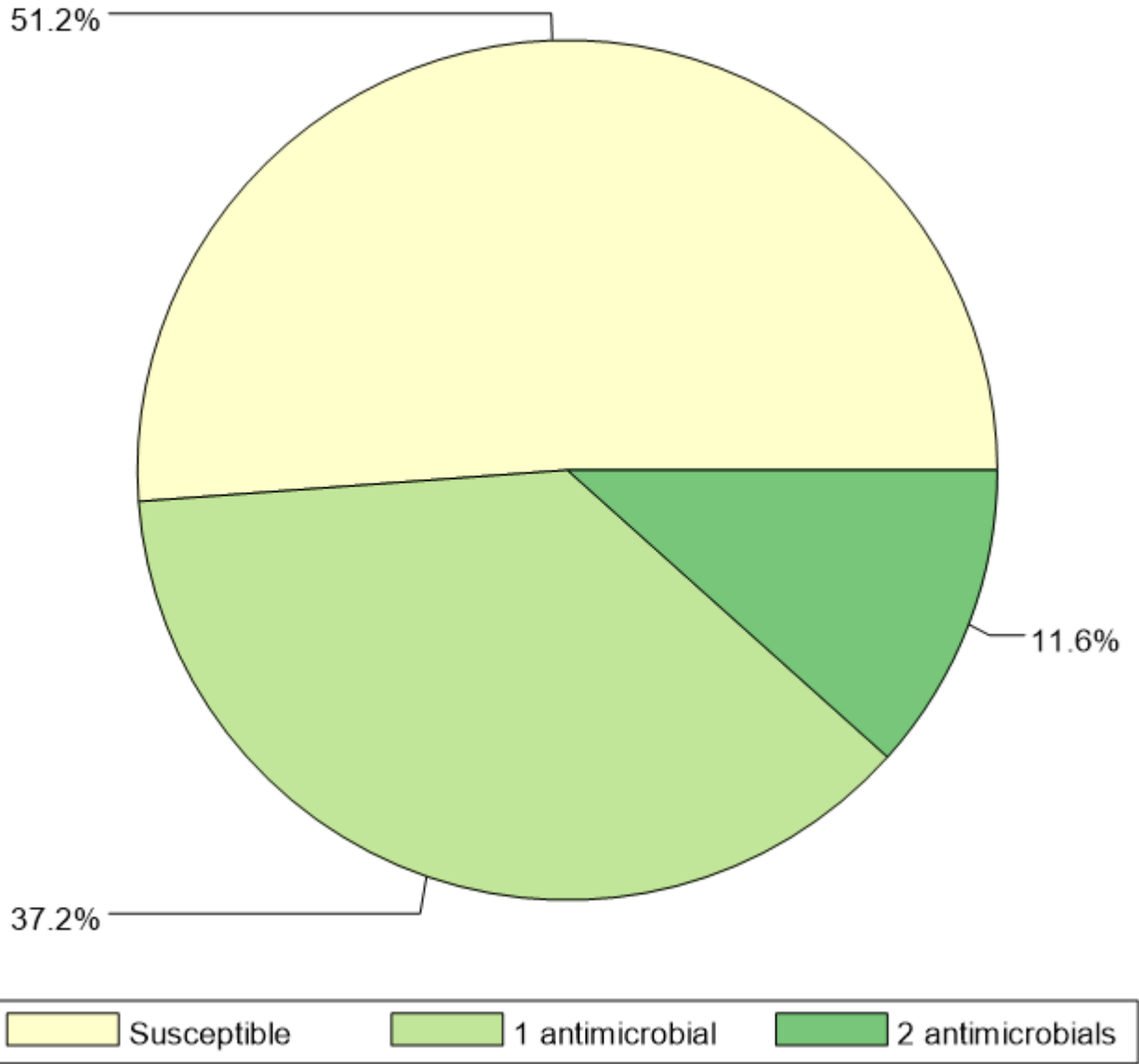
Primary Treatment	Count	Percentage
Ceftriaxone 500 mg	42	97.7
Gentamicin 240 mg	1	2.3

Figure E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Chicago, Illinois, 2022



Secondary Treatment	Count	Percentage
Doxycycline/Tetracycline	42	100.0

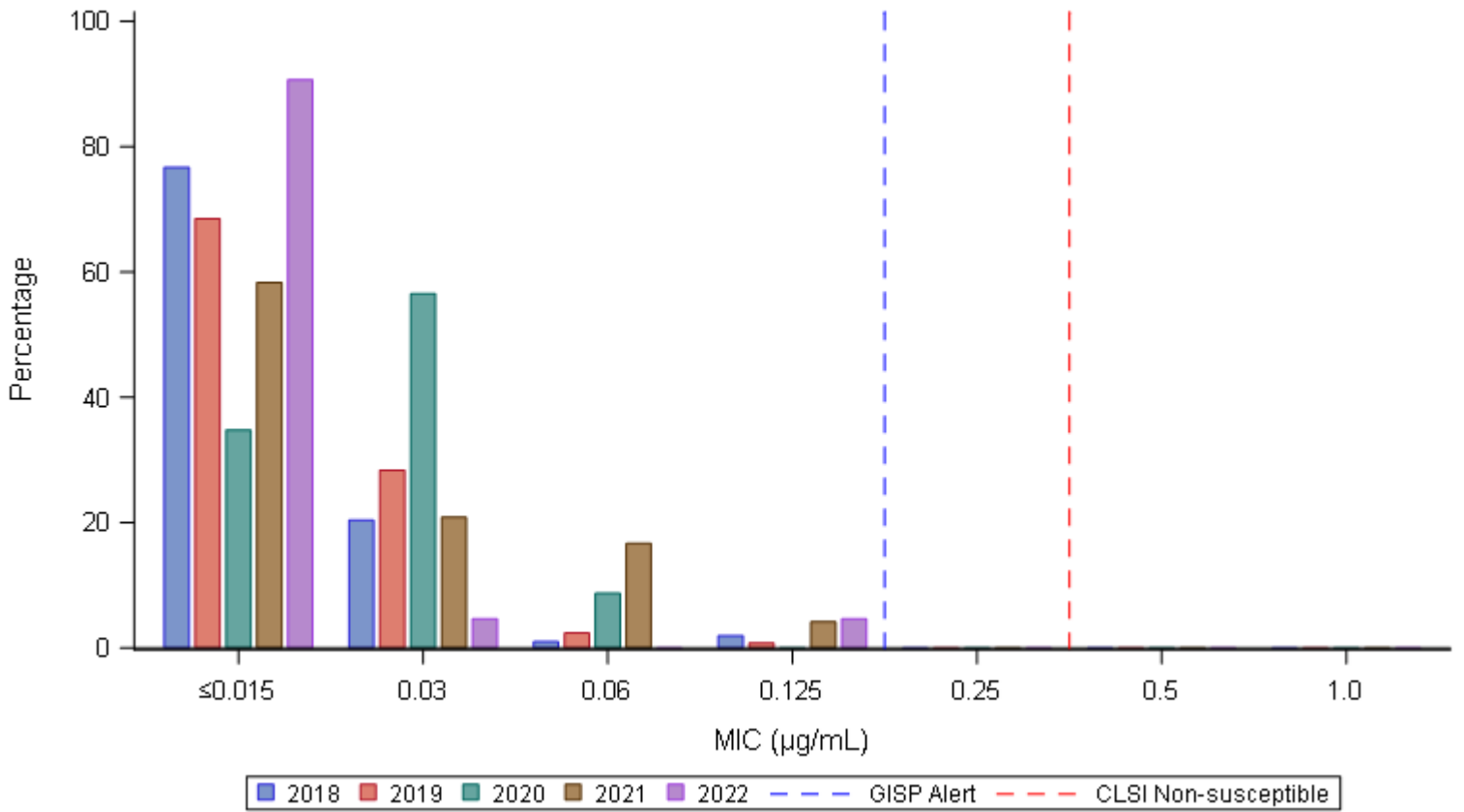
Figure F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Chicago, Illinois, 2022



Number of Antimicrobials	Count	Percentage
Susceptible	22	51.2
1 antimicrobial	16	37.2
2 antimicrobials	5	11.6
3 antimicrobials	0	0.0
4+ antimicrobials	0	0.0

Elevated MICs = ceftriaxone MIC ≥ 0.125 $\mu\text{g}/\text{mL}$; cefixime MIC ≥ 0.25 $\mu\text{g}/\text{mL}$; azithromycin MIC ≥ 2.0 $\mu\text{g}/\text{mL}$; Resistance = tetracycline MIC ≥ 2.0 $\mu\text{g}/\text{mL}$; ciprofloxacin MIC ≥ 1.0 $\mu\text{g}/\text{mL}$; penicillin MIC ≥ 2.0 $\mu\text{g}/\text{mL}$ or β -lactamase positive.

Figure G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Chicago, Illinois, 2018-2022



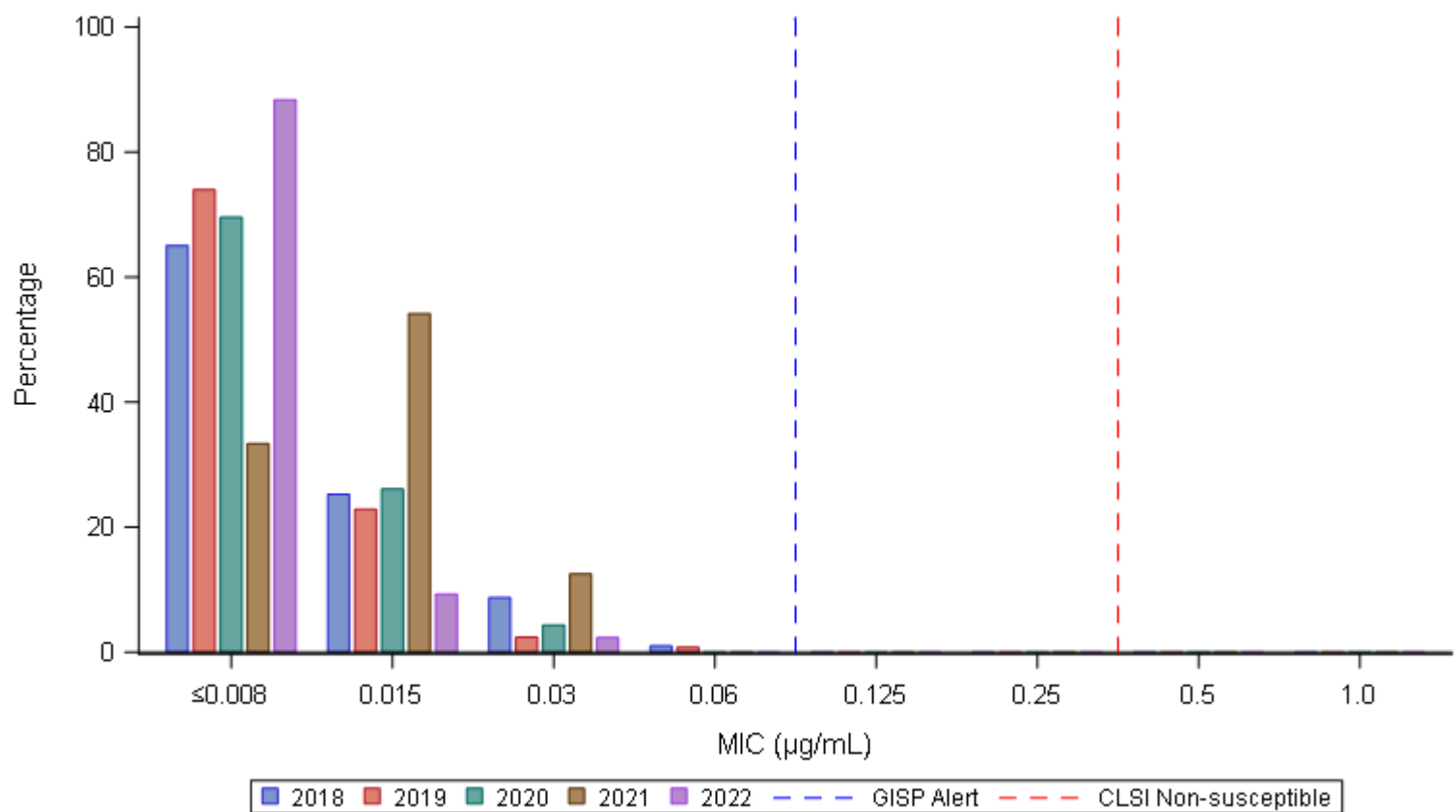
Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	79 (76.7)	21 (20.4)	1 (1.0)	2 (1.9)	0 (0.0)	0 (0.0)	0 (0.0)	103
2019	87 (68.5)	36 (28.3)	3 (2.4)	1 (0.8)	0 (0.0)	0 (0.0)	0 (0.0)	127
2020	8 (34.8)	13 (56.5)	2 (8.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	23
2021	14 (58.3)	5 (20.8)	4 (16.7)	1 (4.2)	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)	43

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

CLSI = Clinical & Laboratory Standards Institute.

Non-susceptible = Category used for isolates when only a susceptible breakpoint has been designated and the MIC is above the susceptible breakpoint. As of the end of 2022, the CLSI has not established a cefixime resistance breakpoint for *N. gonorrhoeae*.

Figure H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Chicago, Illinois, 2018-2022



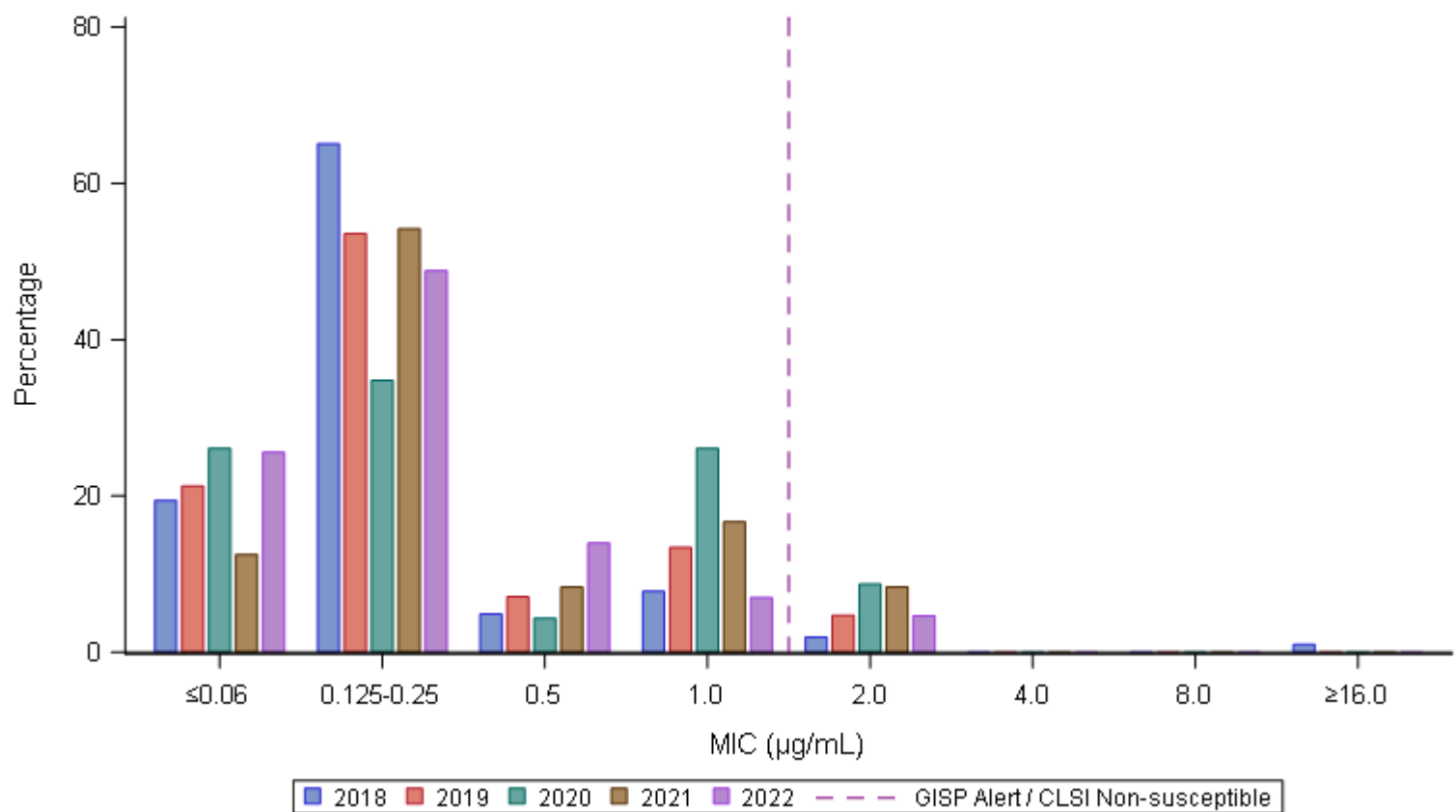
Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	67 (65.0)	26 (25.2)	9 (8.7)	1 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	103
2019	94 (74.0)	29 (22.8)	3 (2.4)	1 (0.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	127
2020	16 (69.6)	6 (26.1)	1 (4.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	23
2021	8 (33.3)	13 (54.2)	3 (12.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	24
2022	38 (88.4)	4 (9.3)	1 (2.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	43

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 the end of 2022, the CLSI has not established a ceftriaxone resistance breakpoint for *N. gonorrhoeae*.

Figure I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Chicago, Illinois, 2018-2022



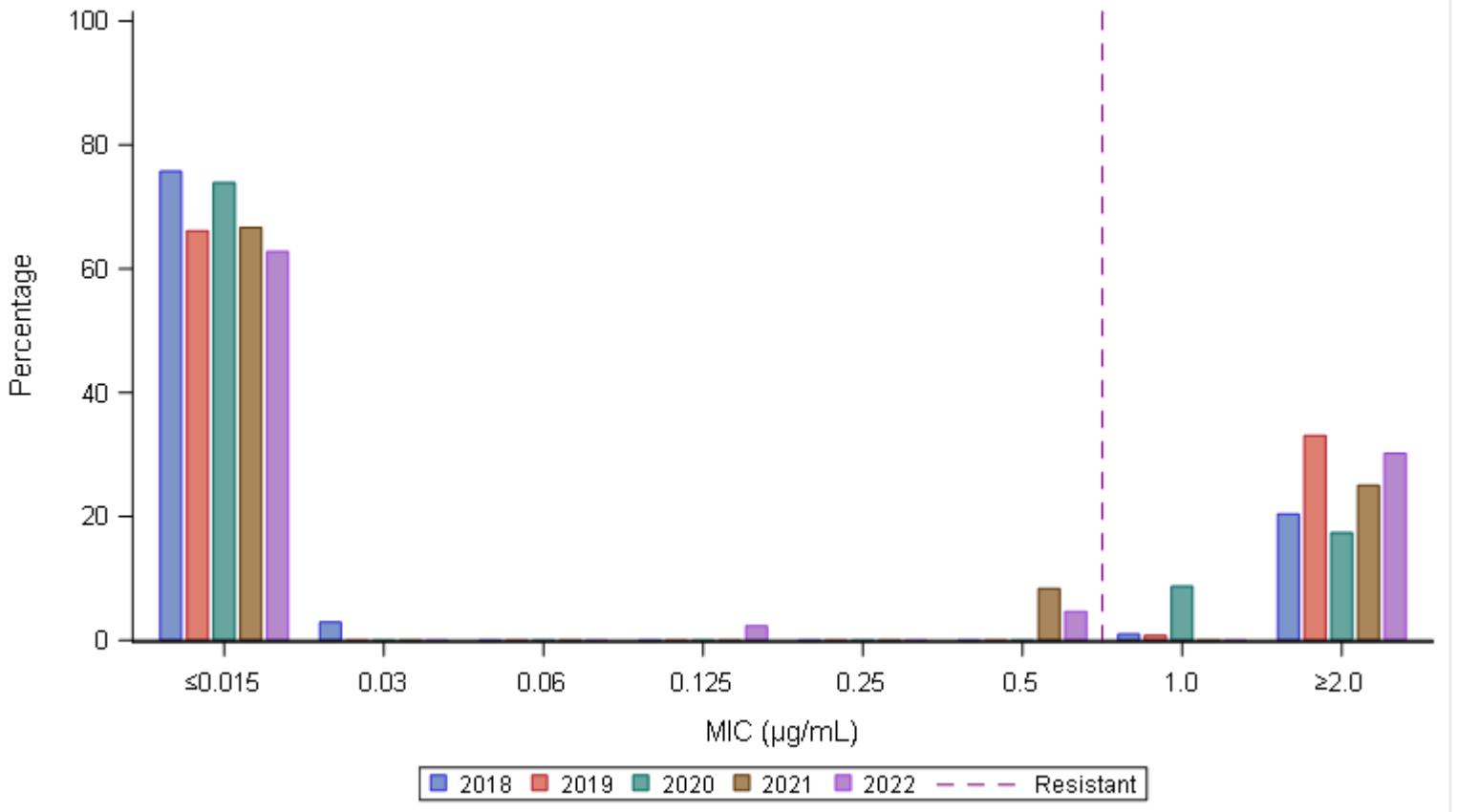
Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2018	20 (19.4)	67 (65.0)	5 (4.9)	8 (7.8)	2 (1.9)	0 (0.0)	0 (0.0)	1 (1.0)	103
2019	27 (21.3)	68 (53.5)	9 (7.1)	17 (13.4)	6 (4.7)	0 (0.0)	0 (0.0)	0 (0.0)	127
2020	6 (26.1)	8 (34.8)	1 (4.3)	6 (26.1)	2 (8.7)	0 (0.0)	0 (0.0)	0 (0.0)	23
2021	3 (12.5)	13 (54.2)	2 (8.3)	4 (16.7)	2 (8.3)	0 (0.0)	0 (0.0)	0 (0.0)	24
2022	11 (25.6)	21 (48.8)	6 (14.0)	3 (7.0)	2 (4.7)	0 (0.0)	0 (0.0)	0 (0.0)	43

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; CLSI Non-susceptible = azithromycin MIC ≥2.0 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 the end of 2022, the CLSI has not established an azithromycin resistance breakpoint for *N. gonorrhoeae*.

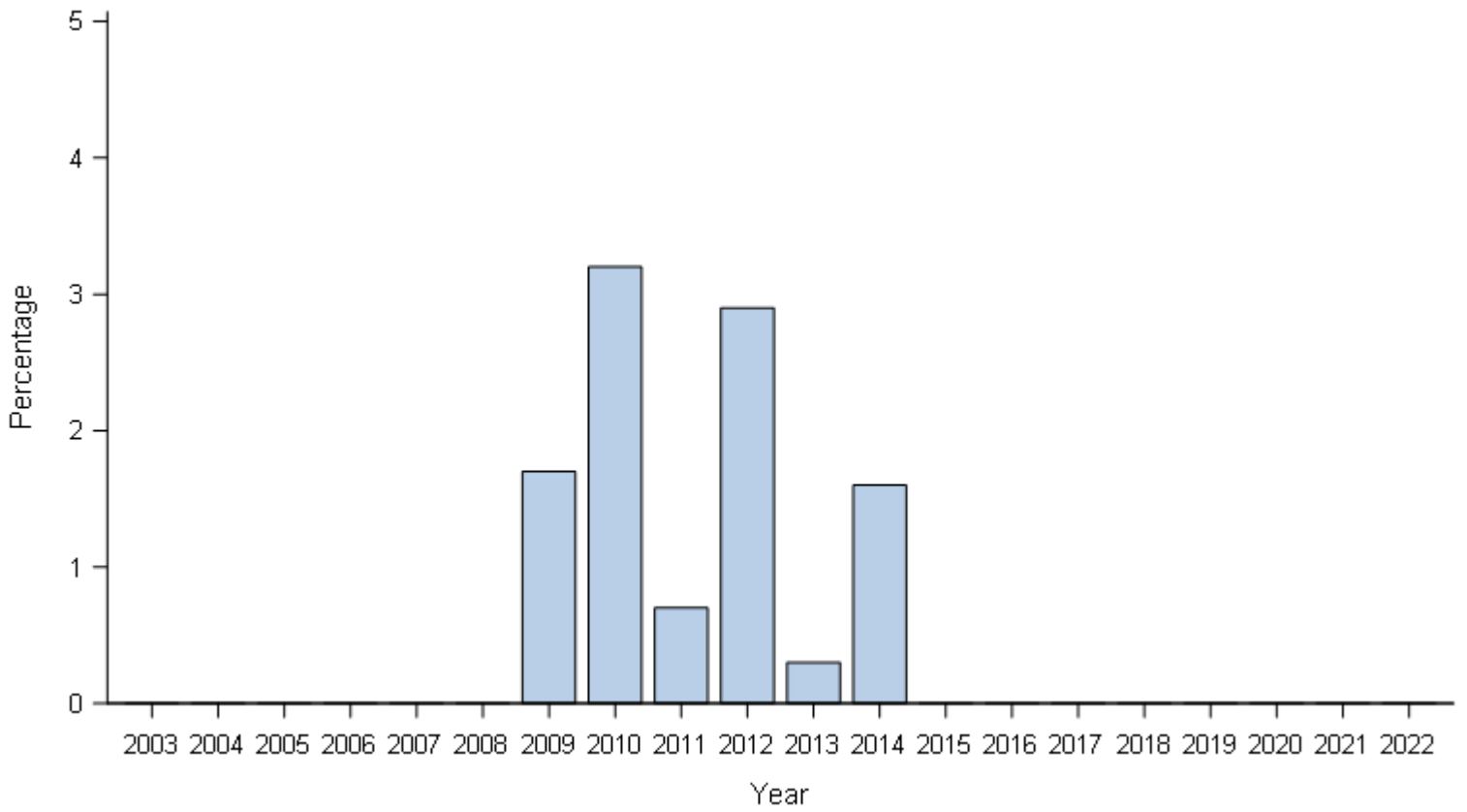
Figure J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Chicago, Illinois, 2018-2022



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
2018	78 (75.7)	3 (2.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.0)	21 (20.4)	103
2019	84 (66.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.8)	42 (33.1)	127
2020	17 (73.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (8.7)	4 (17.4)	23
2021	16 (66.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (8.3)	0 (0.0)	6 (25.0)	24
2022	27 (62.8)	0 (0.0)	0 (0.0)	1 (2.3)	0 (0.0)	2 (4.7)	0 (0.0)	13 (30.2)	43

Ciprofloxacin resistance MIC ≥1.0 µg/mL.

Figure K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Chicago, Illinois, 2003-2022

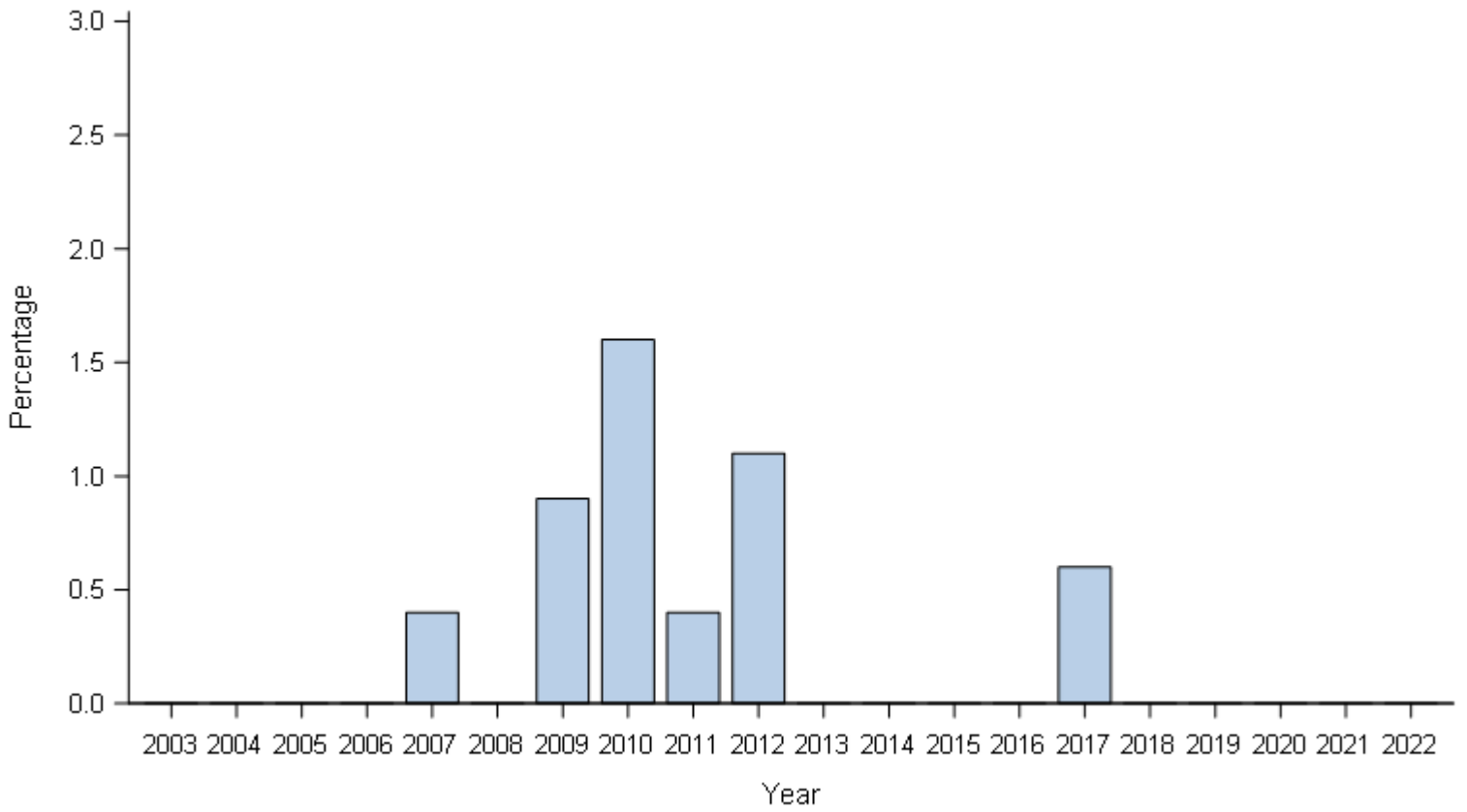


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4 (1.7)	4 (3.2)	2 (0.7)	8 (2.9)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
1 (0.3)	2 (1.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

Cefixime elevated MIC \geq 0.25 μ g/mL.

Figure L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Chicago, Illinois, 2003-2022

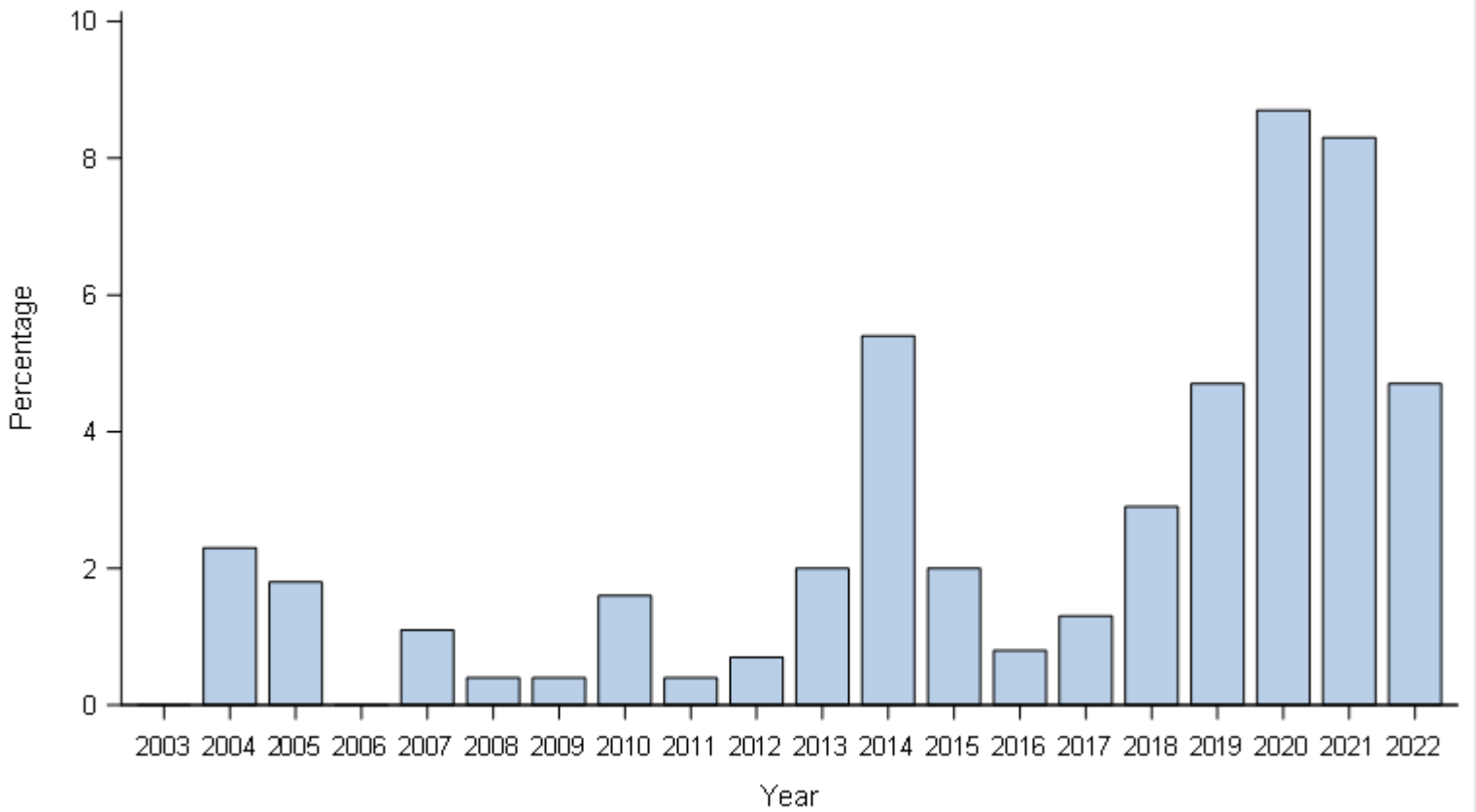


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.4)	0 (0.0)	2 (0.9)	2 (1.6)	1 (0.4)	3 (1.1)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

Ceftriaxone elevated MIC \geq 0.125 μ g/mL.

Figure M. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Chicago, Illinois, 2003-2022

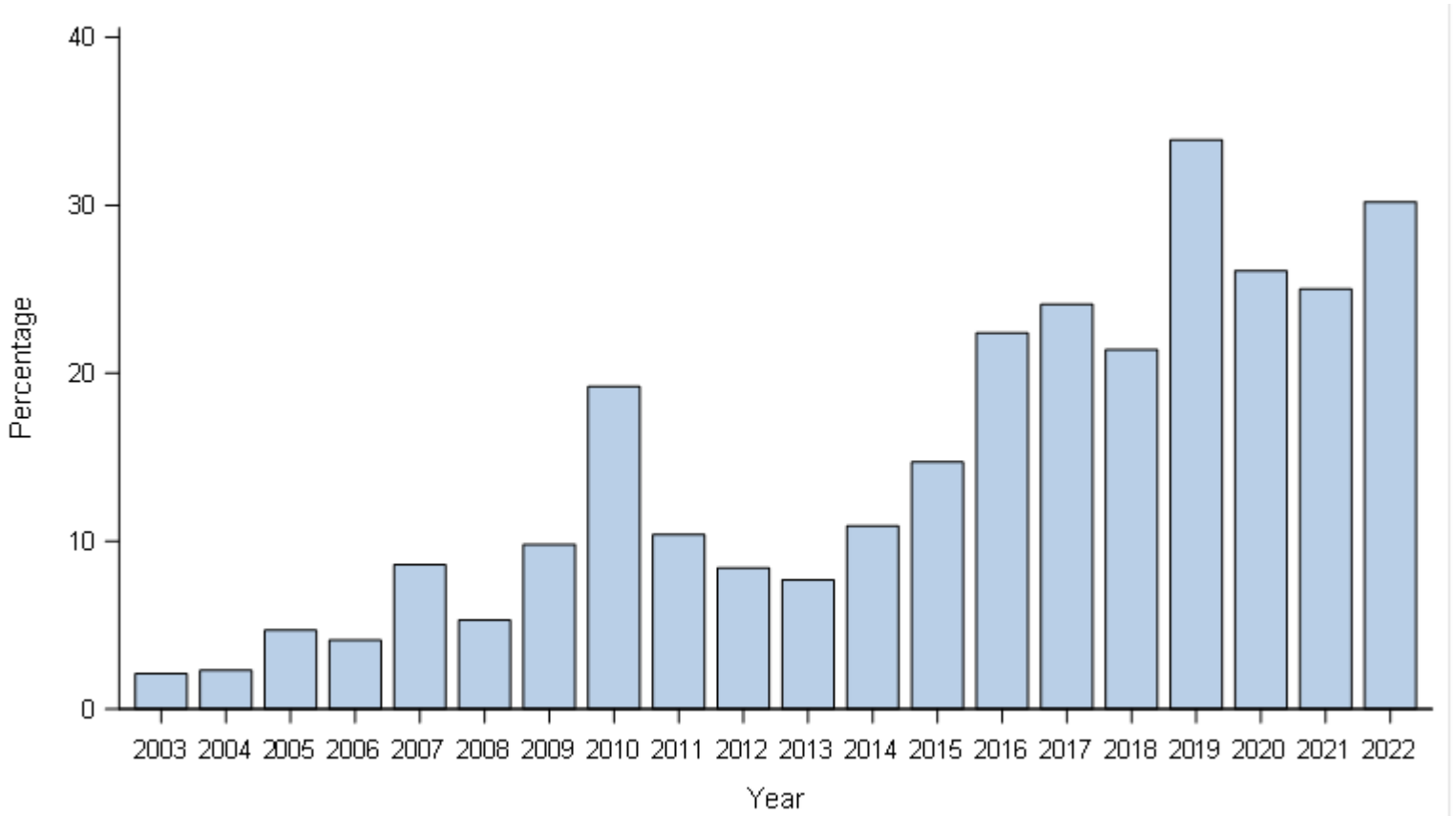


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	7 (2.3)	5 (1.8)	0 (0.0)	3 (1.1)	1 (0.4)	1 (0.4)	2 (1.6)	1 (0.4)	2 (0.7)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
6 (2.0)	7 (5.4)	3 (2.0)	1 (0.8)	2 (1.3)	3 (2.9)	6 (4.7)	2 (8.7)	2 (8.3)	2 (4.7)

Azithromycin elevated MIC ≥ 1.0 $\mu\text{g/mL}$ prior to 2005 and ≥ 2.0 $\mu\text{g/mL}$ during 2005-2022.

Figure N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Chicago, Illinois, 2003-2022

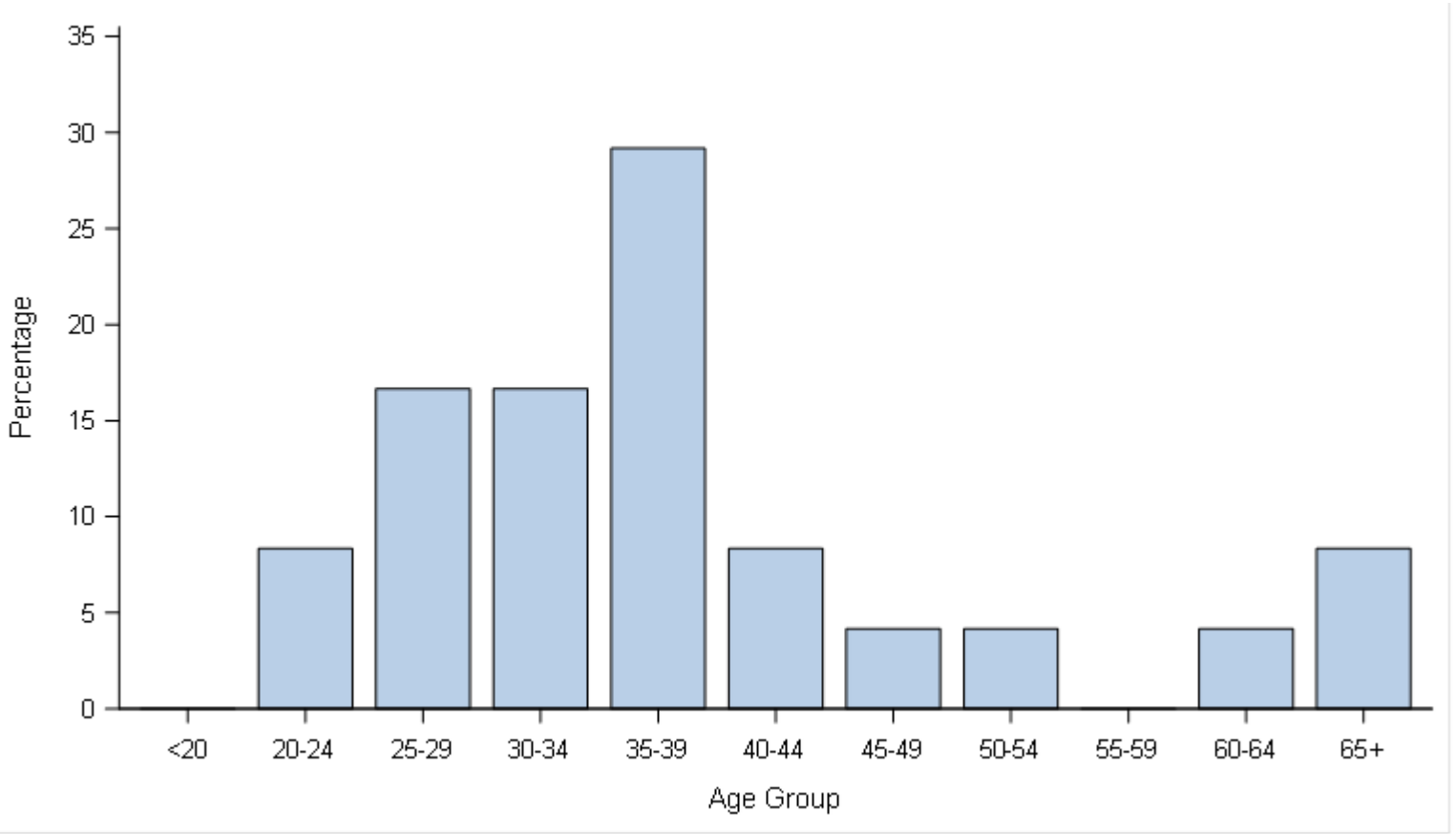


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
6 (2.1)	7 (2.3)	13 (4.7)	12 (4.1)	23 (8.6)	14 (5.3)	23 (9.8)	24 (19.2)	28 (10.4)	23 (8.4)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
23 (7.7)	14 (10.9)	22 (14.7)	28 (22.4)	38 (24.1)	22 (21.4)	43 (33.9)	6 (26.1)	6 (25.0)	13 (30.2)

Ciprofloxacin resistance MIC \geq 1.0 μ g/mL.

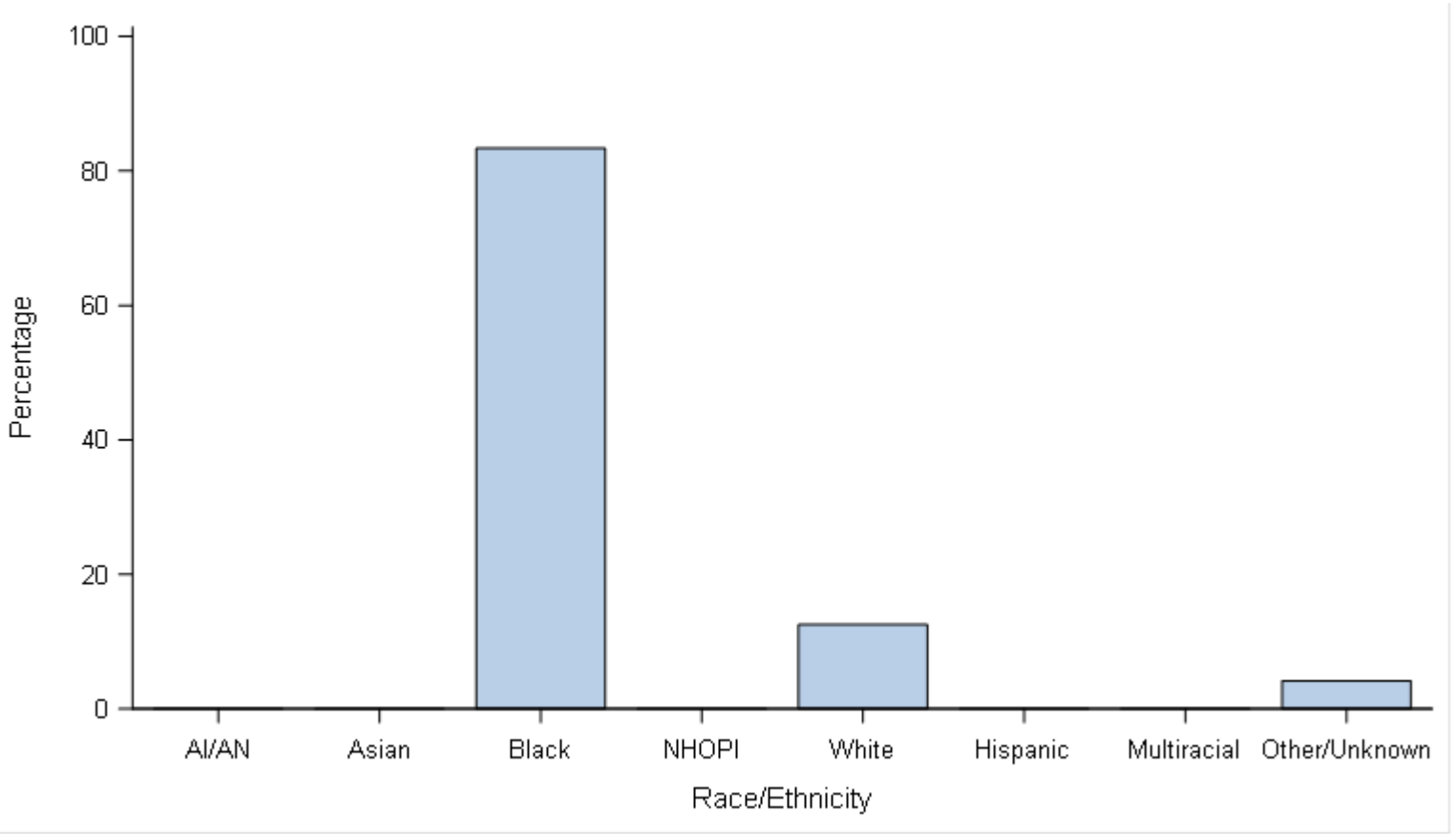
Figure A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Cleveland, Ohio, 2022



<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
0 (0.0)	2 (8.3)	4 (16.7)	4 (16.7)	7 (29.2)	2 (8.3)	1 (4.2)	1 (4.2)	0 (0.0)	1 (4.2)	2 (8.3)	24

Cases with unknown age were excluded.

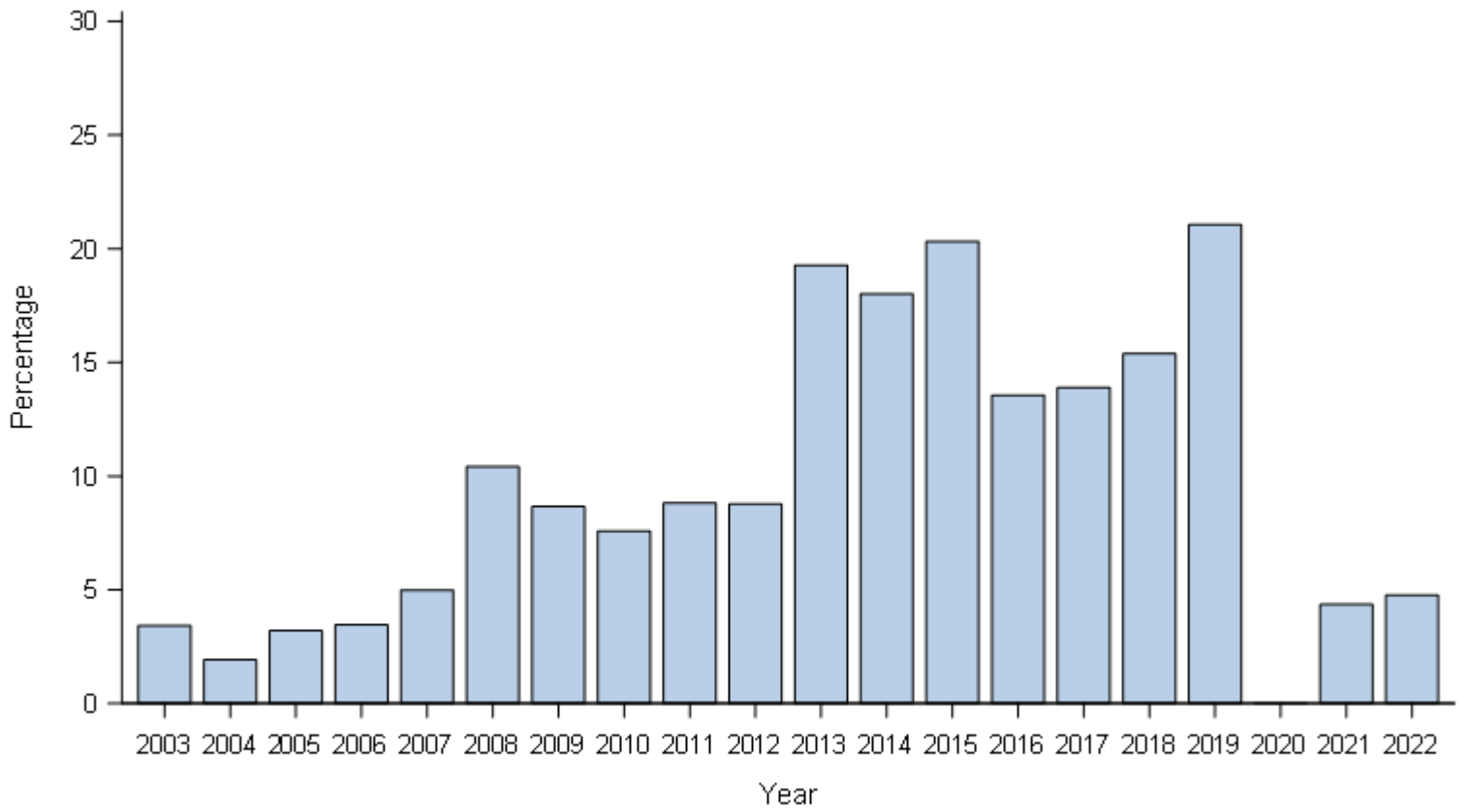
Figure B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Cleveland, Ohio, 2022



AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	0 (0.0)	20 (83.3)	0 (0.0)	3 (12.5)	0 (0.0)	0 (0.0)	1 (4.2)	24

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

Figure C. Percentage of Participants Identifying as Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Cleveland, Ohio, 2003-2022

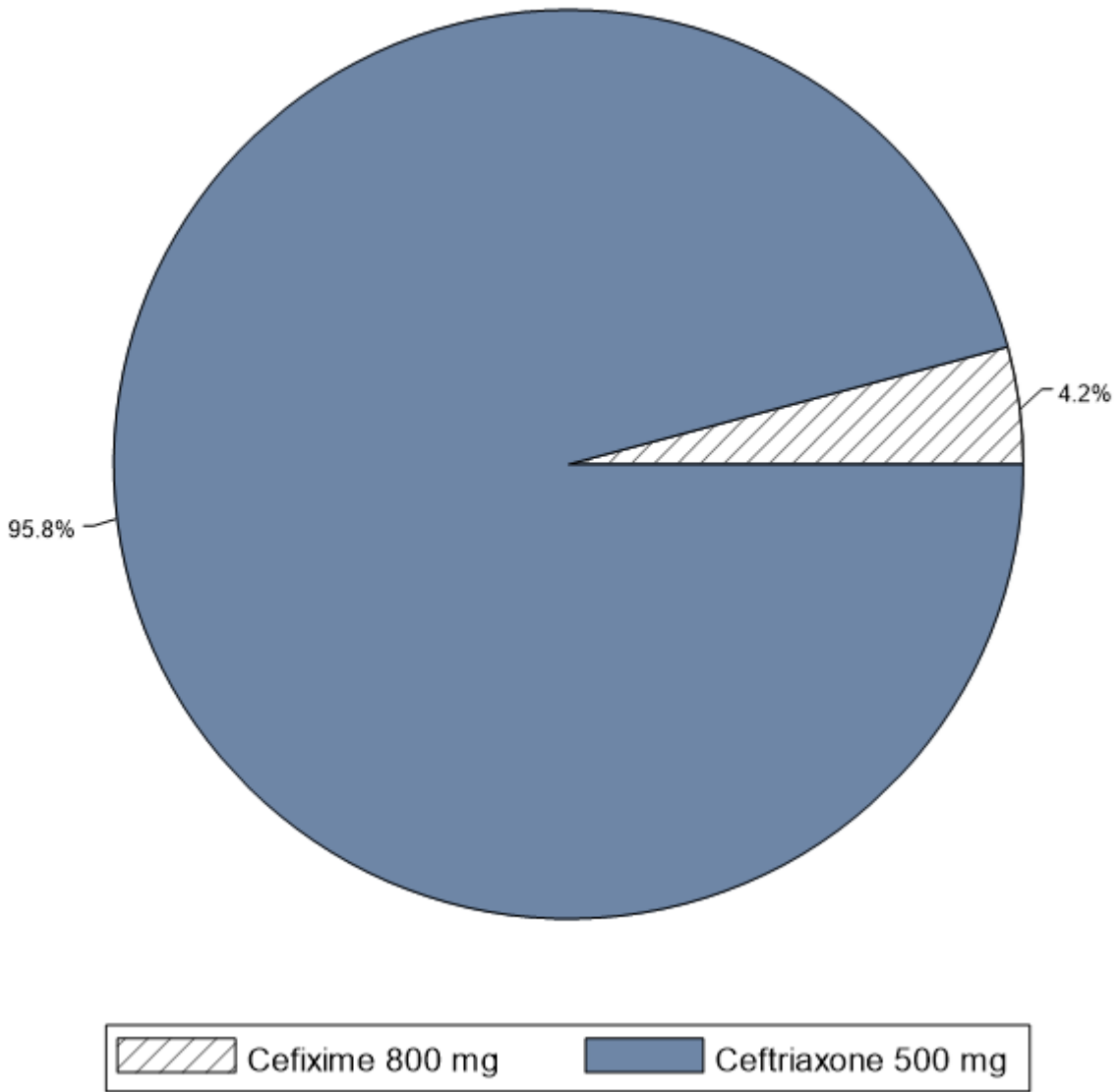


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
10 (3.4)	5 (1.9)	9 (3.2)	10 (3.5)	14 (5.0)	25 (10.4)	20 (8.7)	16 (7.6)	18 (8.8)	15 (8.8)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
32 (19.3)	20 (18.0)	25 (20.3)	16 (13.6)	10 (13.9)	6 (15.4)	4 (21.1)	0 (0.0)	2 (4.3)	1 (4.8)

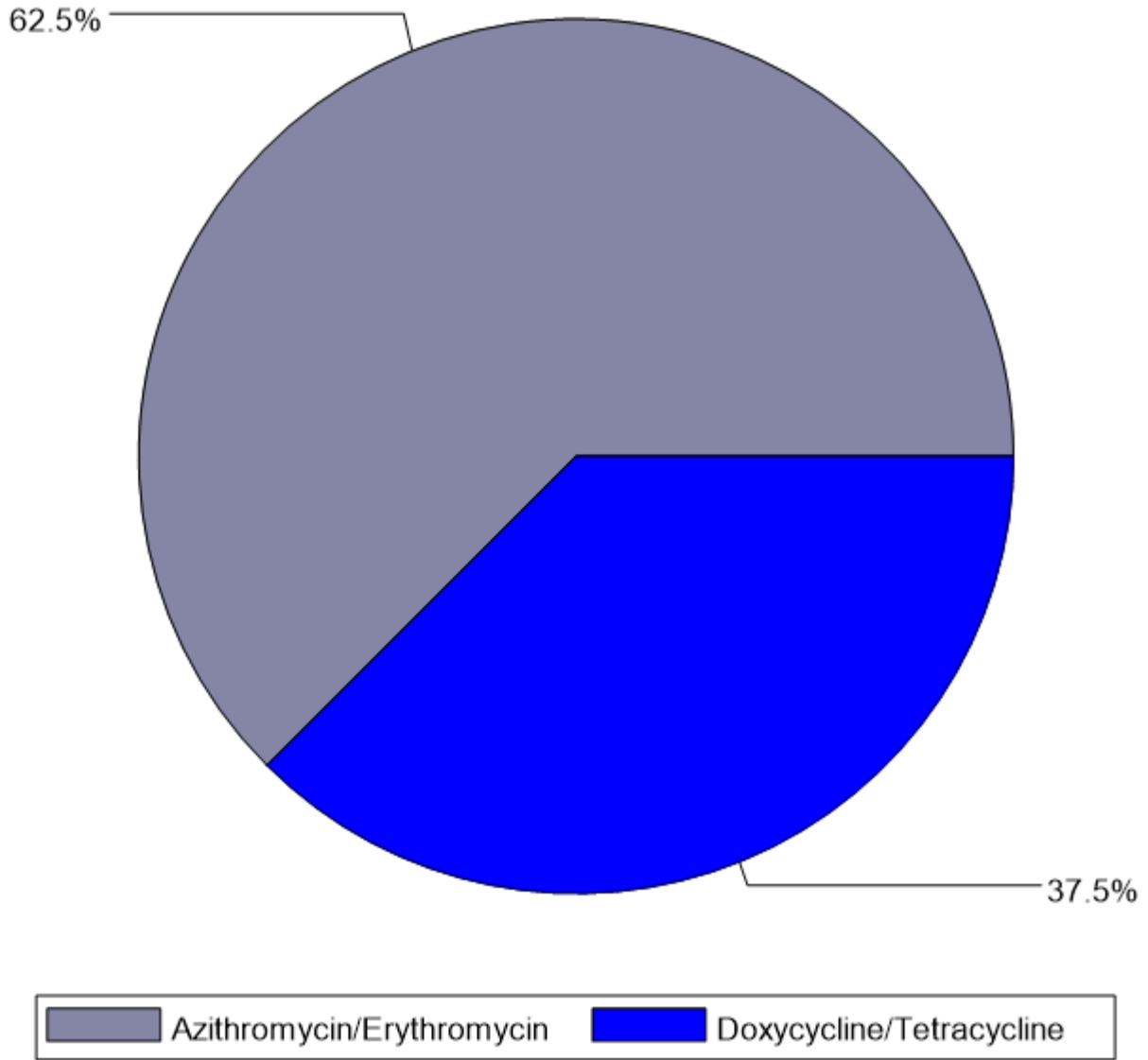
Men who have sex with men = men who self-identified as gay or bisexual or reported recent male sex partners.

Figure D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Cleveland, Ohio, 2022



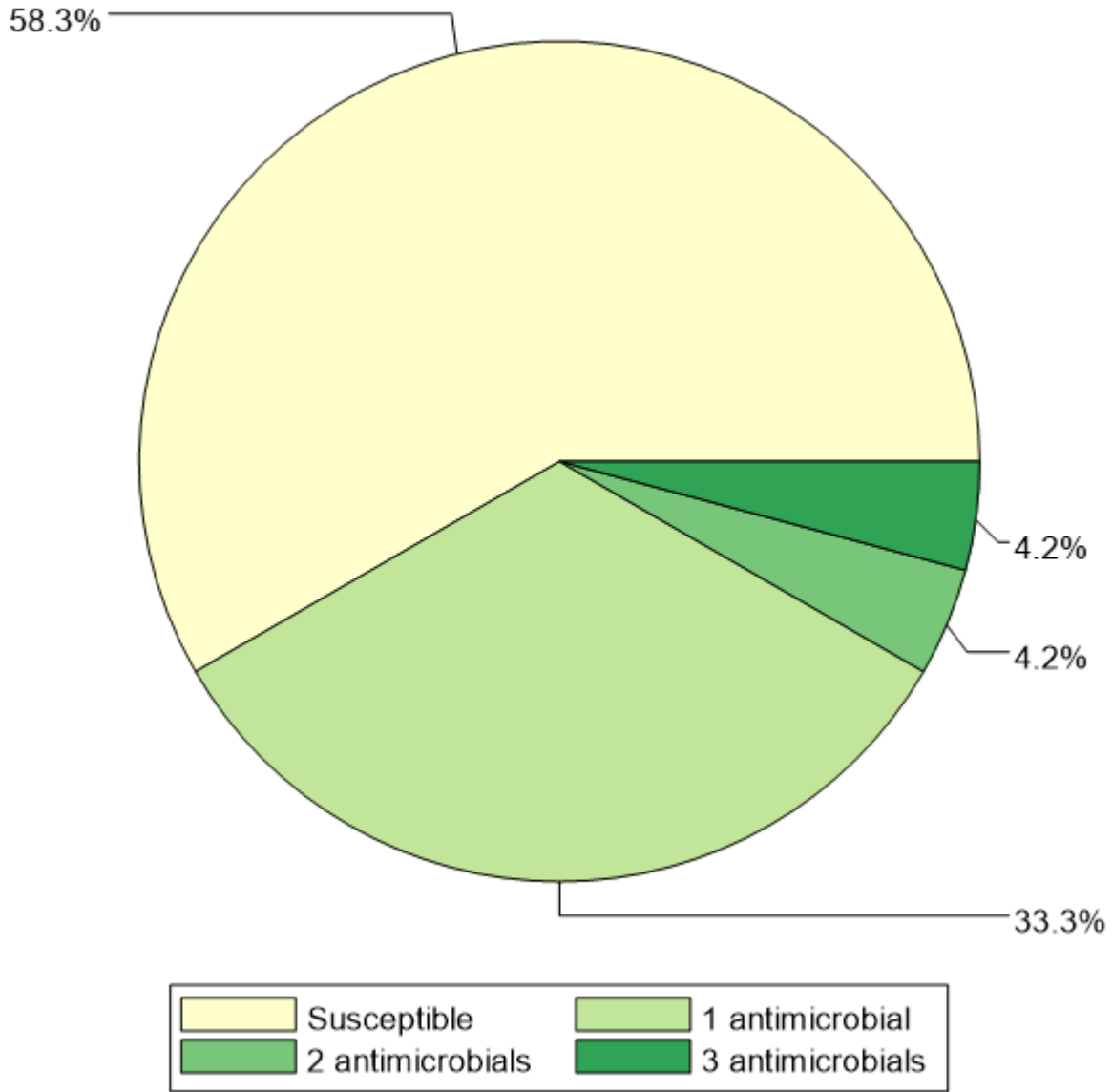
Primary Treatment	Count	Percentage
Cefixime 800 mg	1	4.2
Ceftriaxone 500 mg	23	95.8

Figure E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Cleveland, Ohio, 2022



Secondary Treatment	Count	Percentage
Azithromycin/Erythromycin	15	62.5
Doxycycline/Tetracycline	9	37.5

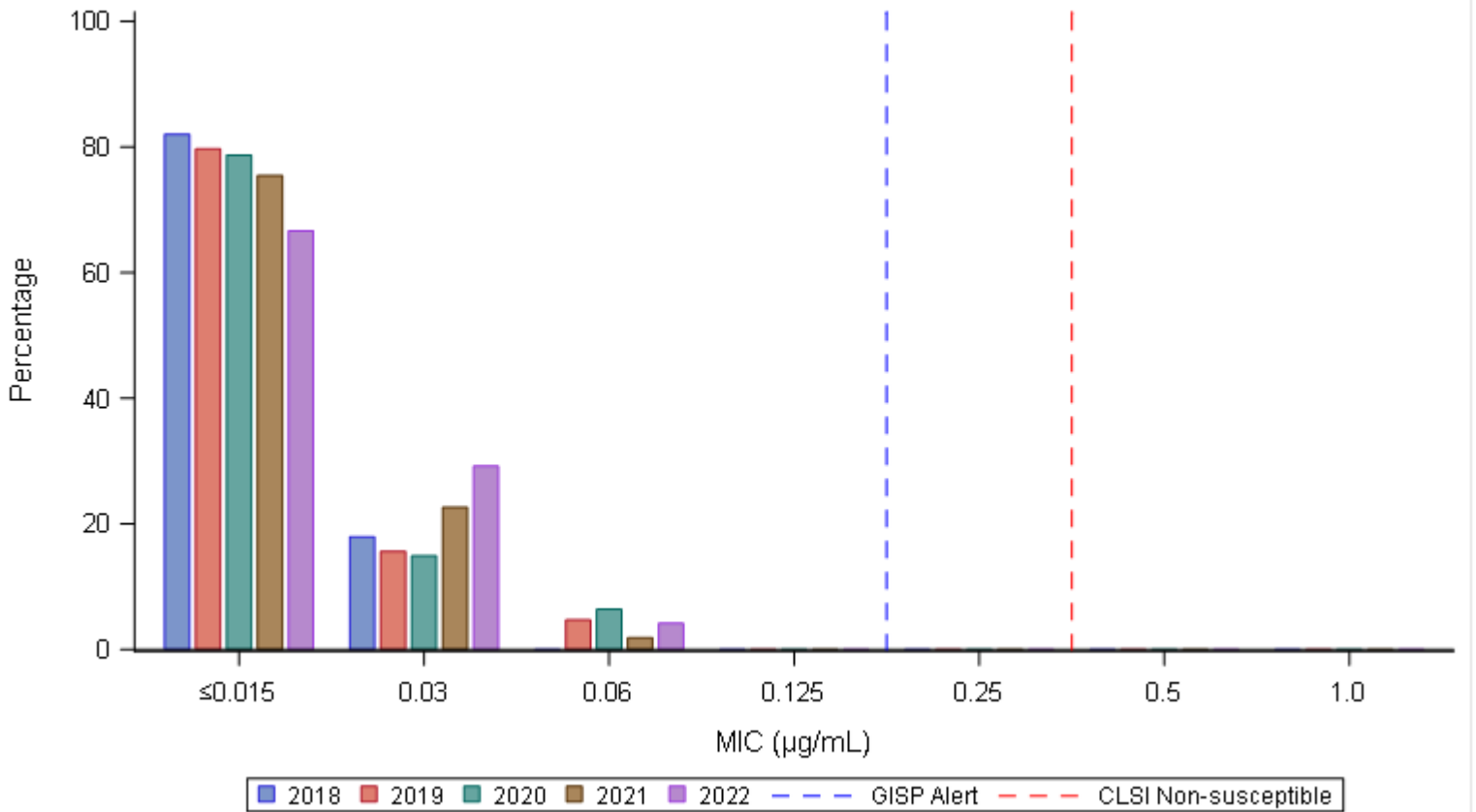
Figure F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Cleveland, Ohio, 2022



Number of Antimicrobials	Count	Percentage
Susceptible	14	58.3
1 antimicrobial	8	33.3
2 antimicrobials	1	4.2
3 antimicrobials	1	4.2
4+ antimicrobials	0	0.0

Elevated MICs = ceftriaxone MIC ≥ 0.125 $\mu\text{g/mL}$; cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; Resistance = tetracycline MIC ≥ 2.0 $\mu\text{g/mL}$; ciprofloxacin MIC ≥ 1.0 $\mu\text{g/mL}$; penicillin MIC ≥ 2.0 $\mu\text{g/mL}$ or β -lactamase positive.

Figure G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Cleveland, Ohio, 2018-2022



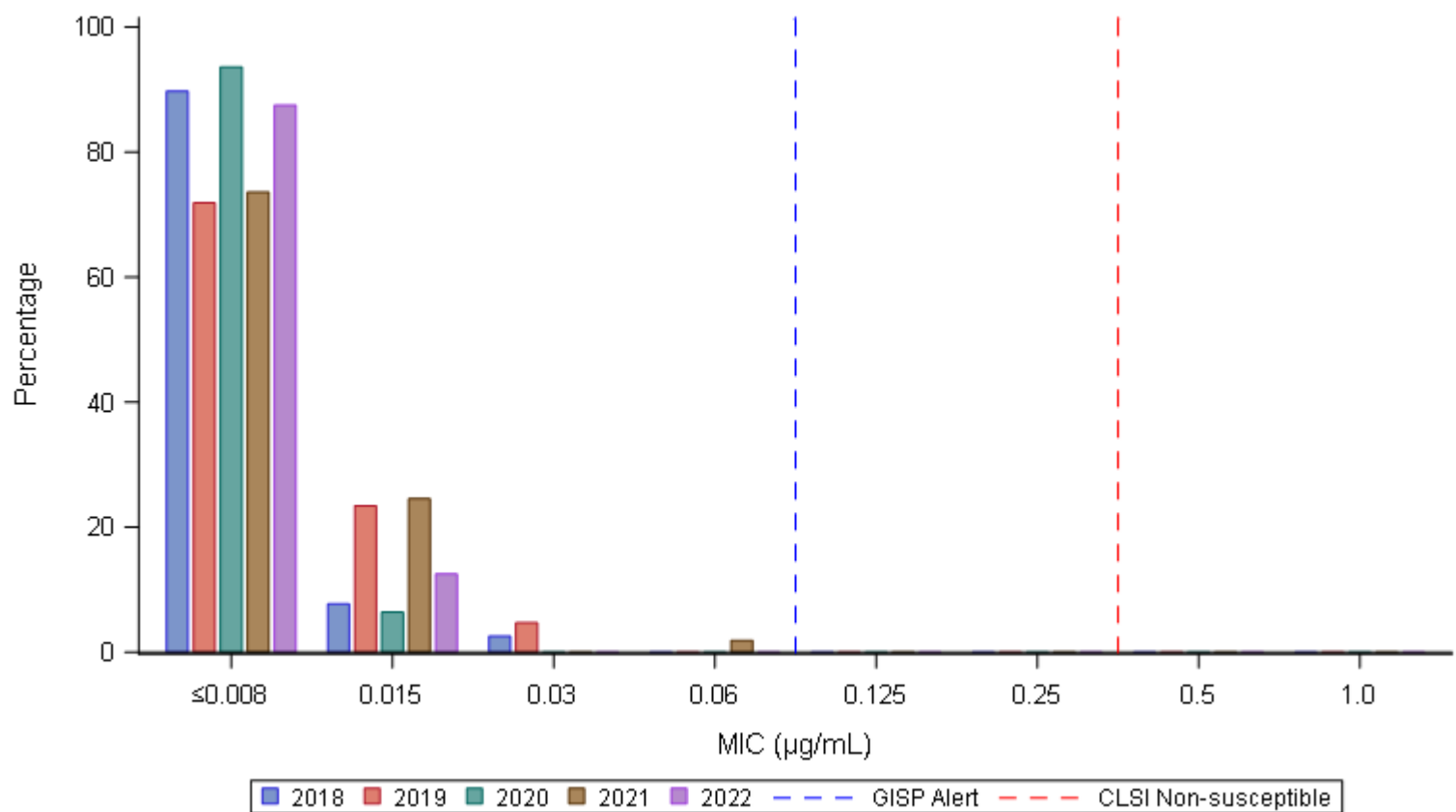
Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	32 (82.1)	7 (17.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	39
2019	51 (79.7)	10 (15.6)	3 (4.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	64
2020	37 (78.7)	7 (14.9)	3 (6.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	47
2021	40 (75.5)	12 (22.6)	1 (1.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	53
2022	16 (66.7)	7 (29.2)	1 (4.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	24

GISP Alert Value = cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; CLSI Non-susceptible = cefixime MIC ≥ 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 the end of 2022, the CLSI has not established a cefixime resistance breakpoint for *N. gonorrhoeae*.

Figure H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Cleveland, Ohio, 2018-2022



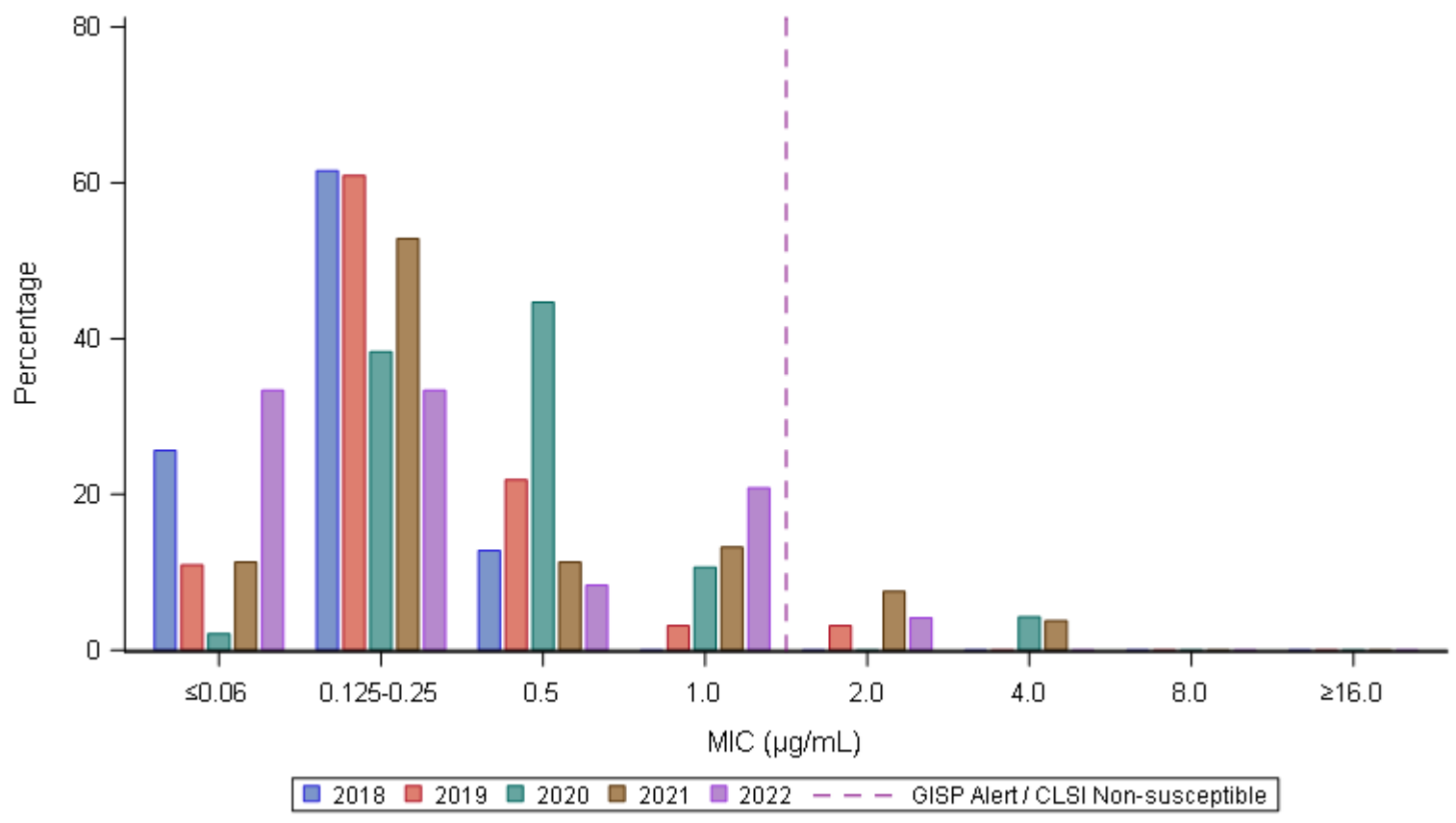
Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	35 (89.7)	3 (7.7)	1 (2.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	39
2019	46 (71.9)	15 (23.4)	3 (4.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	64
2020	44 (93.6)	3 (6.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	47
2021	39 (73.6)	13 (24.5)	0 (0.0)	1 (1.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	53
2022	21 (87.5)	3 (12.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	24

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

CLSI = Clinical & Laboratory Standards Institute.

Non-susceptible = Category used for isolates when only a susceptible breakpoint has been designated and the MIC is above the susceptible breakpoint. As of the end of 2022, the CLSI has not established a ceftriaxone resistance breakpoint for *N. gonorrhoeae*.

Figure I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Cleveland, Ohio, 2018-2022



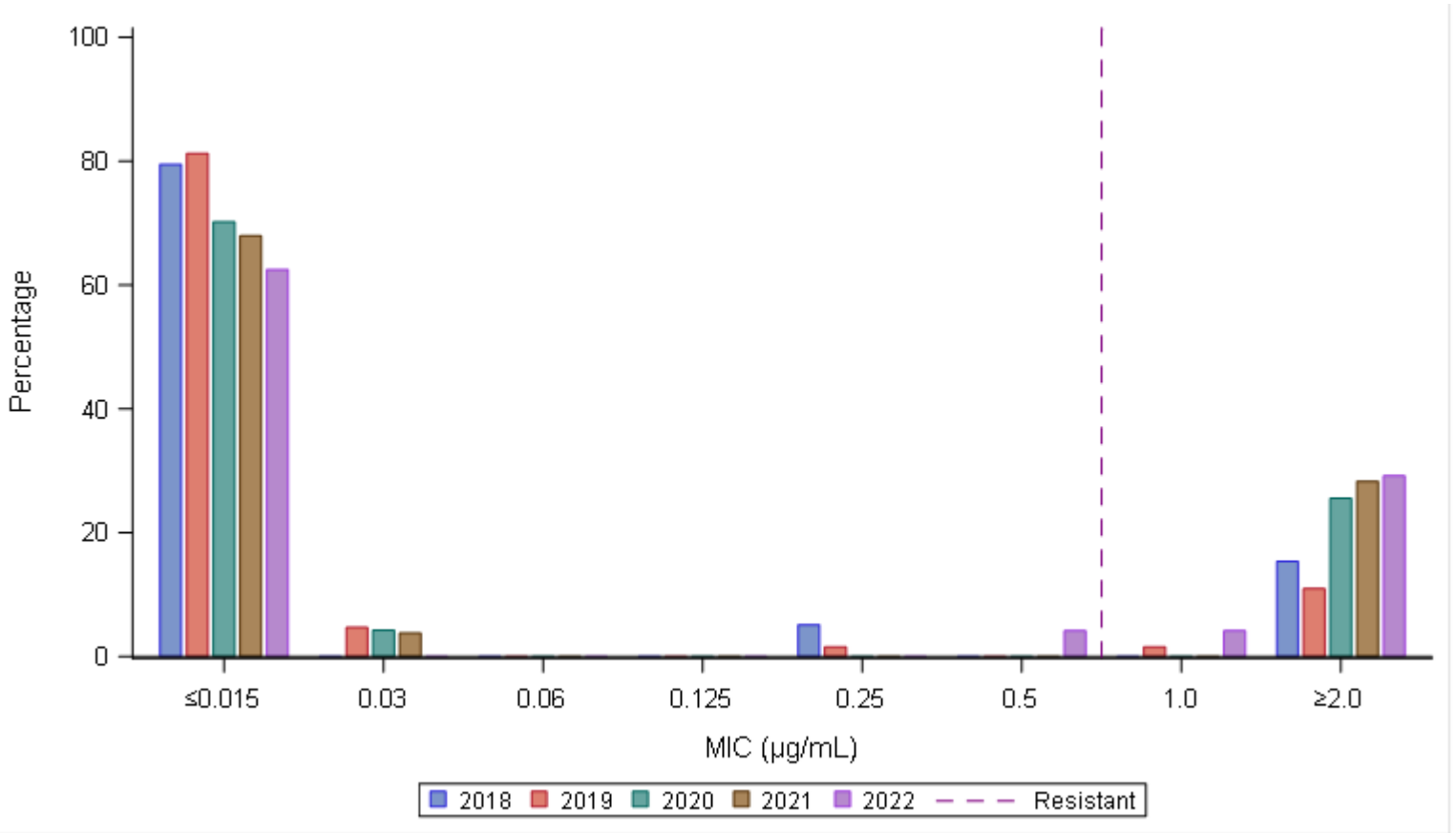
Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2018	10 (25.6)	24 (61.5)	5 (12.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	39
2019	7 (10.9)	39 (60.9)	14 (21.9)	2 (3.1)	2 (3.1)	0 (0.0)	0 (0.0)	0 (0.0)	64
2020	1 (2.1)	18 (38.3)	21 (44.7)	5 (10.6)	0 (0.0)	2 (4.3)	0 (0.0)	0 (0.0)	47
2021	6 (11.3)	28 (52.8)	6 (11.3)	7 (13.2)	4 (7.5)	2 (3.8)	0 (0.0)	0 (0.0)	53
2022	8 (33.3)	8 (33.3)	2 (8.3)	5 (20.8)	1 (4.2)	0 (0.0)	0 (0.0)	0 (0.0)	24

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; CLSI Non-susceptible = azithromycin MIC ≥2.0 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 the end of 2022, the CLSI has not established an azithromycin resistance breakpoint for *N. gonorrhoeae*.

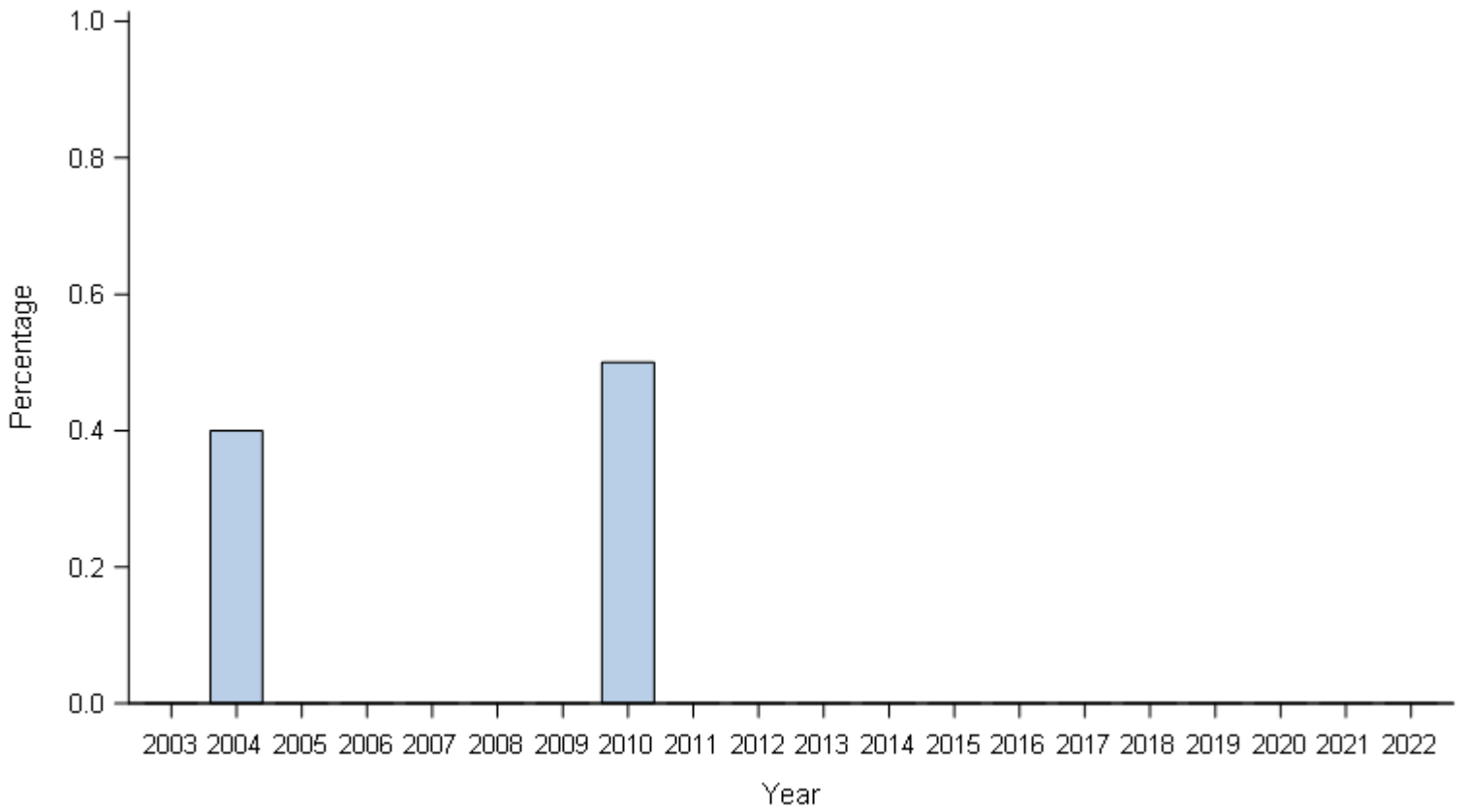
Figure J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Cleveland, Ohio, 2018-2022



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
2018	31 (79.5)	0 (0.0)	0 (0.0)	0 (0.0)	2 (5.1)	0 (0.0)	0 (0.0)	6 (15.4)	39
2019	52 (81.3)	3 (4.7)	0 (0.0)	0 (0.0)	1 (1.6)	0 (0.0)	1 (1.6)	7 (10.9)	64
2020	33 (70.2)	2 (4.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	12 (25.5)	47
2021	36 (67.9)	2 (3.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	15 (28.3)	53
2022	15 (62.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (4.2)	1 (4.2)	7 (29.2)	24

Ciprofloxacin resistance MIC ≥1.0 µg/mL.

Figure K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Cleveland, Ohio, 2003-2022

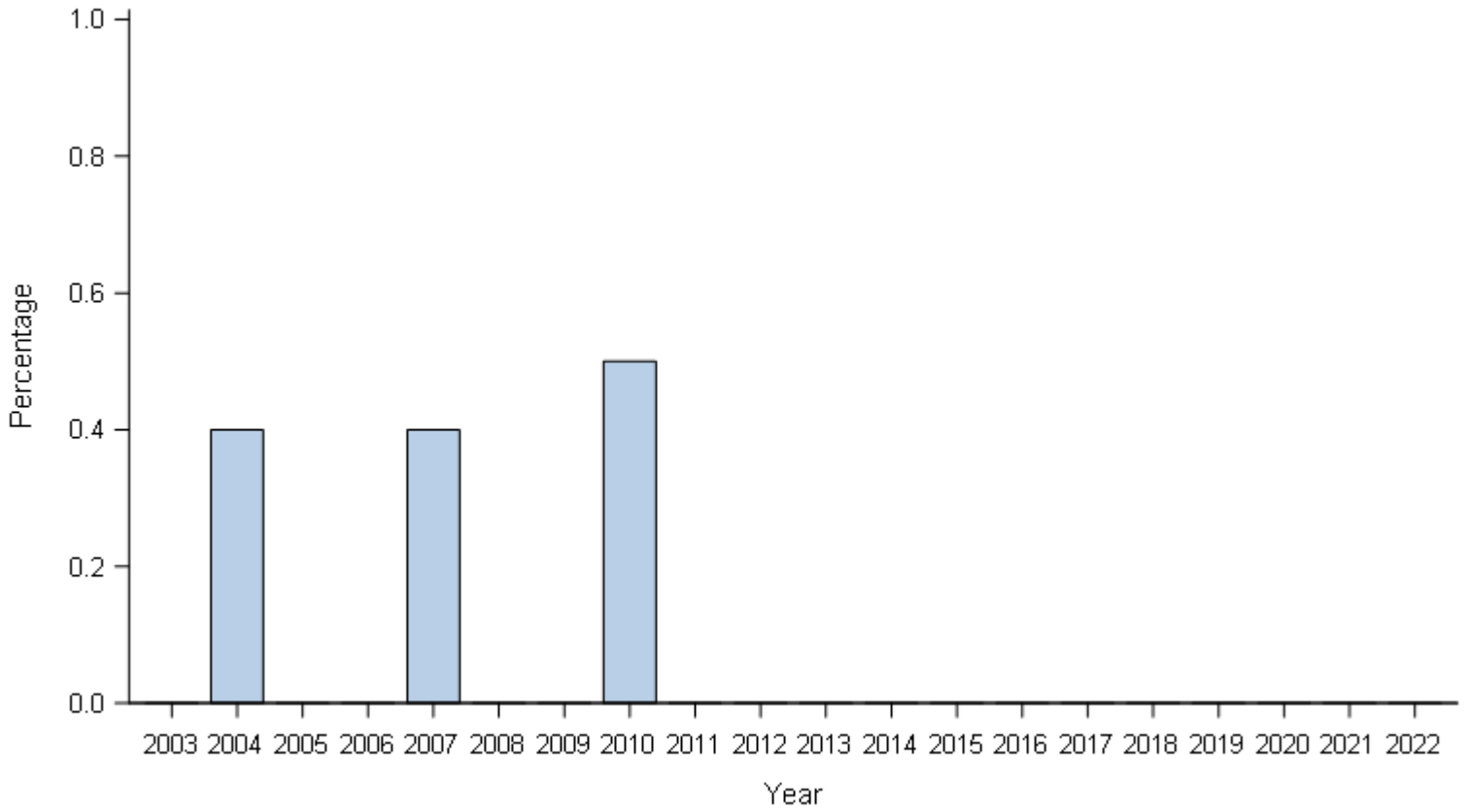


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.5)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

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

Figure L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Cleveland, Ohio, 2003-2022

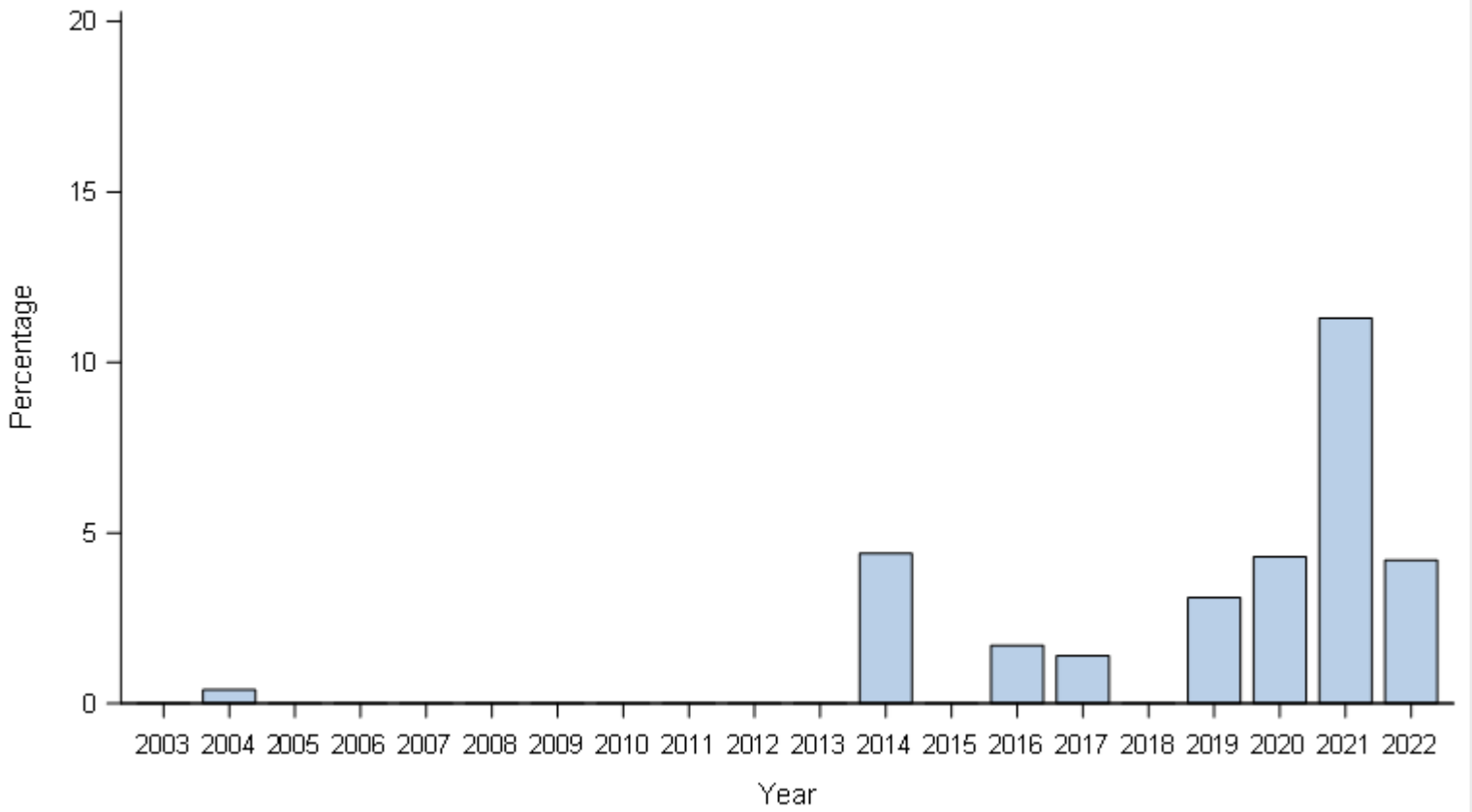


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	1 (0.4)	0 (0.0)	0 (0.0)	1 (0.4)	0 (0.0)	0 (0.0)	1 (0.5)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

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

Figure M. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Cleveland, Ohio, 2003-2022

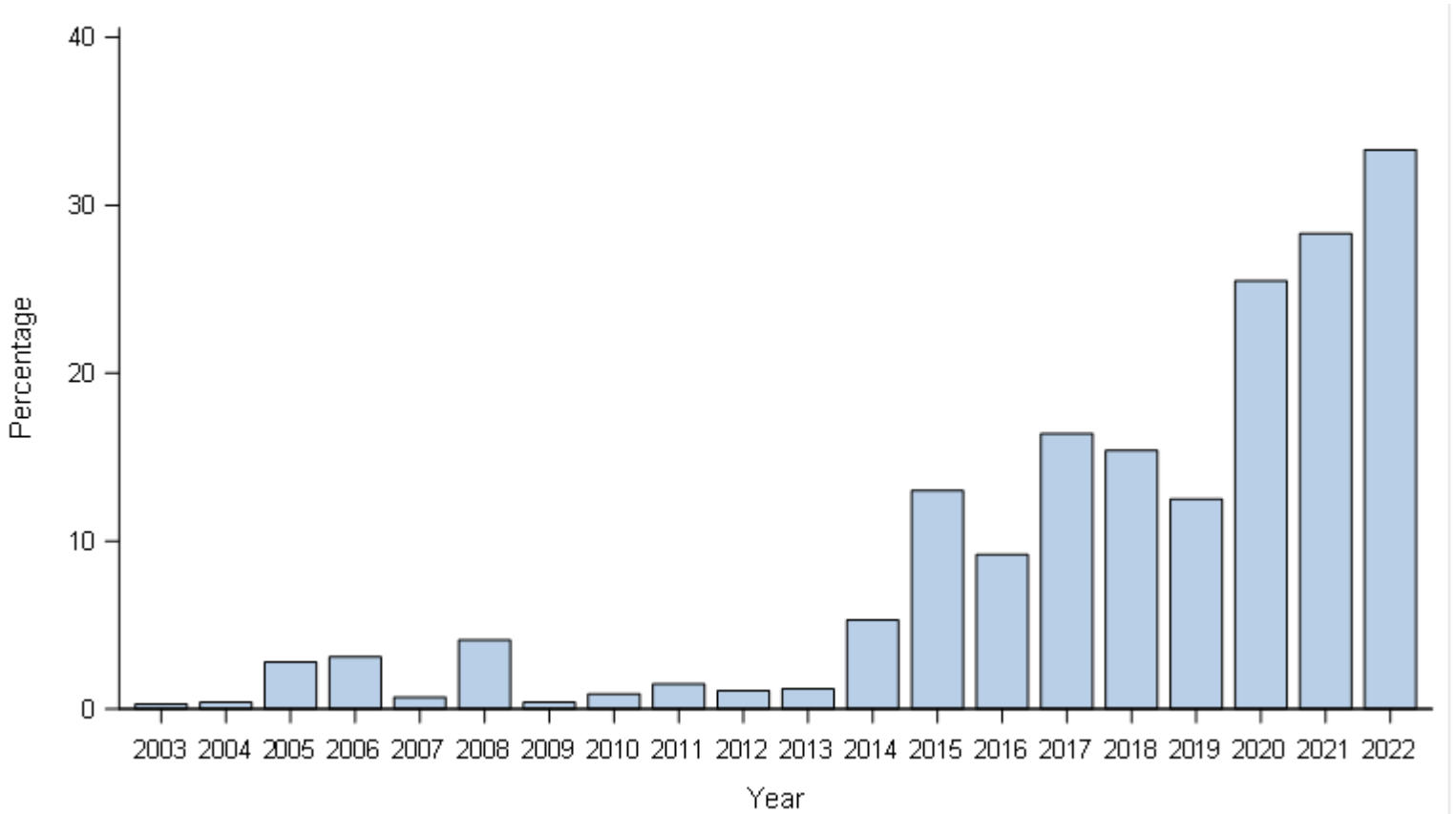


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	5 (4.4)	0 (0.0)	2 (1.7)	1 (1.4)	0 (0.0)	2 (3.1)	2 (4.3)	6 (11.3)	1 (4.2)

Azithromycin elevated MIC ≥ 1.0 $\mu\text{g/mL}$ prior to 2005 and ≥ 2.0 $\mu\text{g/mL}$ during 2005-2022.

Figure N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Cleveland, Ohio, 2003-2022

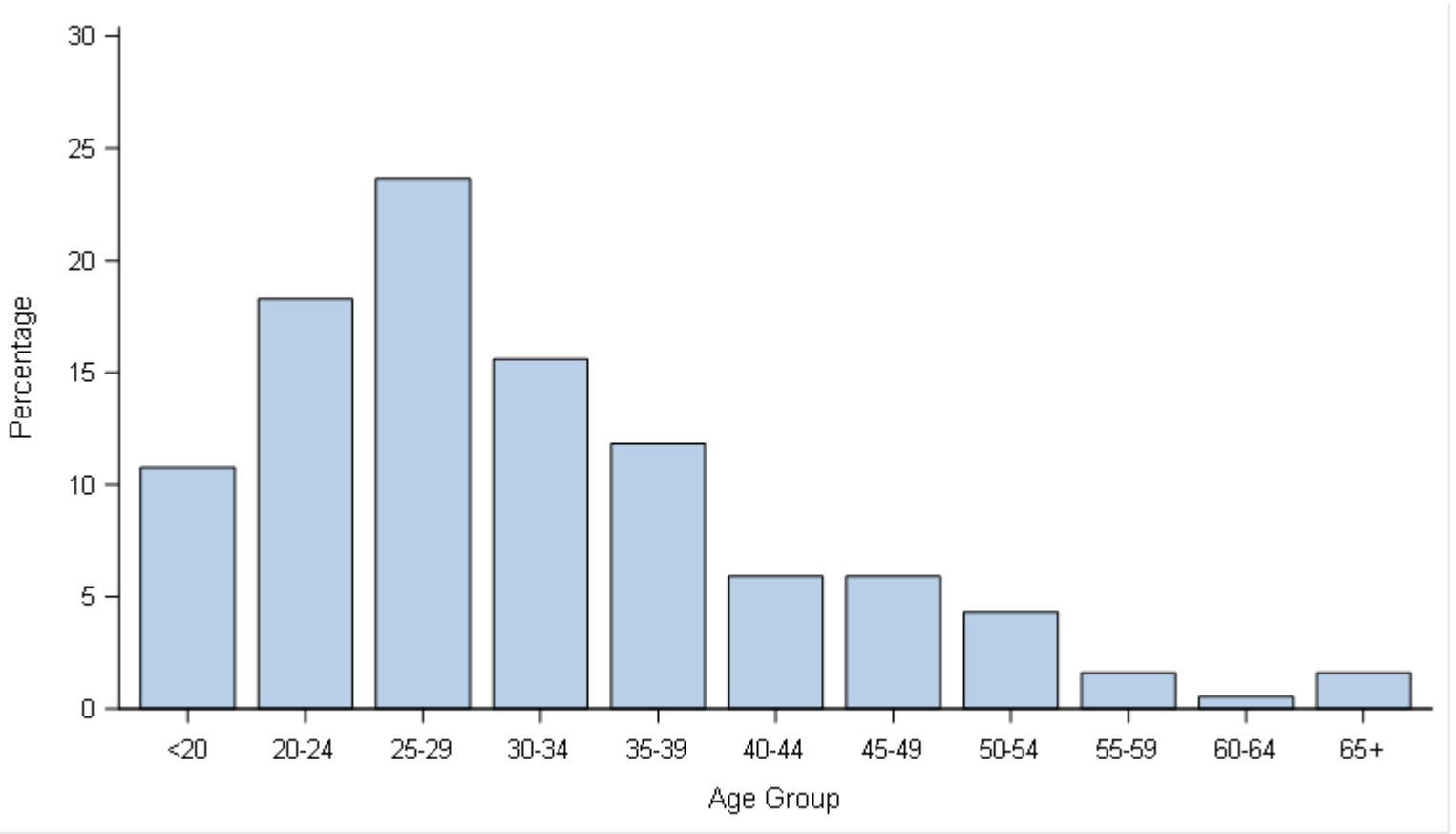


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
1 (0.3)	1 (0.4)	8 (2.8)	9 (3.1)	2 (0.7)	10 (4.1)	1 (0.4)	2 (0.9)	3 (1.5)	2 (1.1)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
2 (1.2)	6 (5.3)	16 (13.0)	11 (9.2)	12 (16.4)	6 (15.4)	8 (12.5)	12 (25.5)	15 (28.3)	8 (33.3)

Ciprofloxacin resistance MIC ≥1.0 µg/mL.

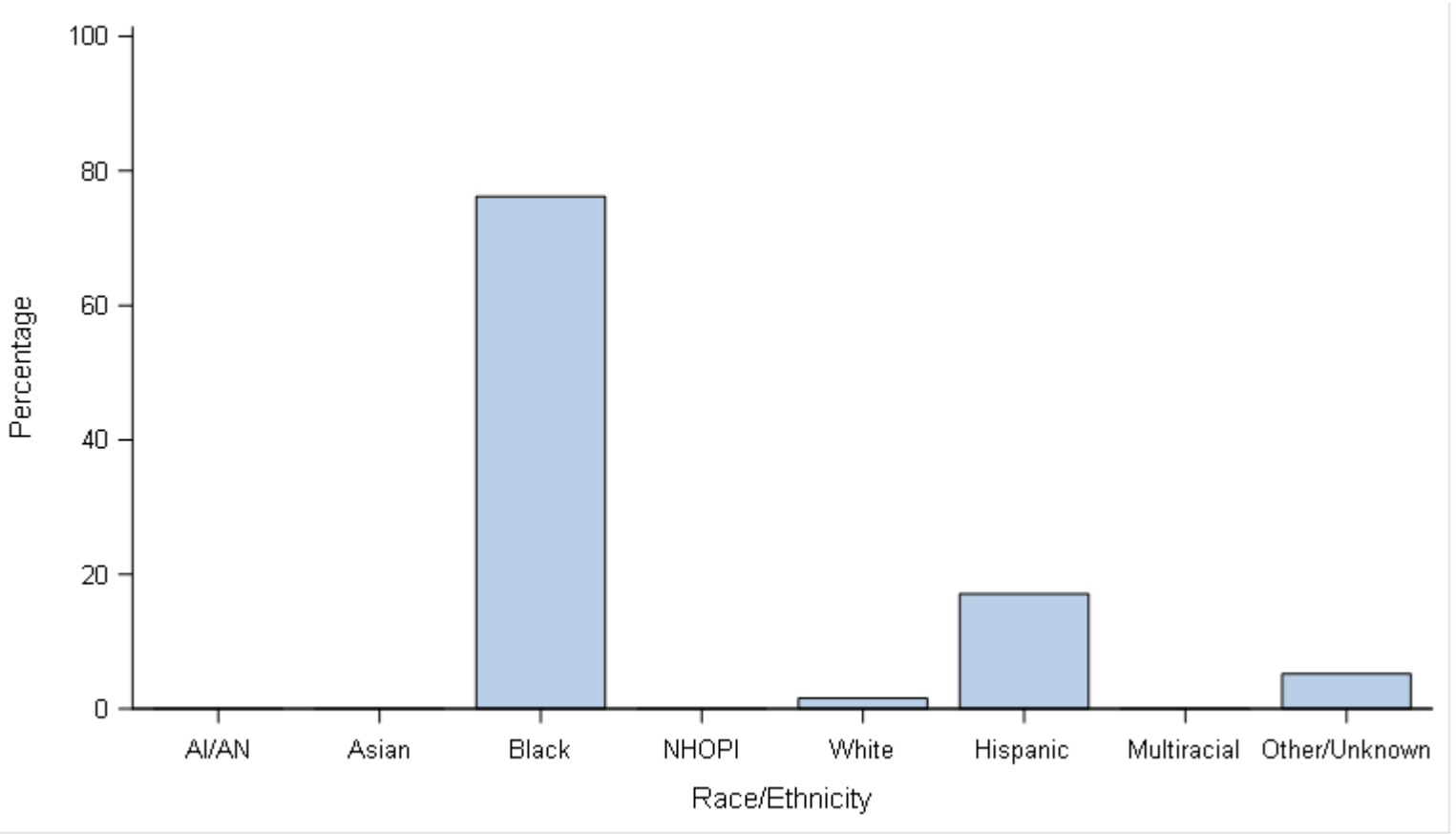
Figure A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Dallas, Texas, 2022



<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
20 (10.8)	34 (18.3)	44 (23.7)	29 (15.6)	22 (11.8)	11 (5.9)	11 (5.9)	8 (4.3)	3 (1.6)	1 (0.5)	3 (1.6)	186

Cases with unknown age were excluded.

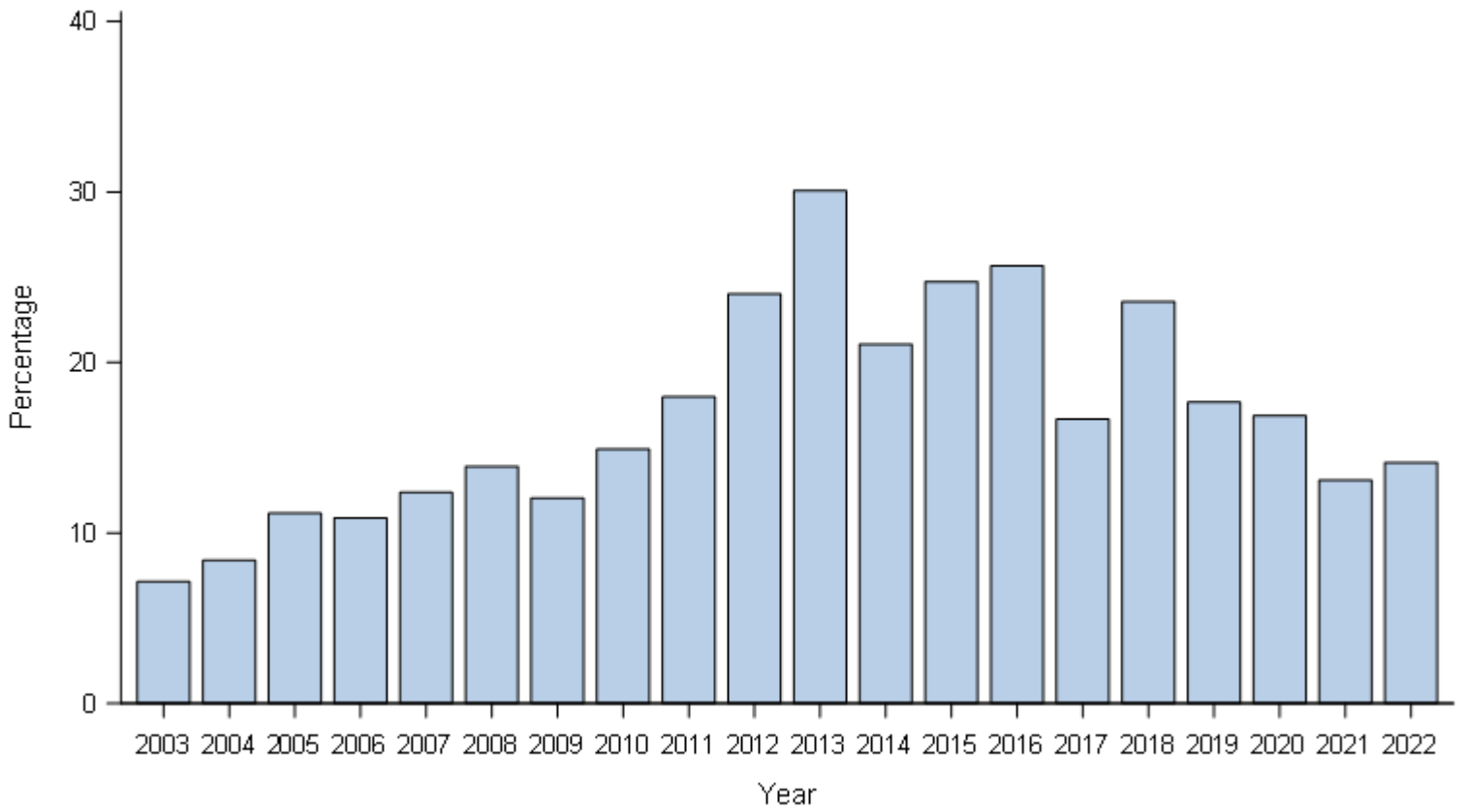
Figure B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Dallas, Texas, 2022



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)	147 (76.2)	0 (0.0)	3 (1.6)	33 (17.1)	0 (0.0)	10 (5.2)	193

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.

Figure C. Percentage of Participants Identifying as Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Dallas, Texas, 2003-2022

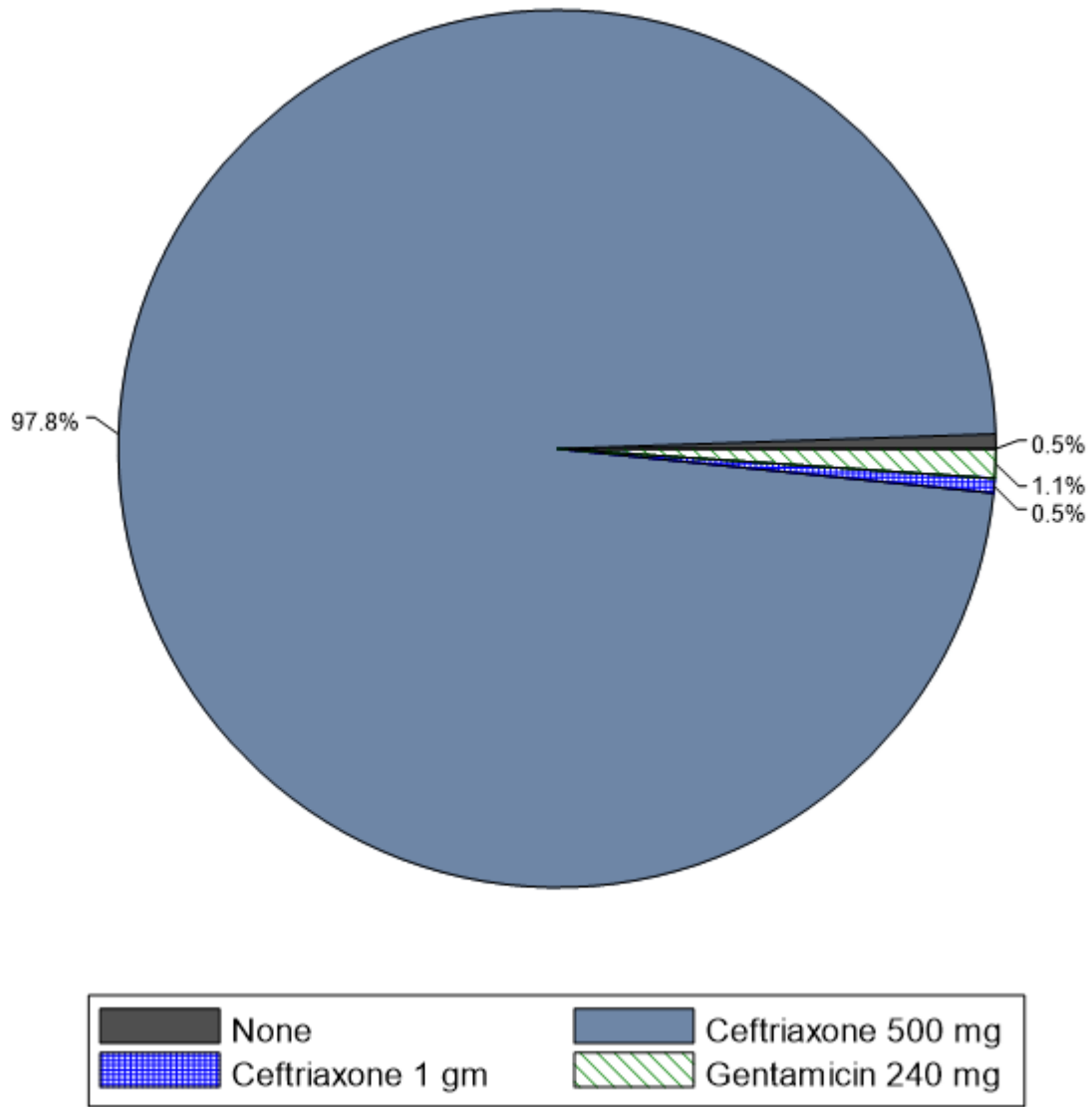


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
21 (7.1)	25 (8.4)	31 (11.2)	32 (10.9)	36 (12.4)	41 (13.9)	36 (12.0)	44 (14.9)	48 (18.0)	68 (24.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
86 (30.1)	63 (21.1)	70 (24.7)	77 (25.7)	47 (16.7)	70 (23.6)	53 (17.7)	40 (16.9)	33 (13.1)	26 (14.1)

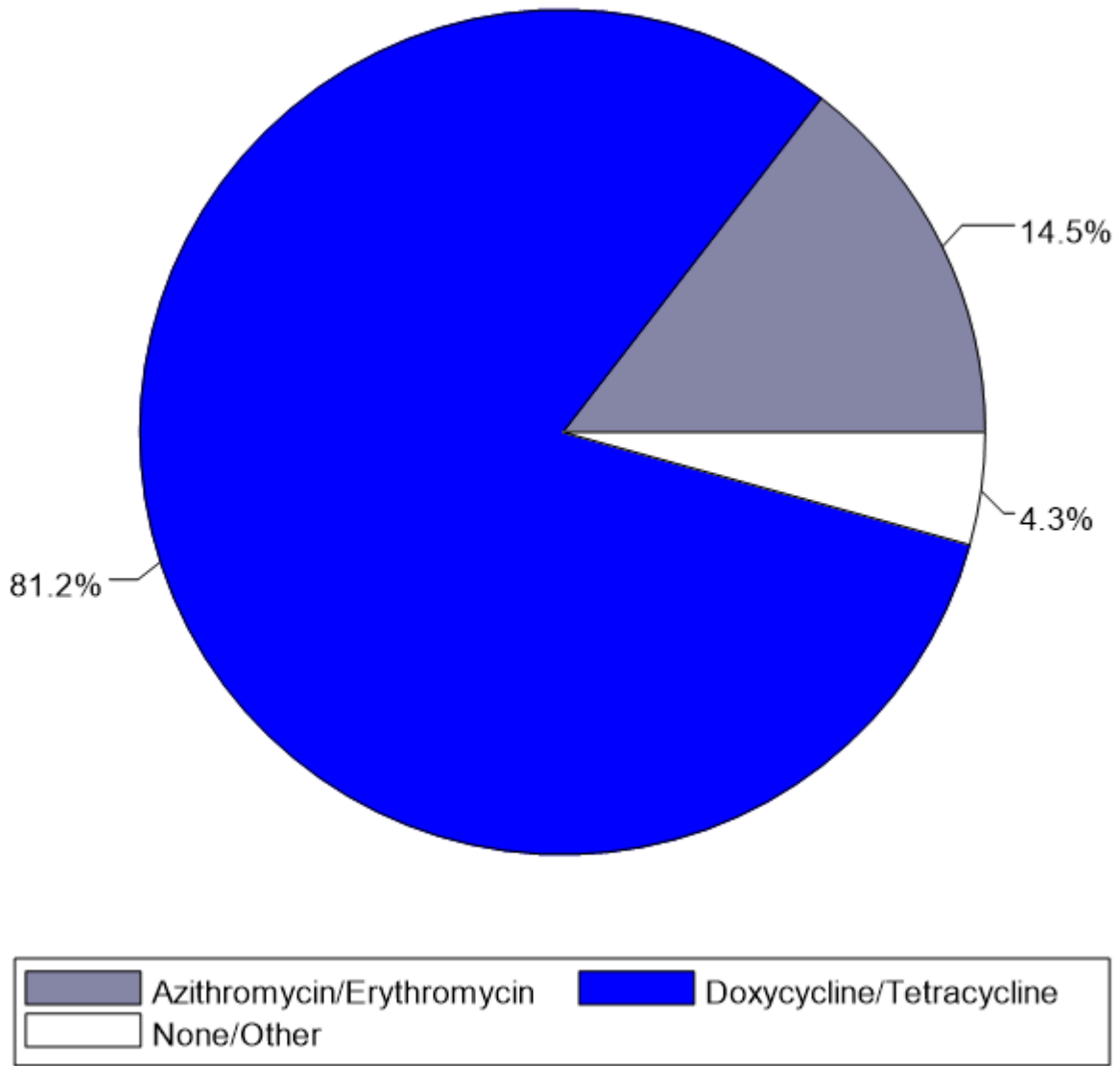
Men who have sex with men = men who self-identified as gay or bisexual or reported recent male sex partners.

Figure D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Dallas, Texas, 2022



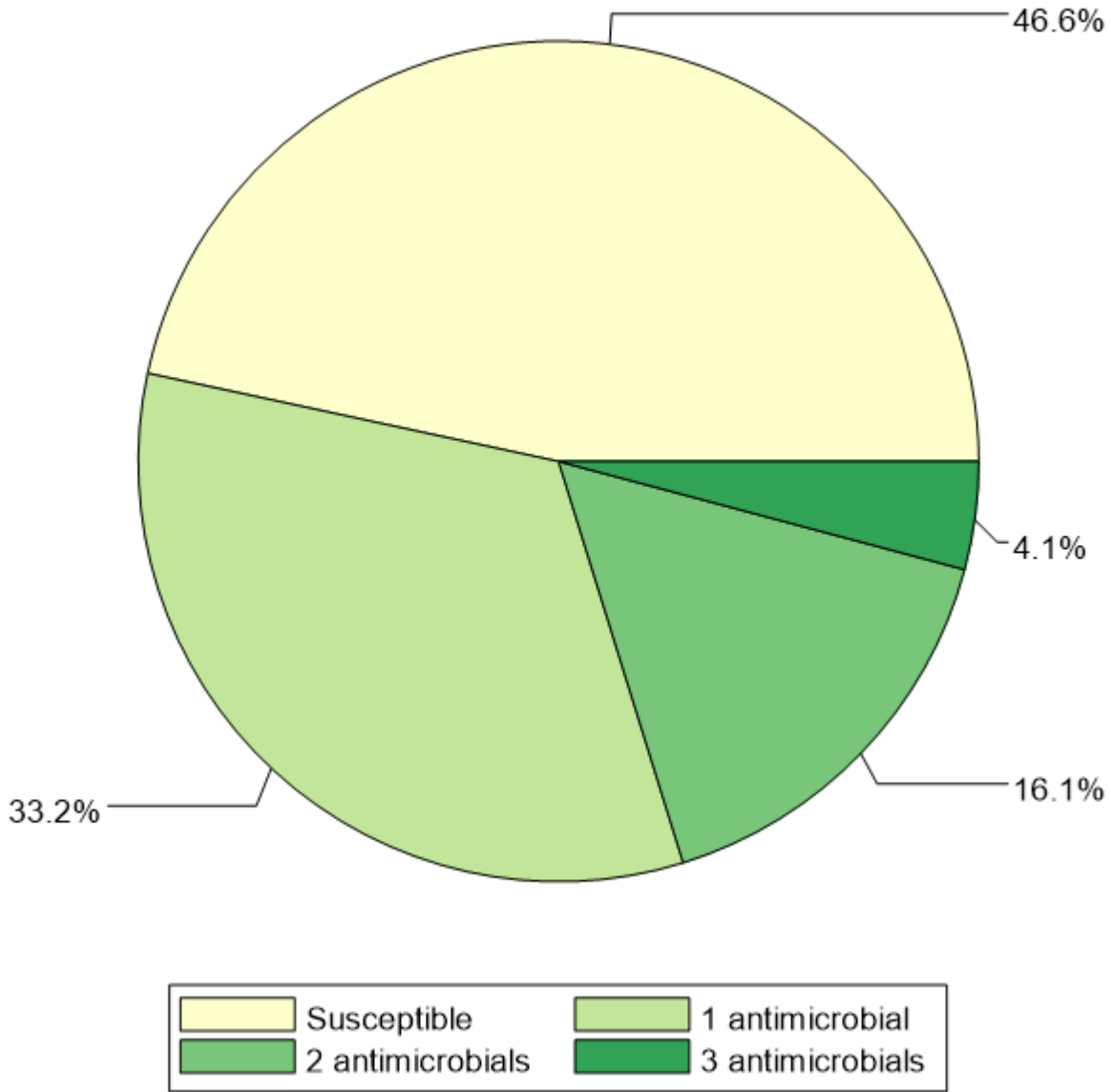
Primary Treatment	Count	Percentage
None	1	0.5
Ceftriaxone 500 mg	182	97.8
Ceftriaxone 1 gm	1	0.5
Gentamicin 240 mg	2	1.1

Figure E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Dallas, Texas, 2022



Secondary Treatment	Count	Percentage
Azithromycin/Erythromycin	27	14.5
Doxycycline/Tetracycline	151	81.2
None/Other	8	4.3

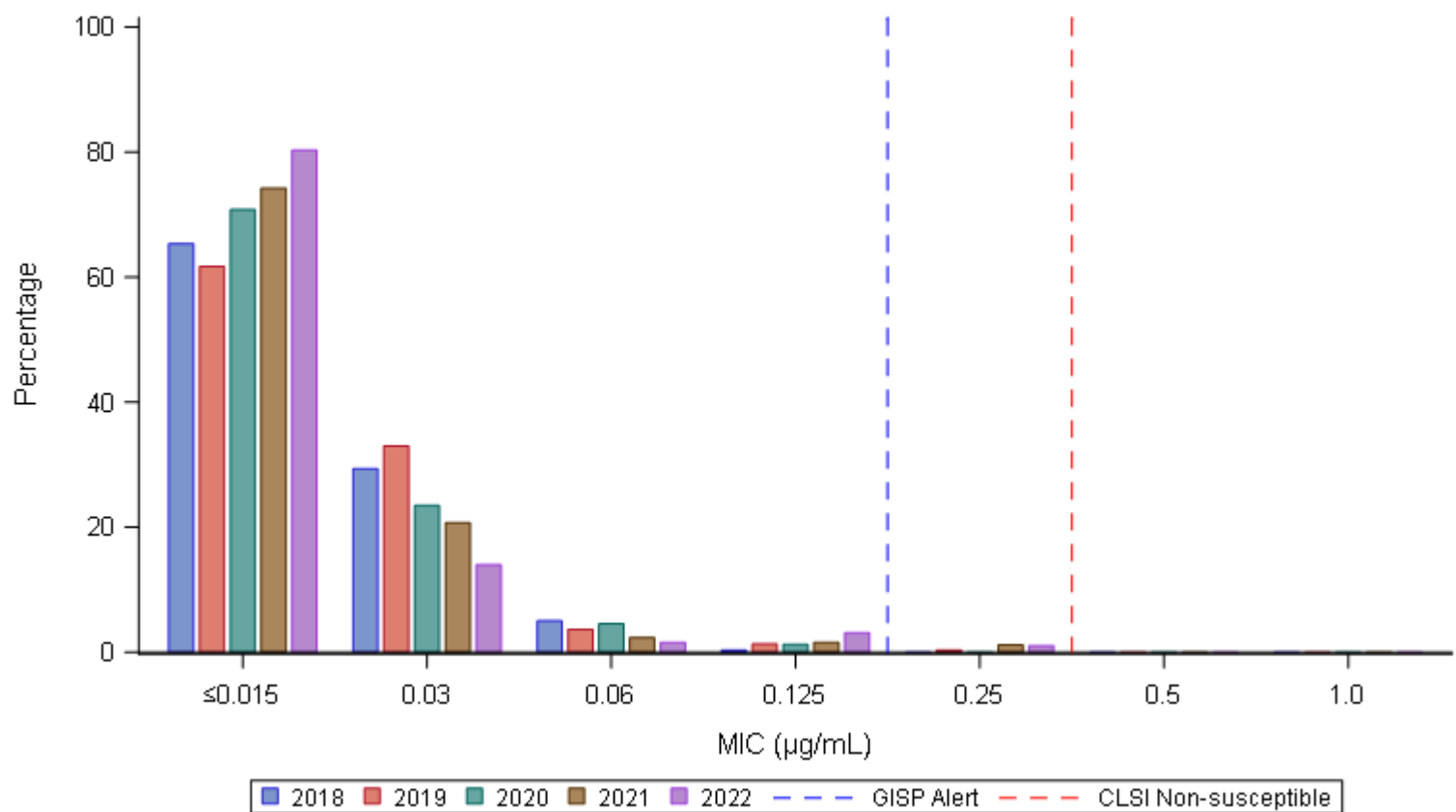
Figure F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Dallas, Texas, 2022



Number of Antimicrobials	Count	Percentage
Susceptible	90	46.6
1 antimicrobial	64	33.2
2 antimicrobials	31	16.1
3 antimicrobials	8	4.1
4+ antimicrobials	0	0.0

Elevated MICs = ceftriaxone MIC ≥ 0.125 $\mu\text{g/mL}$; cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; Resistance = tetracycline MIC ≥ 2.0 $\mu\text{g/mL}$; ciprofloxacin MIC ≥ 1.0 $\mu\text{g/mL}$; penicillin MIC ≥ 2.0 $\mu\text{g/mL}$ or β -lactamase positive.

Figure G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Dallas, Texas, 2018-2022



Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	196 (65.3)	88 (29.3)	15 (5.0)	1 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)	300
2019	185 (61.7)	99 (33.0)	11 (3.7)	4 (1.3)	1 (0.3)	0 (0.0)	0 (0.0)	300
2020	172 (70.8)	57 (23.5)	11 (4.5)	3 (1.2)	0 (0.0)	0 (0.0)	0 (0.0)	243
2021	190 (74.2)	53 (20.7)	6 (2.3)	4 (1.6)	3 (1.2)	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)	193

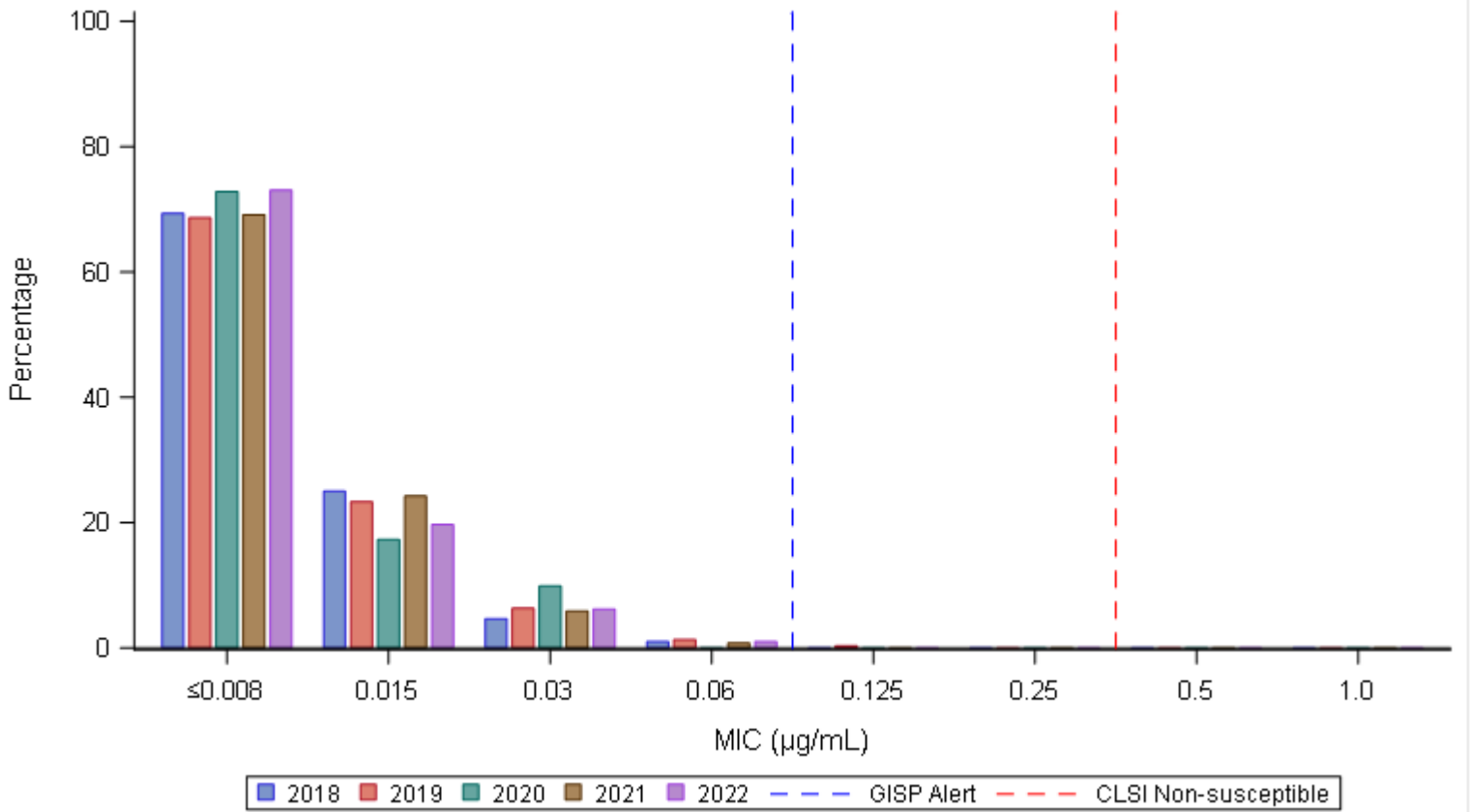
GISP Alert Value = cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; CLSI Non-susceptible = cefixime MIC ≥ 0.5 $\mu\text{g/mL}$.

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 the end of 2022, the CLSI has not established a cefixime resistance breakpoint for *N. gonorrhoeae*.

Figure H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Dallas, Texas, 2018-2022



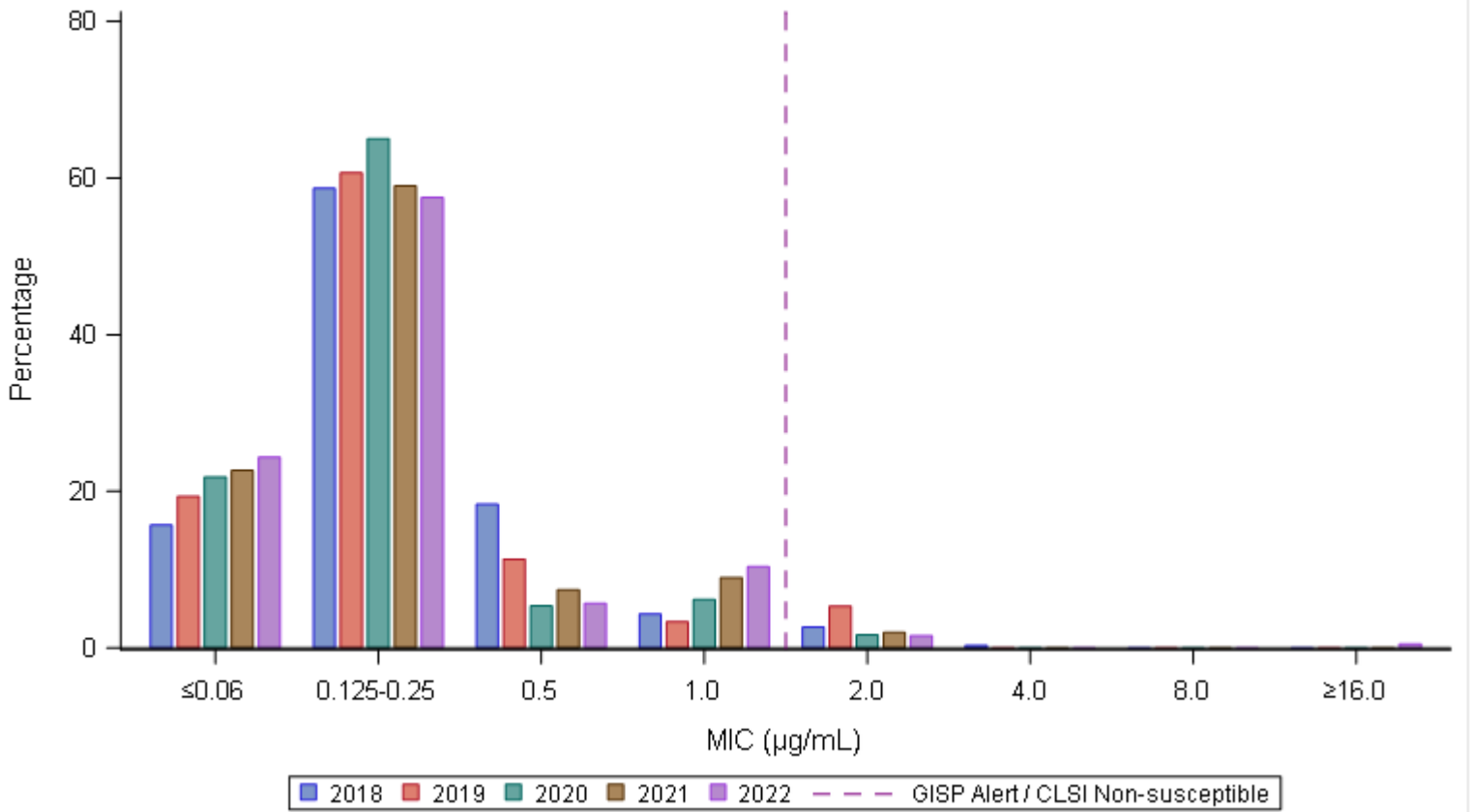
Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	208 (69.3)	75 (25.0)	14 (4.7)	3 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	300
2019	206 (68.7)	70 (23.3)	19 (6.3)	4 (1.3)	1 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)	300
2020	177 (72.8)	42 (17.3)	24 (9.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	243
2021	177 (69.1)	62 (24.2)	15 (5.9)	2 (0.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	256
2022	141 (73.1)	38 (19.7)	12 (6.2)	2 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	193

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 the end of 2022, the CLSI has not established a ceftriaxone resistance breakpoint for *N. gonorrhoeae*.

Figure I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Dallas, Texas, 2018-2022



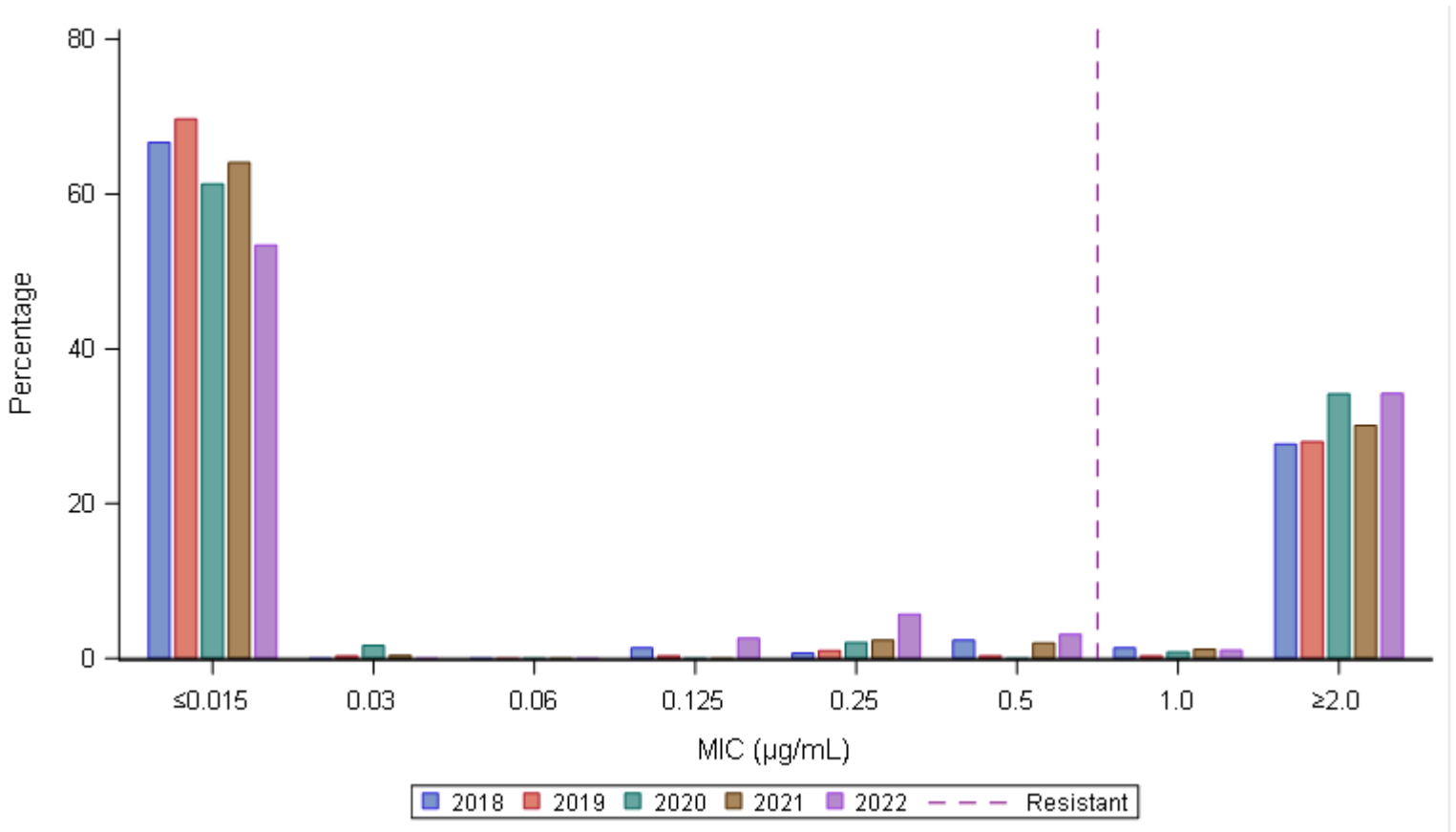
Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2018	47 (15.7)	176 (58.7)	55 (18.3)	13 (4.3)	8 (2.7)	1 (0.3)	0 (0.0)	0 (0.0)	300
2019	58 (19.3)	182 (60.7)	34 (11.3)	10 (3.3)	16 (5.3)	0 (0.0)	0 (0.0)	0 (0.0)	300
2020	53 (21.8)	158 (65.0)	13 (5.3)	15 (6.2)	4 (1.6)	0 (0.0)	0 (0.0)	0 (0.0)	243
2021	58 (22.7)	151 (59.0)	19 (7.4)	23 (9.0)	5 (2.0)	0 (0.0)	0 (0.0)	0 (0.0)	256
2022	47 (24.4)	111 (57.5)	11 (5.7)	20 (10.4)	3 (1.6)	0 (0.0)	0 (0.0)	1 (0.5)	193

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; CLSI Non-susceptible = azithromycin MIC ≥2.0 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 the end of 2022, the CLSI has not established an azithromycin resistance breakpoint for *N. gonorrhoeae*.

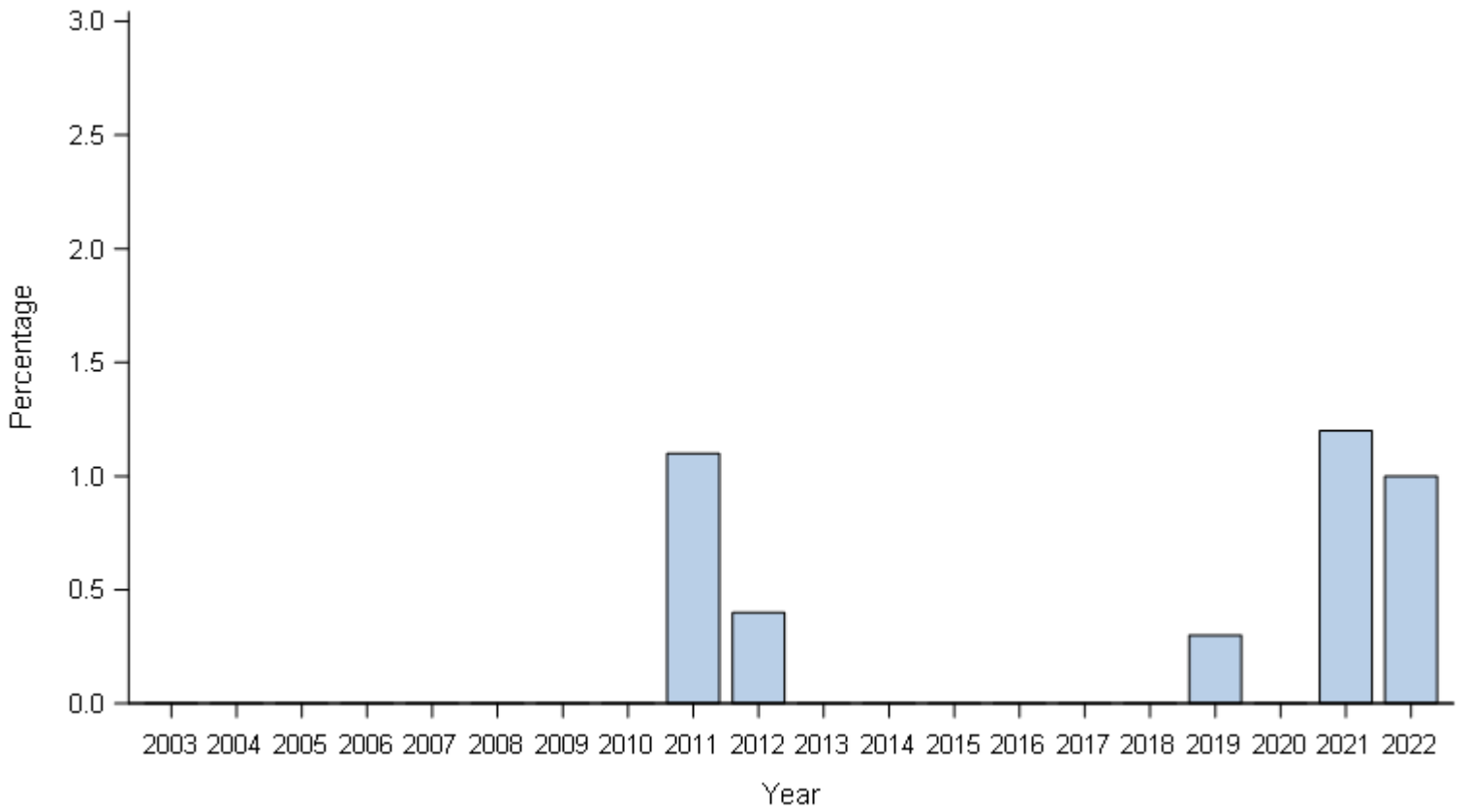
Figure J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Dallas, Texas, 2018-2022



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
2018	200 (66.7)	0 (0.0)	0 (0.0)	4 (1.3)	2 (0.7)	7 (2.3)	4 (1.3)	83 (27.7)	300
2019	209 (69.7)	1 (0.3)	0 (0.0)	1 (0.3)	3 (1.0)	1 (0.3)	1 (0.3)	84 (28.0)	300
2020	149 (61.3)	4 (1.6)	0 (0.0)	0 (0.0)	5 (2.1)	0 (0.0)	2 (0.8)	83 (34.2)	243
2021	164 (64.1)	1 (0.4)	0 (0.0)	0 (0.0)	6 (2.3)	5 (2.0)	3 (1.2)	77 (30.1)	256
2022	103 (53.4)	0 (0.0)	0 (0.0)	5 (2.6)	11 (5.7)	6 (3.1)	2 (1.0)	66 (34.2)	193

Ciprofloxacin resistance MIC ≥1.0 µg/mL.

Figure K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Dallas, Texas, 2003-2022

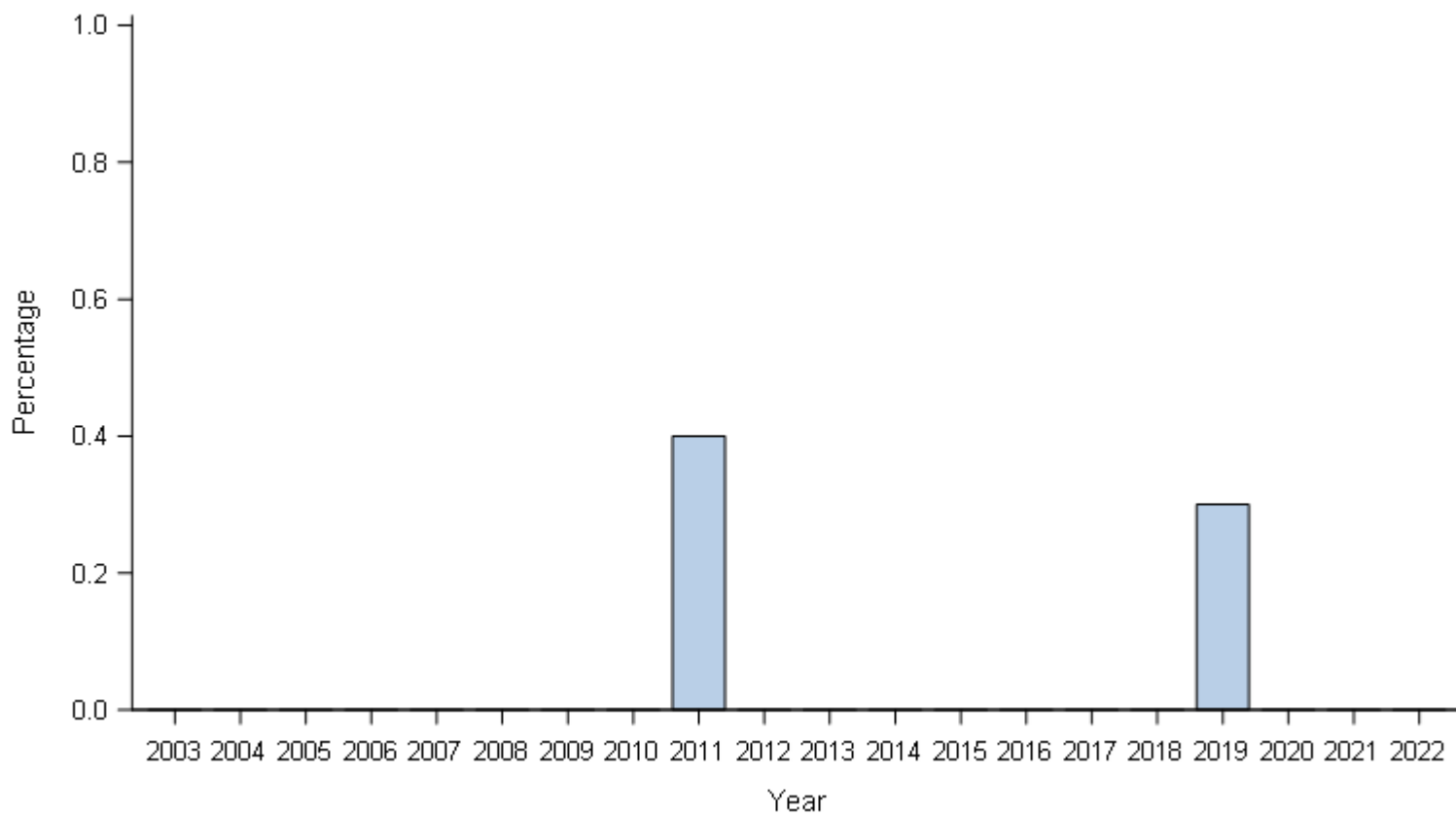


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	3 (1.1)	1 (0.4)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.3)	0 (0.0)	3 (1.2)	2 (1.0)

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

Figure L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Dallas, Texas, 2003-2022

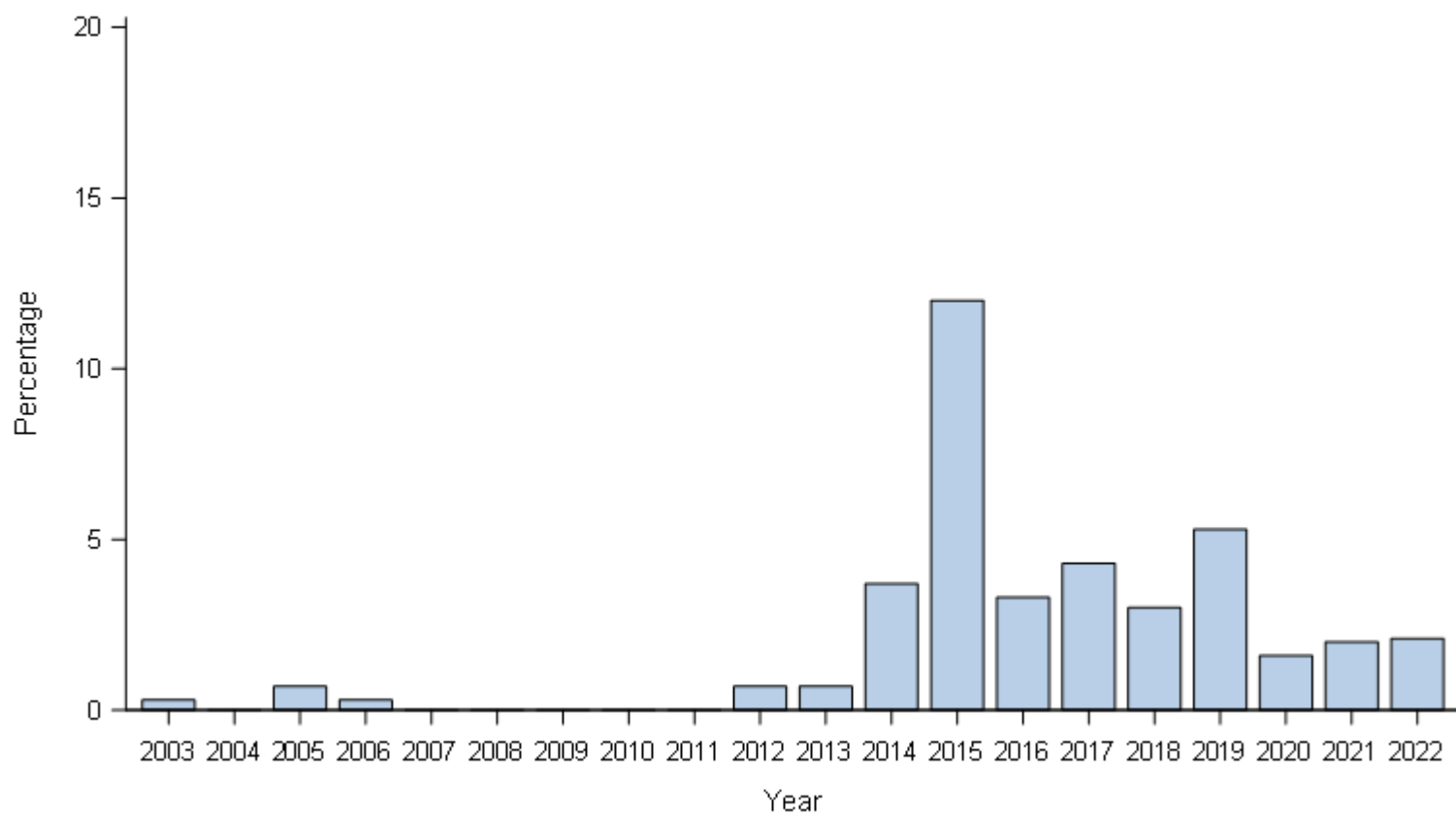


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.4)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)

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

Figure M. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Dallas, Texas, 2003-2022

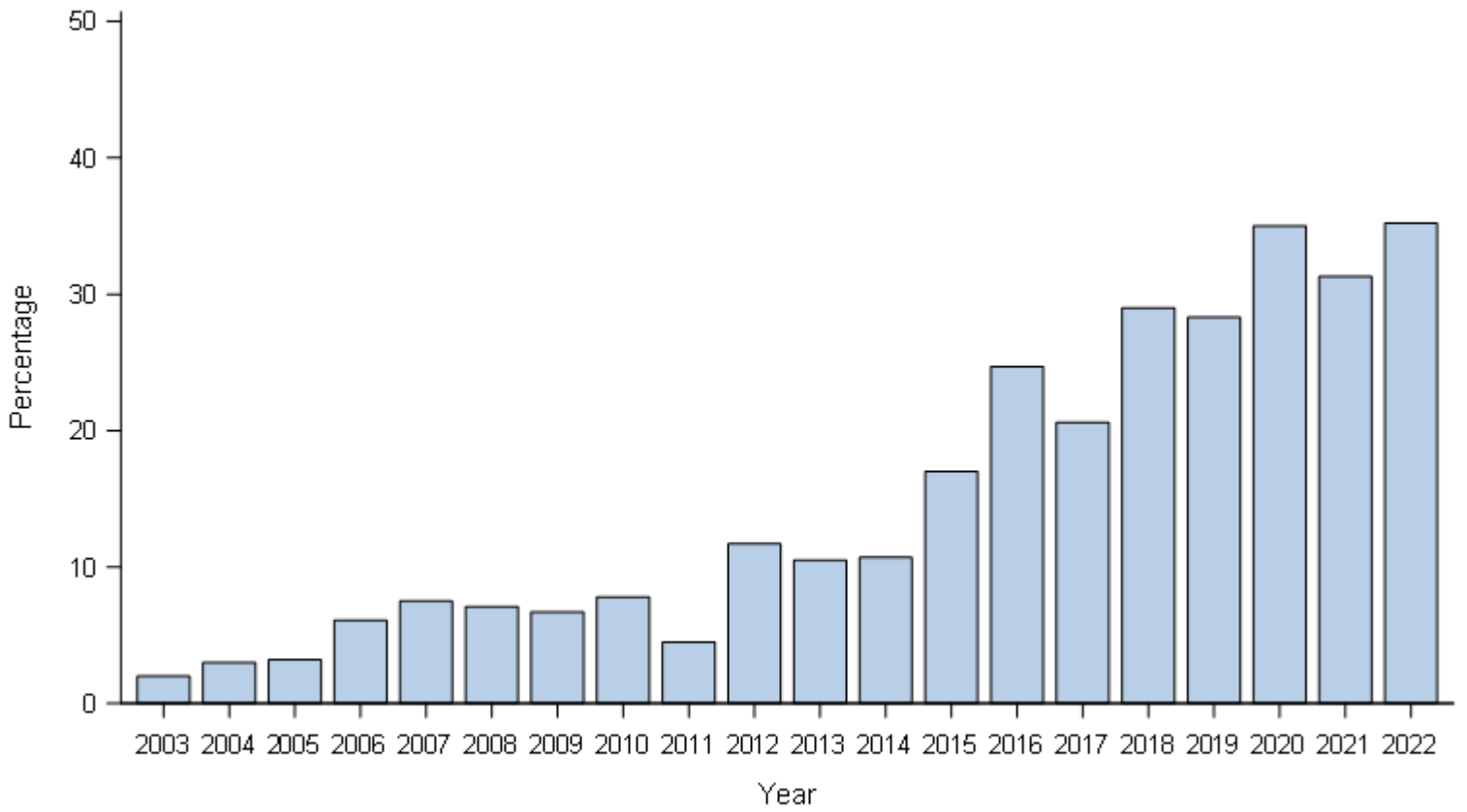


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
1 (0.3)	0 (0.0)	2 (0.7)	1 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (0.7)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
2 (0.7)	11 (3.7)	34 (12.0)	10 (3.3)	12 (4.3)	9 (3.0)	16 (5.3)	4 (1.6)	5 (2.0)	4 (2.1)

Azithromycin elevated MIC ≥ 1.0 $\mu\text{g/mL}$ prior to 2005 and ≥ 2.0 $\mu\text{g/mL}$ during 2005-2022.

Figure N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Dallas, Texas, 2003-2022

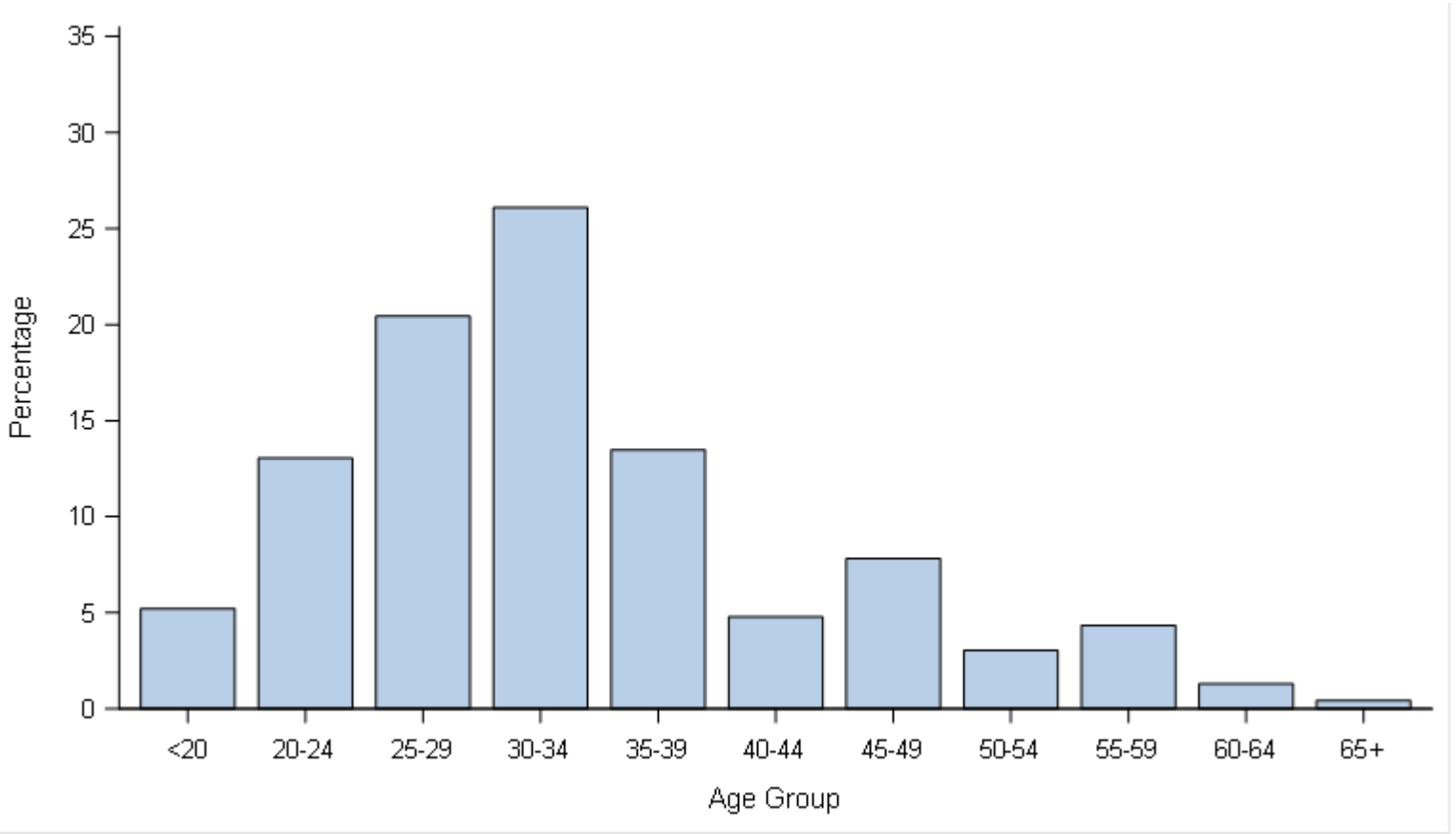


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
6 (2.0)	9 (3.0)	9 (3.2)	18 (6.1)	22 (7.5)	21 (7.1)	20 (6.7)	23 (7.8)	12 (4.5)	33 (11.7)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
30 (10.5)	32 (10.7)	48 (17.0)	74 (24.7)	58 (20.6)	87 (29.0)	85 (28.3)	85 (35.0)	80 (31.3)	68 (35.2)

Ciprofloxacin resistance MIC \geq 1.0 μ g/mL.

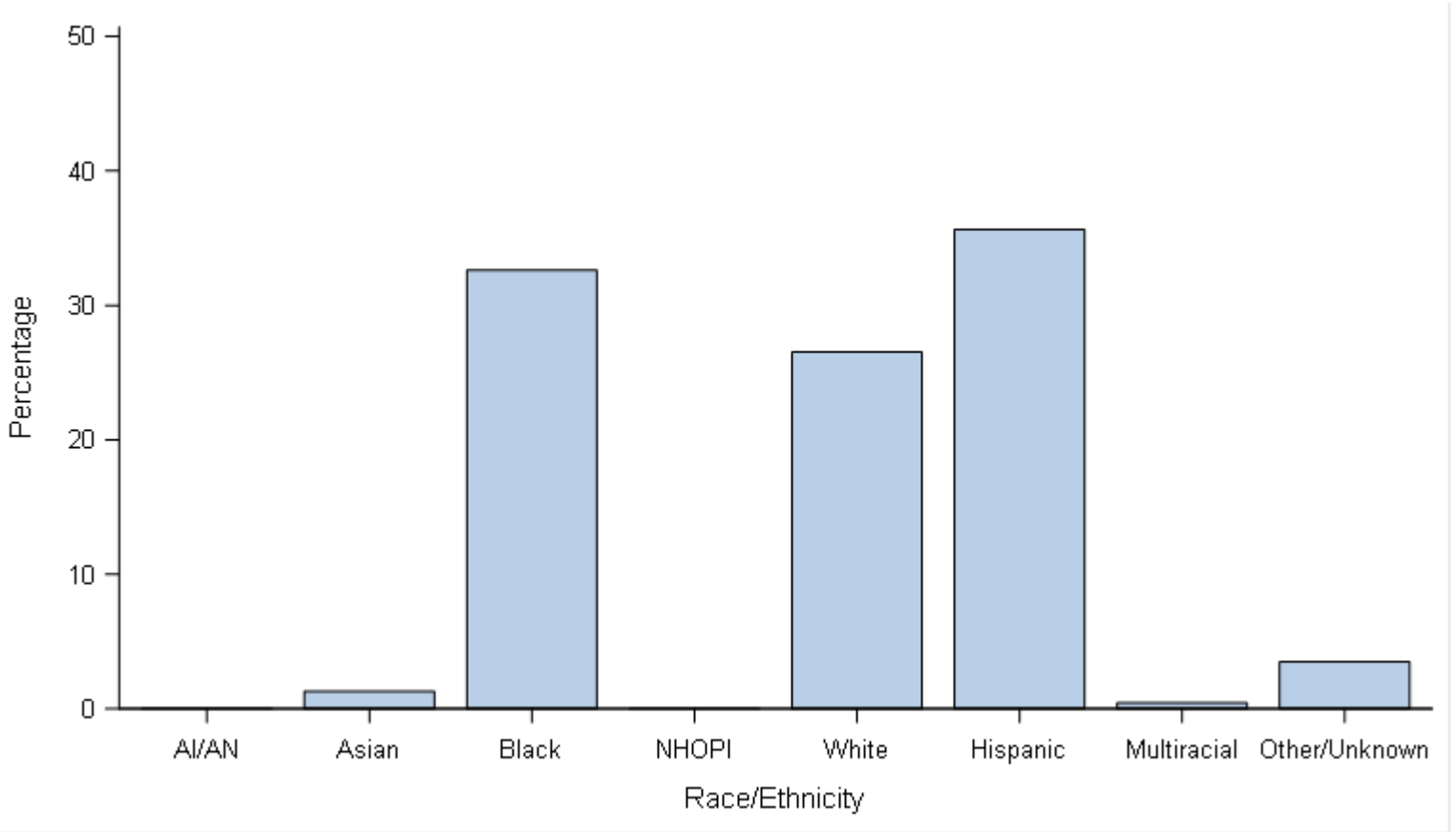
Figure A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Denver, Colorado, 2022



<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
12 (5.2)	30 (13.0)	47 (20.4)	60 (26.1)	31 (13.5)	11 (4.8)	18 (7.8)	7 (3.0)	10 (4.3)	3 (1.3)	1 (0.4)	230

Cases with unknown age were excluded.

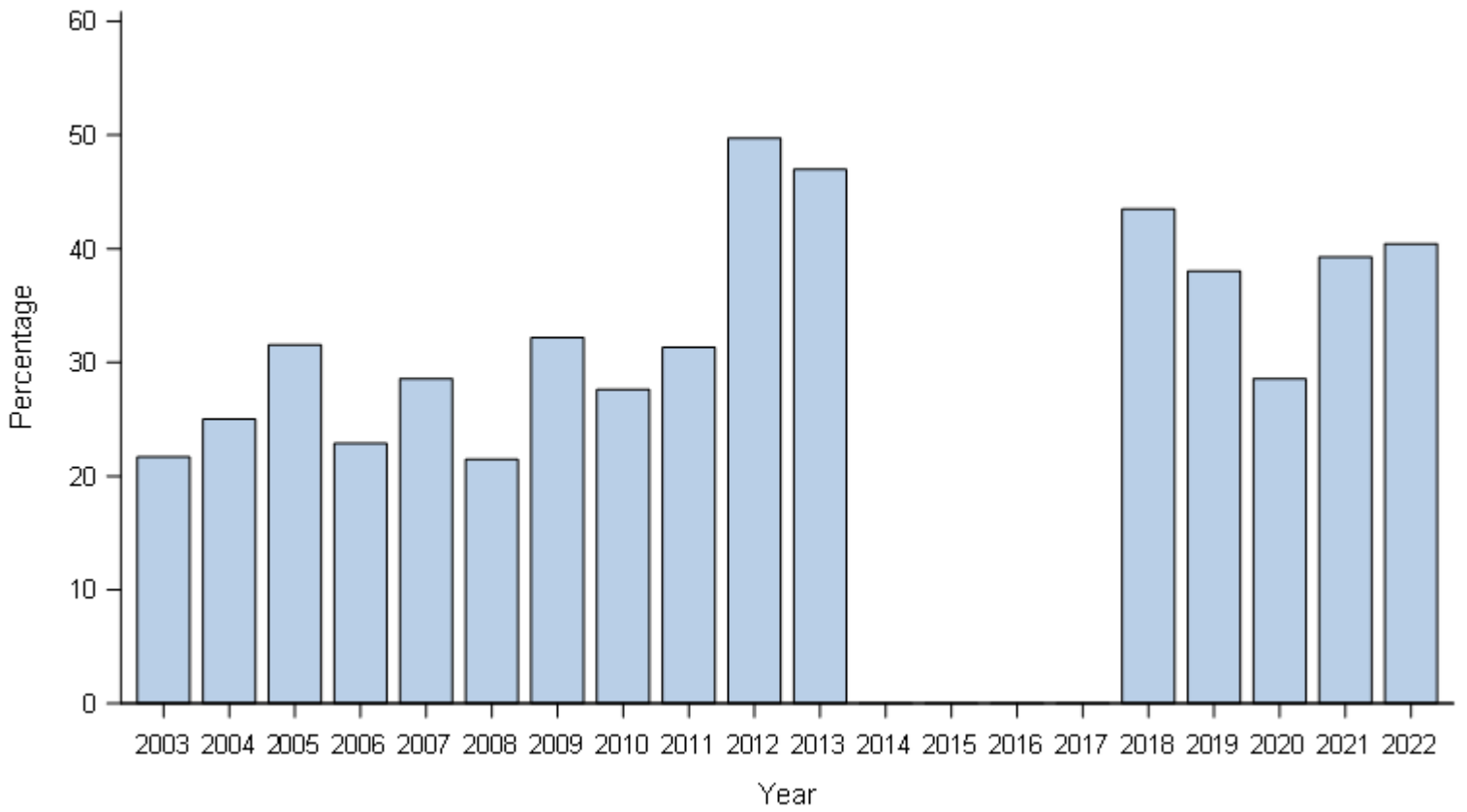
Figure B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Denver, Colorado, 2022



AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	3 (1.3)	75 (32.6)	0 (0.0)	61 (26.5)	82 (35.7)	1 (0.4)	8 (3.5)	230

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.

Figure C. Percentage of Participants Identifying as Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Denver, Colorado, 2003-2022

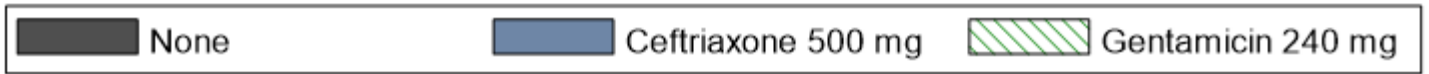
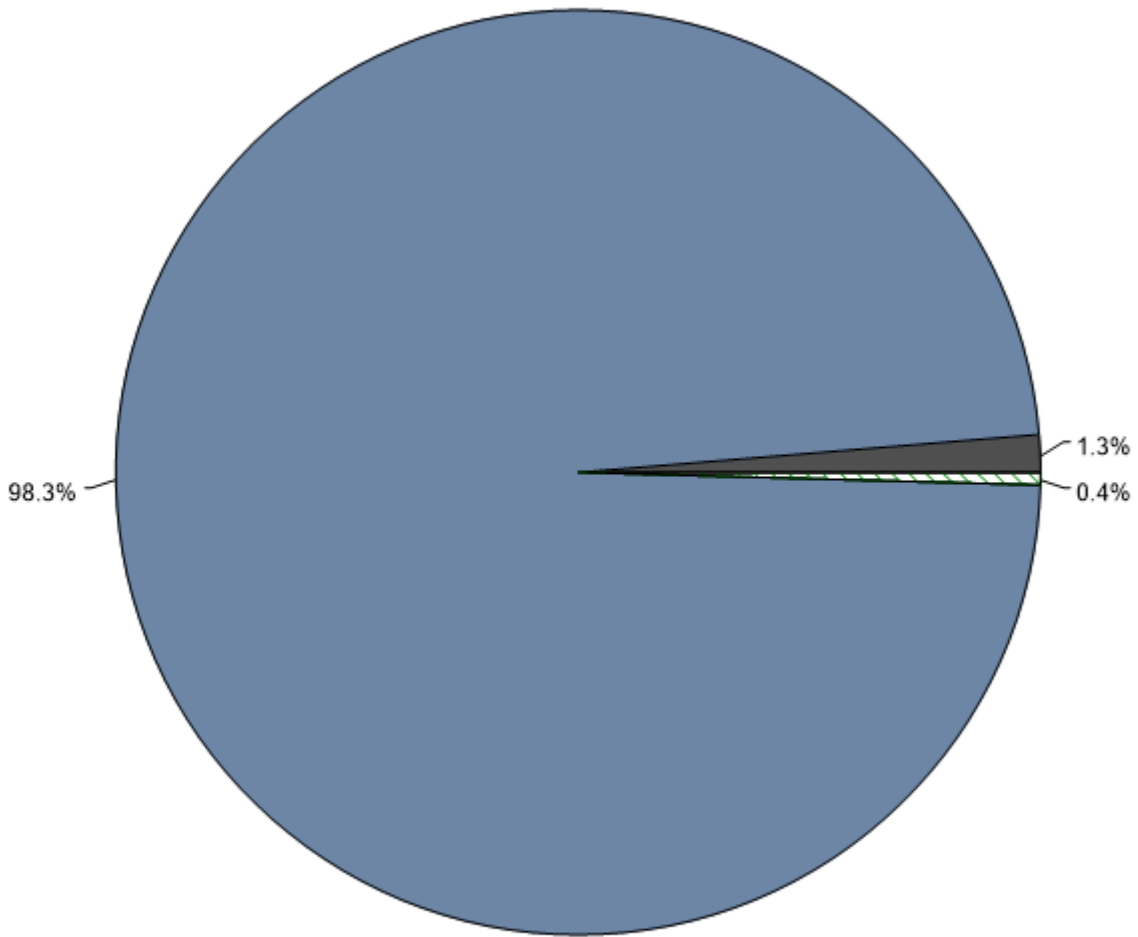


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
65 (21.7)	75 (25.0)	88 (31.5)	67 (22.9)	62 (28.6)	53 (21.5)	74 (32.2)	66 (27.6)	57 (31.3)	96 (49.7)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
93 (47.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	50 (43.5)	105 (38.0)	70 (28.6)	97 (39.3)	93 (40.4)

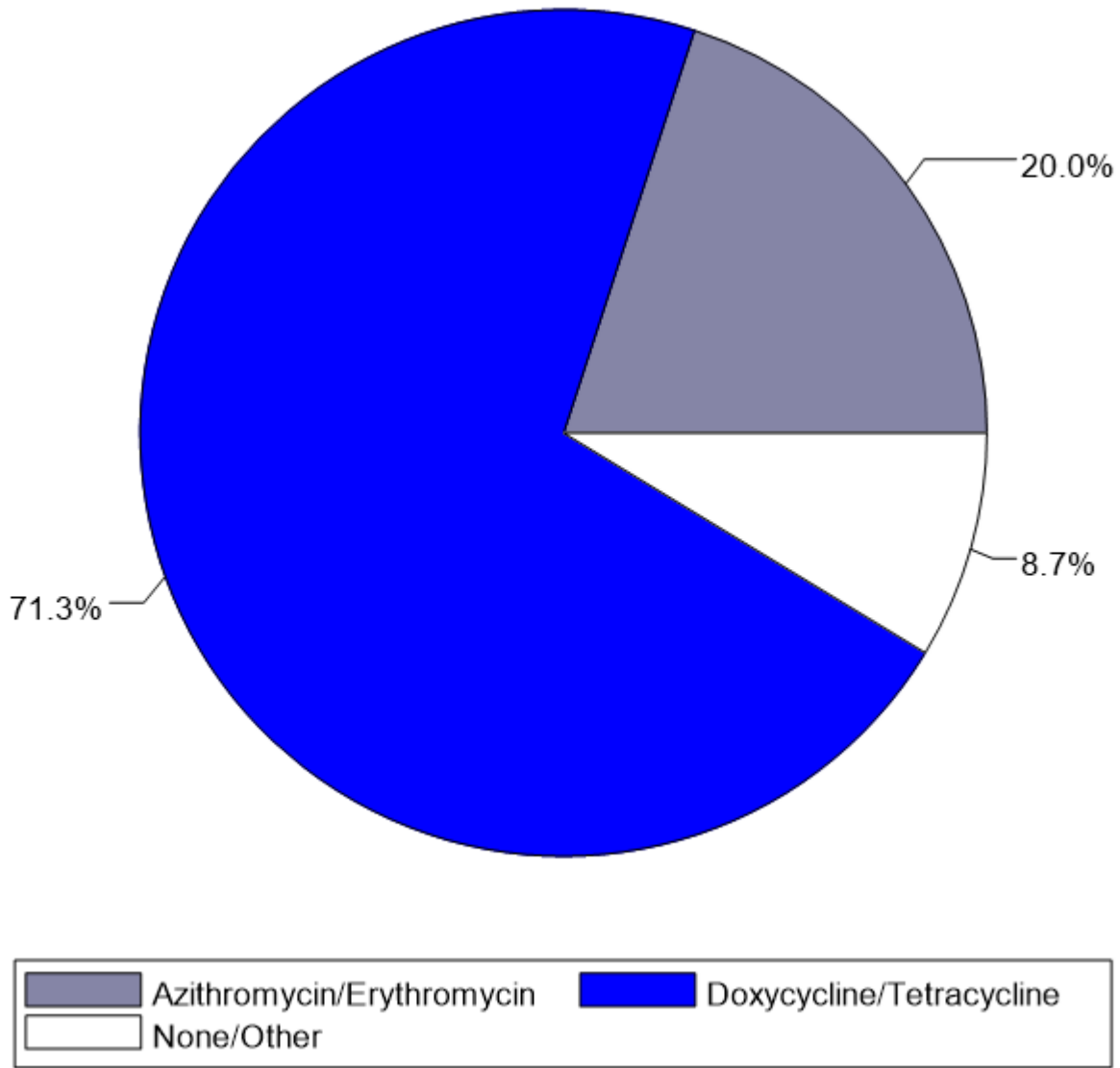
Men who have sex with men = men who self-identified as gay or bisexual or reported recent male sex partners.
 Site participated in GISP during 2003-2013 and 2018-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Denver, Colorado, 2022



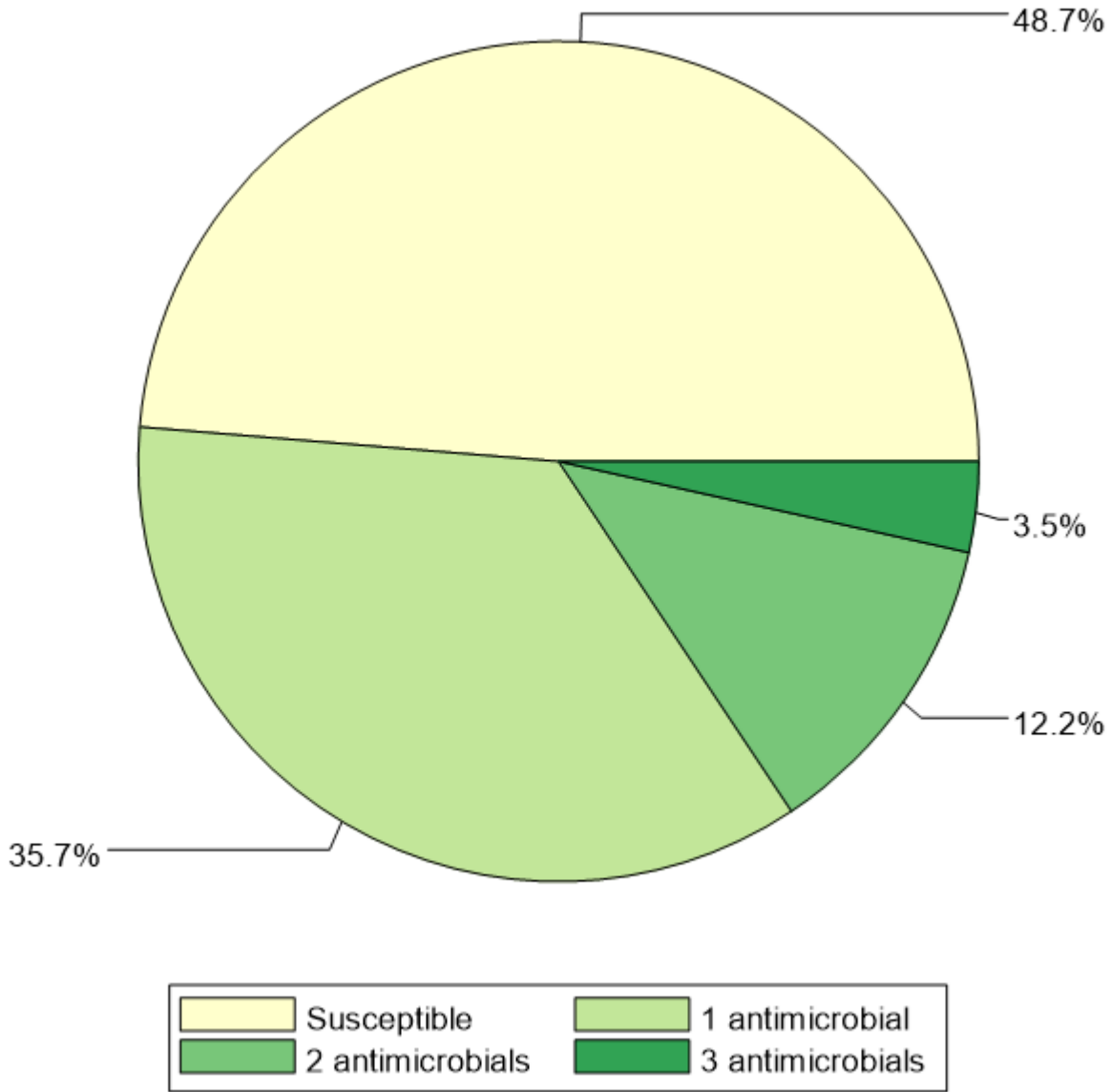
Primary Treatment	Count	Percentage
None	3	1.3
Ceftriaxone 500 mg	226	98.3
Gentamicin 240 mg	1	0.4

Figure E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Denver, Colorado, 2022



Secondary Treatment	Count	Percentage
Azithromycin/Erythromycin	46	20.0
Doxycycline/Tetracycline	164	71.3
None/Other	20	8.7

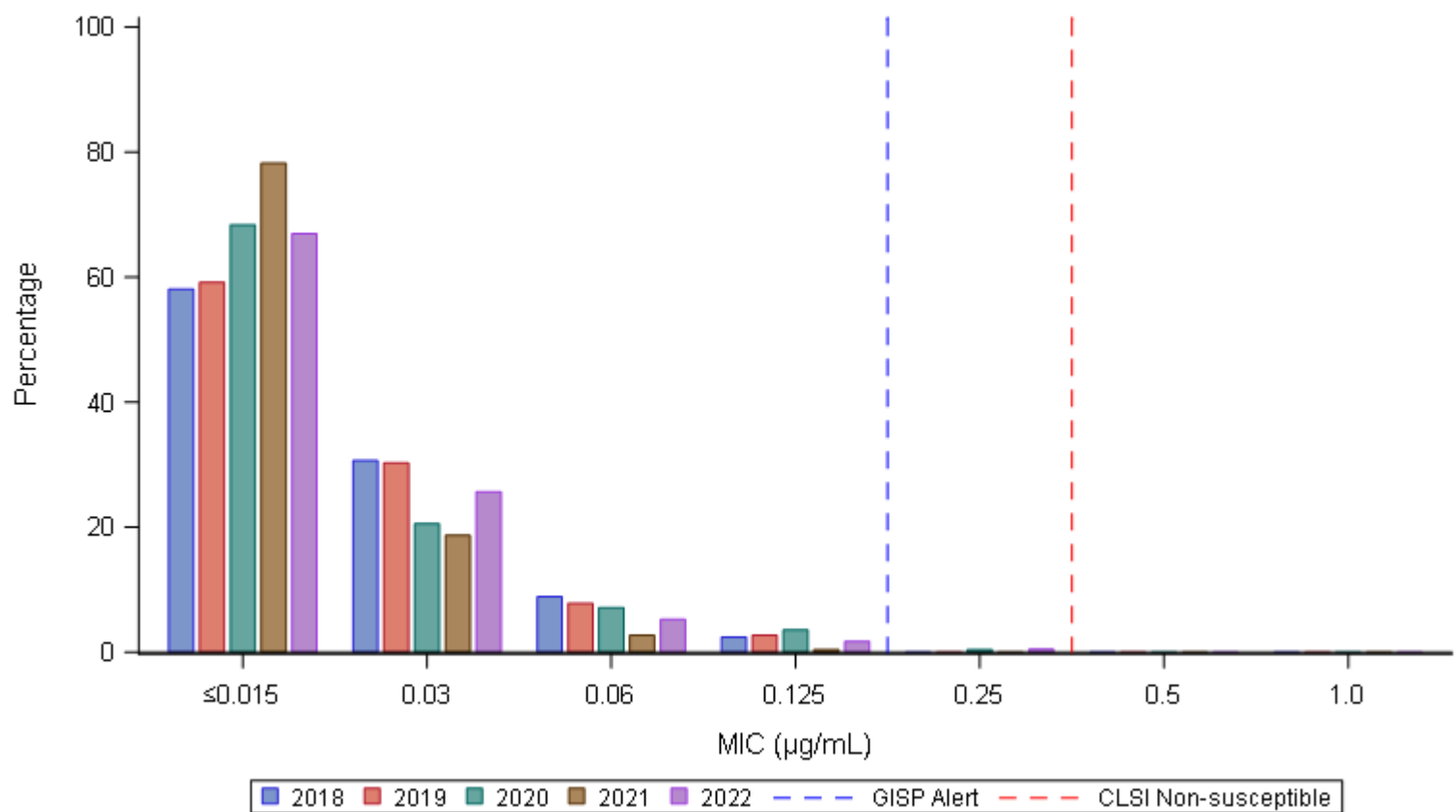
Figure F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Denver, Colorado, 2022



Number of Antimicrobials	Count	Percentage
Susceptible	112	48.7
1 antimicrobial	82	35.7
2 antimicrobials	28	12.2
3 antimicrobials	8	3.5
4+ antimicrobials	0	0.0

Elevated MICs = ceftriaxone MIC ≥ 0.125 $\mu\text{g/mL}$; cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; Resistance = tetracycline MIC ≥ 2.0 $\mu\text{g/mL}$; ciprofloxacin MIC ≥ 1.0 $\mu\text{g/mL}$; penicillin MIC ≥ 2.0 $\mu\text{g/mL}$ or β -lactamase positive.

Figure G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Denver, Colorado, 2018-2022



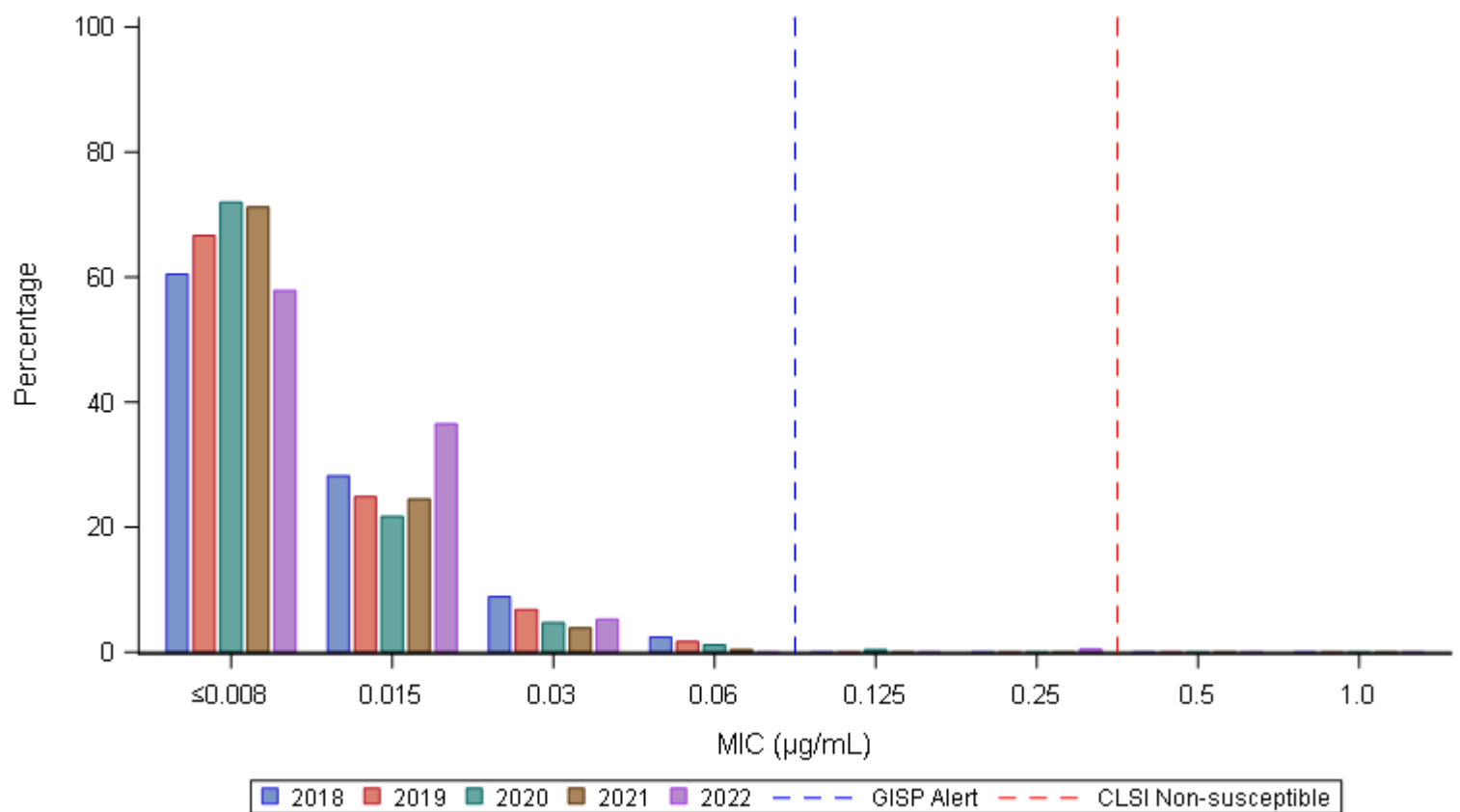
Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	72 (58.1)	38 (30.6)	11 (8.9)	3 (2.4)	0 (0.0)	0 (0.0)	0 (0.0)	124
2019	174 (59.2)	89 (30.3)	23 (7.8)	8 (2.7)	0 (0.0)	0 (0.0)	0 (0.0)	294
2020	173 (68.4)	52 (20.6)	18 (7.1)	9 (3.6)	1 (0.4)	0 (0.0)	0 (0.0)	253
2021	201 (78.2)	48 (18.7)	7 (2.7)	1 (0.4)	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)	230

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

CLSI = Clinical & Laboratory Standards Institute.

Non-susceptible = Category used for isolates when only a susceptible breakpoint has been designated and the MIC is above the susceptible breakpoint. As of the end of 2022, the CLSI has not established a cefixime resistance breakpoint for *N. gonorrhoeae*.

Figure H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Denver, Colorado, 2018-2022



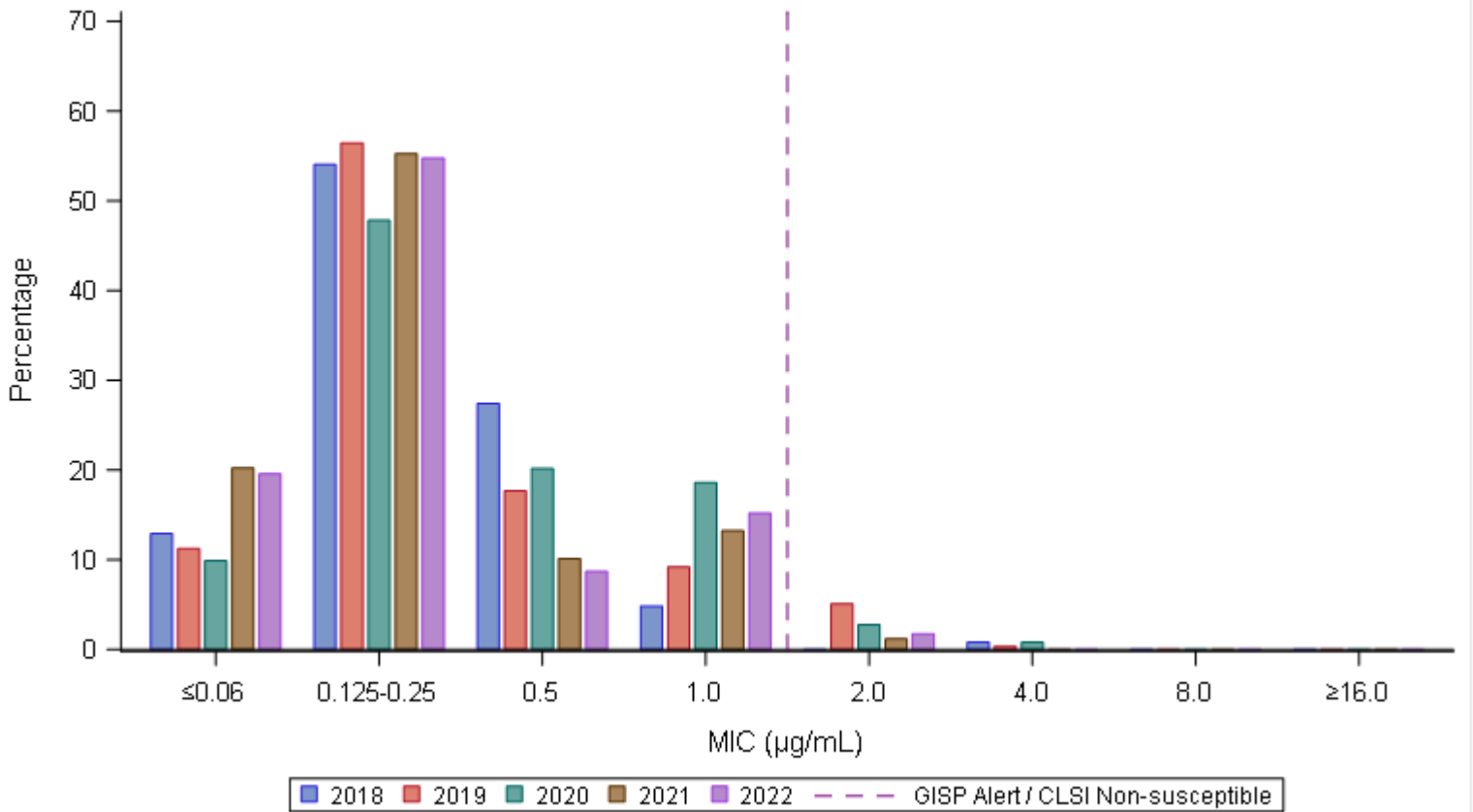
Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	75 (60.5)	35 (28.2)	11 (8.9)	3 (2.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	124
2019	196 (66.7)	73 (24.8)	20 (6.8)	5 (1.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	294
2020	182 (71.9)	55 (21.7)	12 (4.7)	3 (1.2)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	253
2021	183 (71.2)	63 (24.5)	10 (3.9)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	257
2022	133 (57.8)	84 (36.5)	12 (5.2)	0 (0.0)	0 (0.0)	1 (0.4)	0 (0.0)	0 (0.0)	230

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 the end of 2022, the CLSI has not established a ceftriaxone resistance breakpoint for *N. gonorrhoeae*.

Figure I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Denver, Colorado, 2018-2022



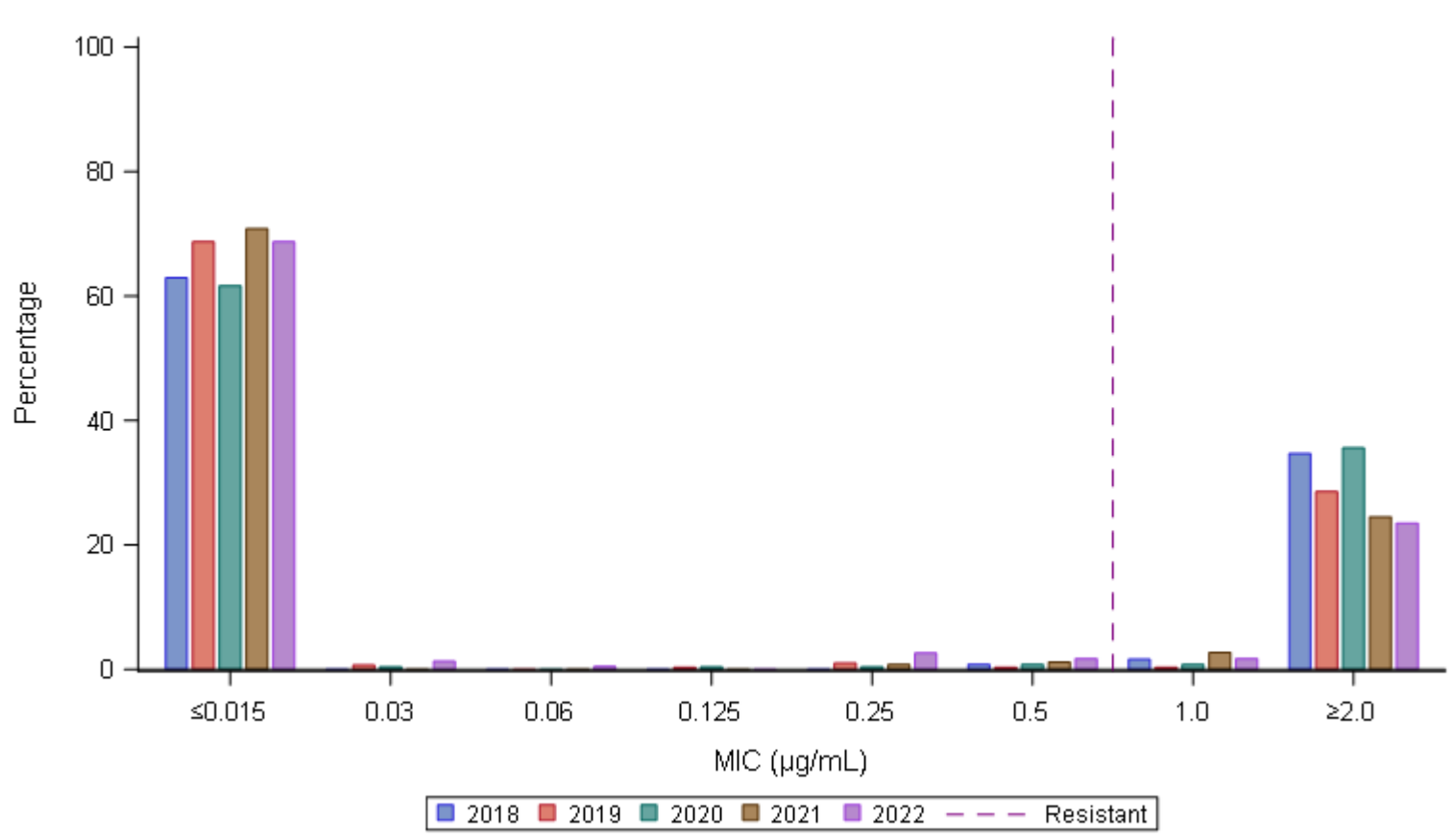
Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2018	16 (12.9)	67 (54.0)	34 (27.4)	6 (4.8)	0 (0.0)	1 (0.8)	0 (0.0)	0 (0.0)	124
2019	33 (11.2)	166 (56.5)	52 (17.7)	27 (9.2)	15 (5.1)	1 (0.3)	0 (0.0)	0 (0.0)	294
2020	25 (9.9)	121 (47.8)	51 (20.2)	47 (18.6)	7 (2.8)	2 (0.8)	0 (0.0)	0 (0.0)	253
2021	52 (20.2)	142 (55.3)	26 (10.1)	34 (13.2)	3 (1.2)	0 (0.0)	0 (0.0)	0 (0.0)	257
2022	45 (19.6)	126 (54.8)	20 (8.7)	35 (15.2)	4 (1.7)	0 (0.0)	0 (0.0)	0 (0.0)	230

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; CLSI Non-susceptible = azithromycin MIC ≥2.0 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 the end of 2022, the CLSI has not established an azithromycin resistance breakpoint for *N. gonorrhoeae*.

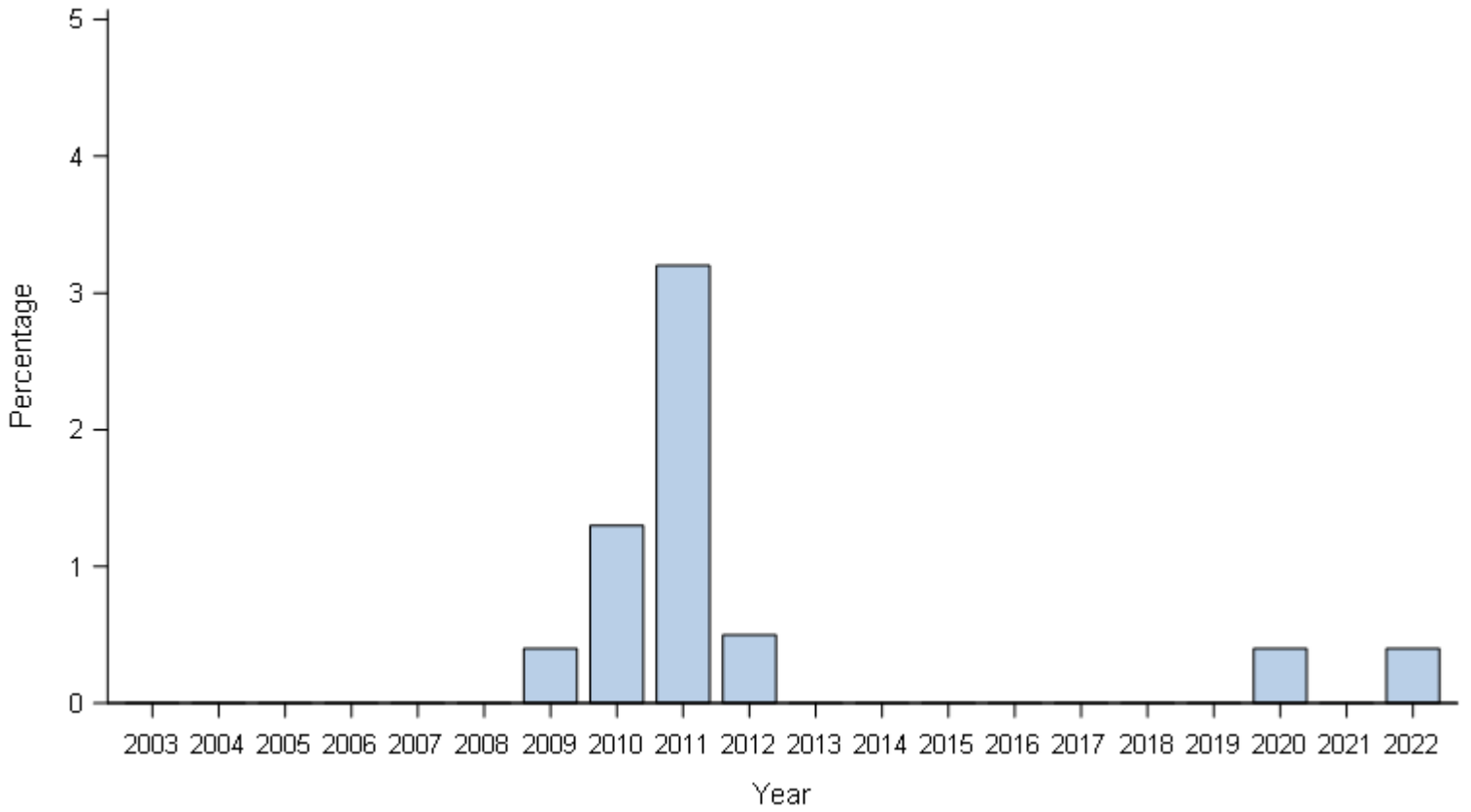
Figure J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Denver, Colorado, 2018-2022



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
2018	78 (62.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.8)	2 (1.6)	43 (34.7)	124
2019	202 (68.7)	2 (0.7)	0 (0.0)	1 (0.3)	3 (1.0)	1 (0.3)	1 (0.3)	84 (28.6)	294
2020	156 (61.7)	1 (0.4)	0 (0.0)	1 (0.4)	1 (0.4)	2 (0.8)	2 (0.8)	90 (35.6)	253
2021	182 (70.8)	0 (0.0)	0 (0.0)	0 (0.0)	2 (0.8)	3 (1.2)	7 (2.7)	63 (24.5)	257
2022	158 (68.7)	3 (1.3)	1 (0.4)	0 (0.0)	6 (2.6)	4 (1.7)	4 (1.7)	54 (23.5)	230

Ciprofloxacin resistance MIC ≥1.0 µg/mL.

Figure K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Denver, Colorado, 2003-2022



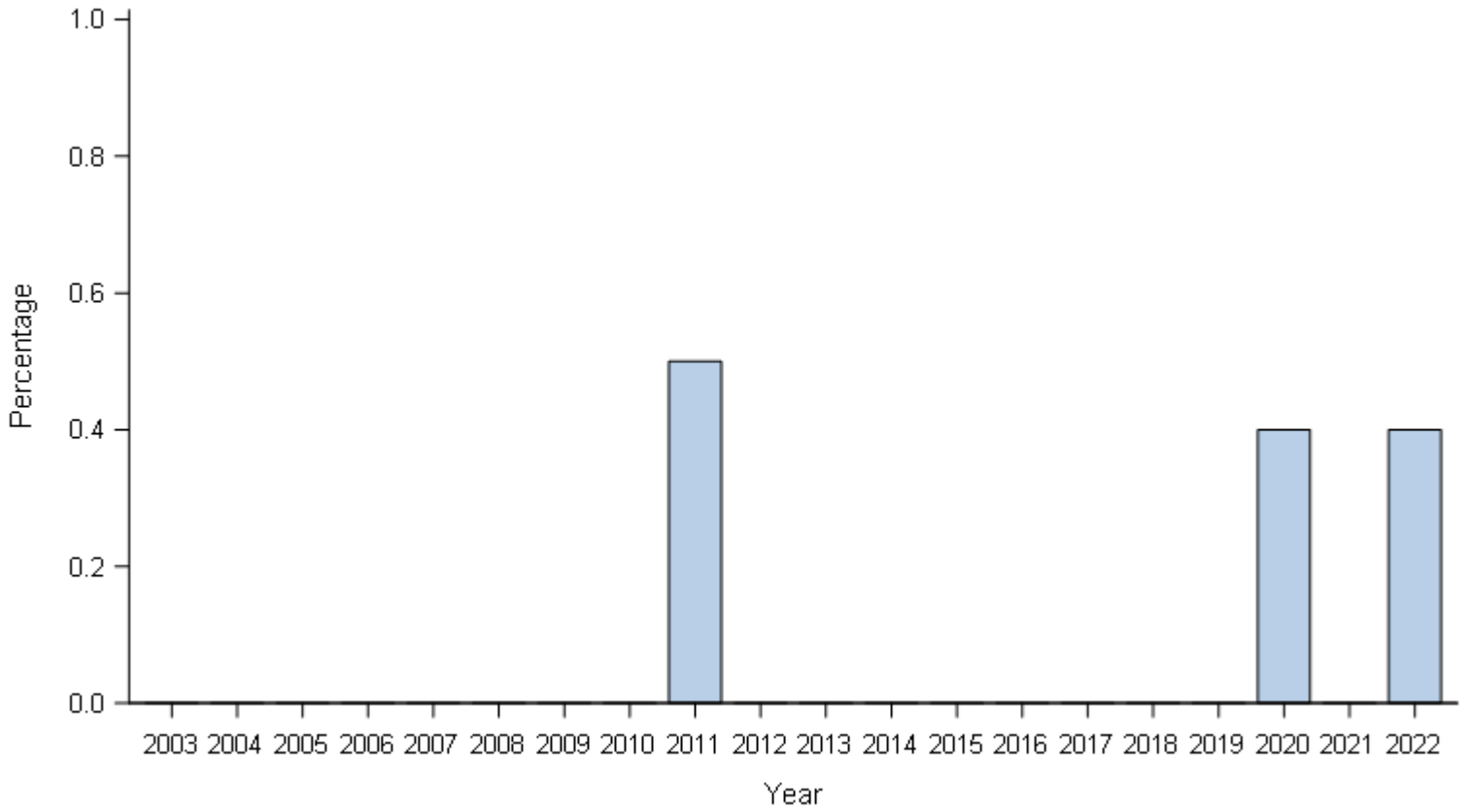
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.4)	3 (1.3)	6 (3.2)	1 (0.5)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.4)	0 (0.0)	1 (0.4)

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

Site participated in GISP during 2003-2013 and 2018-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Denver, Colorado, 2003-2022



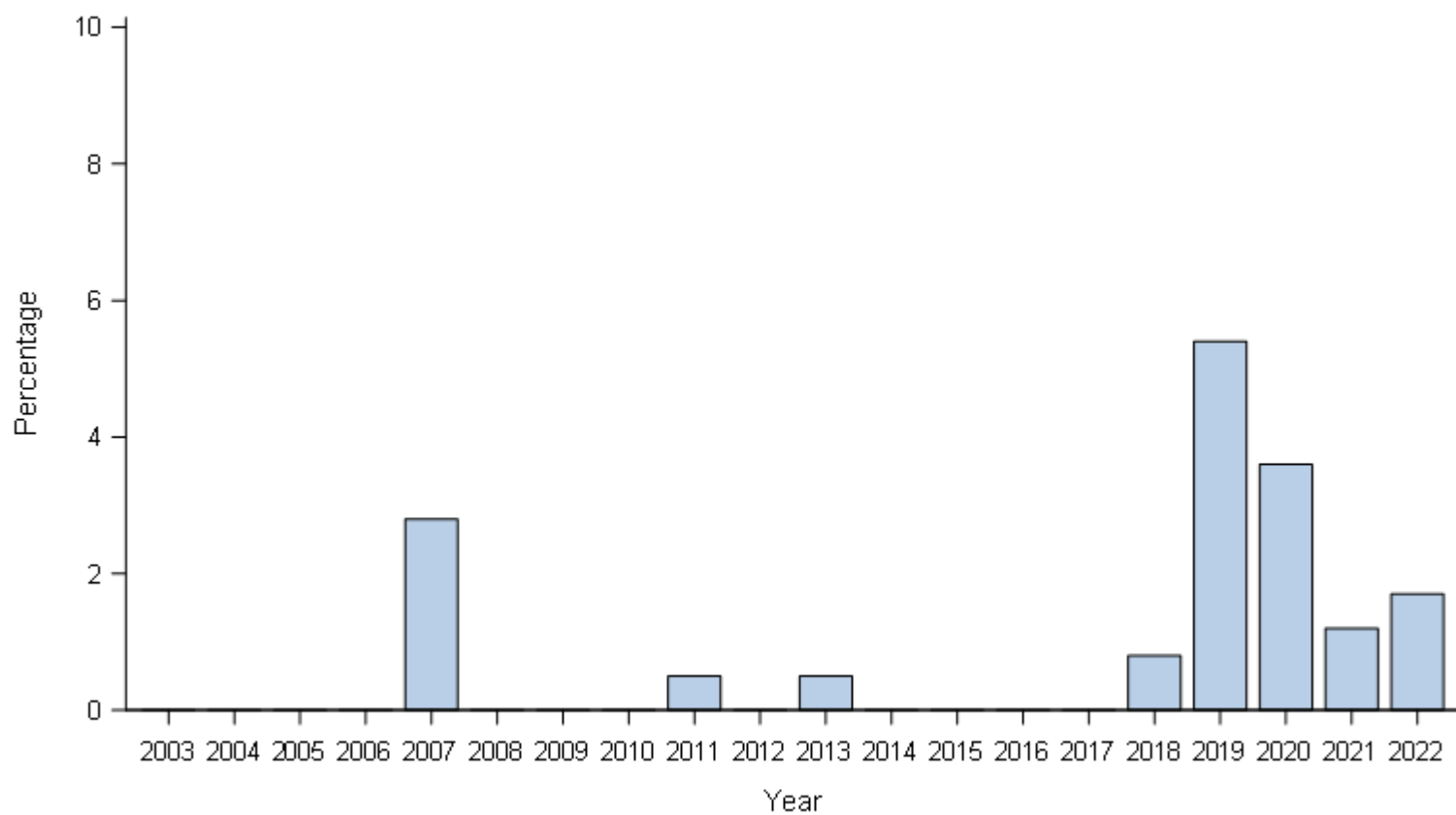
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.5)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.4)	0 (0.0)	1 (0.4)

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

Site participated in GISP during 2003-2013 and 2018-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure M. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Denver, Colorado, 2003-2022



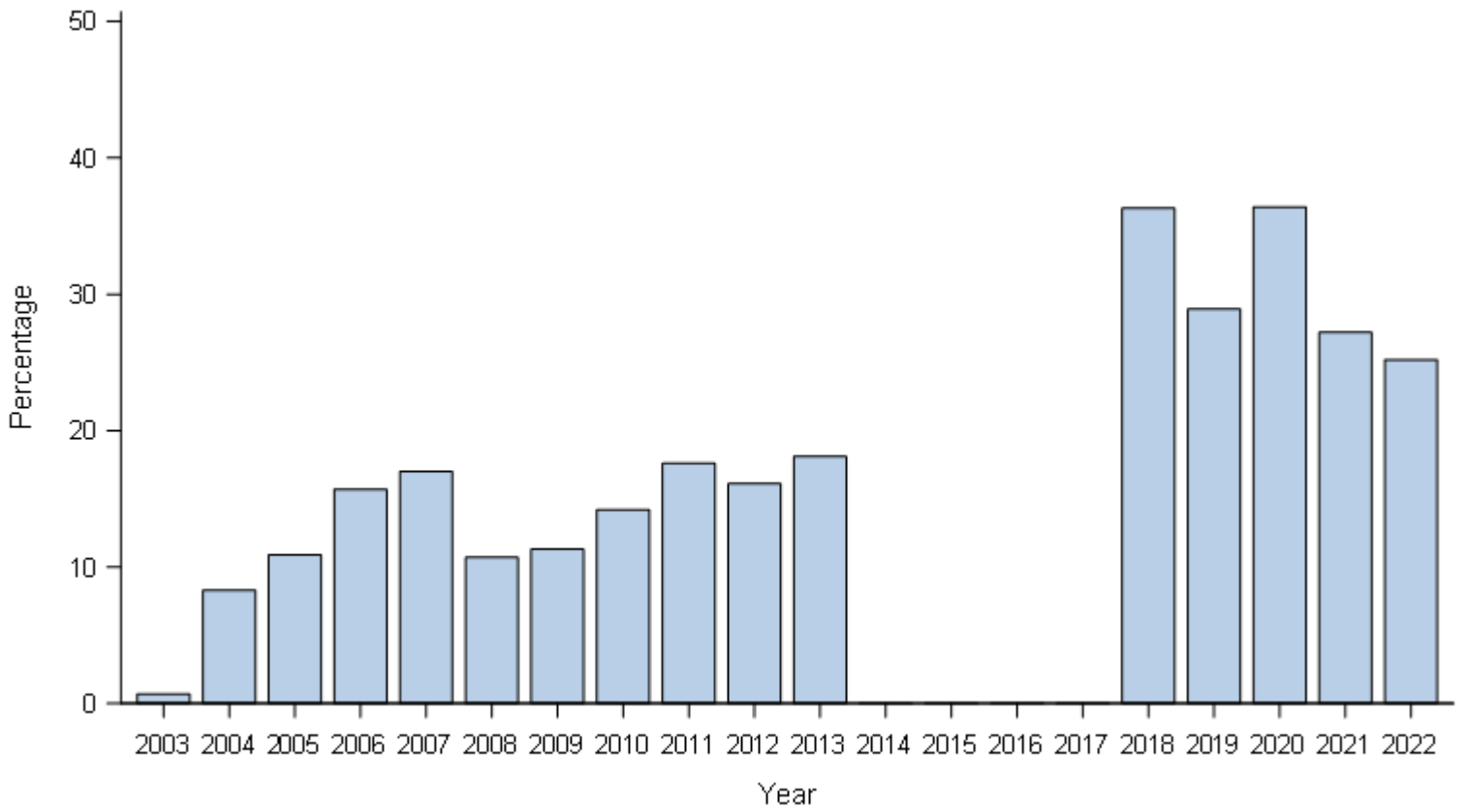
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	6 (2.8)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.5)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
1 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.8)	16 (5.4)	9 (3.6)	3 (1.2)	4 (1.7)

Azithromycin elevated MIC ≥ 1.0 $\mu\text{g/mL}$ prior to 2005 and ≥ 2.0 $\mu\text{g/mL}$ during 2005-2022.

Site participated in GISP during 2003-2013 and 2018-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Denver, Colorado, 2003-2022



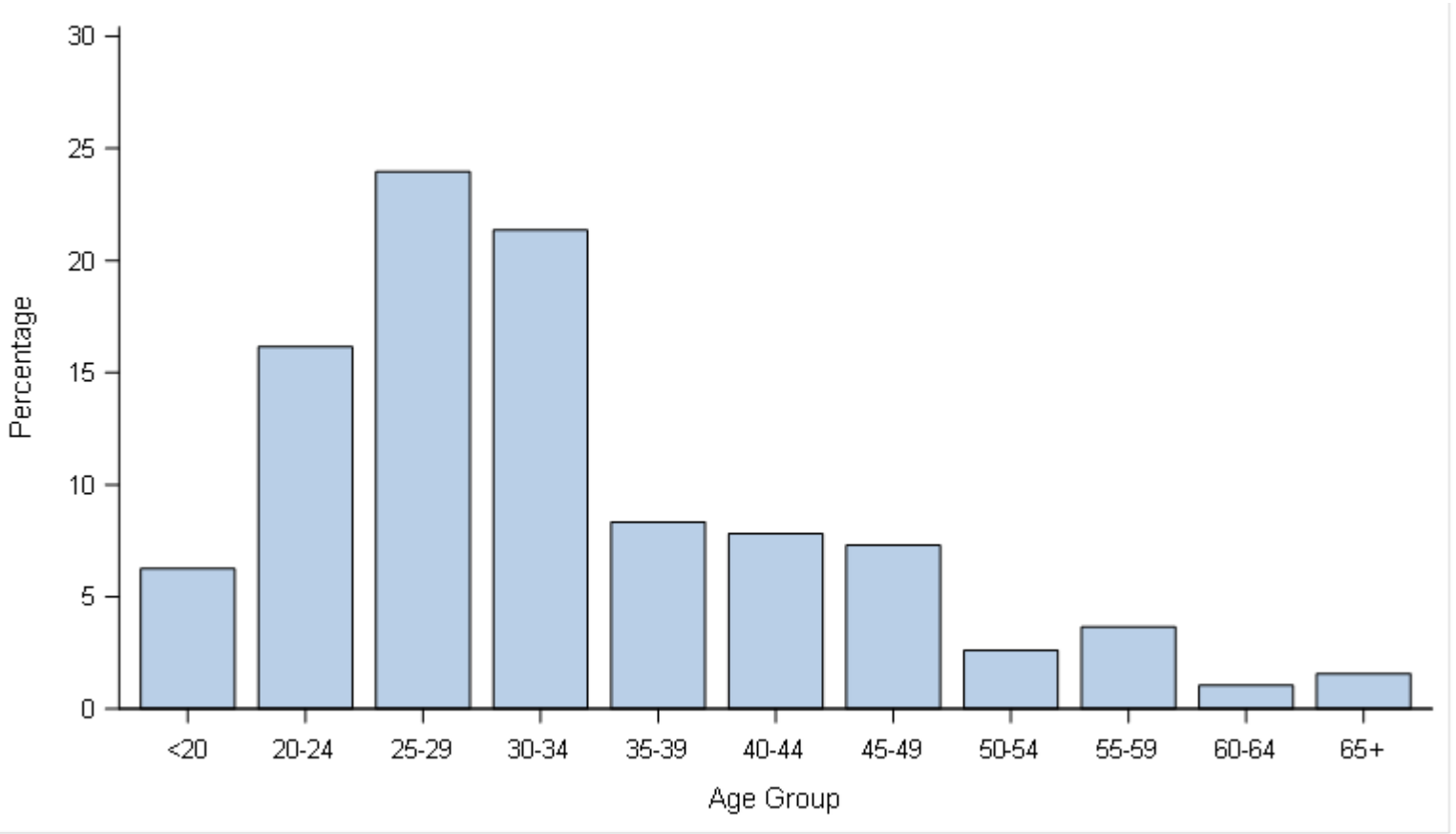
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
2 (0.7)	25 (8.3)	31 (10.9)	46 (15.7)	37 (17.0)	27 (10.7)	26 (11.3)	34 (14.2)	33 (17.6)	31 (16.1)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
36 (18.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	45 (36.3)	85 (28.9)	92 (36.4)	70 (27.2)	58 (25.2)

Ciprofloxacin resistance MIC \geq 1.0 μ g/mL.

Site participated in GISP during 2003-2013 and 2018-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

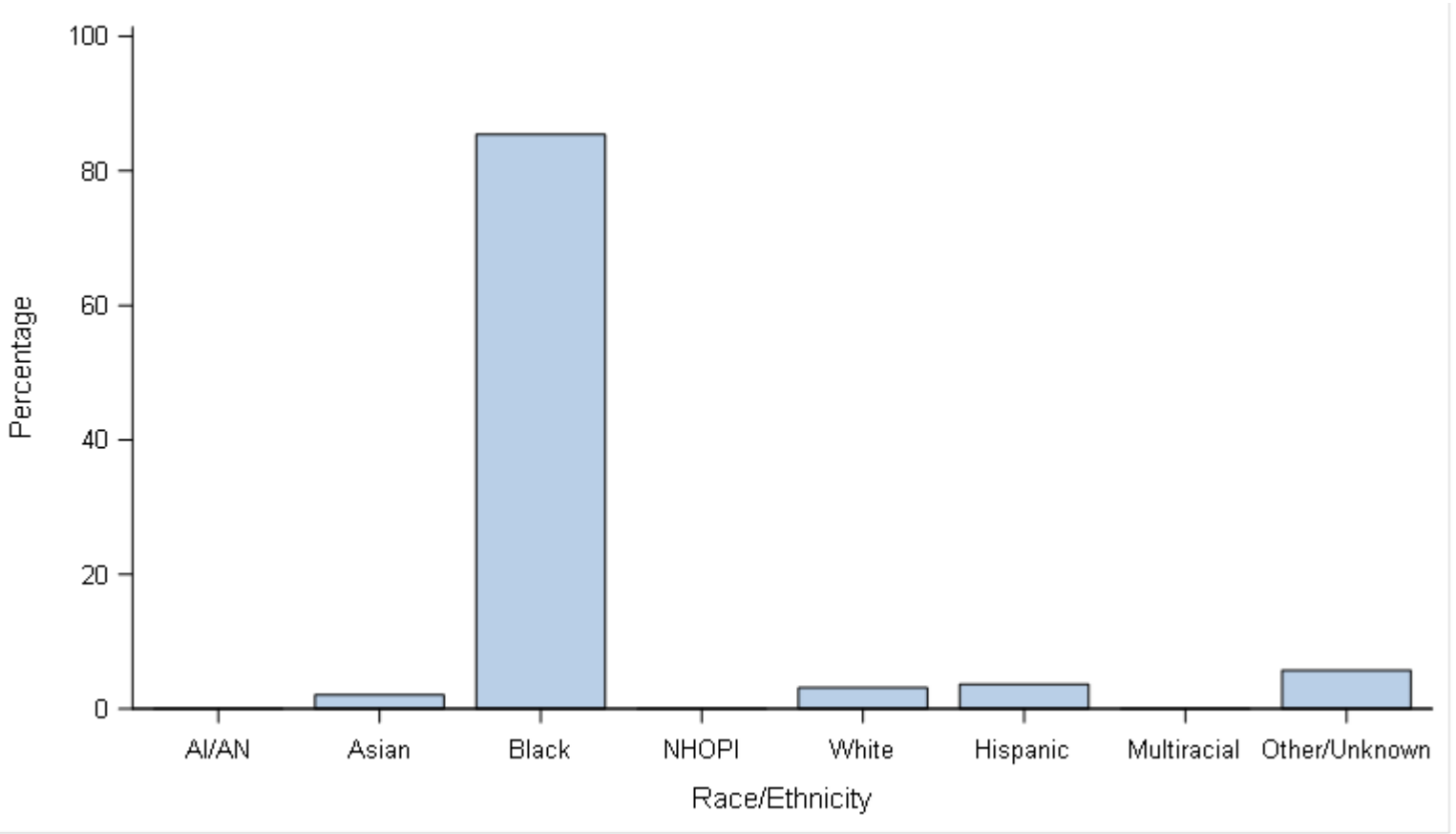
Figure A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Greensboro, North Carolina, 2022



<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
12 (6.3)	31 (16.1)	46 (24.0)	41 (21.4)	16 (8.3)	15 (7.8)	14 (7.3)	5 (2.6)	7 (3.6)	2 (1.0)	3 (1.6)	192

Cases with unknown age were excluded.

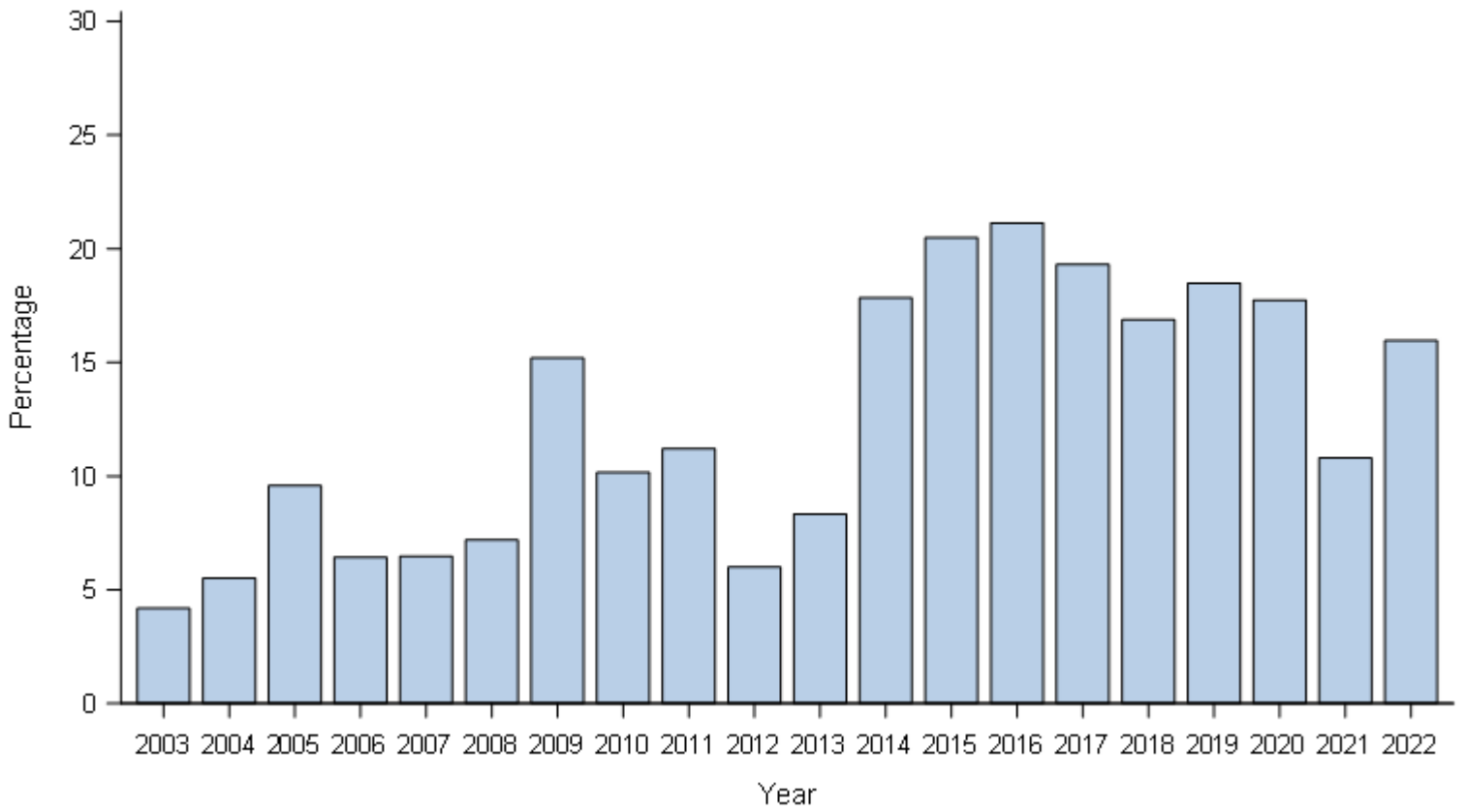
Figure B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Greensboro, North Carolina, 2022



AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	4 (2.1)	164 (85.4)	0 (0.0)	6 (3.1)	7 (3.6)	0 (0.0)	11 (5.7)	192

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.

Figure C. Percentage of Participants Identifying as Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Greensboro, North Carolina, 2003-2022

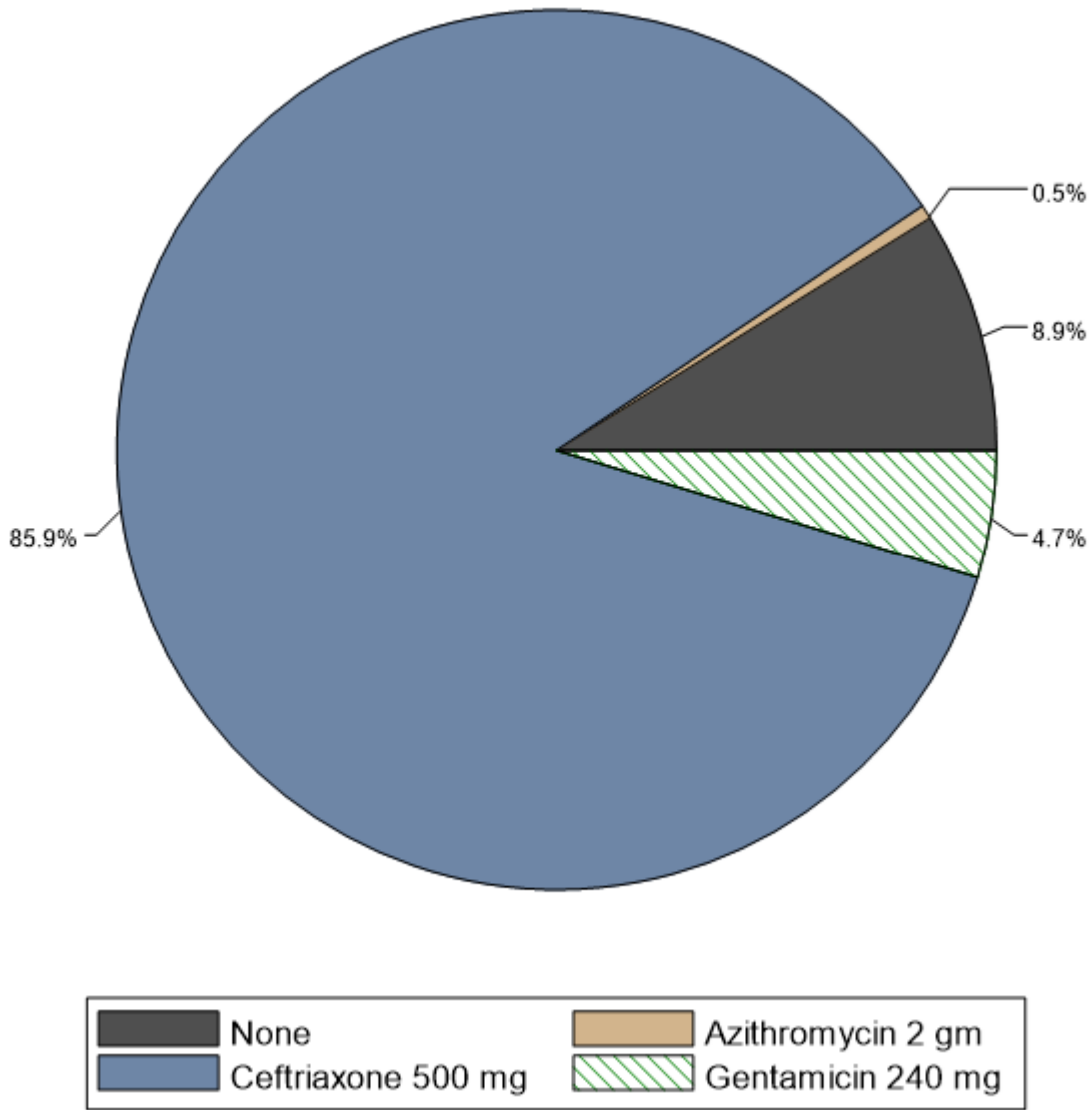


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
10 (4.2)	7 (5.5)	16 (9.6)	11 (6.4)	11 (6.5)	12 (7.2)	24 (15.2)	19 (10.2)	24 (11.2)	6 (6.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
14 (8.3)	38 (17.8)	51 (20.5)	41 (21.1)	39 (19.3)	41 (16.9)	39 (18.5)	33 (17.7)	19 (10.8)	30 (16.0)

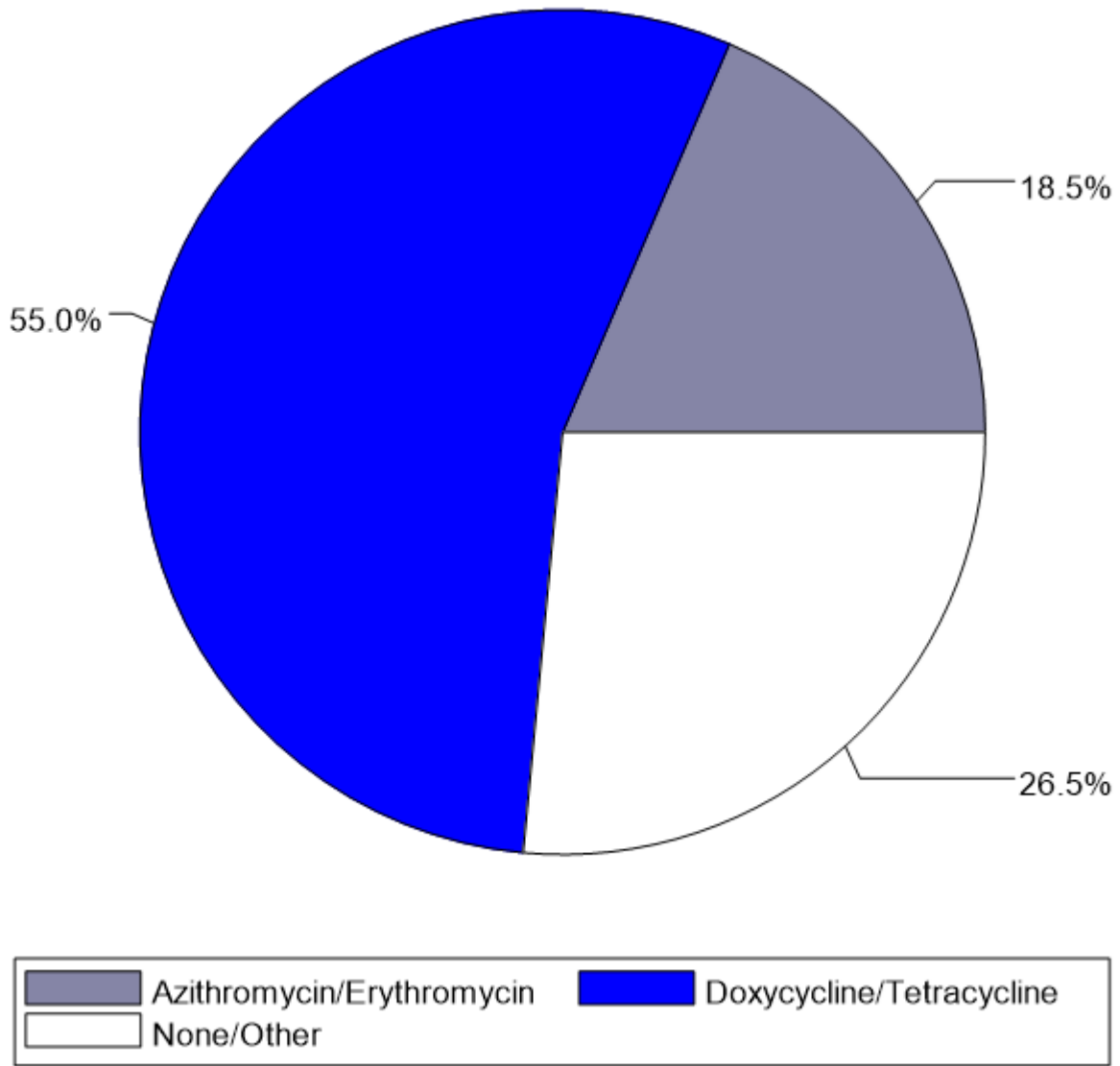
Men who have sex with men = men who self-identified as gay or bisexual or reported recent male sex partners.

Figure D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Greensboro, North Carolina, 2022



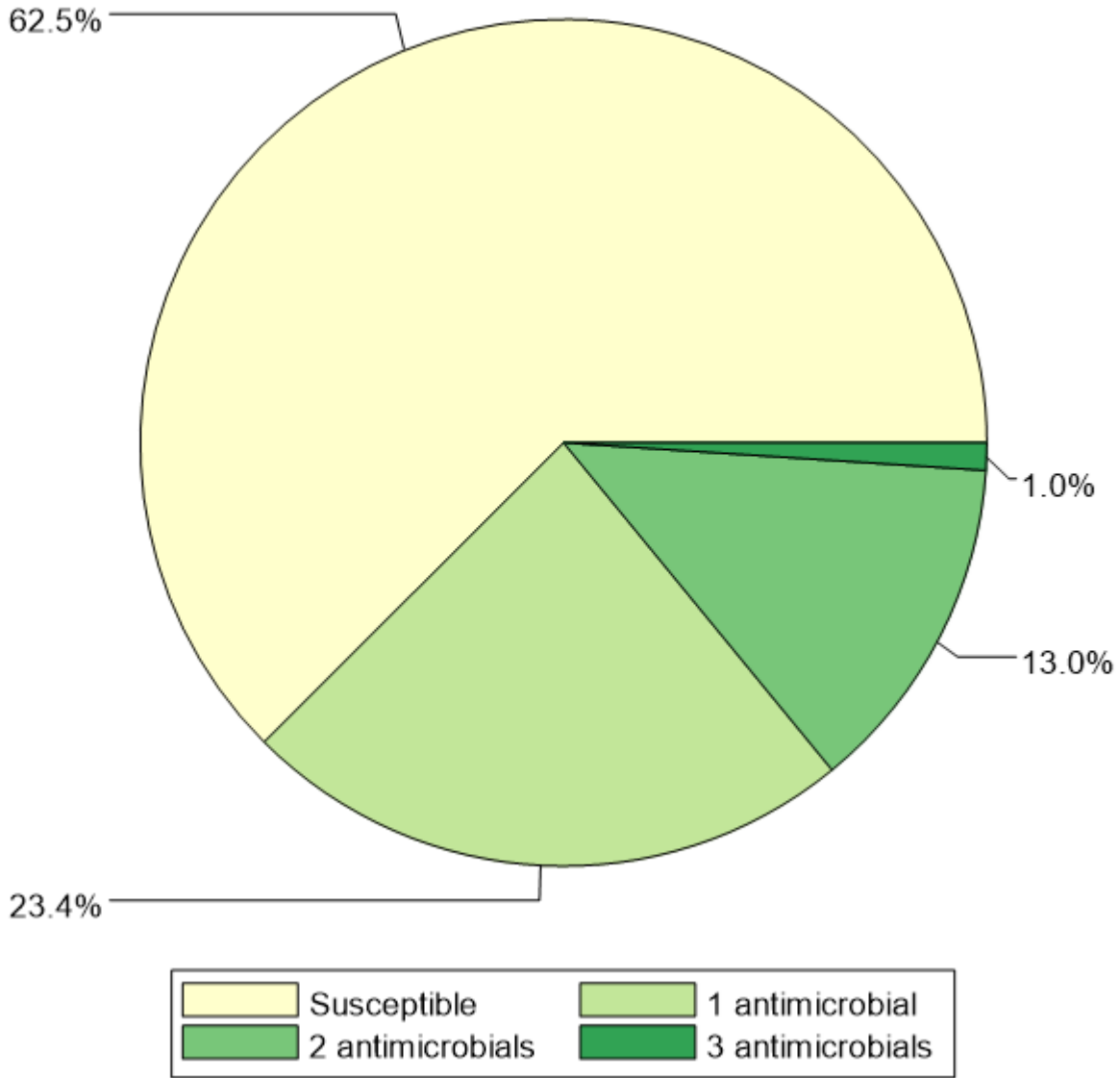
Primary Treatment	Count	Percentage
None	17	8.9
Azithromycin 2 gm	1	0.5
Ceftriaxone 500 mg	165	85.9
Gentamicin 240 mg	9	4.7

Figure E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Greensboro, North Carolina, 2022



Secondary Treatment	Count	Percentage
Azithromycin/Erythromycin	28	18.5
Doxycycline/Tetracycline	83	55.0
None/Other	40	26.5

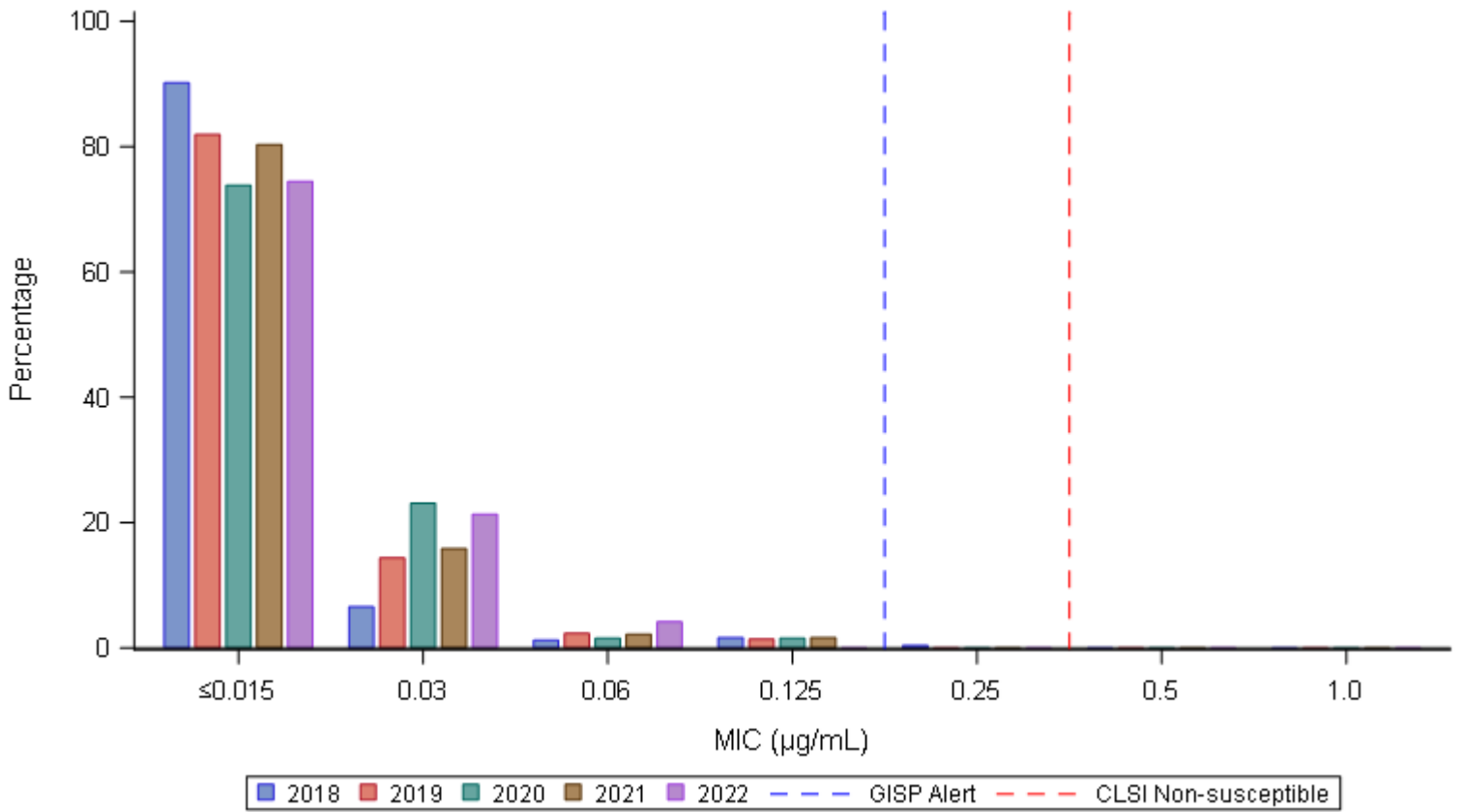
Figure F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Greensboro, North Carolina, 2022



Number of Antimicrobials	Count	Percentage
Susceptible	120	62.5
1 antimicrobial	45	23.4
2 antimicrobials	25	13.0
3 antimicrobials	2	1.0
4+ antimicrobials	0	0.0

Elevated MICs = ceftriaxone MIC ≥ 0.125 $\mu\text{g/mL}$; cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; Resistance = tetracycline MIC ≥ 2.0 $\mu\text{g/mL}$; ciprofloxacin MIC ≥ 1.0 $\mu\text{g/mL}$; penicillin MIC ≥ 2.0 $\mu\text{g/mL}$ or β -lactamase positive.

Figure G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Greensboro, North Carolina, 2018-2022



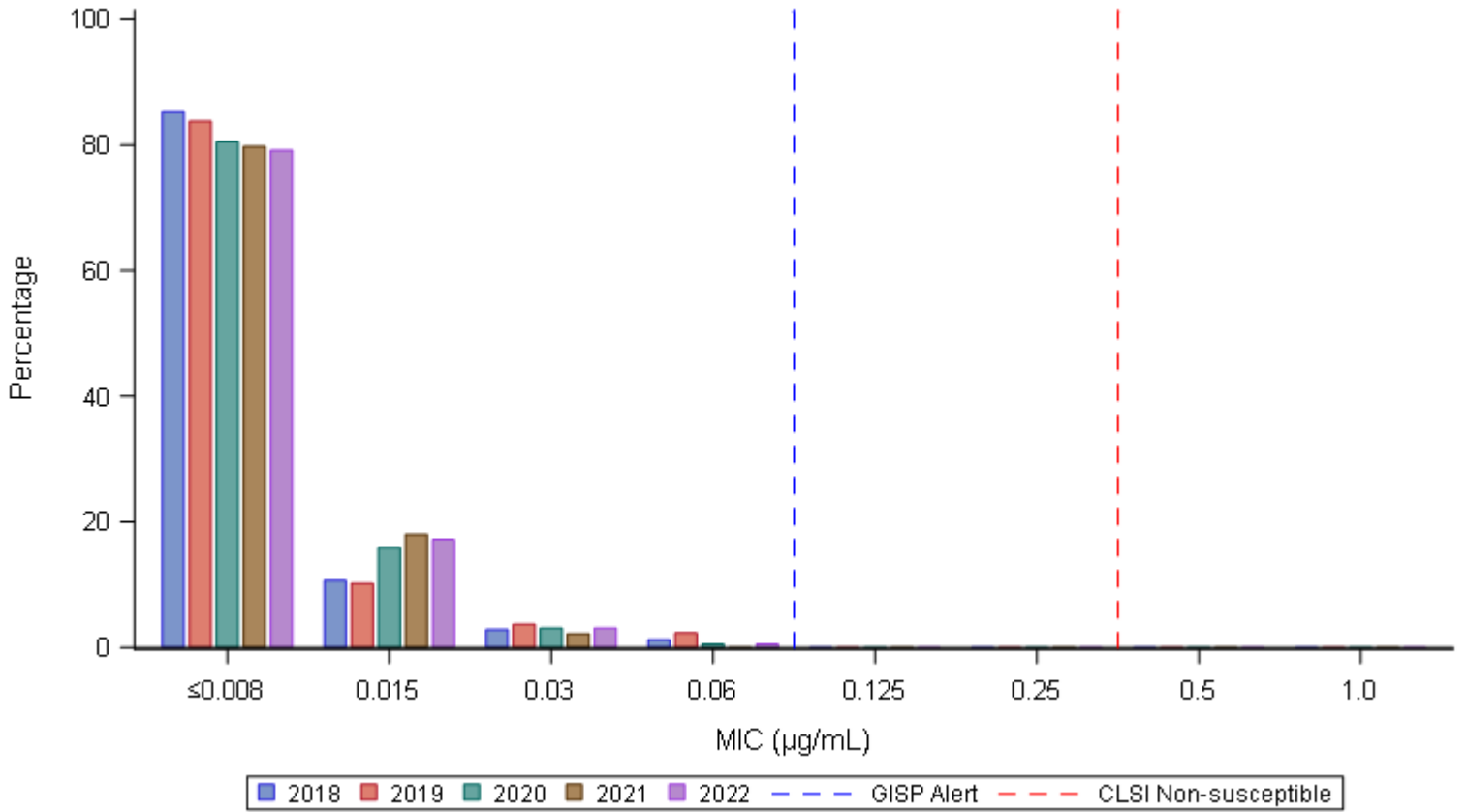
Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	220 (90.2)	16 (6.6)	3 (1.2)	4 (1.6)	1 (0.4)	0 (0.0)	0 (0.0)	244
2019	177 (81.9)	31 (14.4)	5 (2.3)	3 (1.4)	0 (0.0)	0 (0.0)	0 (0.0)	216
2020	144 (73.8)	45 (23.1)	3 (1.5)	3 (1.5)	0 (0.0)	0 (0.0)	0 (0.0)	195
2021	147 (80.3)	29 (15.8)	4 (2.2)	3 (1.6)	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)	192

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

CLSI = Clinical & Laboratory Standards Institute.

Non-susceptible = Category used for isolates when only a susceptible breakpoint has been designated and the MIC is above the susceptible breakpoint. As of the end of 2022, the CLSI has not established a cefixime resistance breakpoint for *N. gonorrhoeae*.

Figure H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Greensboro, North Carolina, 2018-2022



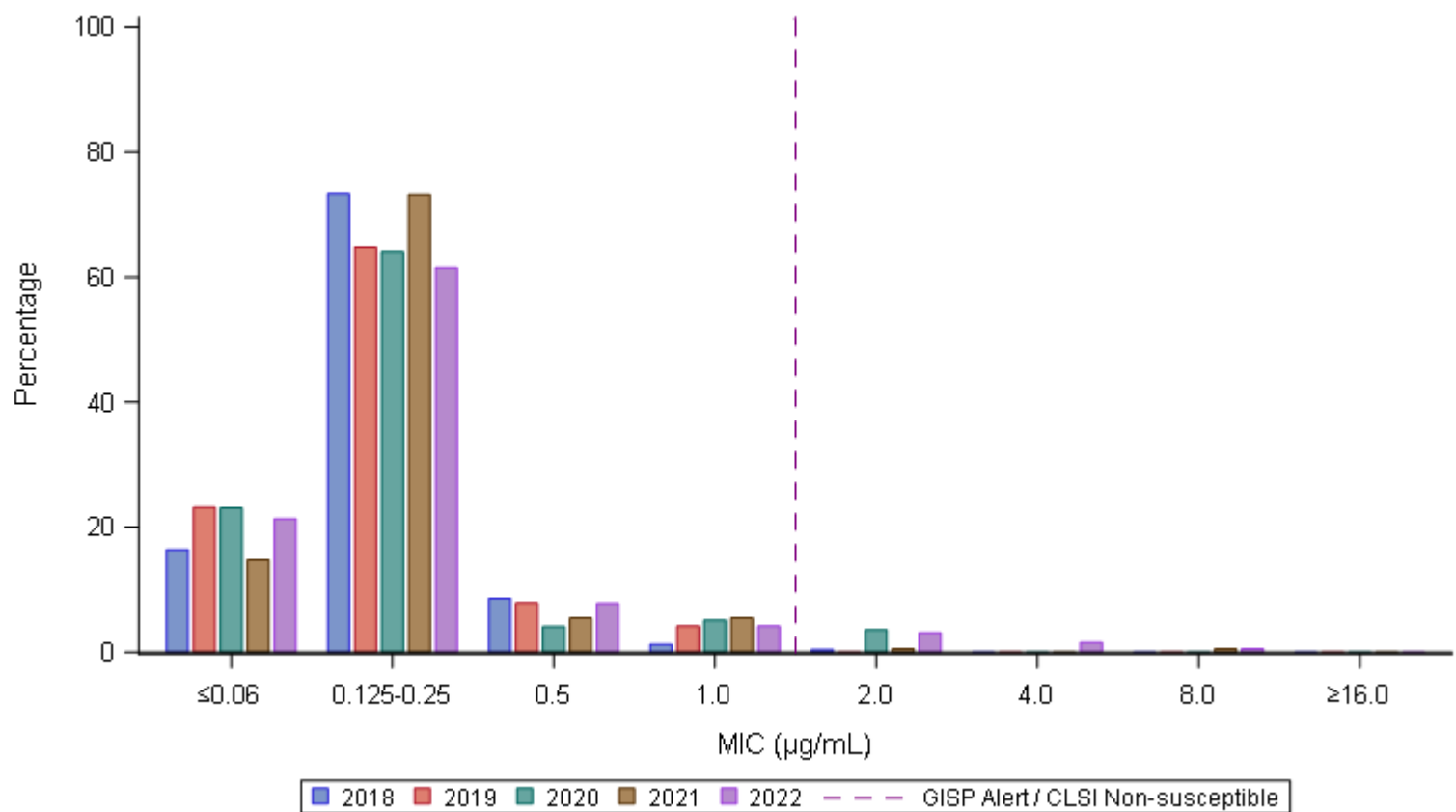
Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	208 (85.2)	26 (10.7)	7 (2.9)	3 (1.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	244
2019	181 (83.8)	22 (10.2)	8 (3.7)	5 (2.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	216
2020	157 (80.5)	31 (15.9)	6 (3.1)	1 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	195
2021	146 (79.8)	33 (18.0)	4 (2.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	183
2022	152 (79.2)	33 (17.2)	6 (3.1)	1 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	192

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 the end of 2022, the CLSI has not established a ceftriaxone resistance breakpoint for *N. gonorrhoeae*.

Figure I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Greensboro, North Carolina, 2018-2022



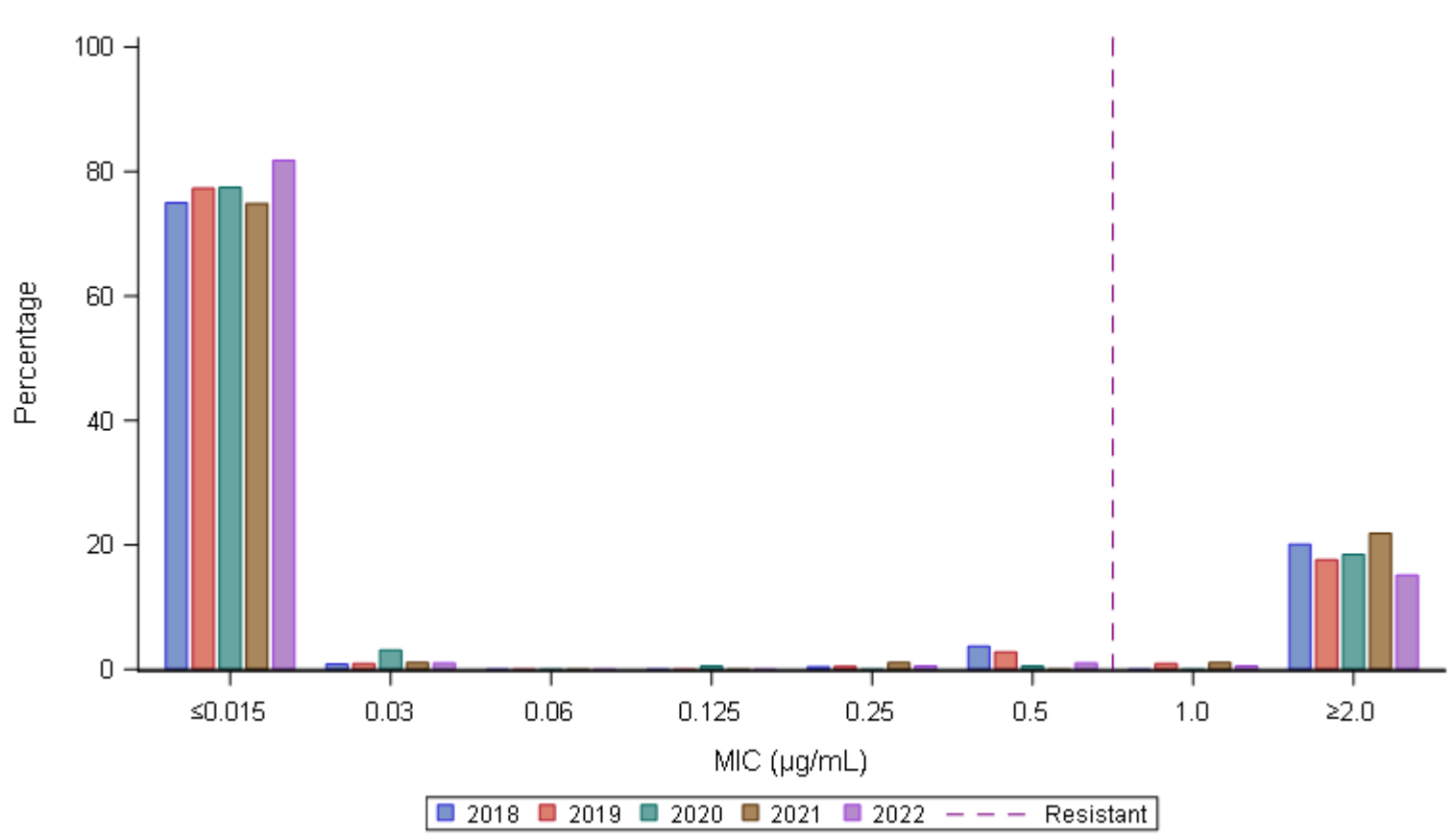
Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2018	40 (16.4)	179 (73.4)	21 (8.6)	3 (1.2)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	244
2019	50 (23.1)	140 (64.8)	17 (7.9)	9 (4.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	216
2020	45 (23.1)	125 (64.1)	8 (4.1)	10 (5.1)	7 (3.6)	0 (0.0)	0 (0.0)	0 (0.0)	195
2021	27 (14.8)	134 (73.2)	10 (5.5)	10 (5.5)	1 (0.5)	0 (0.0)	1 (0.5)	0 (0.0)	183
2022	41 (21.4)	118 (61.5)	15 (7.8)	8 (4.2)	6 (3.1)	3 (1.6)	1 (0.5)	0 (0.0)	192

GISP Alert Value: azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; CLSI Non-susceptible = azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$.

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 the end of 2022, the CLSI has not established an azithromycin resistance breakpoint for *N. gonorrhoeae*.

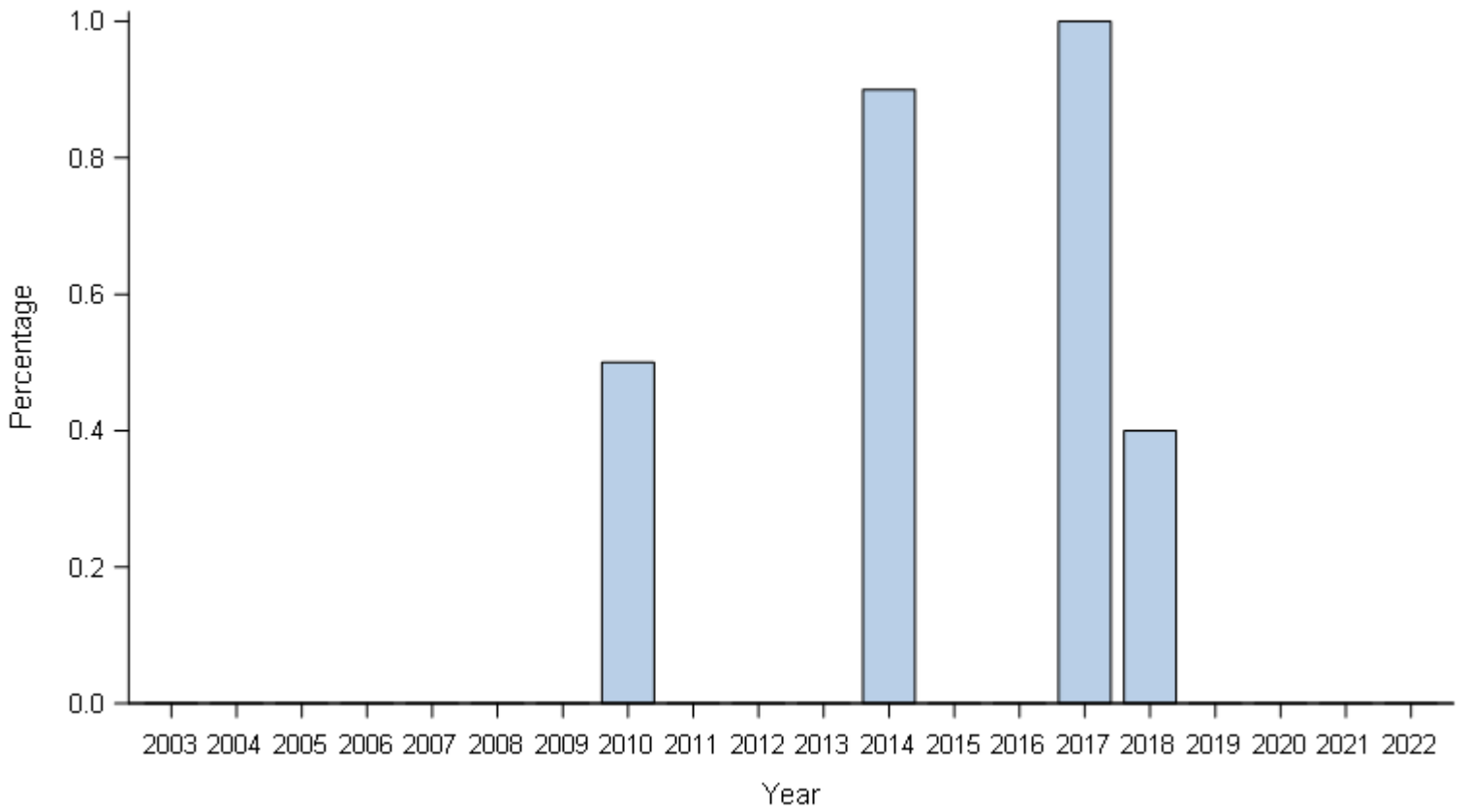
Figure J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Greensboro, North Carolina, 2018-2022



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
2018	183 (75.0)	2 (0.8)	0 (0.0)	0 (0.0)	1 (0.4)	9 (3.7)	0 (0.0)	49 (20.1)	244
2019	167 (77.3)	2 (0.9)	0 (0.0)	0 (0.0)	1 (0.5)	6 (2.8)	2 (0.9)	38 (17.6)	216
2020	151 (77.4)	6 (3.1)	0 (0.0)	1 (0.5)	0 (0.0)	1 (0.5)	0 (0.0)	36 (18.5)	195
2021	137 (74.9)	2 (1.1)	0 (0.0)	0 (0.0)	2 (1.1)	0 (0.0)	2 (1.1)	40 (21.9)	183
2022	157 (81.8)	2 (1.0)	0 (0.0)	0 (0.0)	1 (0.5)	2 (1.0)	1 (0.5)	29 (15.1)	192

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

Figure K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Greensboro, North Carolina, 2003-2022

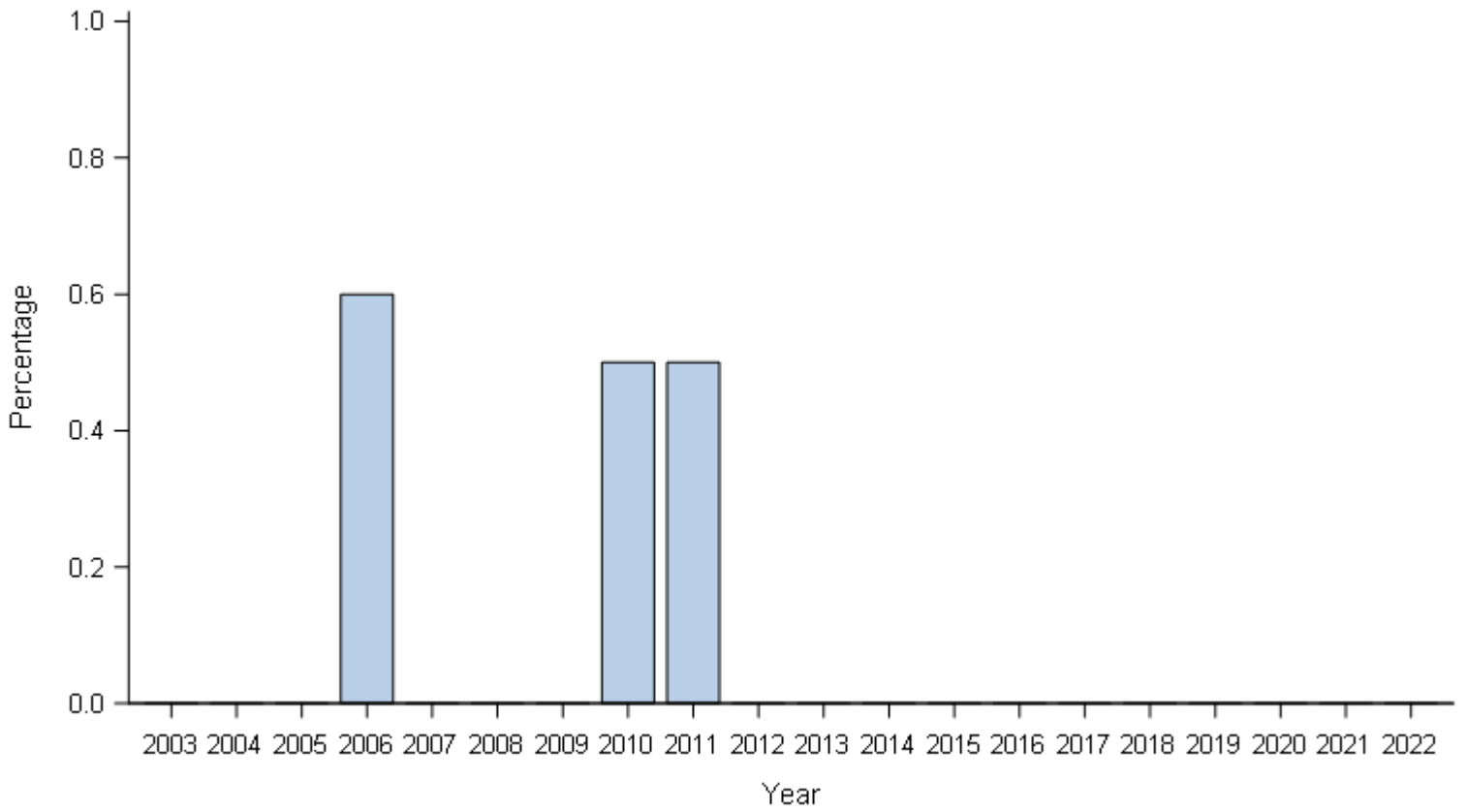


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.5)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	2 (0.9)	0 (0.0)	0 (0.0)	2 (1.0)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

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

Figure L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Greensboro, North Carolina, 2003-2022

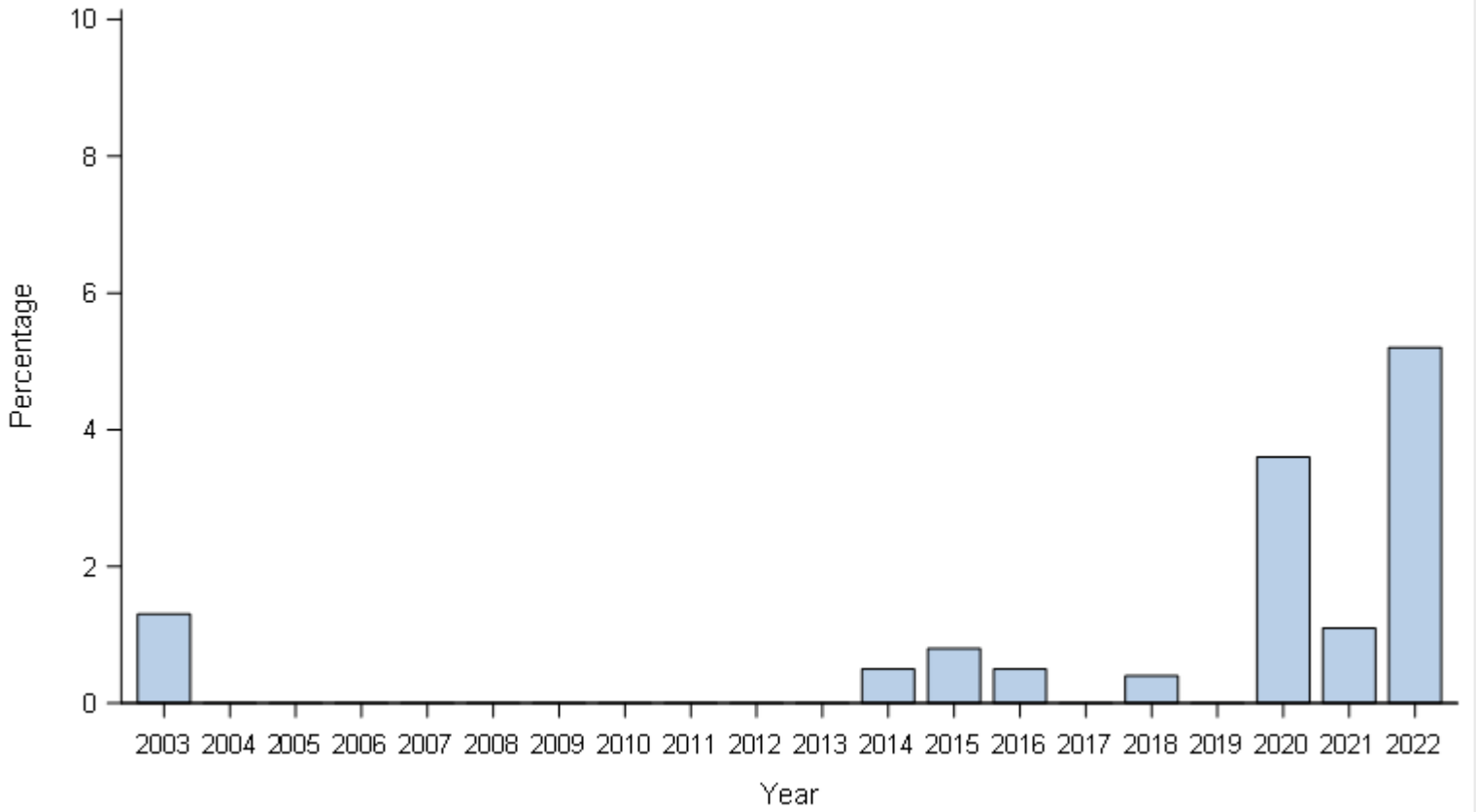


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	1 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.5)	1 (0.5)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

Ceftriaxone elevated MIC \geq 0.125 μ g/mL.

Figure M. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Greensboro, North Carolina, 2003-2022

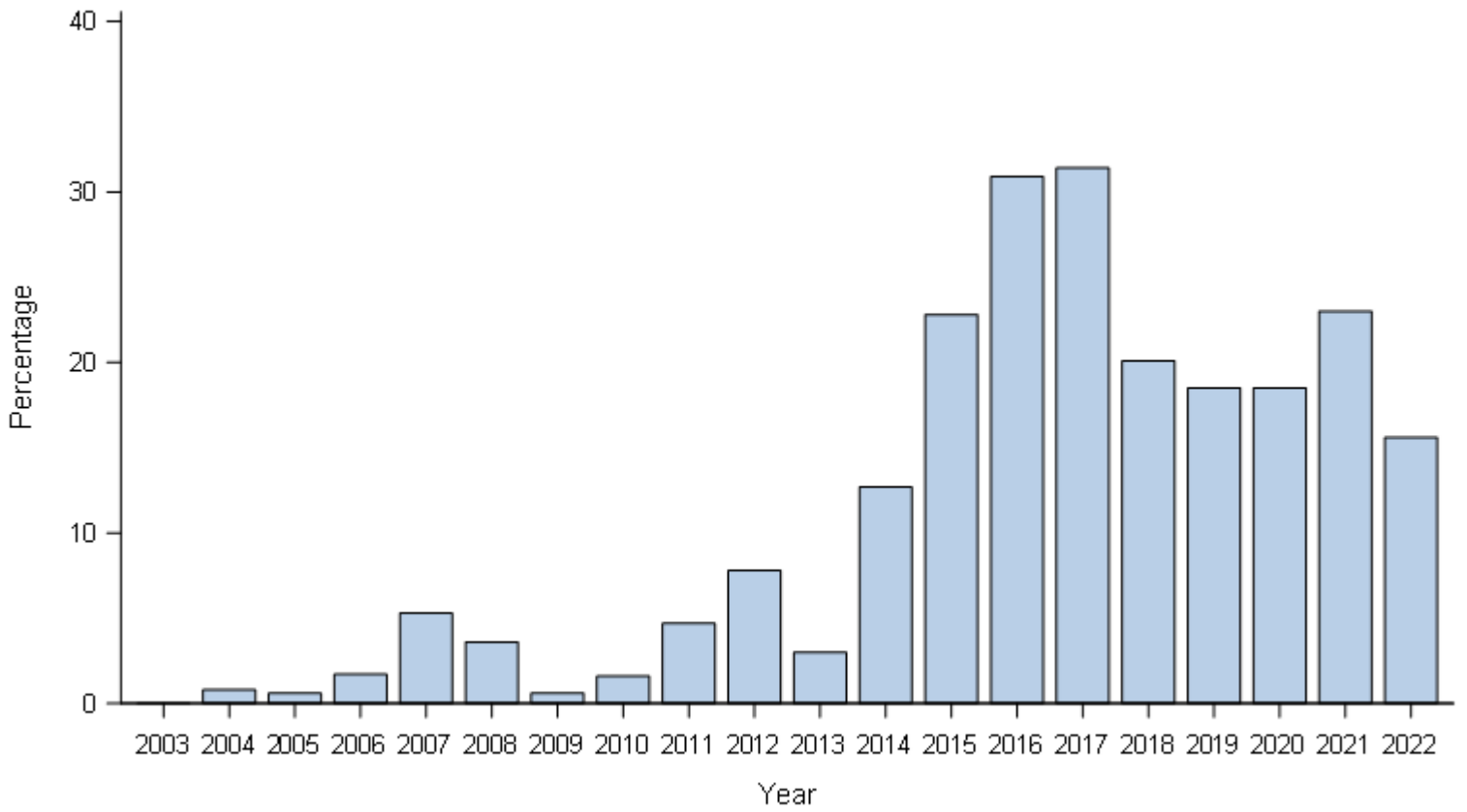


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
3 (1.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	1 (0.5)	2 (0.8)	1 (0.5)	0 (0.0)	1 (0.4)	0 (0.0)	7 (3.6)	2 (1.1)	10 (5.2)

Azithromycin elevated MIC ≥ 1.0 $\mu\text{g/mL}$ prior to 2005 and ≥ 2.0 $\mu\text{g/mL}$ during 2005-2022.

Figure N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Greensboro, North Carolina, 2003-2022

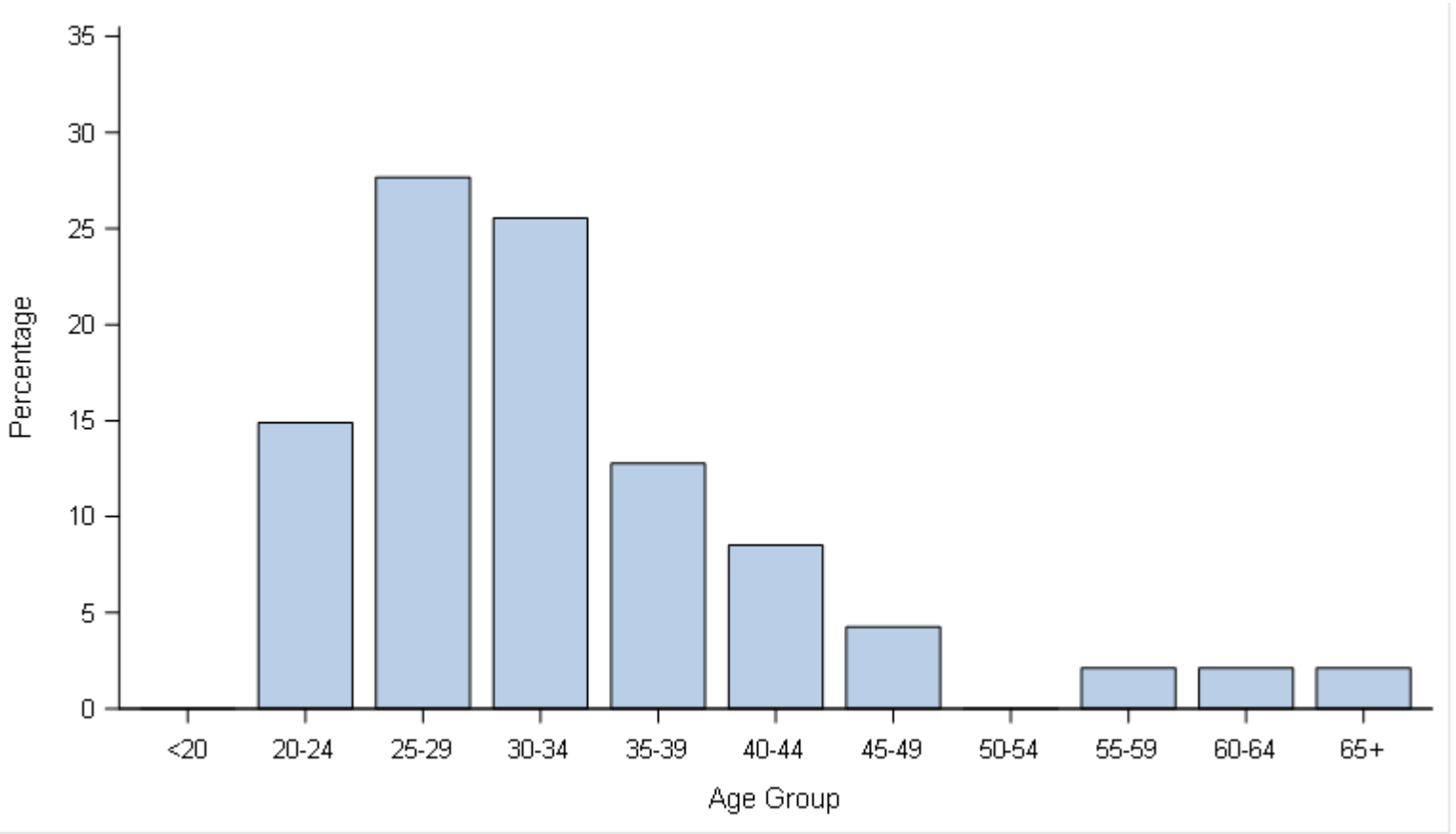


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	1 (0.8)	1 (0.6)	3 (1.7)	9 (5.3)	6 (3.6)	1 (0.6)	3 (1.6)	10 (4.7)	8 (7.8)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
5 (3.0)	27 (12.7)	59 (22.8)	60 (30.9)	65 (31.4)	49 (20.1)	40 (18.5)	36 (18.5)	42 (23.0)	30 (15.6)

Ciprofloxacin resistance MIC \geq 1.0 μ g/mL.

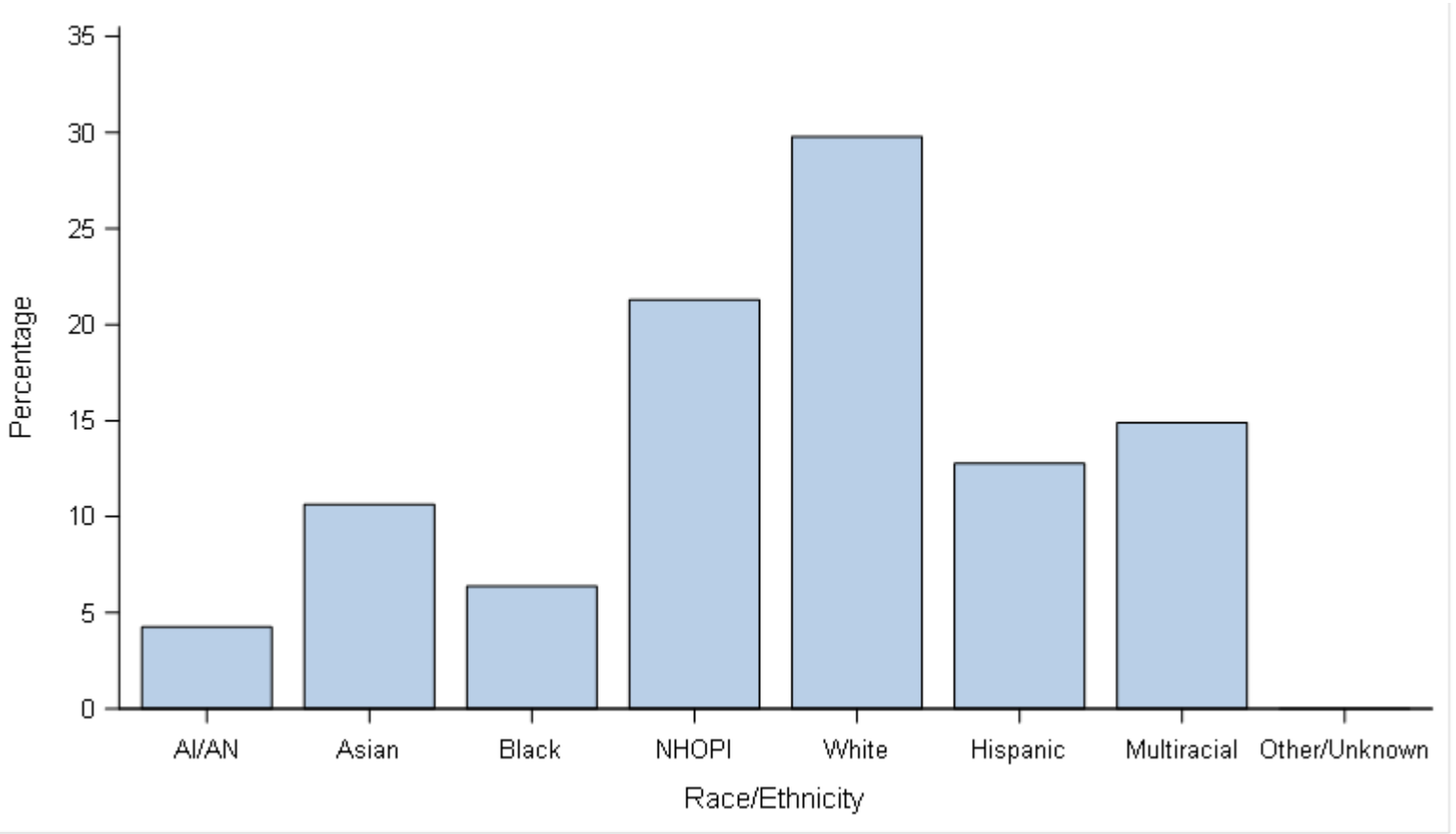
Figure A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Honolulu, Hawaii, 2022



<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 (14.9)	13 (27.7)	12 (25.5)	6 (12.8)	4 (8.5)	2 (4.3)	0 (0.0)	1 (2.1)	1 (2.1)	1 (2.1)	47

Cases with unknown age were excluded.

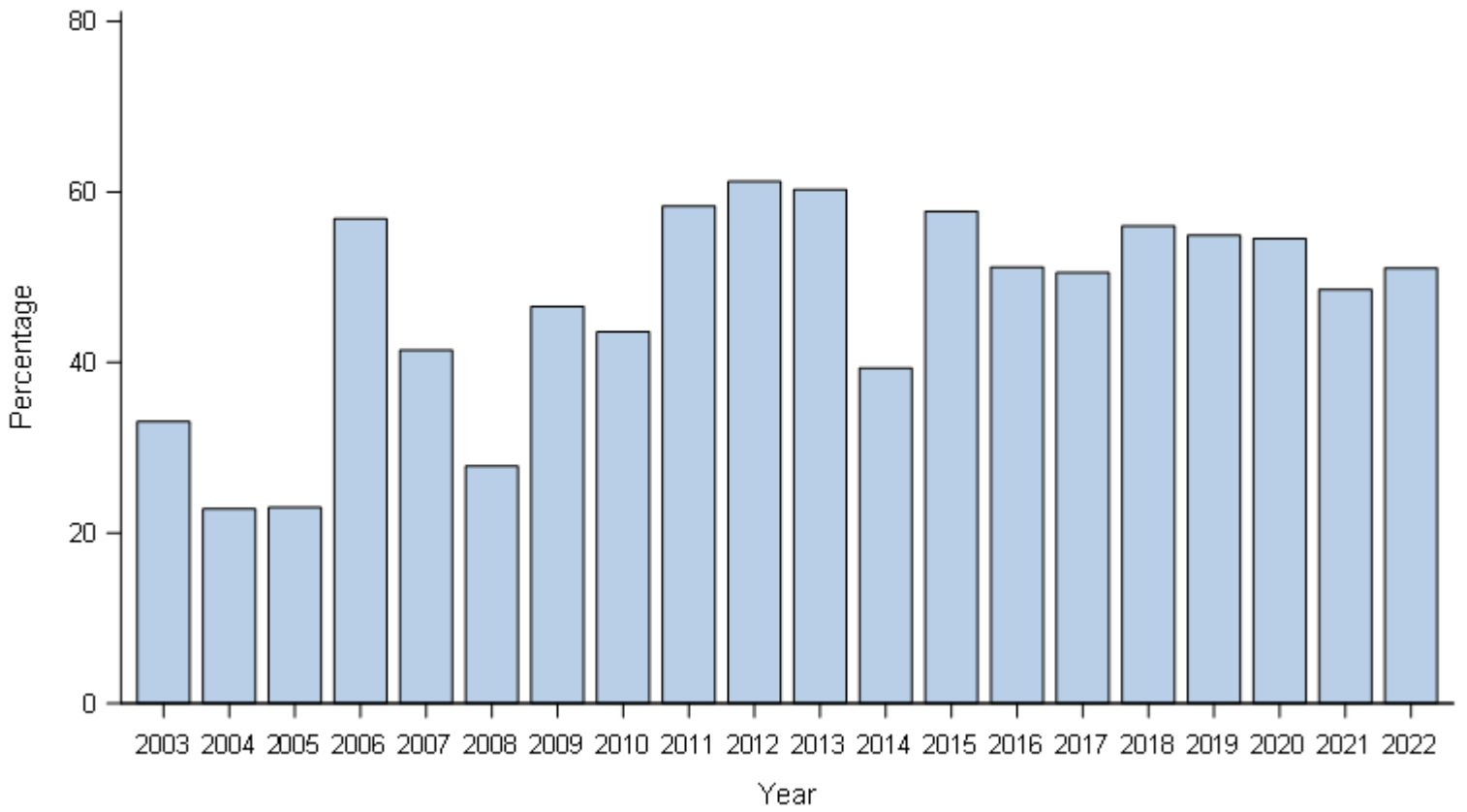
Figure B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Honolulu, Hawaii, 2022



AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
2 (4.3)	5 (10.6)	3 (6.4)	10 (21.3)	14 (29.8)	6 (12.8)	7 (14.9)	0 (0.0)	47

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.

Figure C. Percentage of Participants Identifying as Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Honolulu, Hawaii, 2003-2022

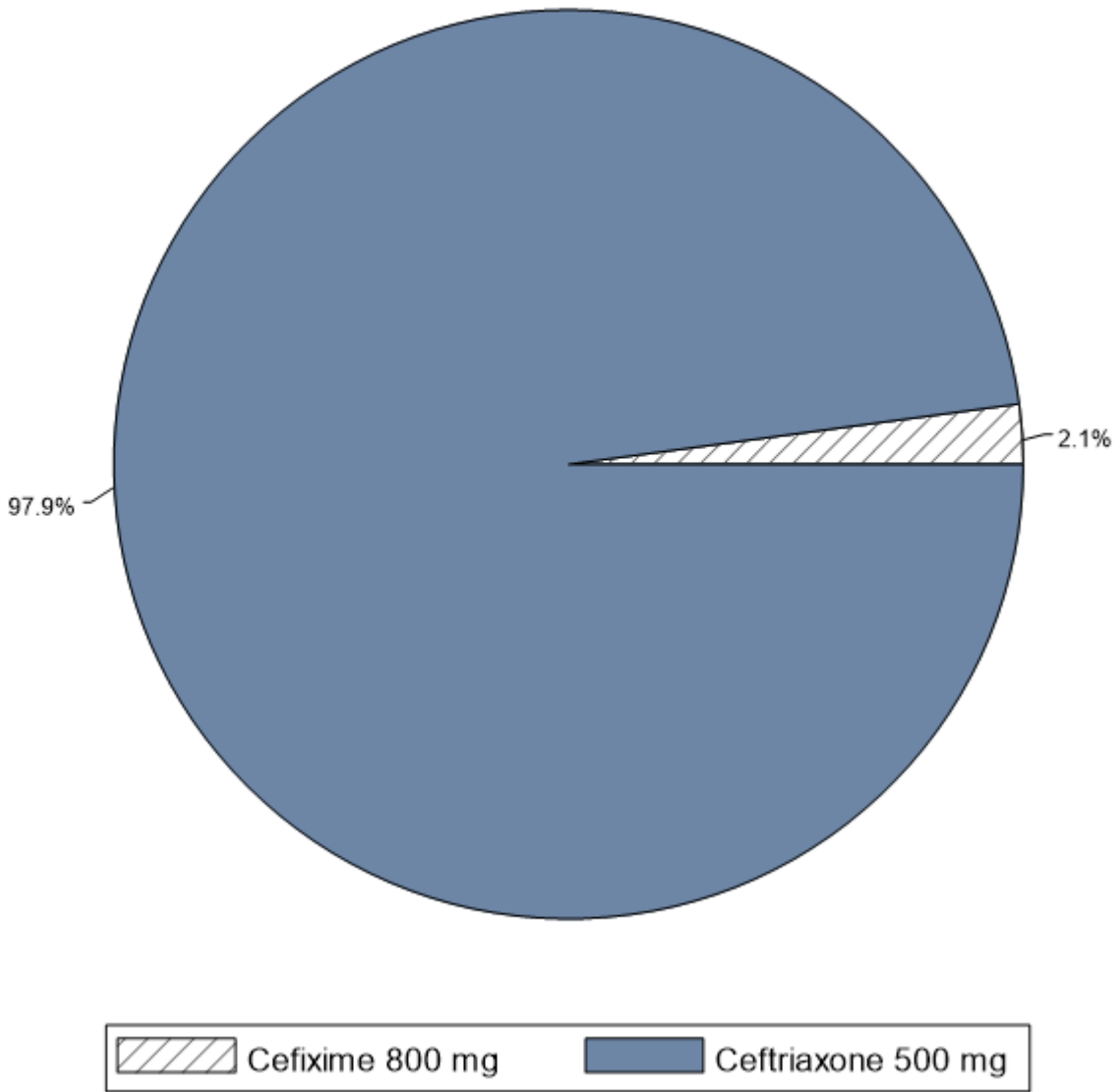


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
39 (33.1)	21 (22.8)	20 (23.0)	54 (56.8)	29 (41.4)	22 (27.8)	34 (46.6)	34 (43.6)	35 (58.3)	60 (61.2)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
44 (60.3)	48 (39.3)	71 (57.7)	65 (51.2)	48 (50.5)	42 (56.0)	28 (54.9)	6 (54.5)	17 (48.6)	24 (51.1)

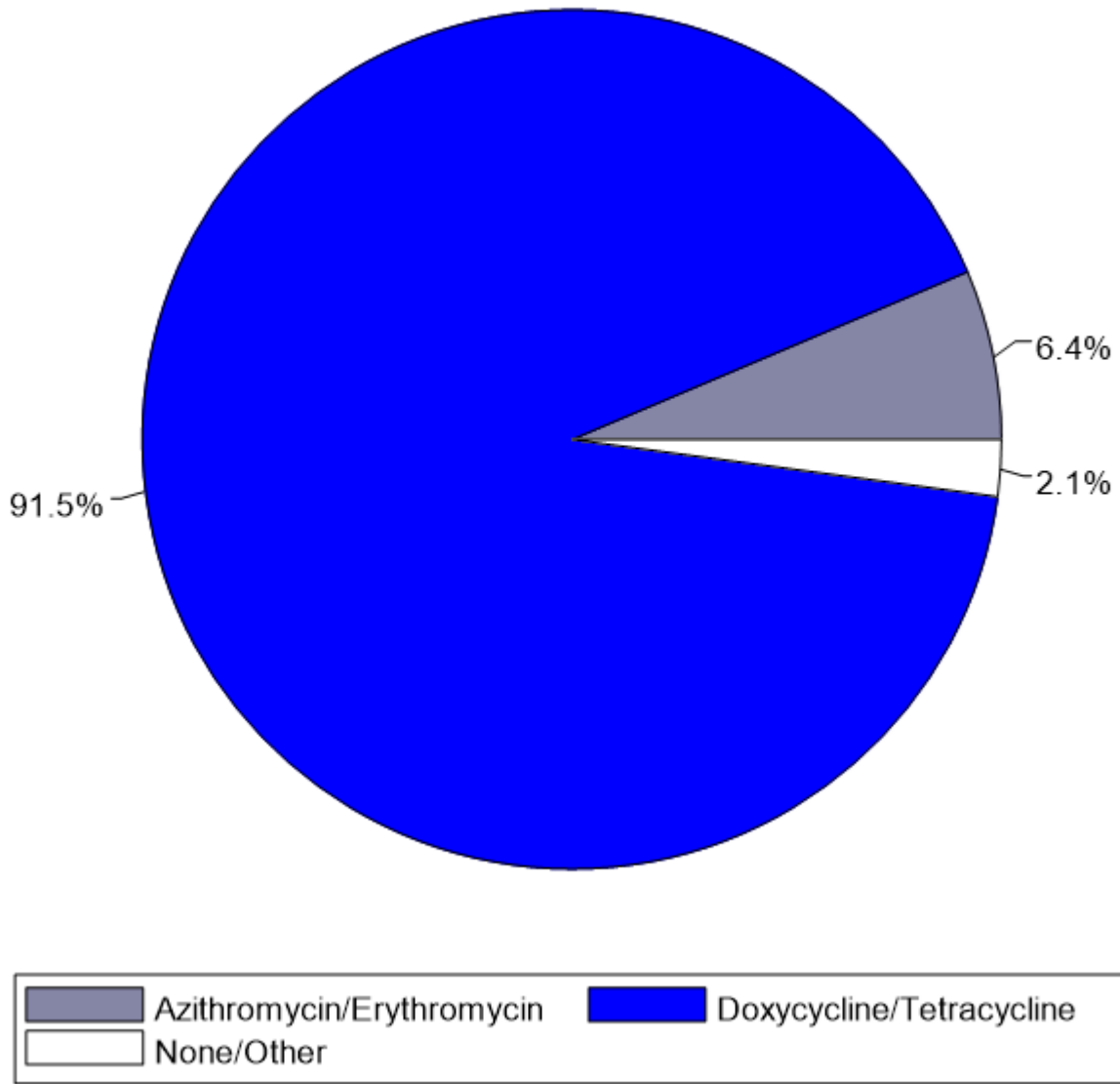
Men who have sex with men = men who self-identified as gay or bisexual or reported recent male sex partners.

Figure D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Honolulu, Hawaii, 2022



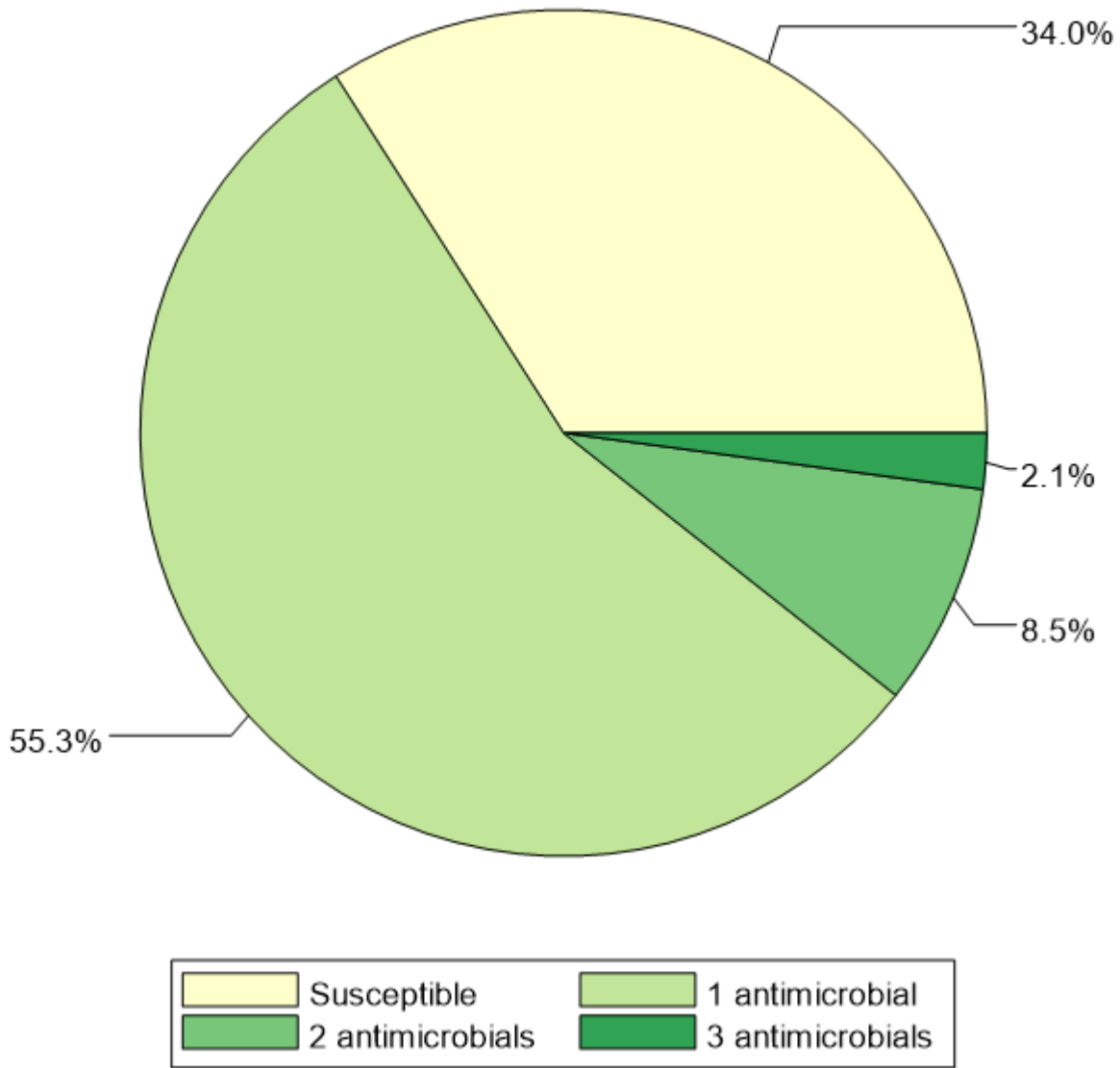
Primary Treatment	Count	Percentage
Cefixime 800 mg	1	2.1
Ceftriaxone 500 mg	46	97.9

Figure E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Honolulu, Hawaii, 2022



Secondary Treatment	Count	Percentage
Azithromycin/Erythromycin	3	6.4
Doxycycline/Tetracycline	43	91.5
None/Other	1	2.1

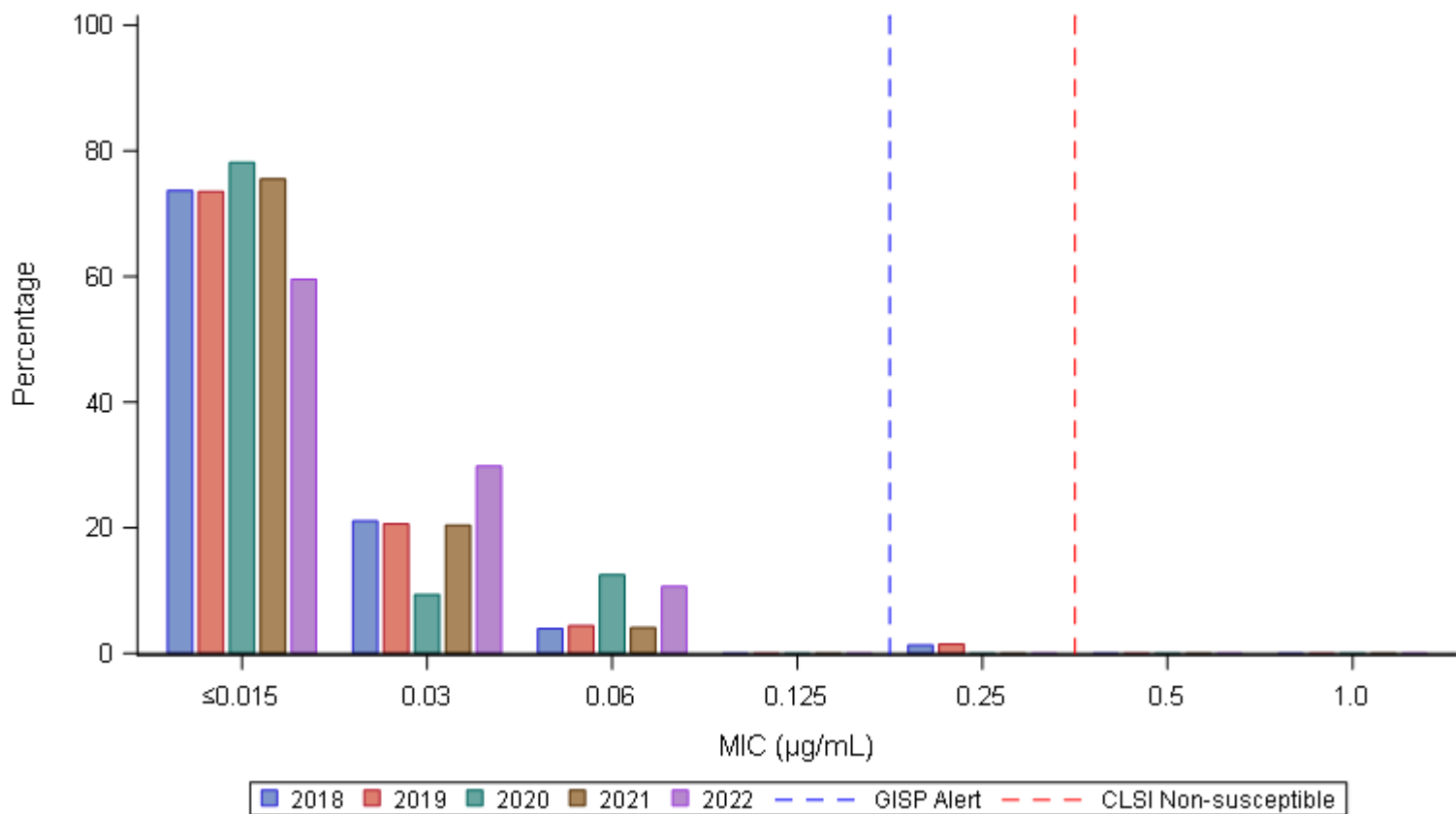
Figure F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Honolulu, Hawaii, 2022



Number of Antimicrobials	Count	Percentage
Susceptible	16	34.0
1 antimicrobial	26	55.3
2 antimicrobials	4	8.5
3 antimicrobials	1	2.1
4+ antimicrobials	0	0.0

Elevated MICs = ceftriaxone MIC ≥ 0.125 $\mu\text{g/mL}$; cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; Resistance = tetracycline MIC ≥ 2.0 $\mu\text{g/mL}$; ciprofloxacin MIC ≥ 1.0 $\mu\text{g/mL}$; penicillin MIC ≥ 2.0 $\mu\text{g/mL}$ or β -lactamase positive.

Figure G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Honolulu, Hawaii, 2018-2022



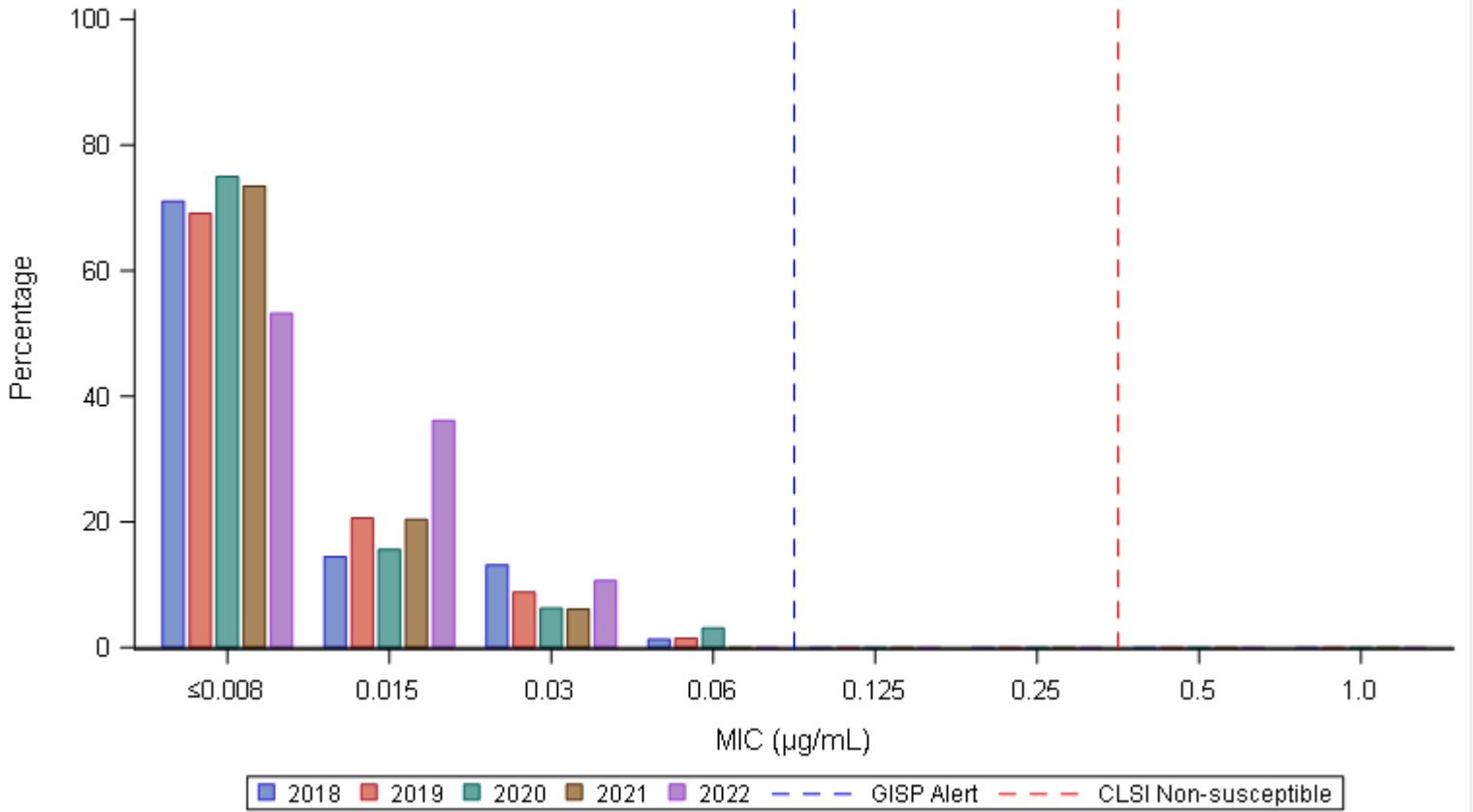
Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	56 (73.7)	16 (21.1)	3 (3.9)	0 (0.0)	1 (1.3)	0 (0.0)	0 (0.0)	76
2019	50 (73.5)	14 (20.6)	3 (4.4)	0 (0.0)	1 (1.5)	0 (0.0)	0 (0.0)	68
2020	25 (78.1)	3 (9.4)	4 (12.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	32
2021	37 (75.5)	10 (20.4)	2 (4.1)	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)	47

GISP Alert Value = cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; CLSI Non-susceptible = cefixime MIC ≥ 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 the end of 2022, the CLSI has not established a cefixime resistance breakpoint for *N. gonorrhoeae*.

Figure H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Honolulu, Hawaii, 2018-2022



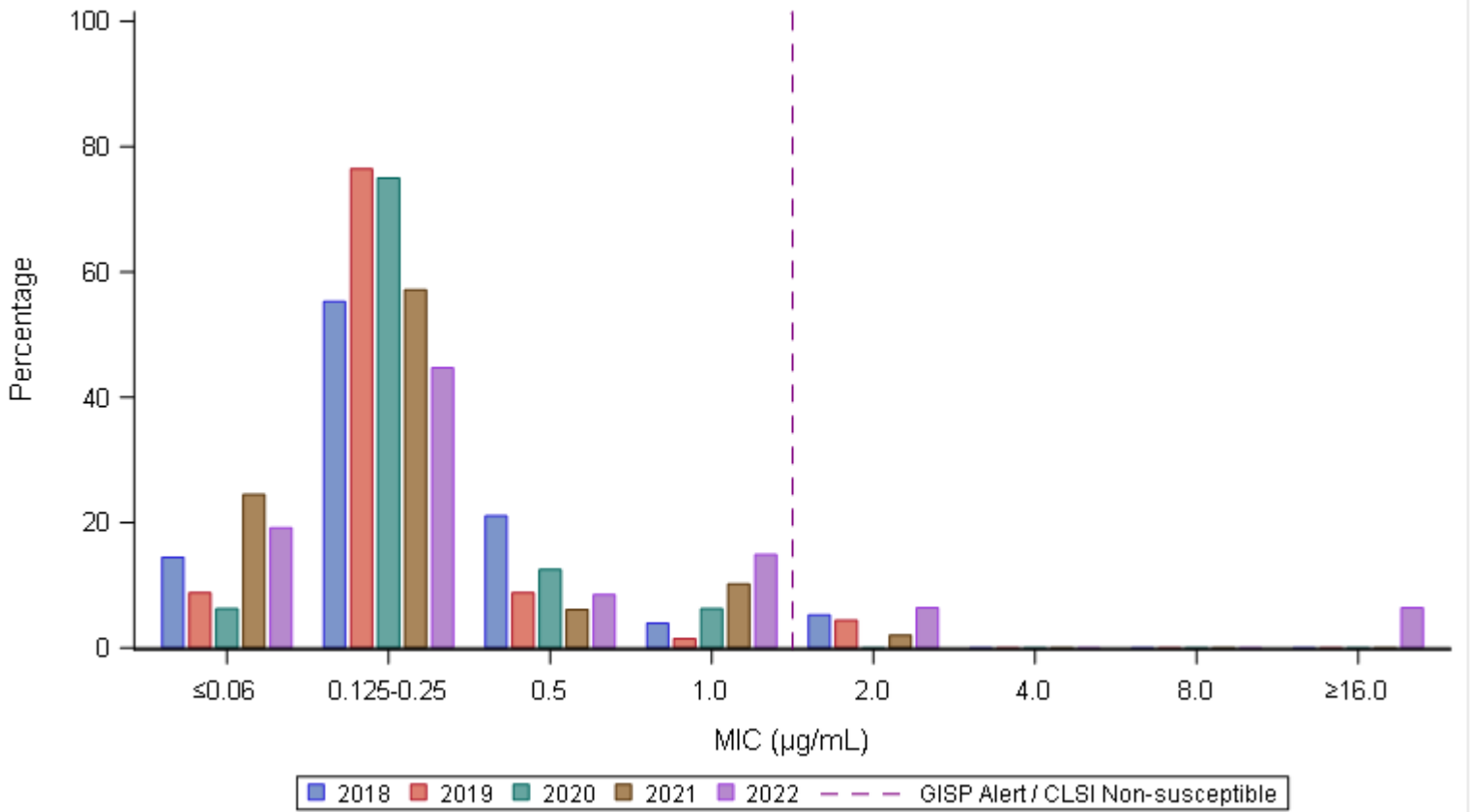
Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	54 (71.1)	11 (14.5)	10 (13.2)	1 (1.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	76
2019	47 (69.1)	14 (20.6)	6 (8.8)	1 (1.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	68
2020	24 (75.0)	5 (15.6)	2 (6.3)	1 (3.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	32
2021	36 (73.5)	10 (20.4)	3 (6.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	49
2022	25 (53.2)	17 (36.2)	5 (10.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	47

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 the end of 2022, the CLSI has not established a ceftriaxone resistance breakpoint for *N. gonorrhoeae*.

Figure I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Honolulu, Hawaii, 2018-2022



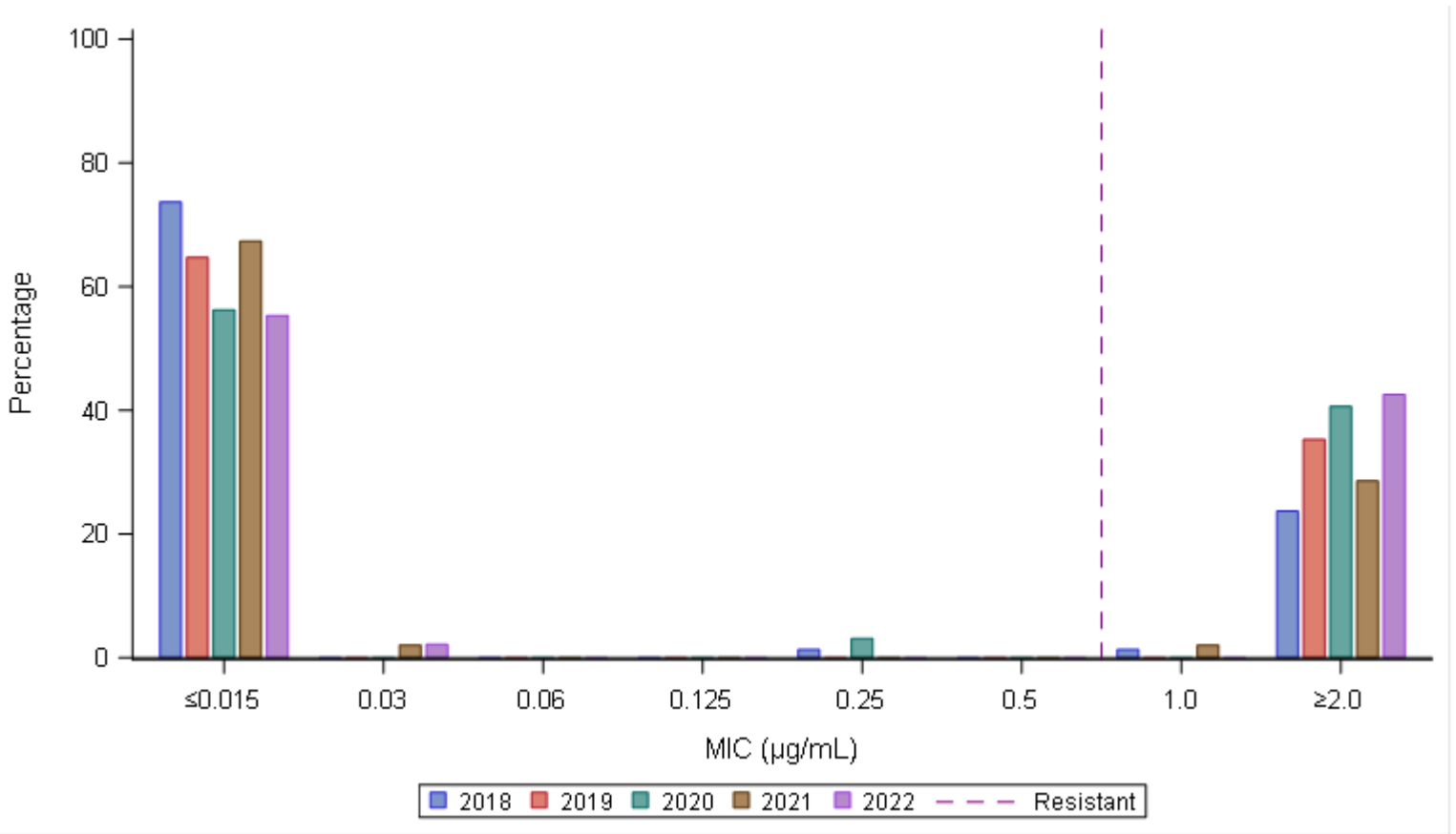
Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2018	11 (14.5)	42 (55.3)	16 (21.1)	3 (3.9)	4 (5.3)	0 (0.0)	0 (0.0)	0 (0.0)	76
2019	6 (8.8)	52 (76.5)	6 (8.8)	1 (1.5)	3 (4.4)	0 (0.0)	0 (0.0)	0 (0.0)	68
2020	2 (6.3)	24 (75.0)	4 (12.5)	2 (6.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	32
2021	12 (24.5)	28 (57.1)	3 (6.1)	5 (10.2)	1 (2.0)	0 (0.0)	0 (0.0)	0 (0.0)	49
2022	9 (19.1)	21 (44.7)	4 (8.5)	7 (14.9)	3 (6.4)	0 (0.0)	0 (0.0)	3 (6.4)	47

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; CLSI Non-susceptible = azithromycin MIC ≥2.0 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 the end of 2022, the CLSI has not established an azithromycin resistance breakpoint for *N. gonorrhoeae*.

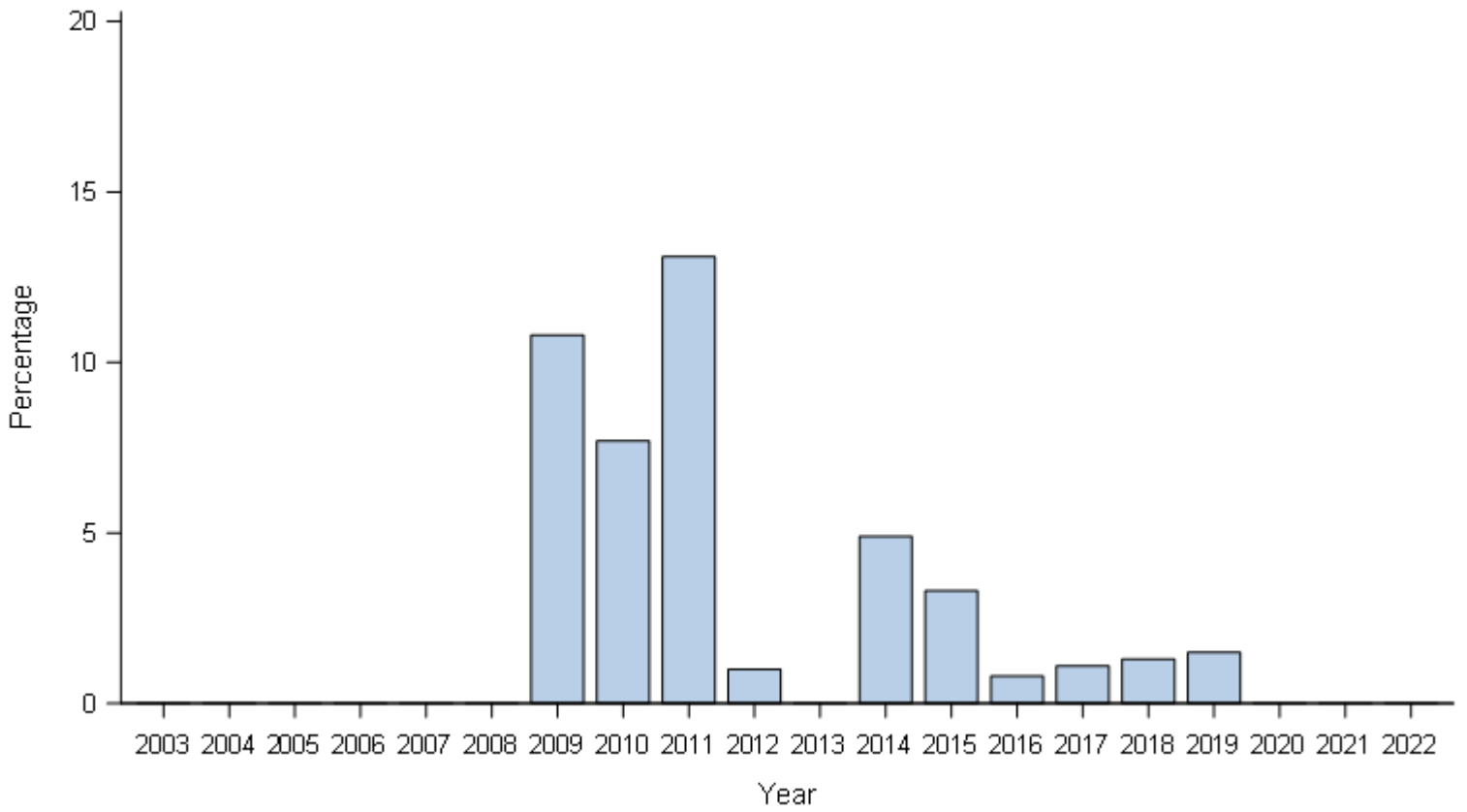
Figure J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Honolulu, Hawaii, 2018-2022



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
2018	56 (73.7)	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.3)	0 (0.0)	1 (1.3)	18 (23.7)	76
2019	44 (64.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	24 (35.3)	68
2020	18 (56.3)	0 (0.0)	0 (0.0)	0 (0.0)	1 (3.1)	0 (0.0)	0 (0.0)	13 (40.6)	32
2021	33 (67.3)	1 (2.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (2.0)	14 (28.6)	49
2022	26 (55.3)	1 (2.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	20 (42.6)	47

Ciprofloxacin resistance MIC ≥1.0 µg/mL.

Figure K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Honolulu, Hawaii, 2003-2022

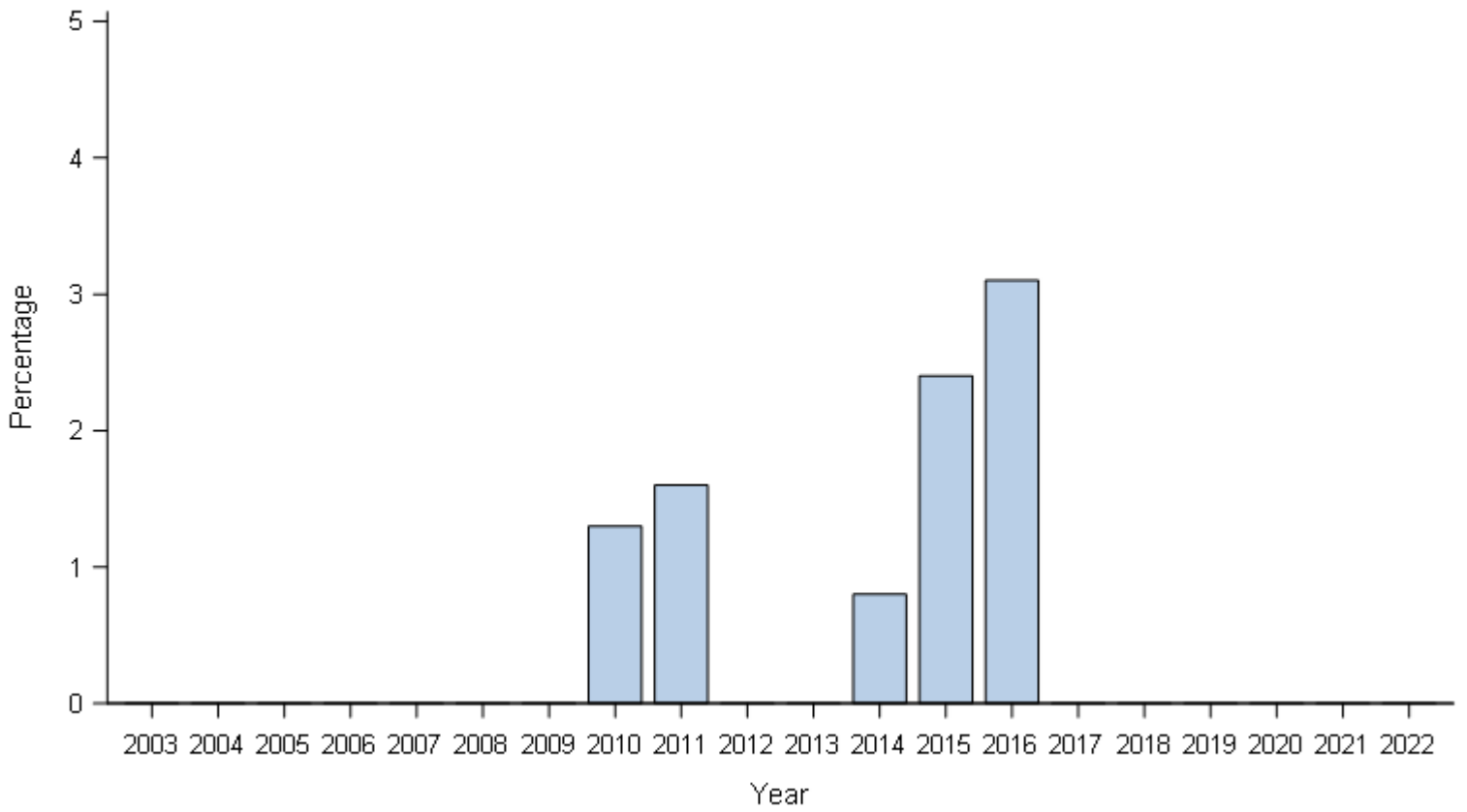


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	8 (10.8)	6 (7.7)	8 (13.1)	1 (1.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	6 (4.9)	4 (3.3)	1 (0.8)	1 (1.1)	1 (1.3)	1 (1.5)	0 (0.0)	0 (0.0)	0 (0.0)

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

Figure L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Honolulu, Hawaii, 2003-2022

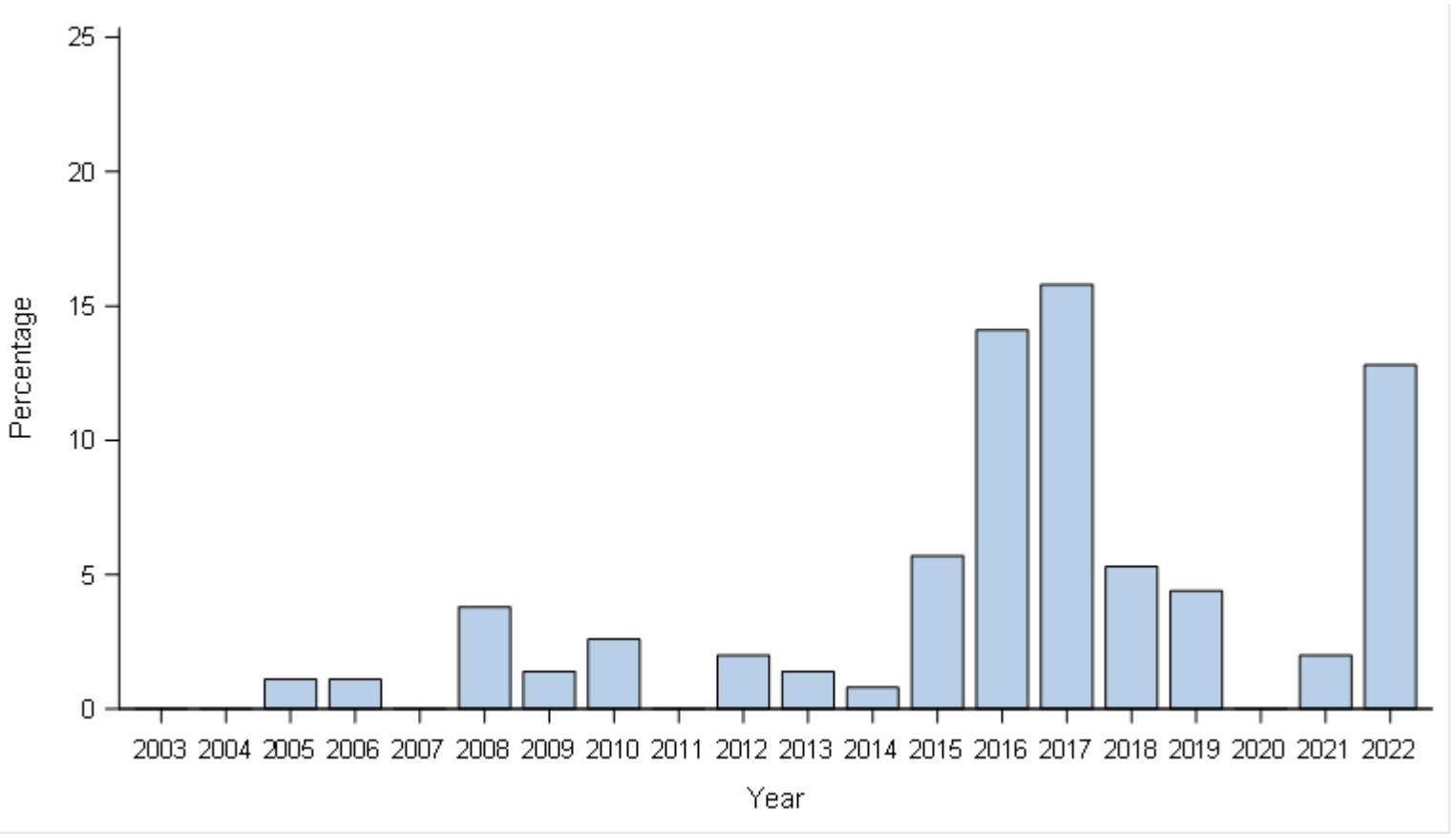


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.3)	1 (1.6)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	1 (0.8)	3 (2.4)	4 (3.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

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

Figure M. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Honolulu, Hawaii, 2003-2022

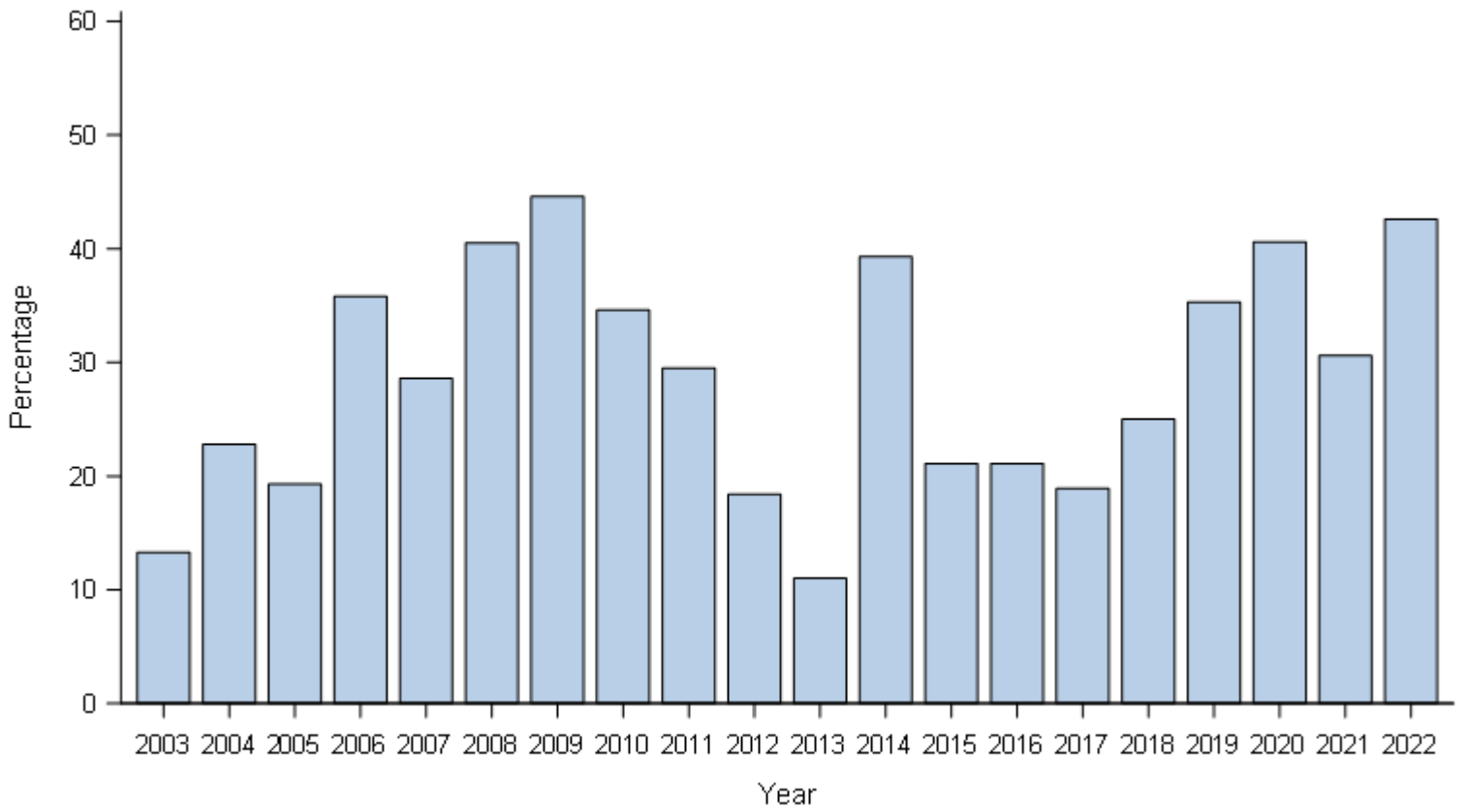


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	1 (1.1)	1 (1.1)	0 (0.0)	3 (3.8)	1 (1.4)	2 (2.6)	0 (0.0)	2 (2.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
1 (1.4)	1 (0.8)	7 (5.7)	18 (14.1)	15 (15.8)	4 (5.3)	3 (4.4)	0 (0.0)	1 (2.0)	6 (12.8)

Azithromycin elevated MIC ≥ 1.0 $\mu\text{g/mL}$ prior to 2005 and ≥ 2.0 $\mu\text{g/mL}$ during 2005-2022.

Figure N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Honolulu, Hawaii, 2003-2022

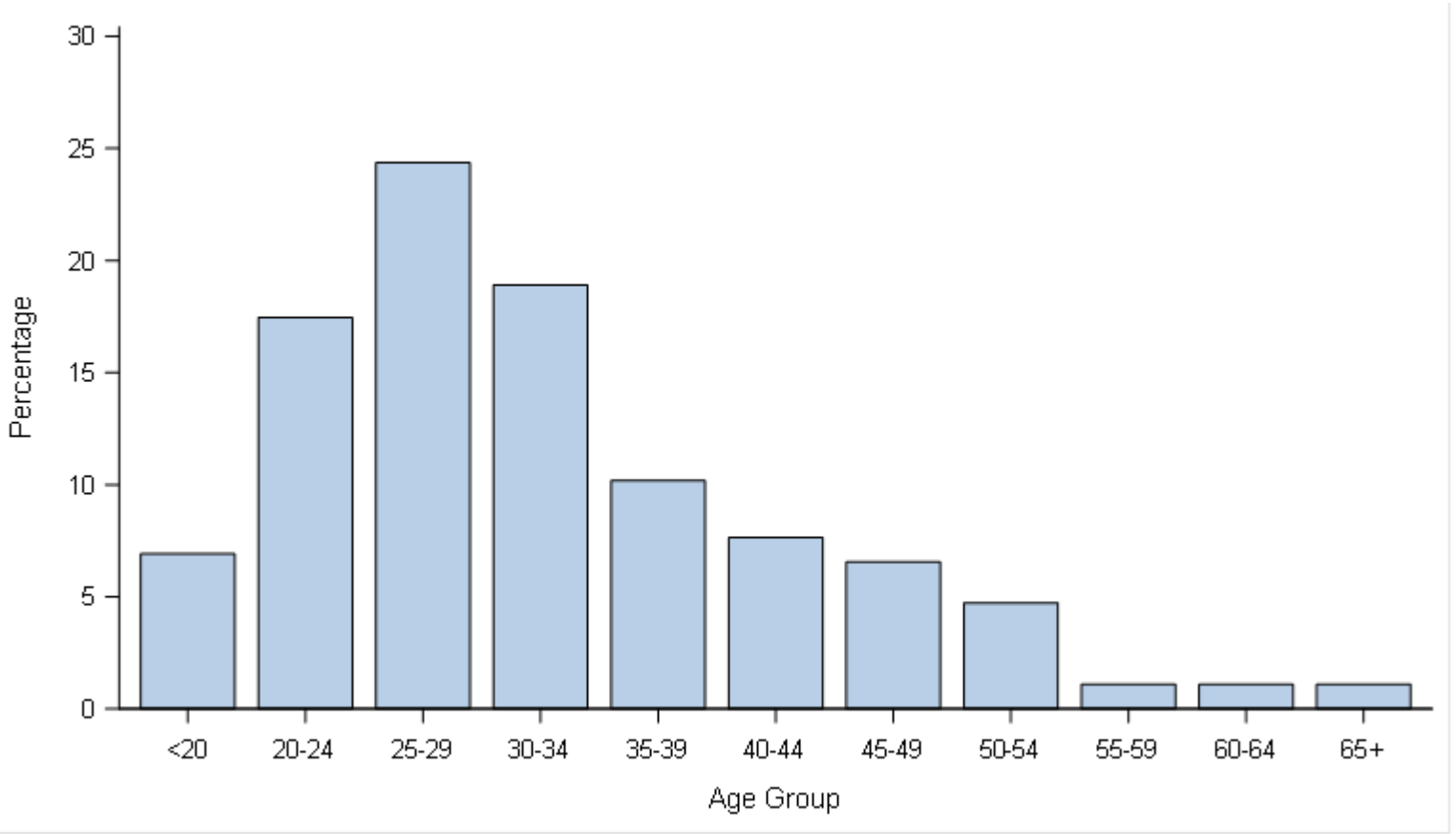


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
16 (13.3)	21 (22.8)	17 (19.3)	34 (35.8)	20 (28.6)	32 (40.5)	33 (44.6)	27 (34.6)	18 (29.5)	18 (18.4)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
8 (11.0)	48 (39.3)	26 (21.1)	27 (21.1)	18 (18.9)	19 (25.0)	24 (35.3)	13 (40.6)	15 (30.6)	20 (42.6)

Ciprofloxacin resistance MIC ≥1.0 µg/mL.

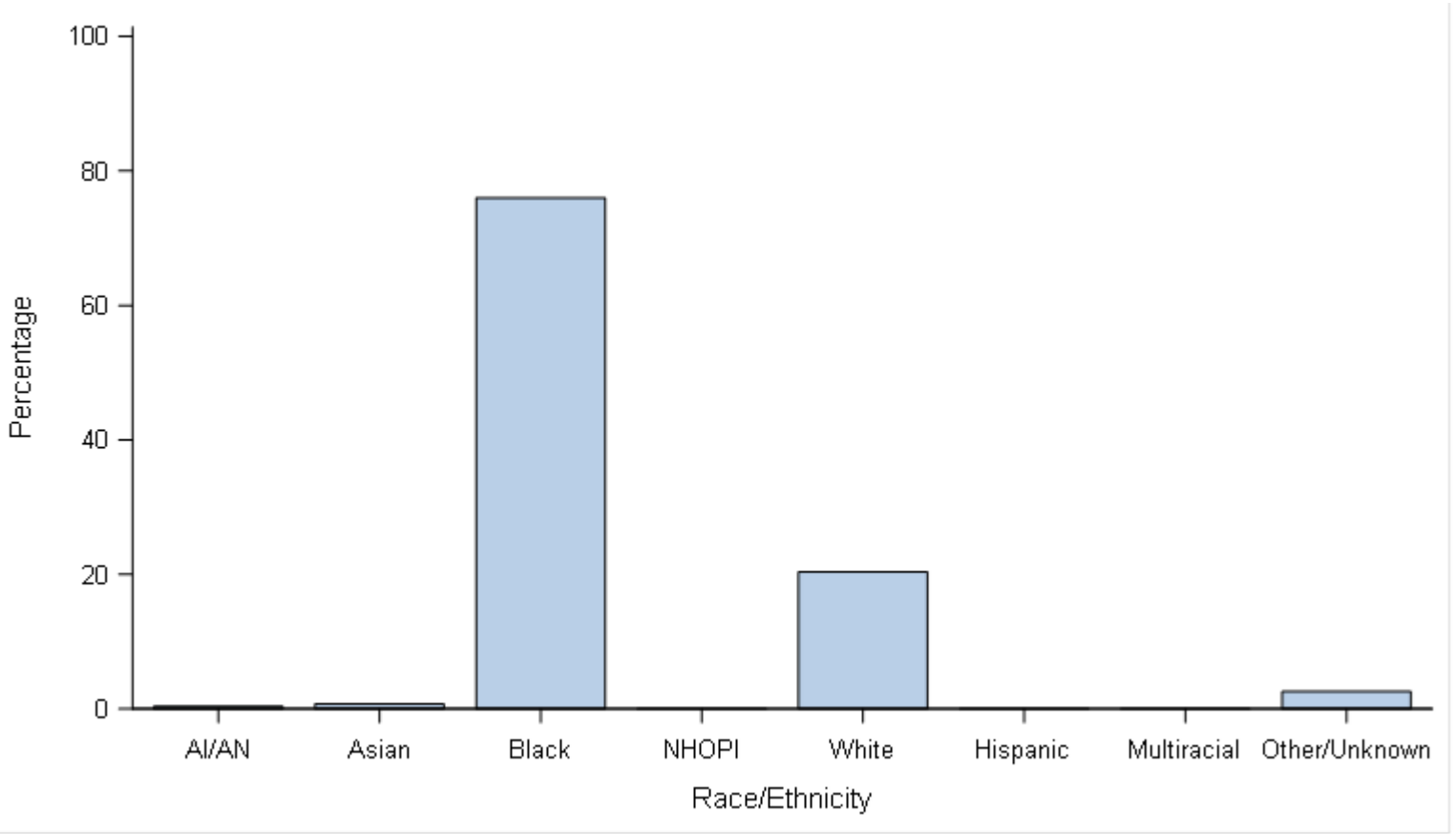
Figure A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Indianapolis, Indiana, 2022



<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 (6.9)	48 (17.5)	67 (24.4)	52 (18.9)	28 (10.2)	21 (7.6)	18 (6.5)	13 (4.7)	3 (1.1)	3 (1.1)	3 (1.1)	275

Cases with unknown age were excluded.

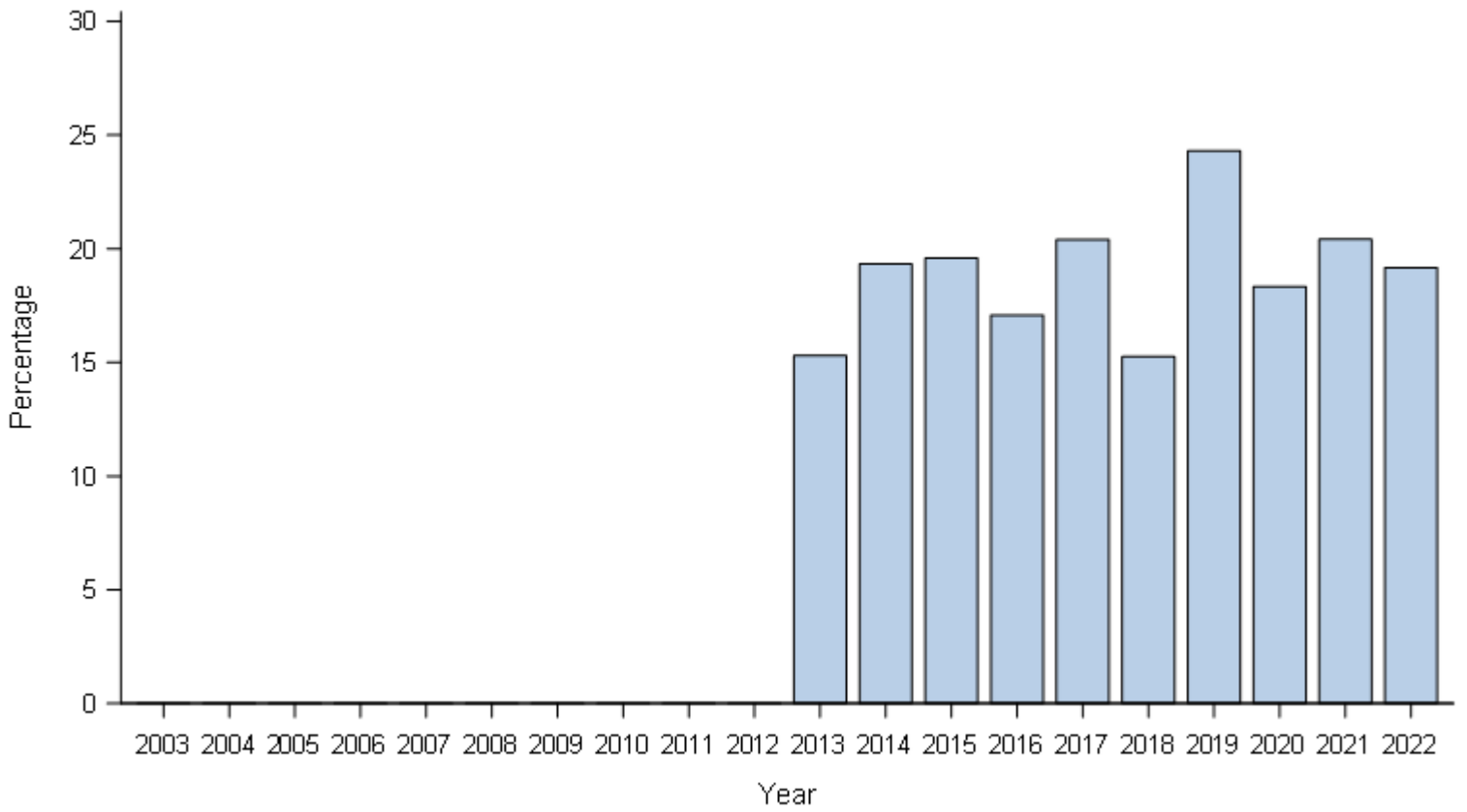
Figure B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Indianapolis, Indiana, 2022



AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
1 (0.4)	2 (0.7)	209 (76.0)	0 (0.0)	56 (20.4)	0 (0.0)	0 (0.0)	7 (2.5)	275

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.

Figure C. Percentage of Participants Identifying as Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Indianapolis, Indiana, 2003-2022

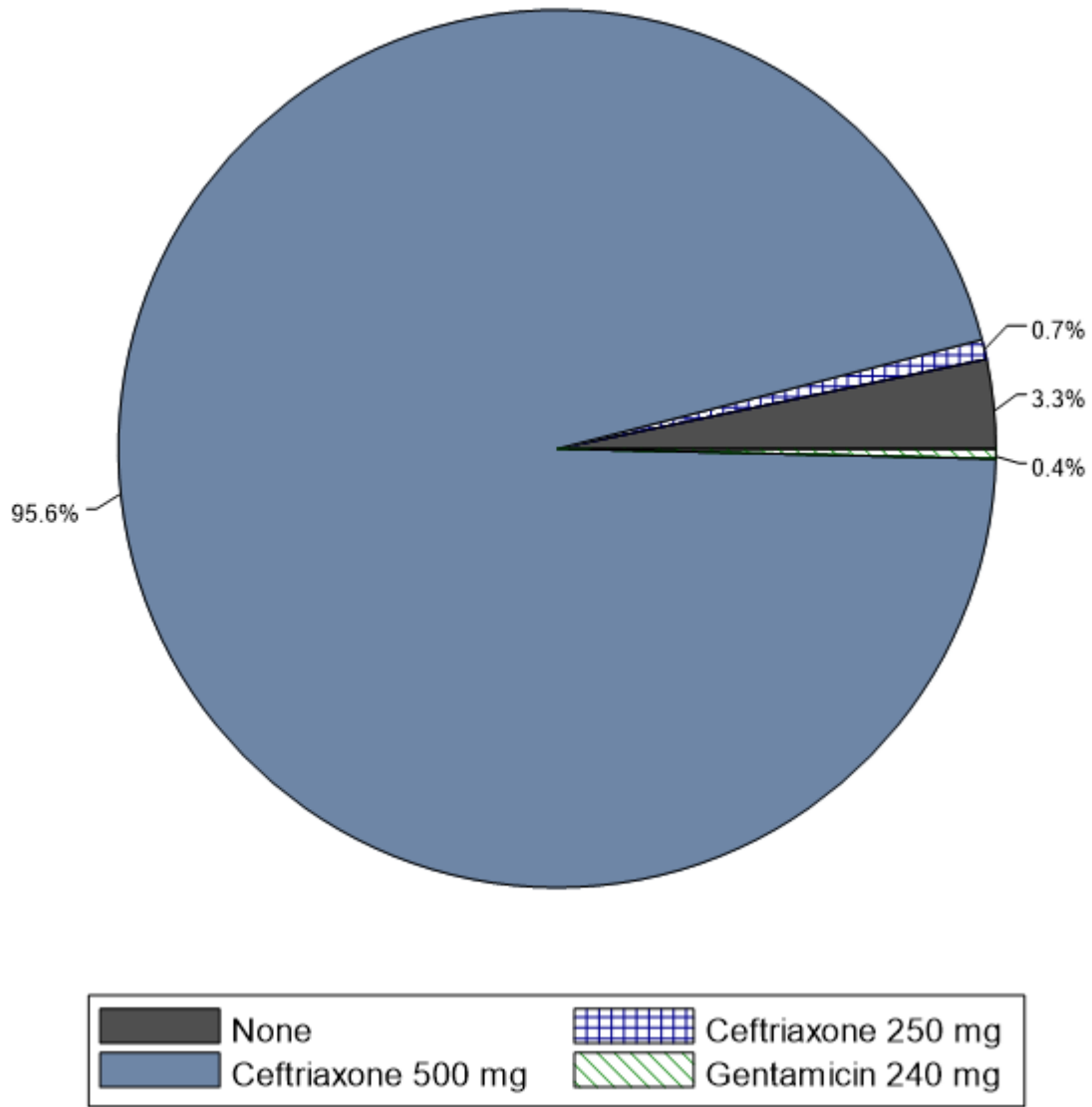


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
45 (15.3)	58 (19.3)	58 (19.6)	48 (17.1)	60 (20.4)	45 (15.3)	71 (24.3)	53 (18.3)	59 (20.4)	51 (19.2)

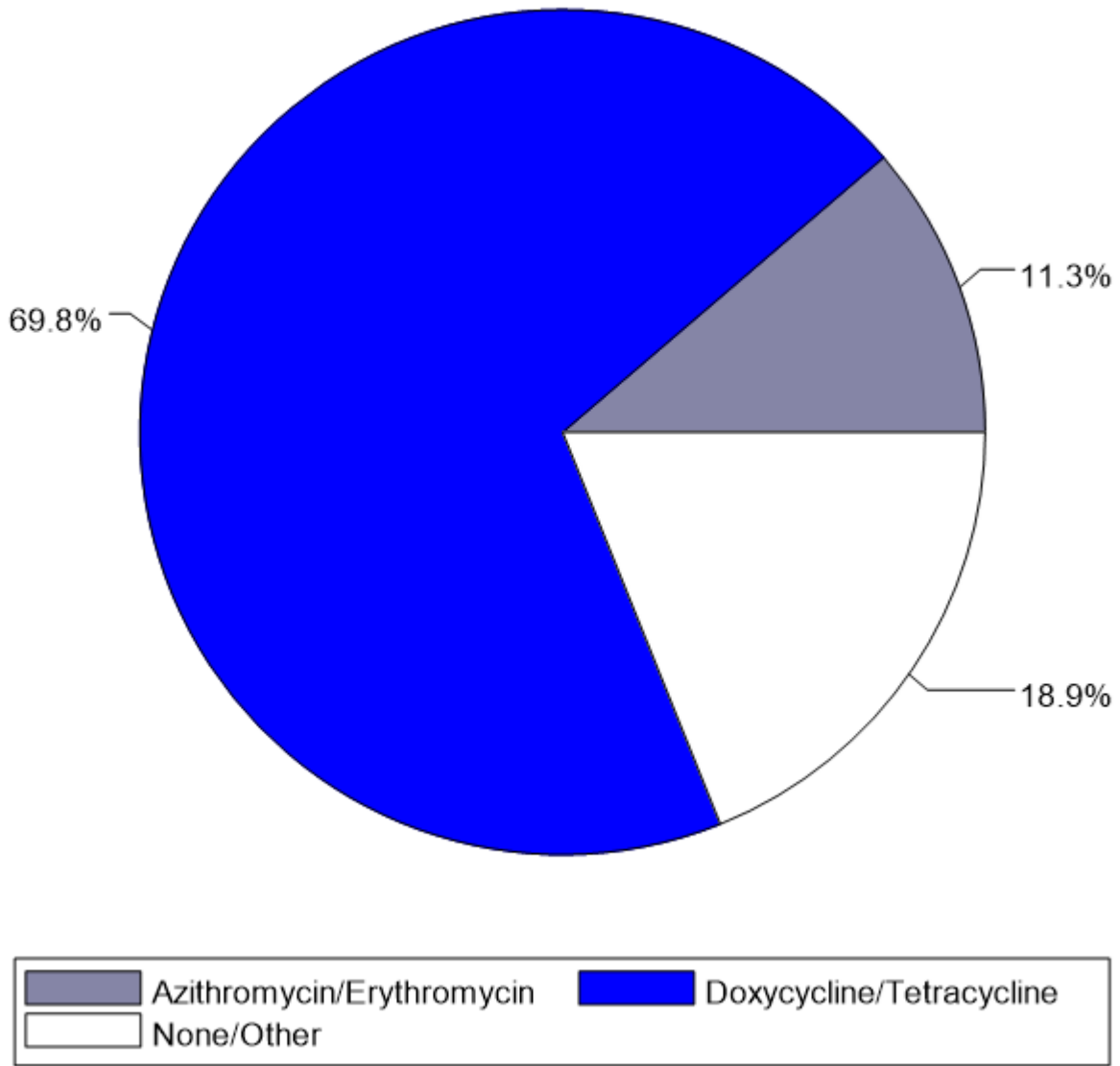
Men who have sex with men = men who self-identified as gay or bisexual or reported recent male sex partners.
 Site participated in GISP during 2013-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Indianapolis, Indiana, 2022



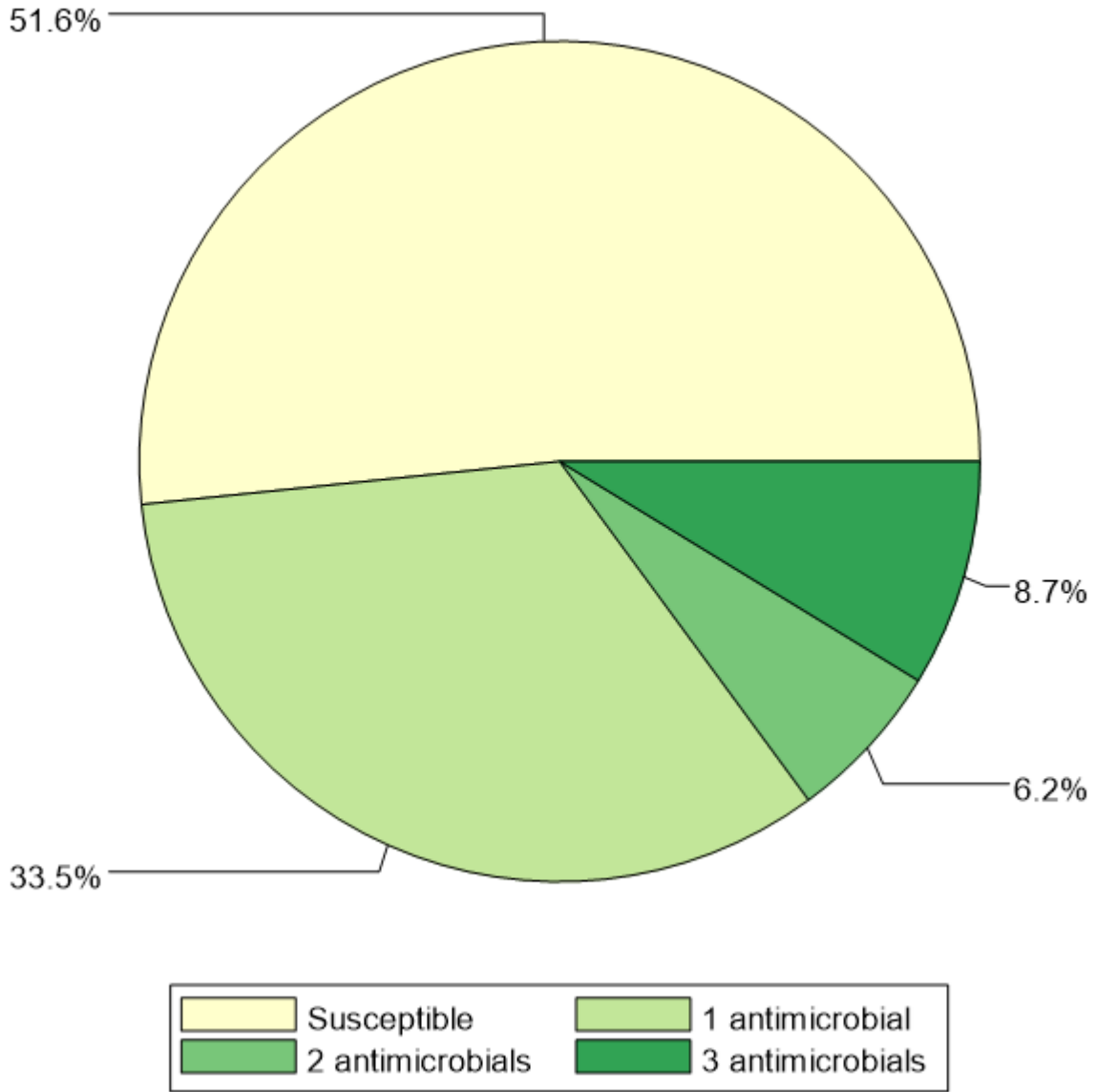
Primary Treatment	Count	Percentage
None	9	3.3
Ceftriaxone 250 mg	2	0.7
Ceftriaxone 500 mg	263	95.6
Gentamicin 240 mg	1	0.4

Figure E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Indianapolis, Indiana, 2022



Secondary Treatment	Count	Percentage
Azithromycin/Erythromycin	31	11.3
Doxycycline/Tetracycline	192	69.8
None/Other	52	18.9

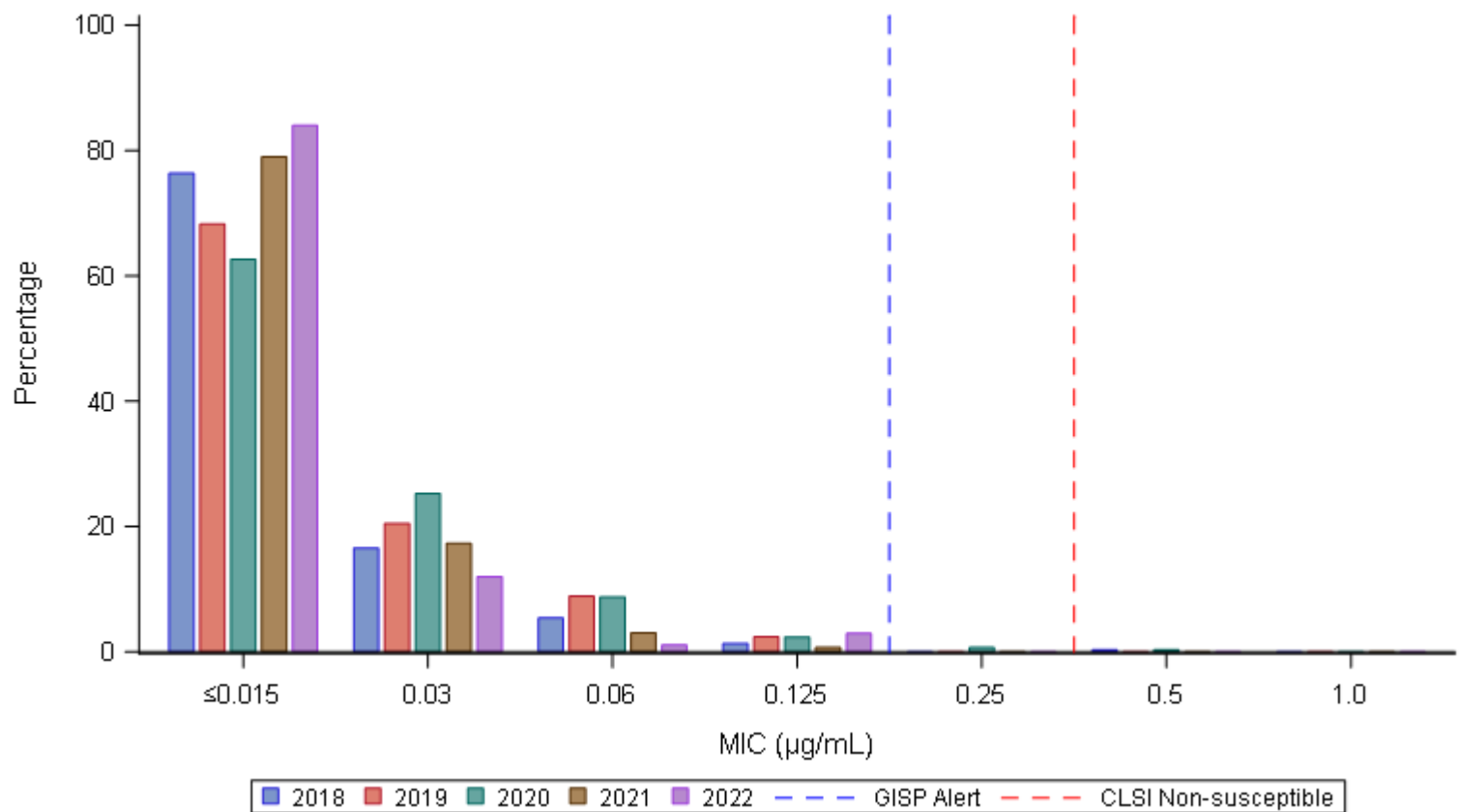
Figure F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Indianapolis, Indiana, 2022



Number of Antimicrobials	Count	Percentage
Susceptible	142	51.6
1 antimicrobial	92	33.5
2 antimicrobials	17	6.2
3 antimicrobials	24	8.7
4+ antimicrobials	0	0.0

Elevated MICs = ceftriaxone MIC ≥ 0.125 $\mu\text{g/mL}$; cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; Resistance = tetracycline MIC ≥ 2.0 $\mu\text{g/mL}$; ciprofloxacin MIC ≥ 1.0 $\mu\text{g/mL}$; penicillin MIC ≥ 2.0 $\mu\text{g/mL}$ or β -lactamase positive.

Figure G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Indianapolis, Indiana, 2018-2022



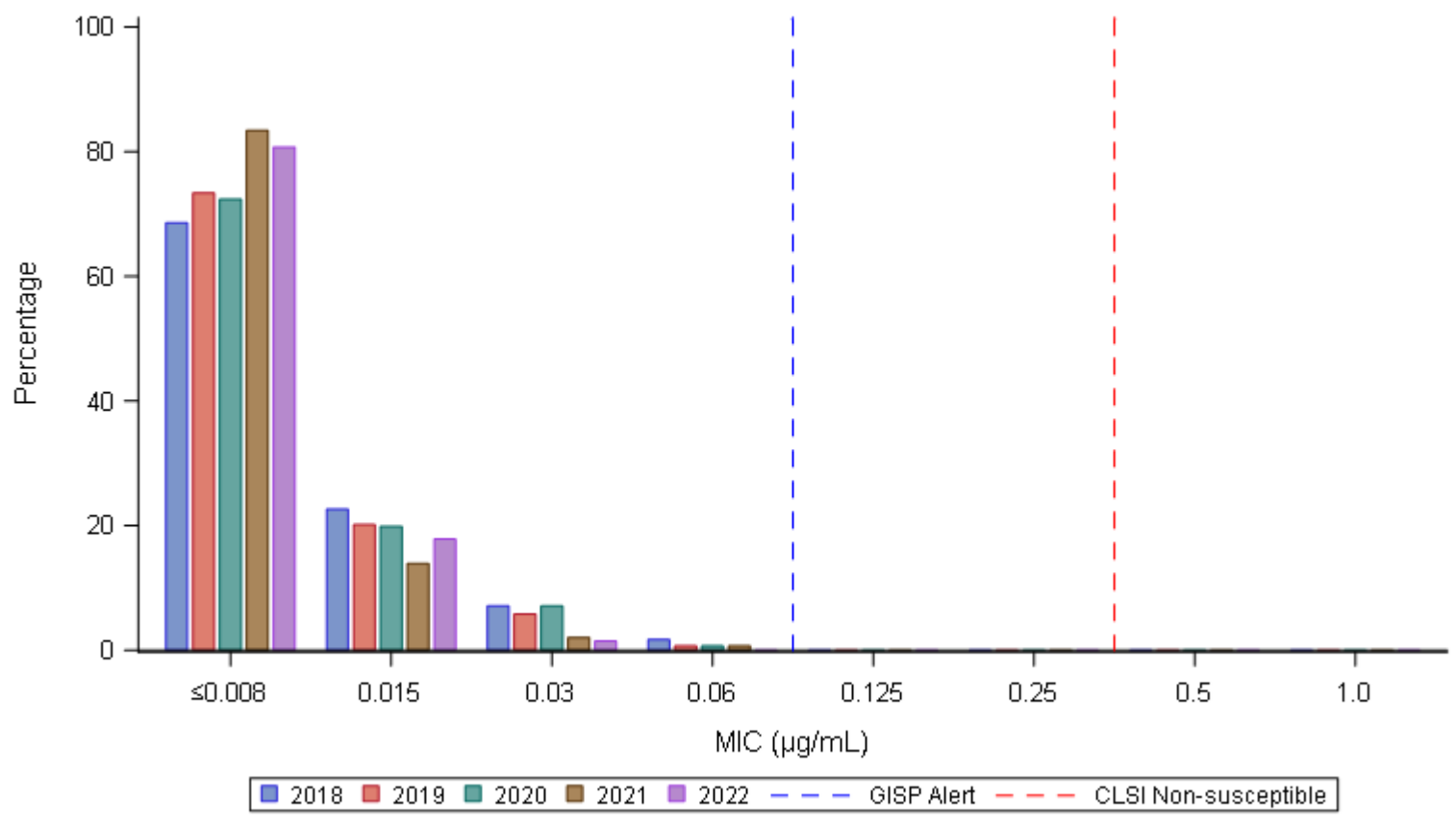
Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	226 (76.4)	49 (16.6)	16 (5.4)	4 (1.4)	0 (0.0)	1 (0.3)	0 (0.0)	296
2019	200 (68.3)	60 (20.5)	26 (8.9)	7 (2.4)	0 (0.0)	0 (0.0)	0 (0.0)	293
2020	186 (62.6)	75 (25.3)	26 (8.8)	7 (2.4)	2 (0.7)	1 (0.3)	0 (0.0)	297
2021	233 (79.0)	51 (17.3)	9 (3.1)	2 (0.7)	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)	275

GISP Alert Value = cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; CLSI Non-susceptible = cefixime MIC ≥ 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 the end of 2022, the CLSI has not established a cefixime resistance breakpoint for *N. gonorrhoeae*.

Figure H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Indianapolis, Indiana, 2018-2022



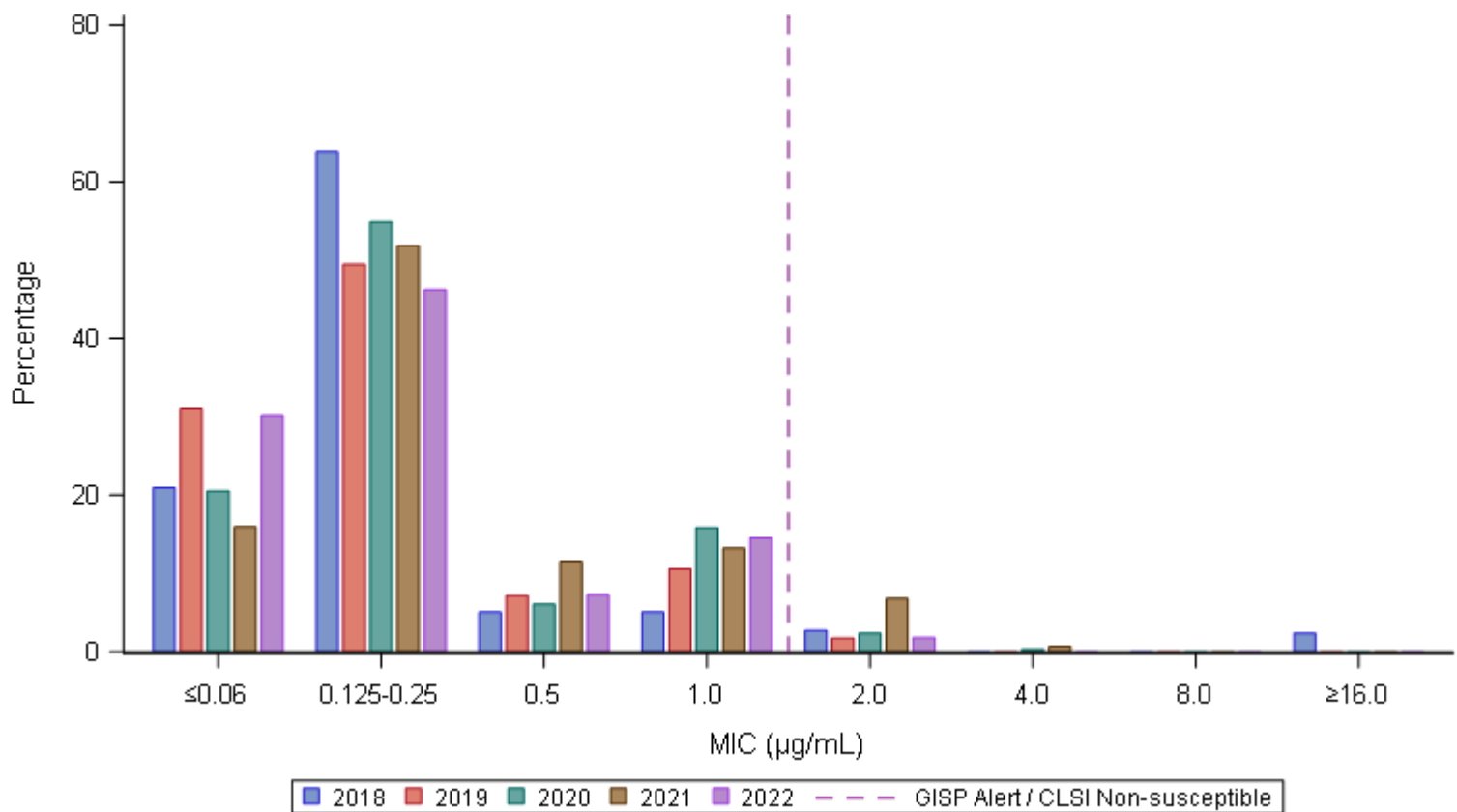
Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	203 (68.6)	67 (22.6)	21 (7.1)	5 (1.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	296
2019	215 (73.4)	59 (20.1)	17 (5.8)	2 (0.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	293
2020	215 (72.4)	59 (19.9)	21 (7.1)	2 (0.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	297
2021	246 (83.4)	41 (13.9)	6 (2.0)	2 (0.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	295
2022	222 (80.7)	49 (17.8)	4 (1.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	275

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 the end of 2022, the CLSI has not established a ceftriaxone resistance breakpoint for *N. gonorrhoeae*.

Figure I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Indianapolis, Indiana, 2018-2022



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
2018	62 (20.9)	189 (63.9)	15 (5.1)	15 (5.1)	8 (2.7)	0 (0.0)	0 (0.0)	7 (2.4)	296
2019	91 (31.1)	145 (49.5)	21 (7.2)	31 (10.6)	5 (1.7)	0 (0.0)	0 (0.0)	0 (0.0)	293
2020	61 (20.5)	163 (54.9)	18 (6.1)	47 (15.8)	7 (2.4)	1 (0.3)	0 (0.0)	0 (0.0)	297
2021	47 (15.9)	153 (51.9)	34 (11.5)	39 (13.2)	20 (6.8)	2 (0.7)	0 (0.0)	0 (0.0)	295
2022	83 (30.2)	127 (46.2)	20 (7.3)	40 (14.5)	5 (1.8)	0 (0.0)	0 (0.0)	0 (0.0)	275

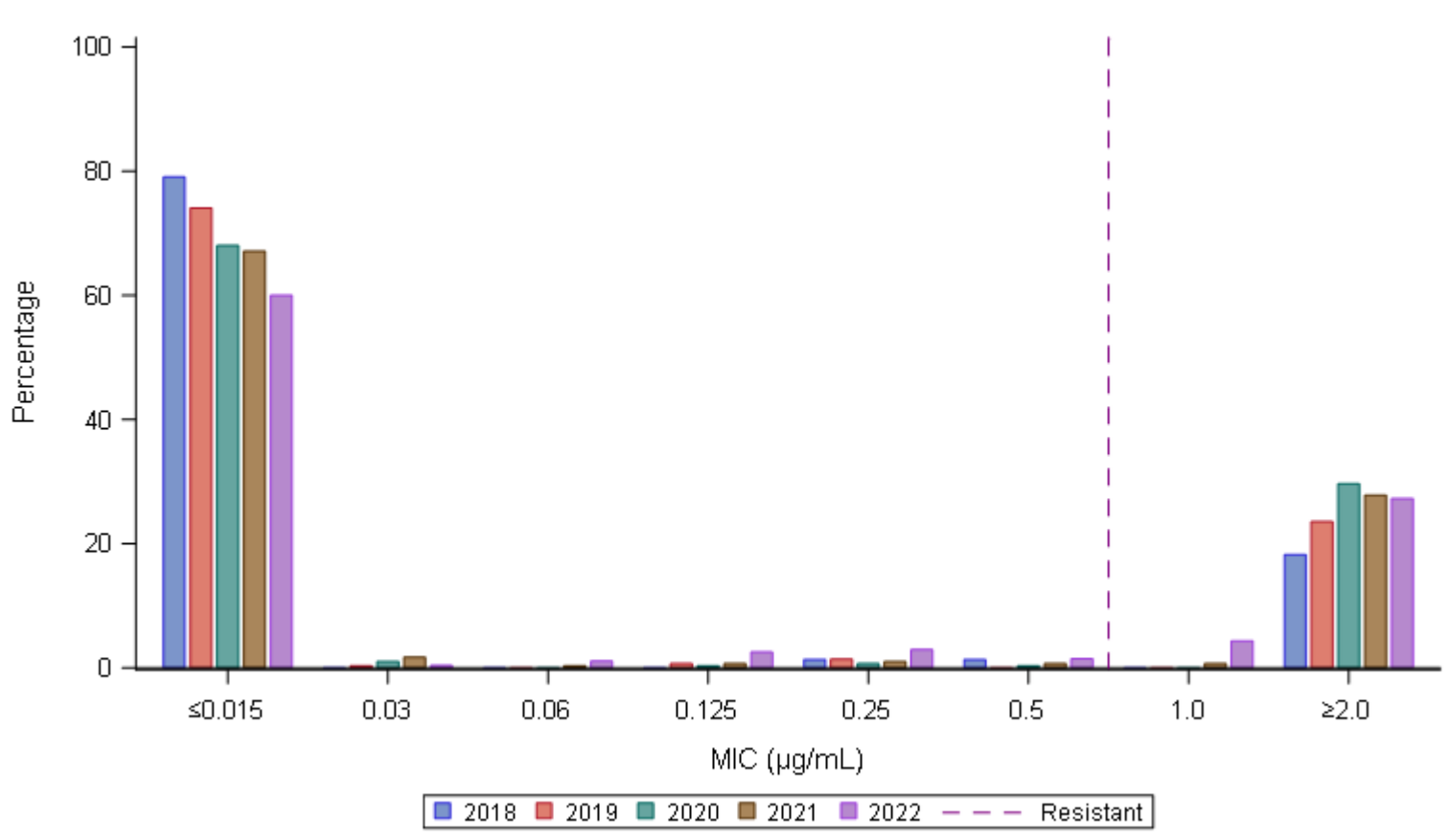
GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; CLSI Non-susceptible = azithromycin MIC ≥2.0 µg/mL.

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 the end of 2022, the CLSI has not established an azithromycin resistance breakpoint for *N. gonorrhoeae*.

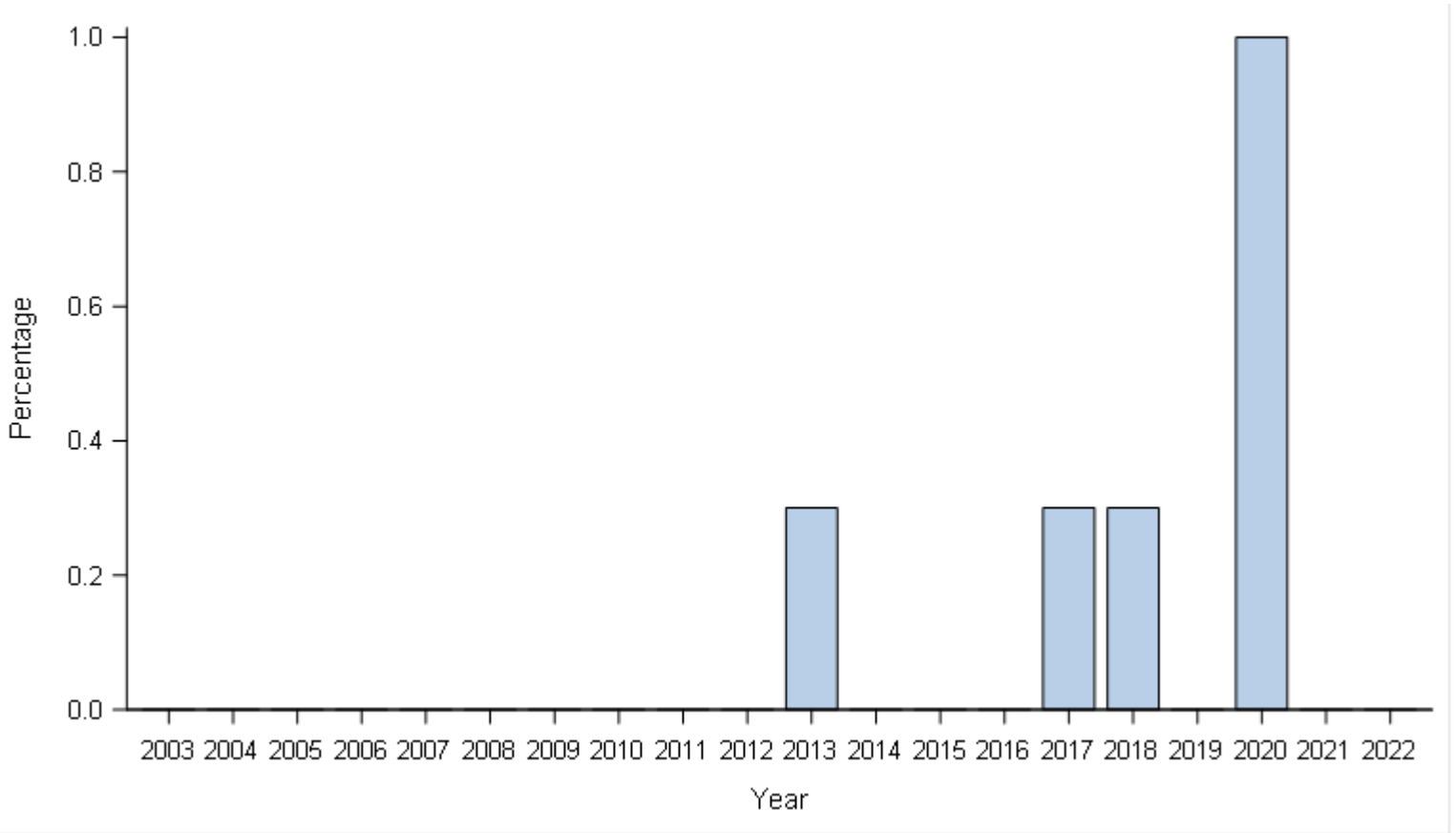
Figure J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Indianapolis, Indiana, 2018-2022



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
2018	234 (79.1)	0 (0.0)	0 (0.0)	0 (0.0)	4 (1.4)	4 (1.4)	0 (0.0)	54 (18.2)	296
2019	217 (74.1)	1 (0.3)	0 (0.0)	2 (0.7)	4 (1.4)	0 (0.0)	0 (0.0)	69 (23.5)	293
2020	202 (68.0)	3 (1.0)	0 (0.0)	1 (0.3)	2 (0.7)	1 (0.3)	0 (0.0)	88 (29.6)	297
2021	198 (67.1)	5 (1.7)	1 (0.3)	2 (0.7)	3 (1.0)	2 (0.7)	2 (0.7)	82 (27.8)	295
2022	165 (60.0)	1 (0.4)	3 (1.1)	7 (2.5)	8 (2.9)	4 (1.5)	12 (4.4)	75 (27.3)	275

Ciprofloxacin resistance MIC ≥1.0 µg/mL.

Figure K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Indianapolis, Indiana, 2003-2022



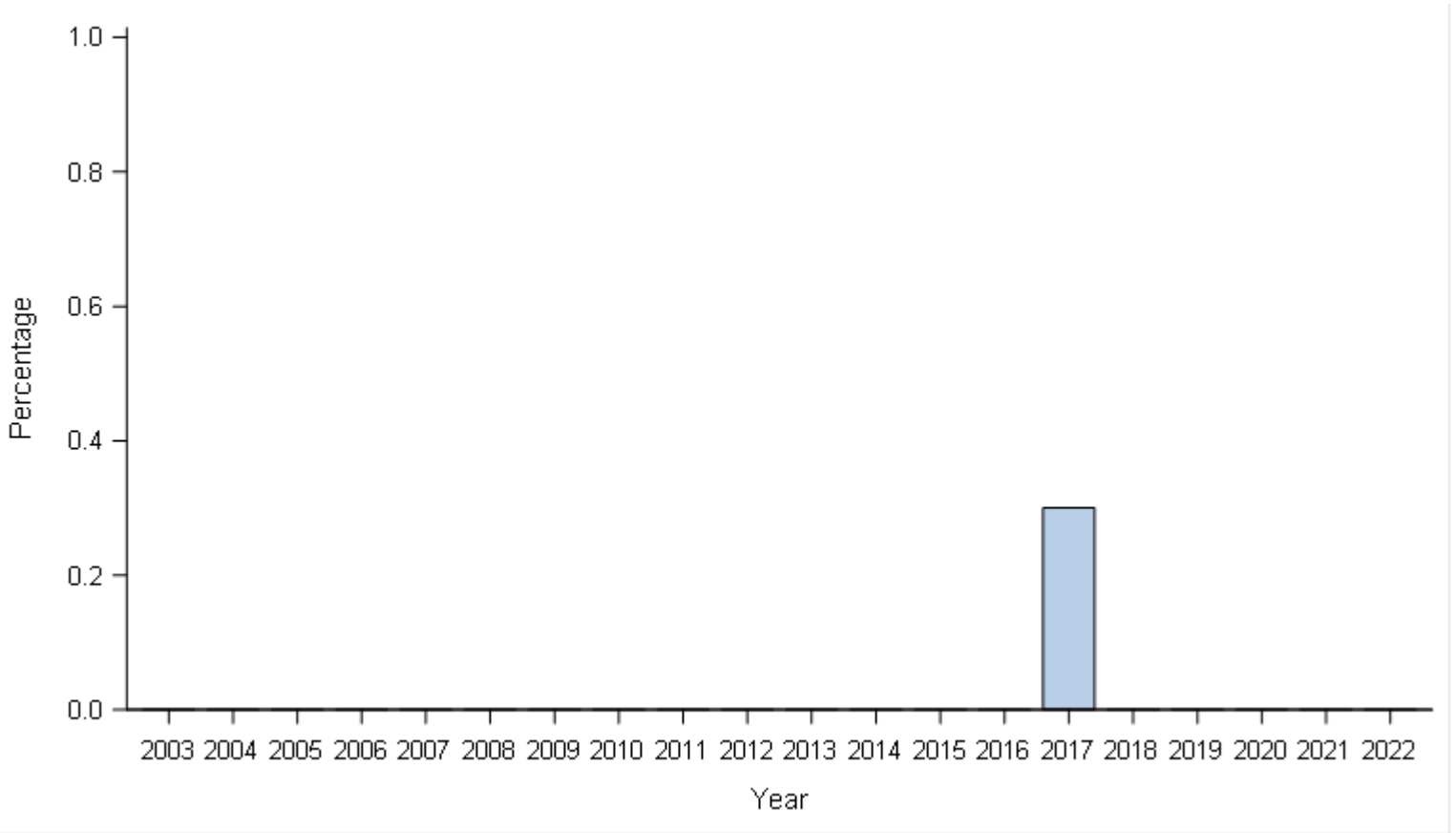
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
1 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.3)	1 (0.3)	0 (0.0)	3 (1.0)	0 (0.0)	0 (0.0)

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

Site participated in GISP during 2013-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Indianapolis, Indiana, 2003-2022



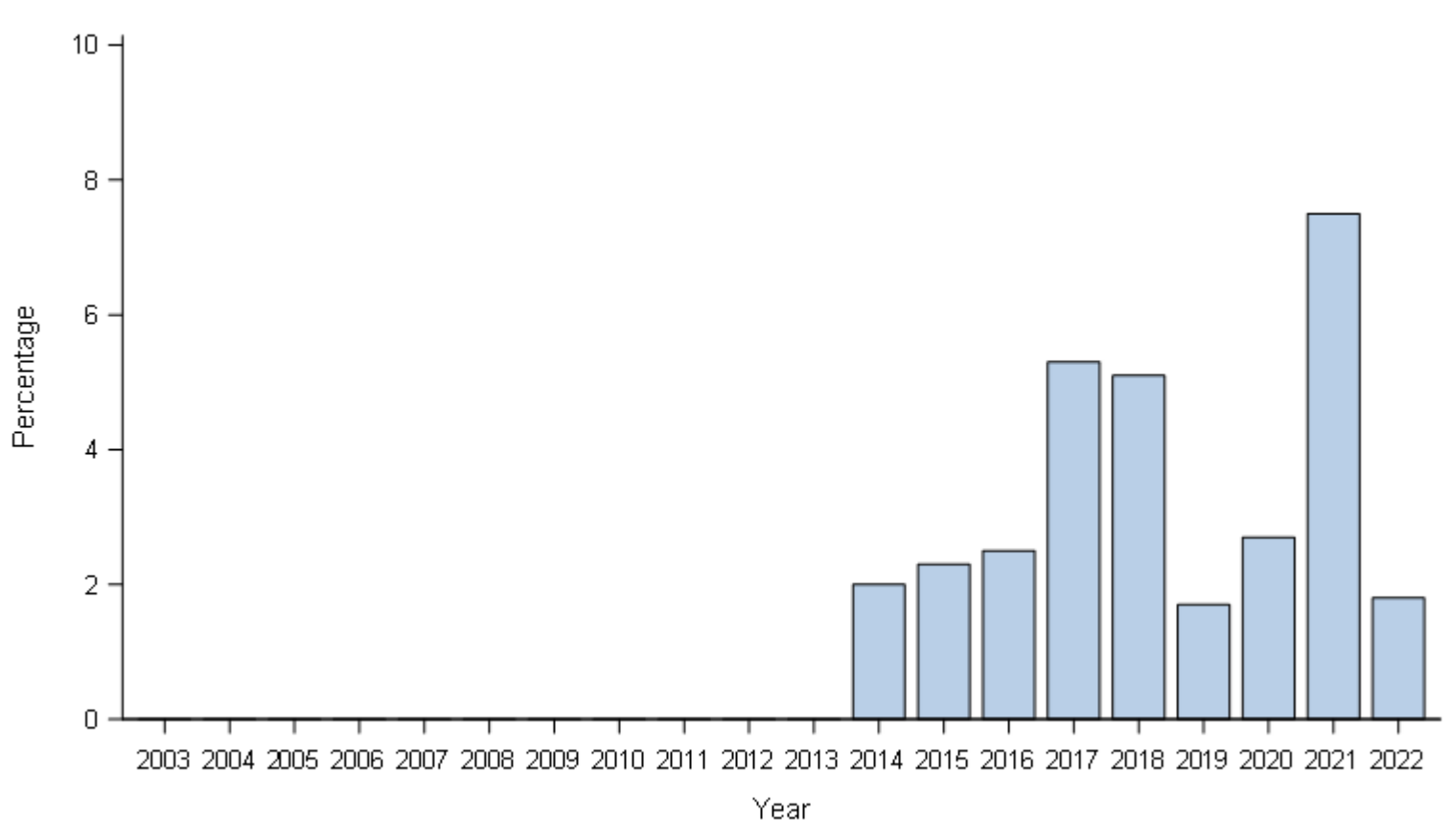
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

Ceftriaxone elevated MIC \geq 0.125 μ g/mL.

Site participated in GISP during 2013-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure M. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Indianapolis, Indiana, 2003-2022

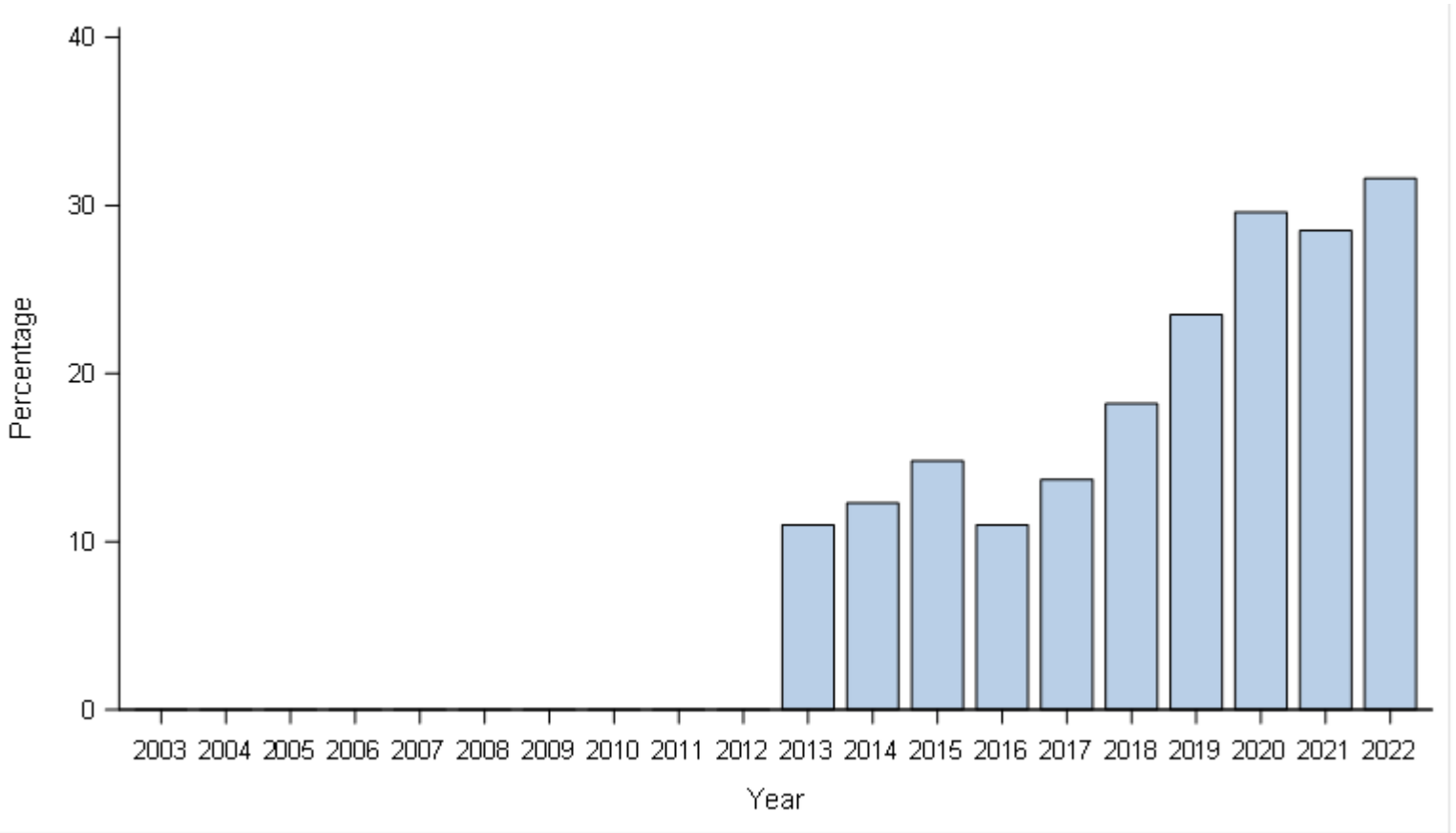


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	6 (2.0)	7 (2.3)	7 (2.5)	16 (5.3)	15 (5.1)	5 (1.7)	8 (2.7)	22 (7.5)	5 (1.8)

Azithromycin elevated MIC ≥ 1.0 $\mu\text{g/mL}$ prior to 2005 and ≥ 2.0 $\mu\text{g/mL}$ during 2005-2022. Site participated in GISP during 2013-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Indianapolis, Indiana, 2003-2022



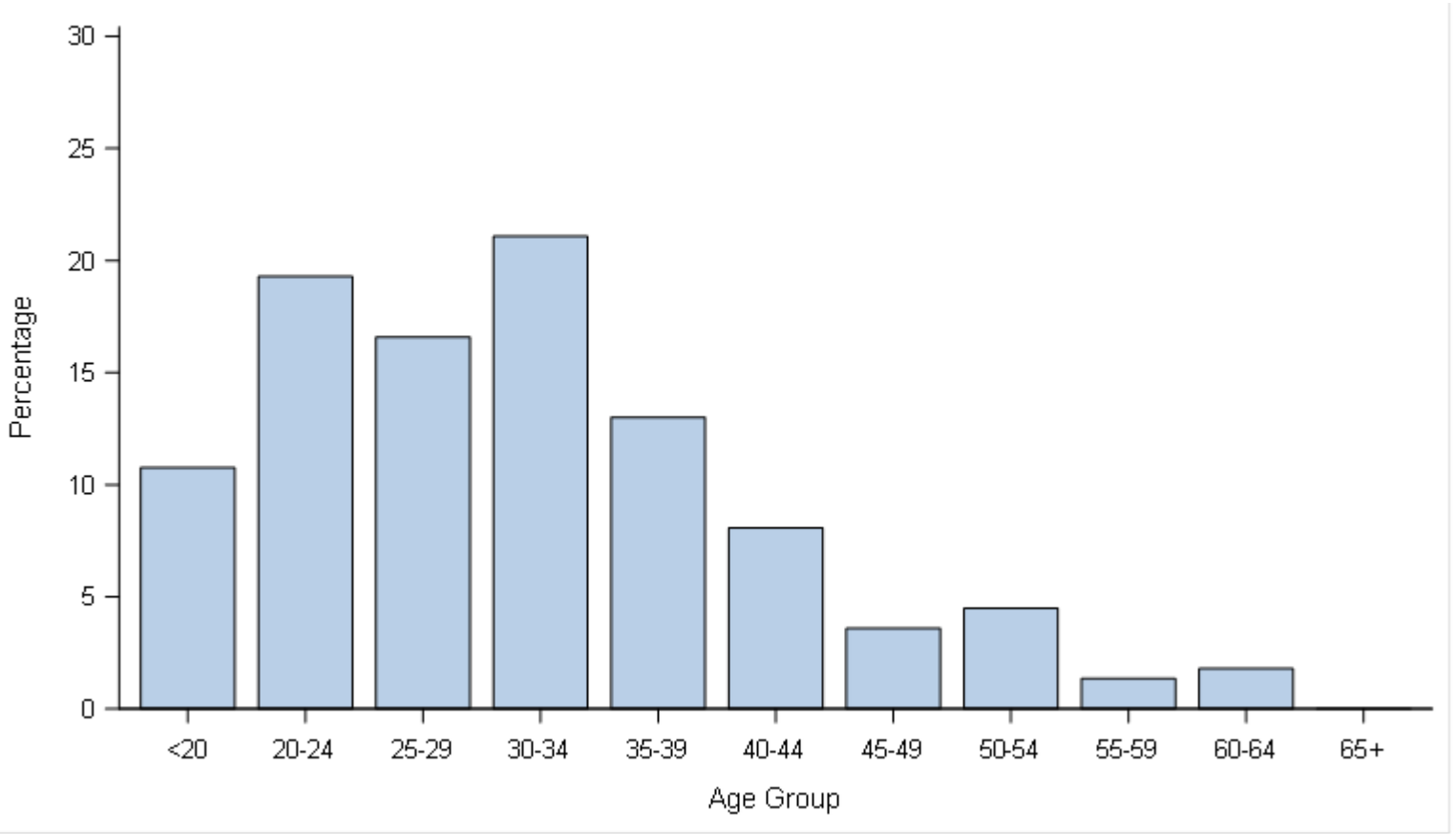
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
33 (11.0)	37 (12.3)	44 (14.8)	31 (11.0)	41 (13.7)	54 (18.2)	69 (23.5)	88 (29.6)	84 (28.5)	87 (31.6)

Ciprofloxacin resistance MIC \geq 1.0 μ g/mL.

Site participated in GISP during 2013-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

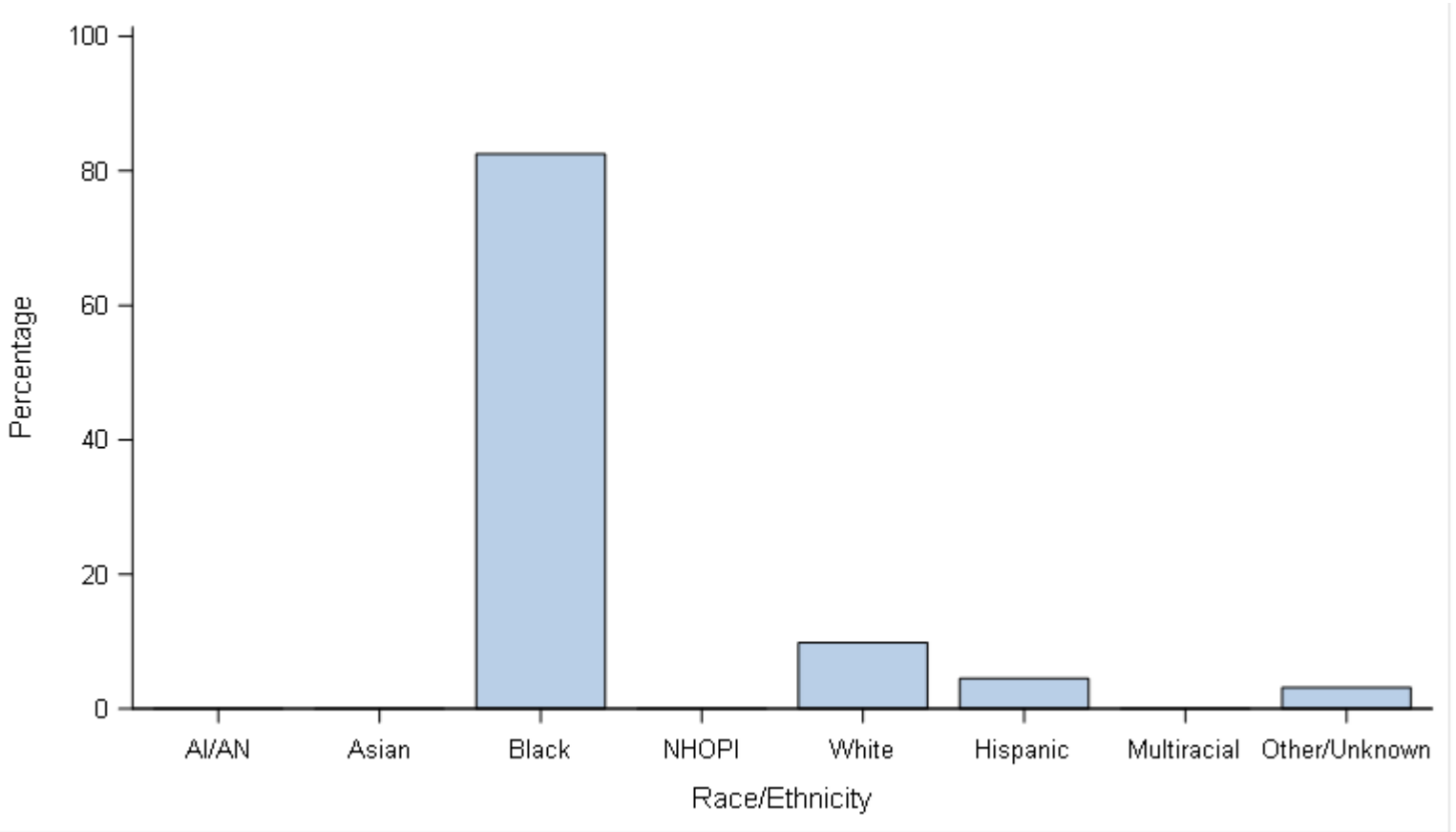
Figure A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Kansas City, Missouri, 2022



<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
24 (10.8)	43 (19.3)	37 (16.6)	47 (21.1)	29 (13.0)	18 (8.1)	8 (3.6)	10 (4.5)	3 (1.3)	4 (1.8)	0 (0.0)	223

Cases with unknown age were excluded.

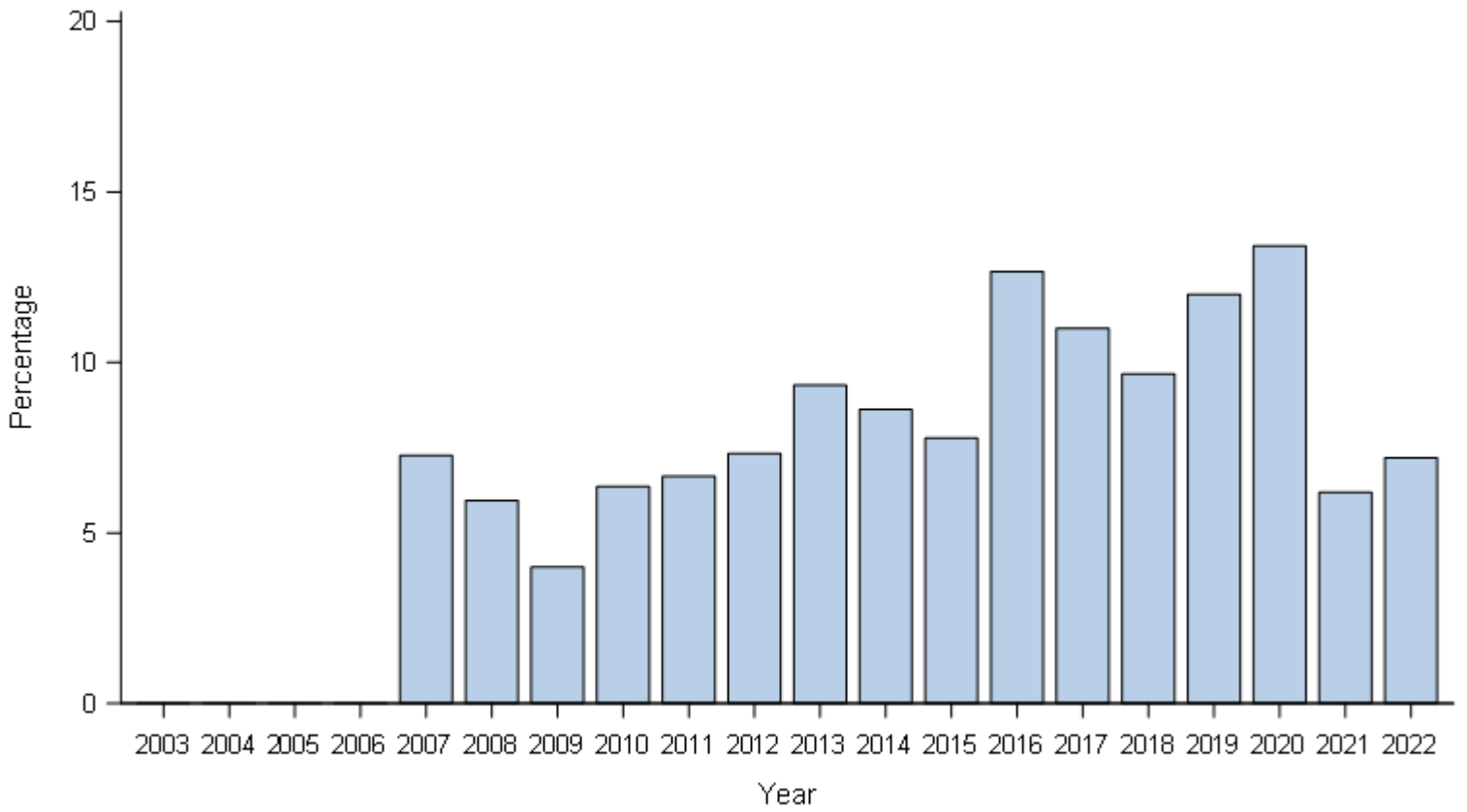
Figure B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Kansas City, Missouri, 2022



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)	184 (82.5)	0 (0.0)	22 (9.9)	10 (4.5)	0 (0.0)	7 (3.1)	223

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.

Figure C. Percentage of Participants Identifying as Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Kansas City, Missouri, 2003-2022

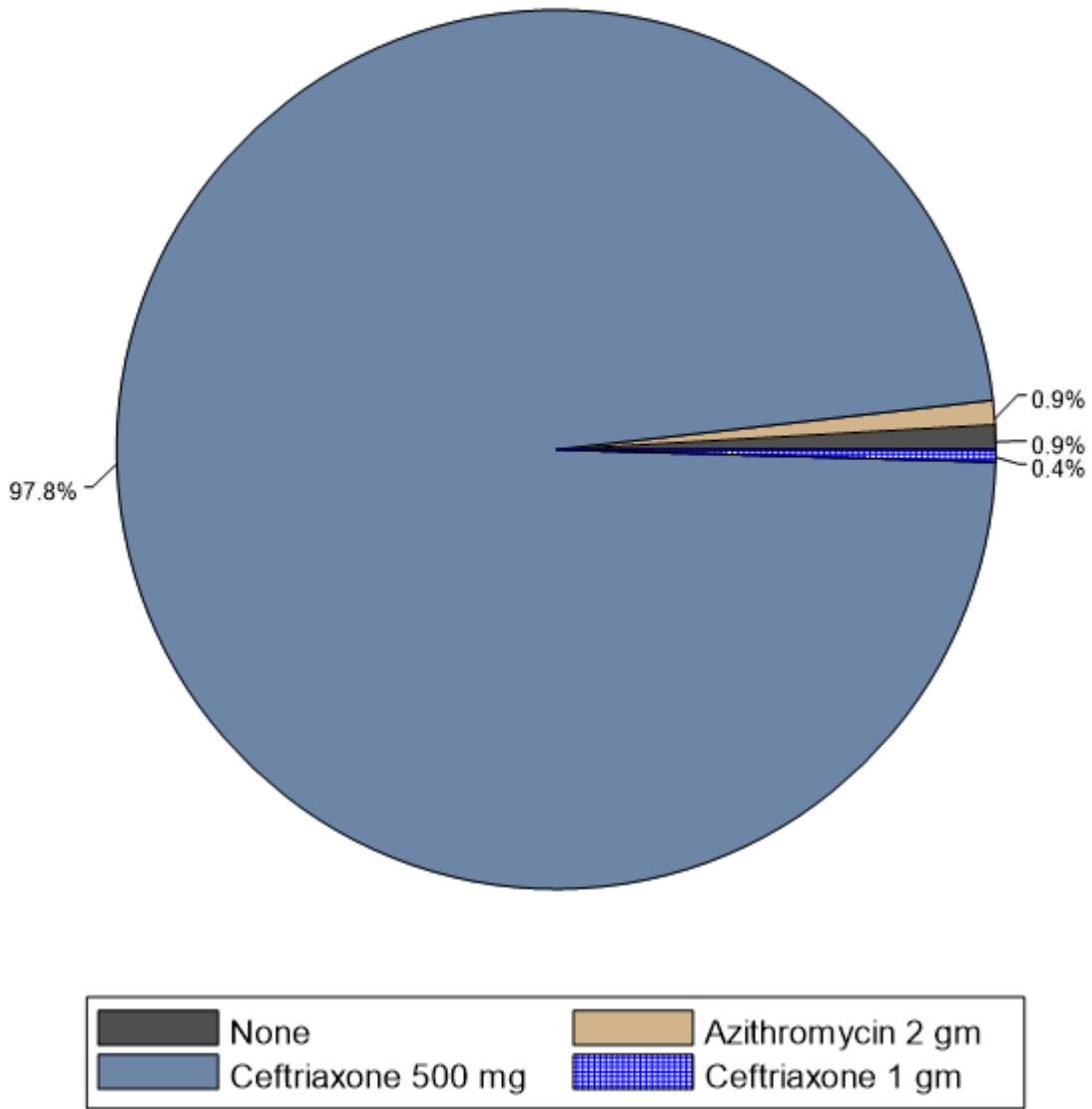


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4 (7.3)	15 (6.0)	12 (4.0)	19 (6.4)	20 (6.7)	22 (7.3)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
28 (9.3)	20 (8.6)	21 (7.8)	38 (12.7)	33 (11.0)	29 (9.7)	36 (12.0)	11 (13.4)	6 (6.2)	16 (7.2)

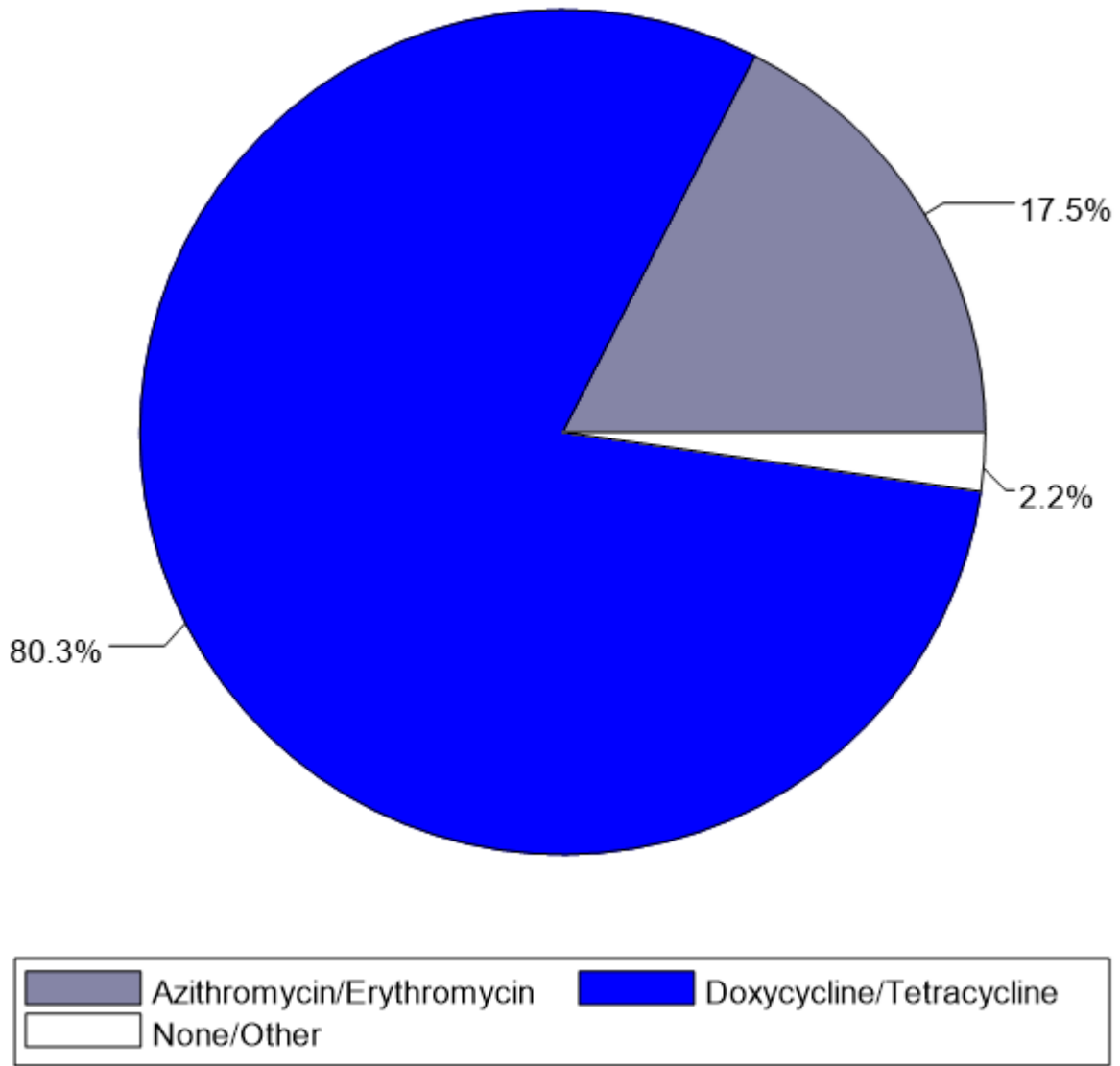
Men who have sex with men = men who self-identified as gay or bisexual or reported recent male sex partners.
 Site participated in GISP during 2007-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Kansas City, Missouri, 2022



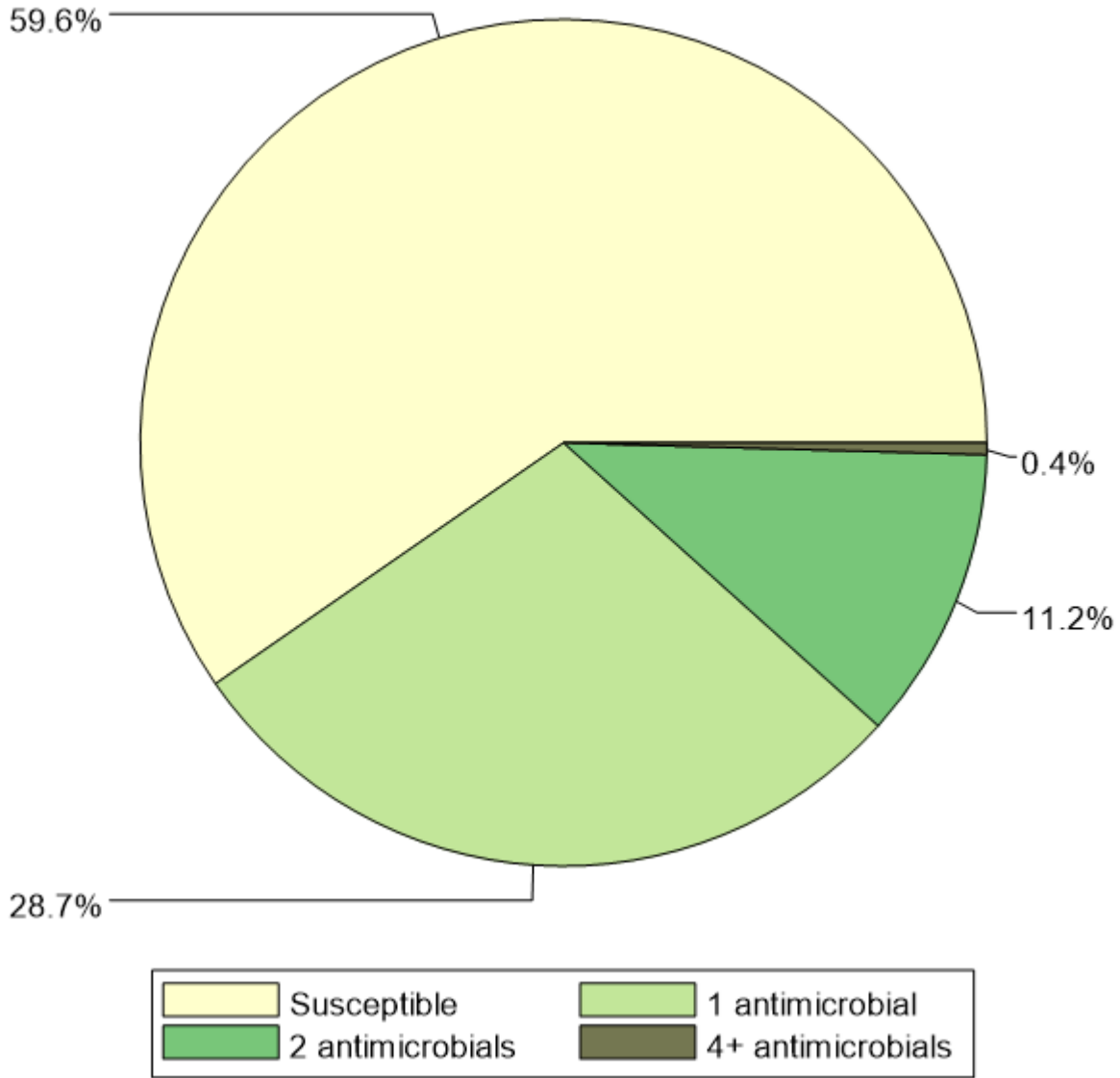
Primary Treatment	Count	Percentage
None	2	0.9
Azithromycin 2 gm	2	0.9
Ceftriaxone 500 mg	218	97.8
Ceftriaxone 1 gm	1	0.4

Figure E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Kansas City, Missouri, 2022



Secondary Treatment	Count	Percentage
Azithromycin/Erythromycin	39	17.5
Doxycycline/Tetracycline	179	80.3
None/Other	5	2.2

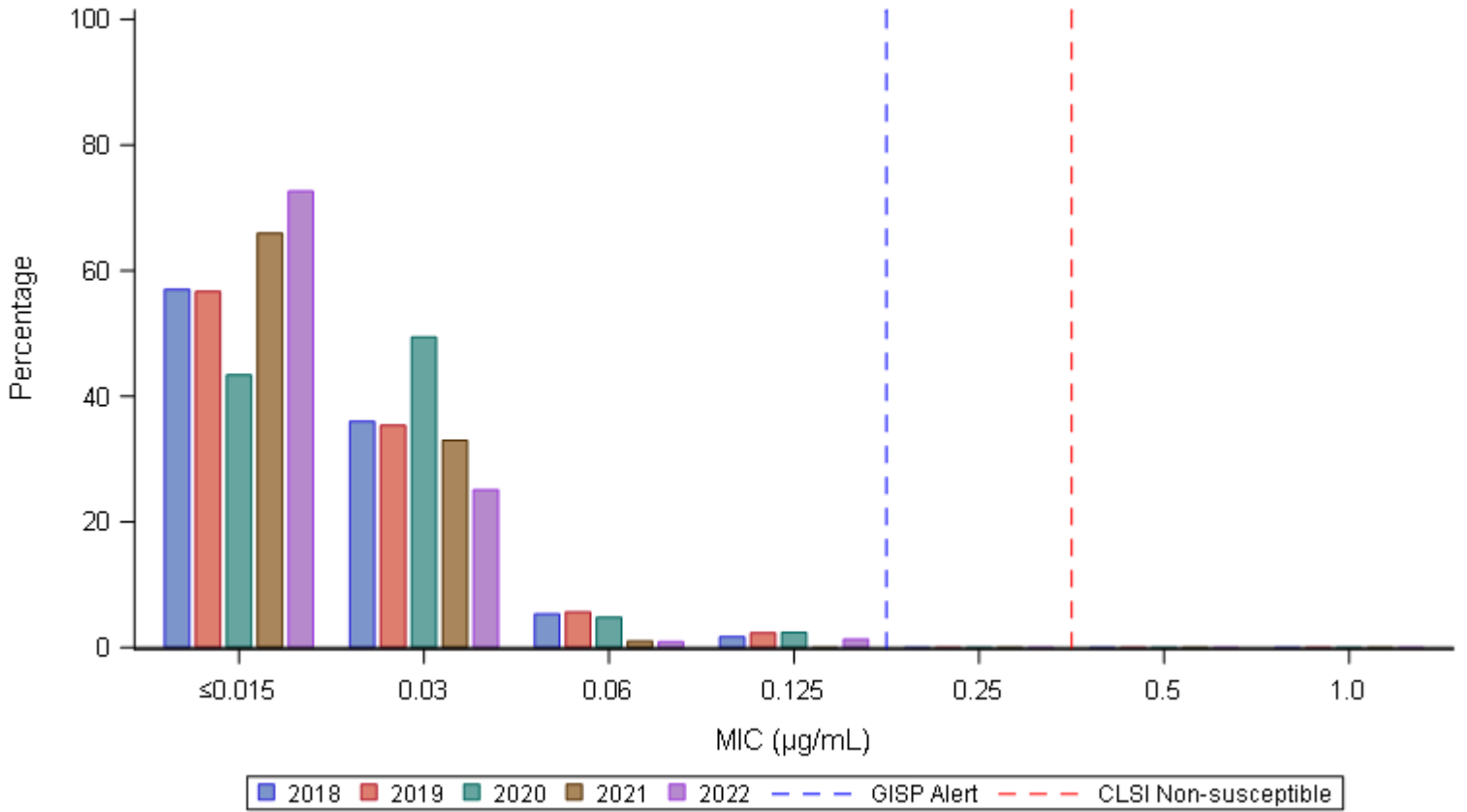
Figure F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Kansas City, Missouri, 2022



Number of Antimicrobials	Count	Percentage
Susceptible	133	59.6
1 antimicrobial	64	28.7
2 antimicrobials	25	11.2
3 antimicrobials	0	0.0
4+ antimicrobials	1	0.4

Elevated MICs = ceftriaxone MIC ≥ 0.125 $\mu\text{g/mL}$; cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; Resistance = tetracycline MIC ≥ 2.0 $\mu\text{g/mL}$; ciprofloxacin MIC ≥ 1.0 $\mu\text{g/mL}$; penicillin MIC ≥ 2.0 $\mu\text{g/mL}$ or β -lactamase positive.

Figure G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Kansas City, Missouri, 2018-2022



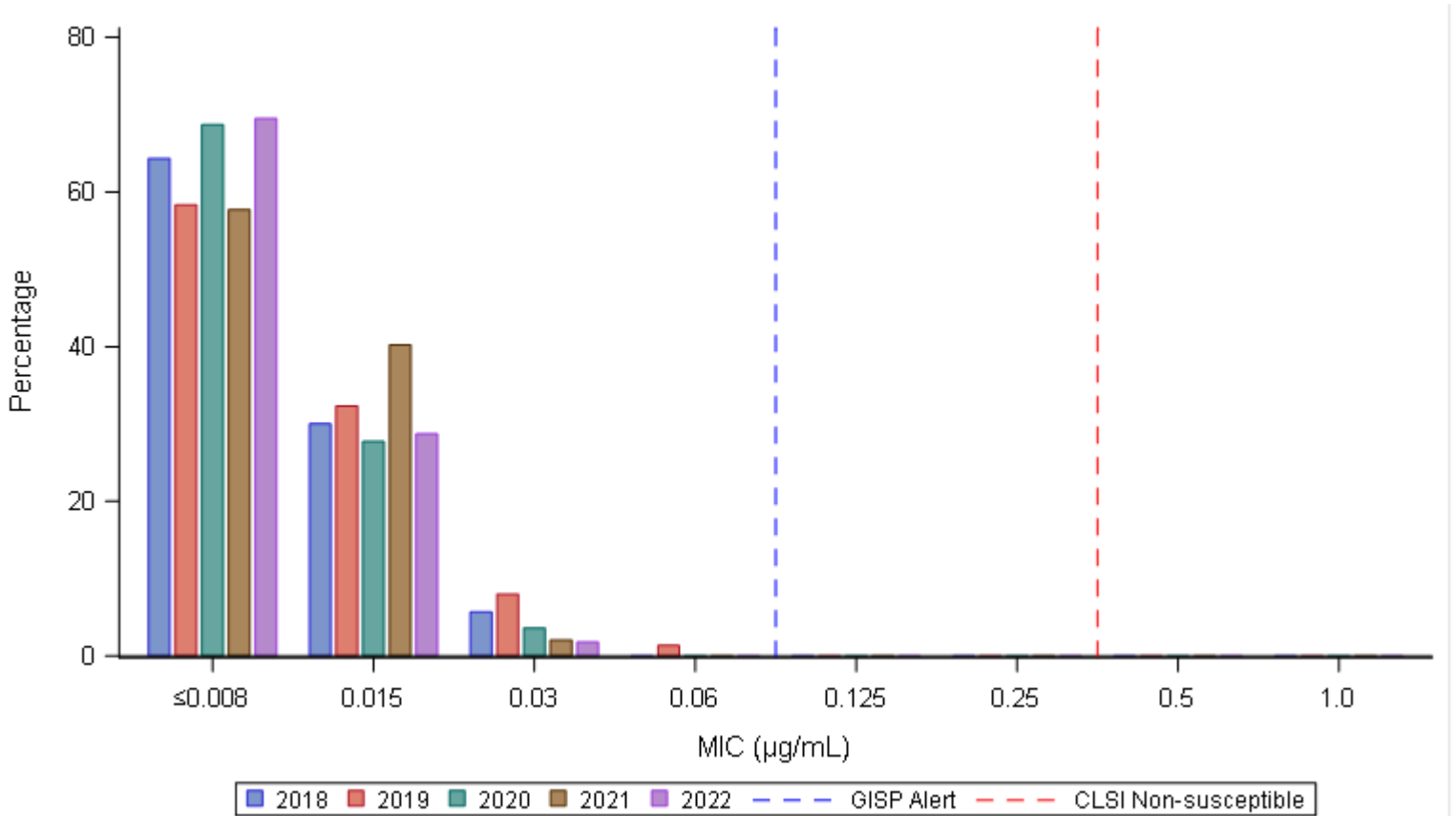
Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	171 (57.0)	108 (36.0)	16 (5.3)	5 (1.7)	0 (0.0)	0 (0.0)	0 (0.0)	300
2019	170 (56.7)	106 (35.3)	17 (5.7)	7 (2.3)	0 (0.0)	0 (0.0)	0 (0.0)	300
2020	36 (43.4)	41 (49.4)	4 (4.8)	2 (2.4)	0 (0.0)	0 (0.0)	0 (0.0)	83
2021	64 (66.0)	32 (33.0)	1 (1.0)	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)	223

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

CLSI = Clinical & Laboratory Standards Institute.

Non-susceptible = Category used for isolates when only a susceptible breakpoint has been designated and the MIC is above the susceptible breakpoint. As of the end of 2022, the CLSI has not established a cefixime resistance breakpoint for *N. gonorrhoeae*.

Figure H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Kansas City, Missouri, 2018-2022



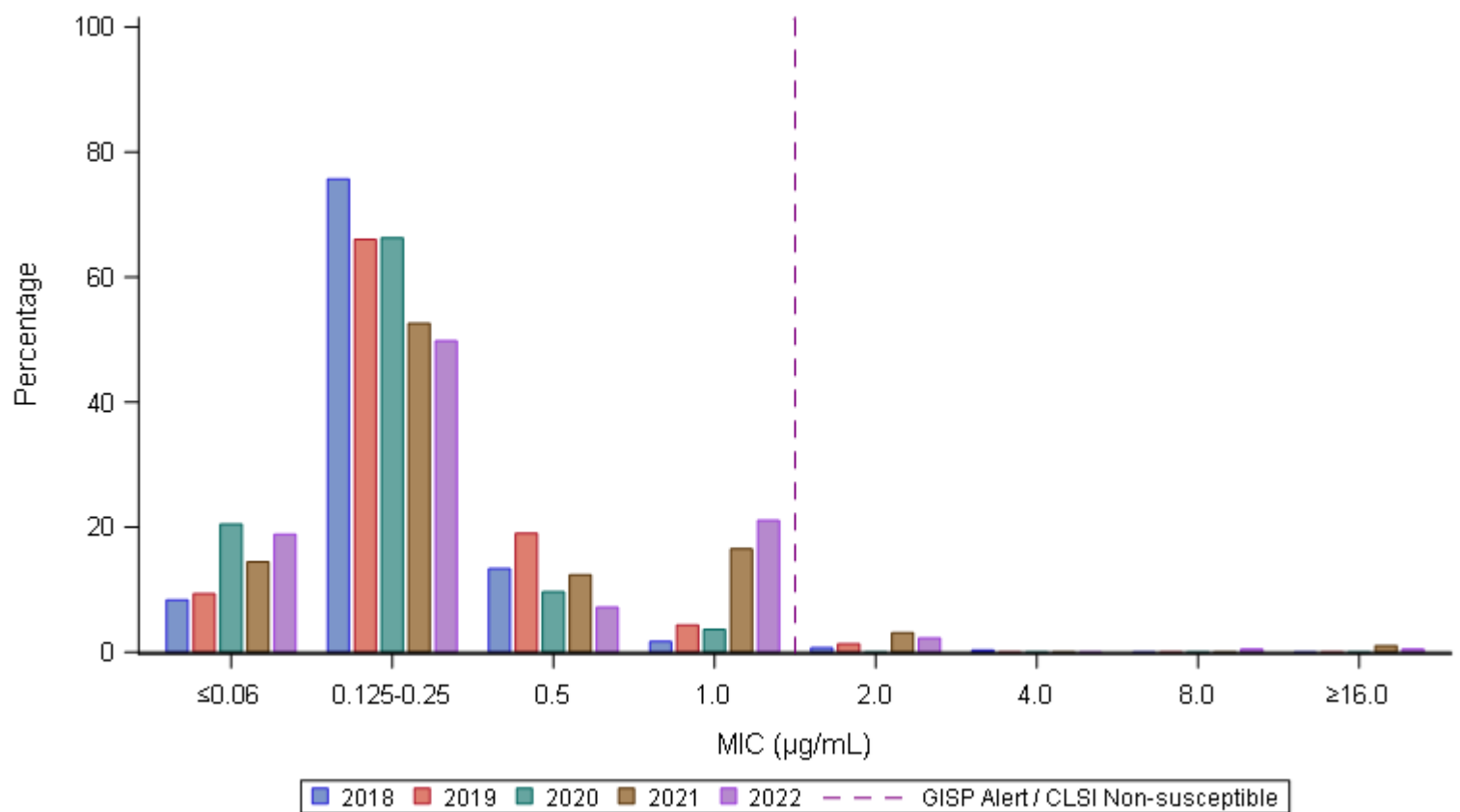
Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	193 (64.3)	90 (30.0)	17 (5.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	300
2019	175 (58.3)	97 (32.3)	24 (8.0)	4 (1.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	300
2020	57 (68.7)	23 (27.7)	3 (3.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	83
2021	56 (57.7)	39 (40.2)	2 (2.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	97
2022	155 (69.5)	64 (28.7)	4 (1.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	223

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 the end of 2022, the CLSI has not established a ceftriaxone resistance breakpoint for *N. gonorrhoeae*.

Figure I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Kansas City, Missouri, 2018-2022



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
2018	25 (8.3)	227 (75.7)	40 (13.3)	5 (1.7)	2 (0.7)	1 (0.3)	0 (0.0)	0 (0.0)	300
2019	28 (9.3)	198 (66.0)	57 (19.0)	13 (4.3)	4 (1.3)	0 (0.0)	0 (0.0)	0 (0.0)	300
2020	17 (20.5)	55 (66.3)	8 (9.6)	3 (3.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	83
2021	14 (14.4)	51 (52.6)	12 (12.4)	16 (16.5)	3 (3.1)	0 (0.0)	0 (0.0)	1 (1.0)	97
2022	42 (18.8)	111 (49.8)	16 (7.2)	47 (21.1)	5 (2.2)	0 (0.0)	1 (0.4)	1 (0.4)	223

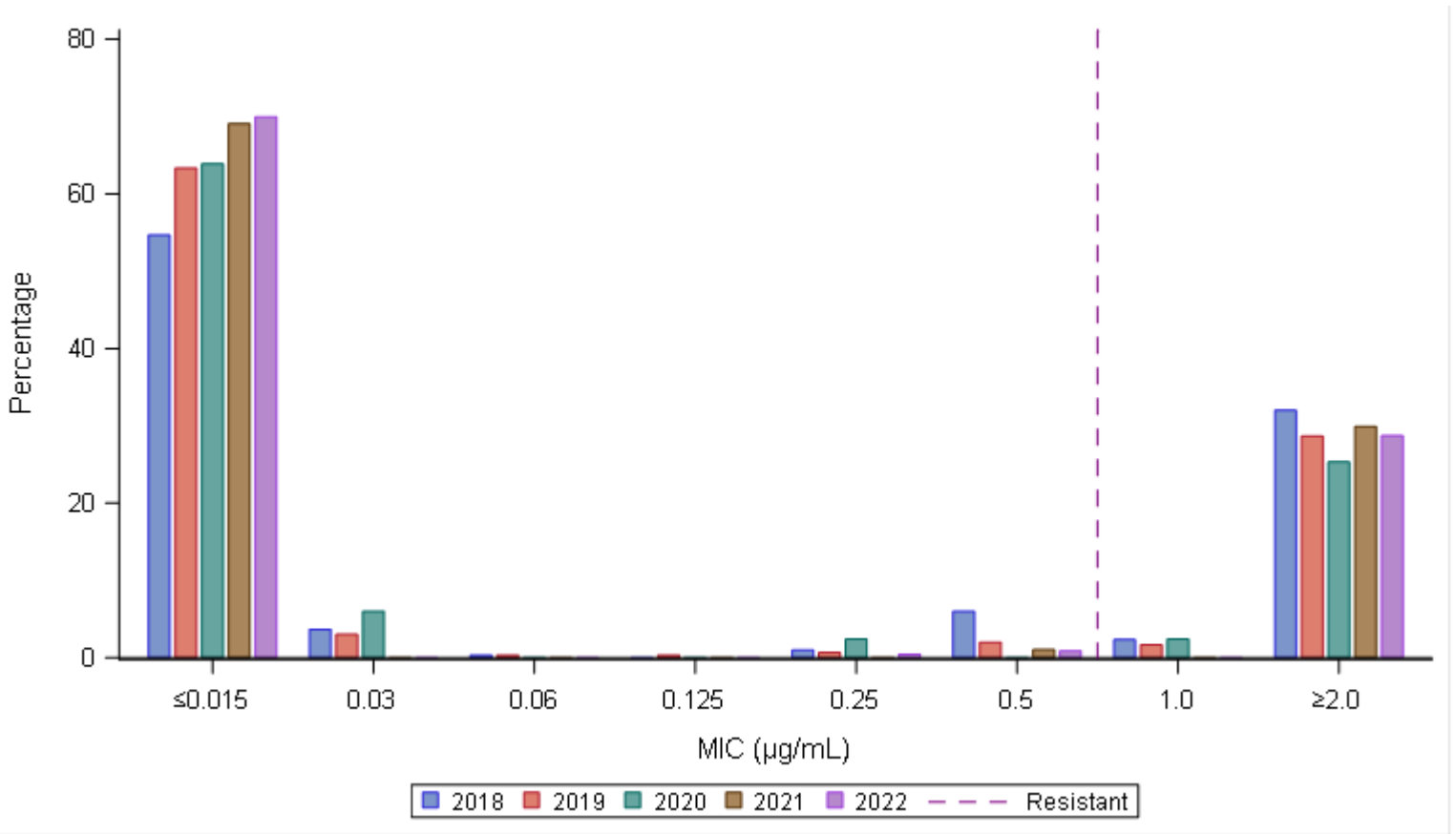
GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; CLSI Non-susceptible = azithromycin MIC ≥2.0 µg/mL.

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 the end of 2022, the CLSI has not established an azithromycin resistance breakpoint for *N. gonorrhoeae*.

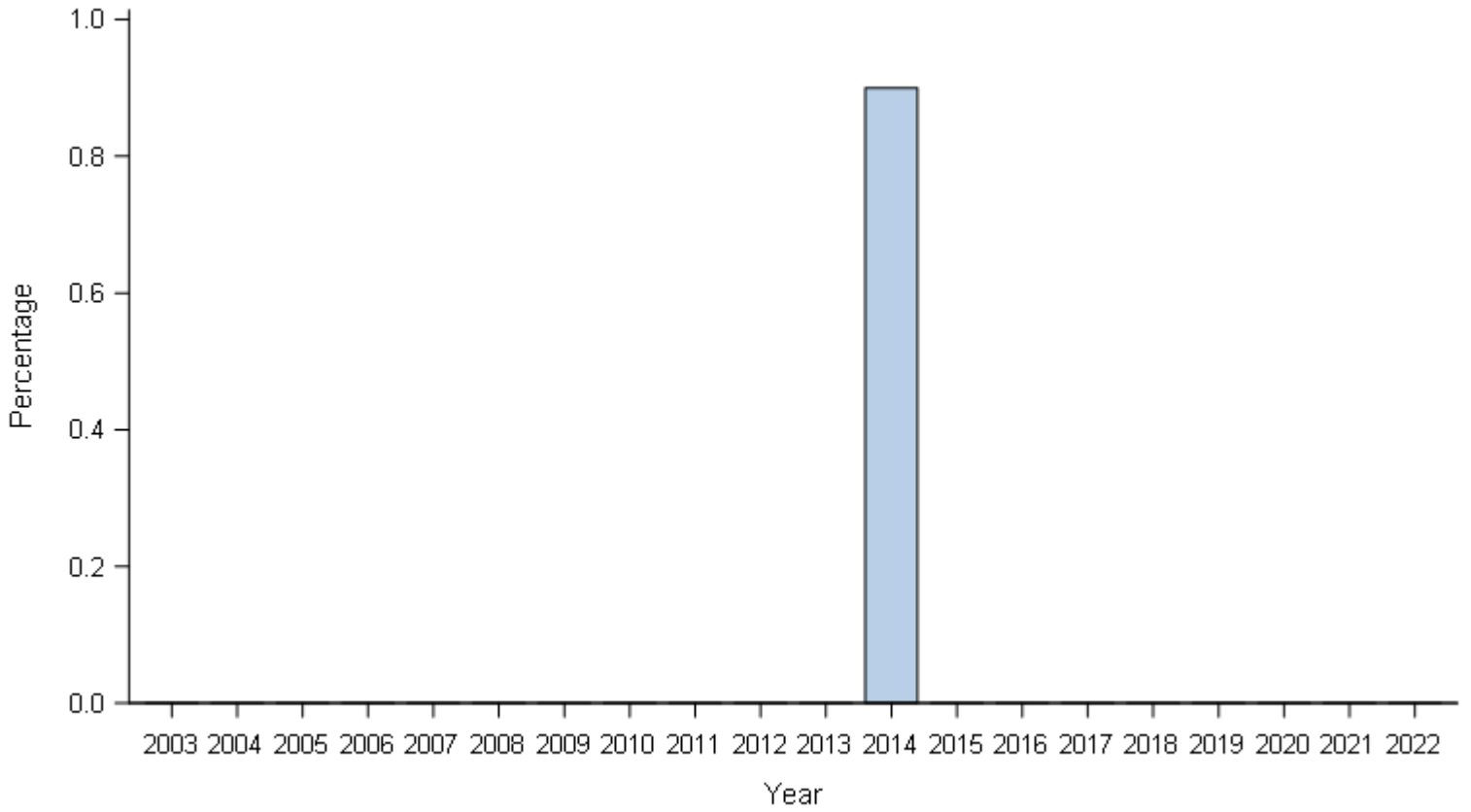
Figure J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Kansas City, Missouri, 2018-2022



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
2018	164 (54.7)	11 (3.7)	1 (0.3)	0 (0.0)	3 (1.0)	18 (6.0)	7 (2.3)	96 (32.0)	300
2019	190 (63.3)	9 (3.0)	1 (0.3)	1 (0.3)	2 (0.7)	6 (2.0)	5 (1.7)	86 (28.7)	300
2020	53 (63.9)	5 (6.0)	0 (0.0)	0 (0.0)	2 (2.4)	0 (0.0)	2 (2.4)	21 (25.3)	83
2021	67 (69.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.0)	0 (0.0)	29 (29.9)	97
2022	156 (70.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.4)	2 (0.9)	0 (0.0)	64 (28.7)	223

Ciprofloxacin resistance MIC ≥1.0 µg/mL.

Figure K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Kansas City, Missouri, 2003-2022



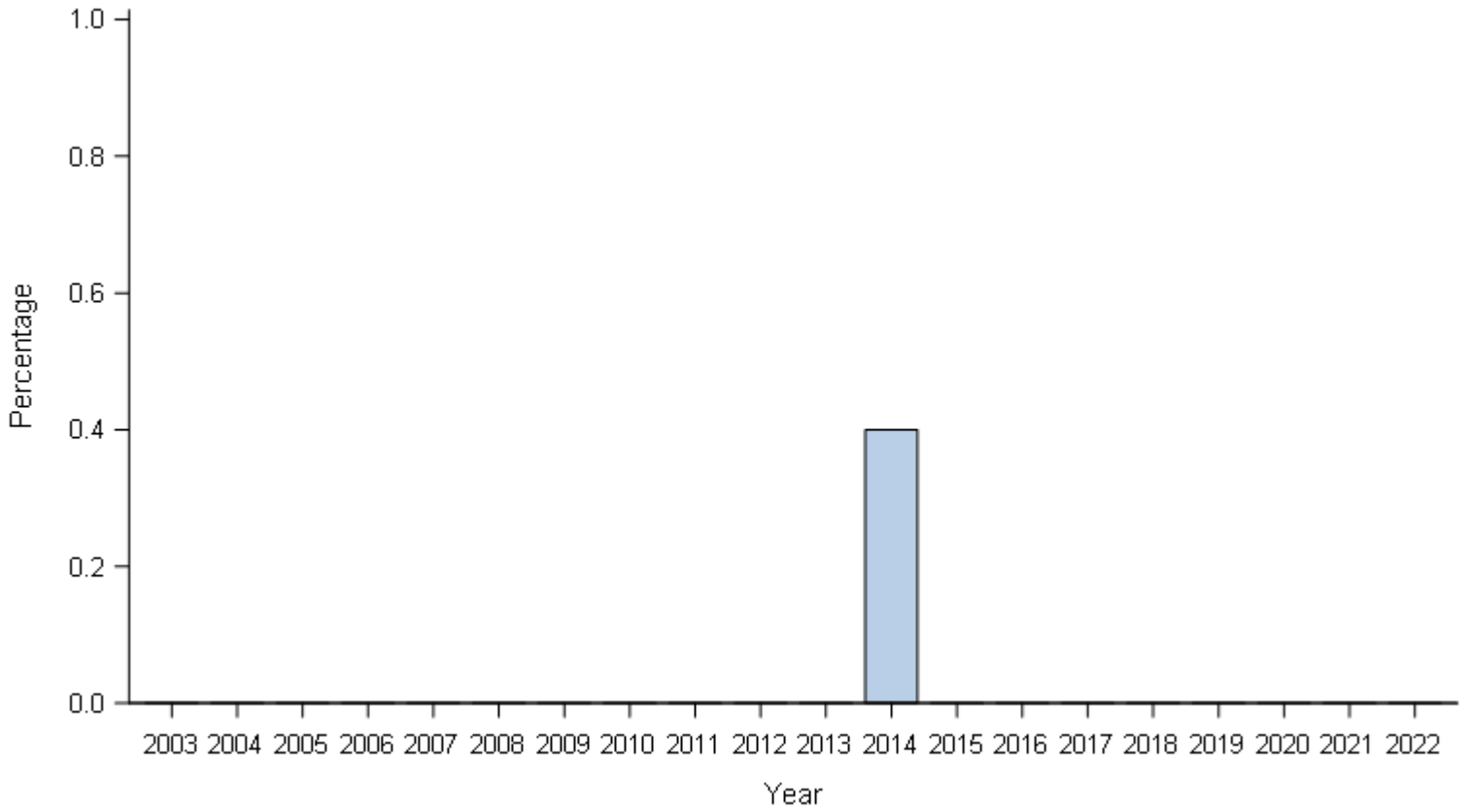
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	2 (0.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

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

Site participated in GISP during 2007-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Kansas City, Missouri, 2003-2022



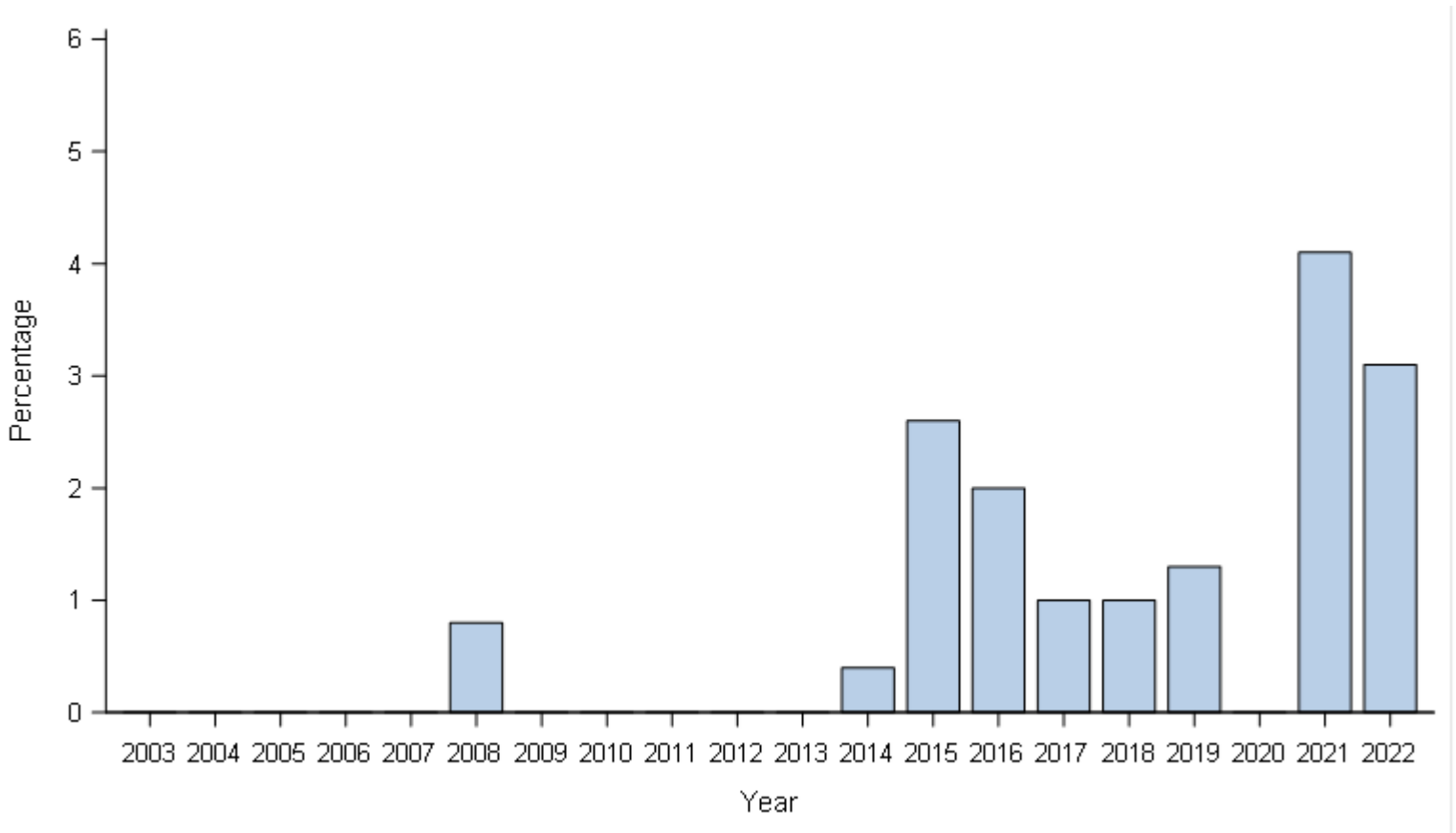
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

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

Site participated in GISP during 2007-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure M. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Kansas City, Missouri, 2003-2022



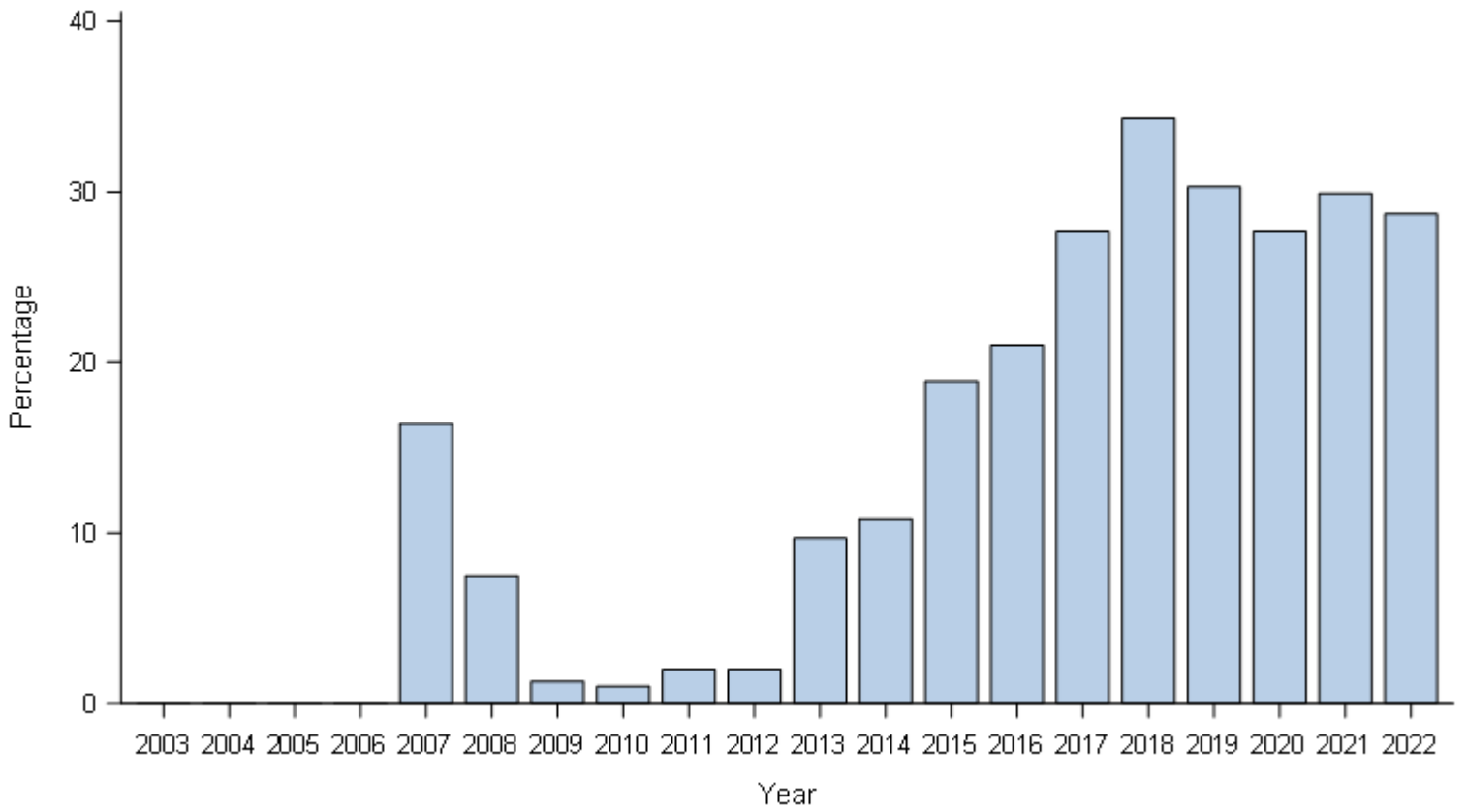
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (0.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	1 (0.4)	7 (2.6)	6 (2.0)	3 (1.0)	3 (1.0)	4 (1.3)	0 (0.0)	4 (4.1)	7 (3.1)

Azithromycin elevated MIC ≥ 1.0 $\mu\text{g/mL}$ prior to 2005 and ≥ 2.0 $\mu\text{g/mL}$ during 2005-2022.

Site participated in GISP during 2007-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Kansas City, Missouri, 2003-2022



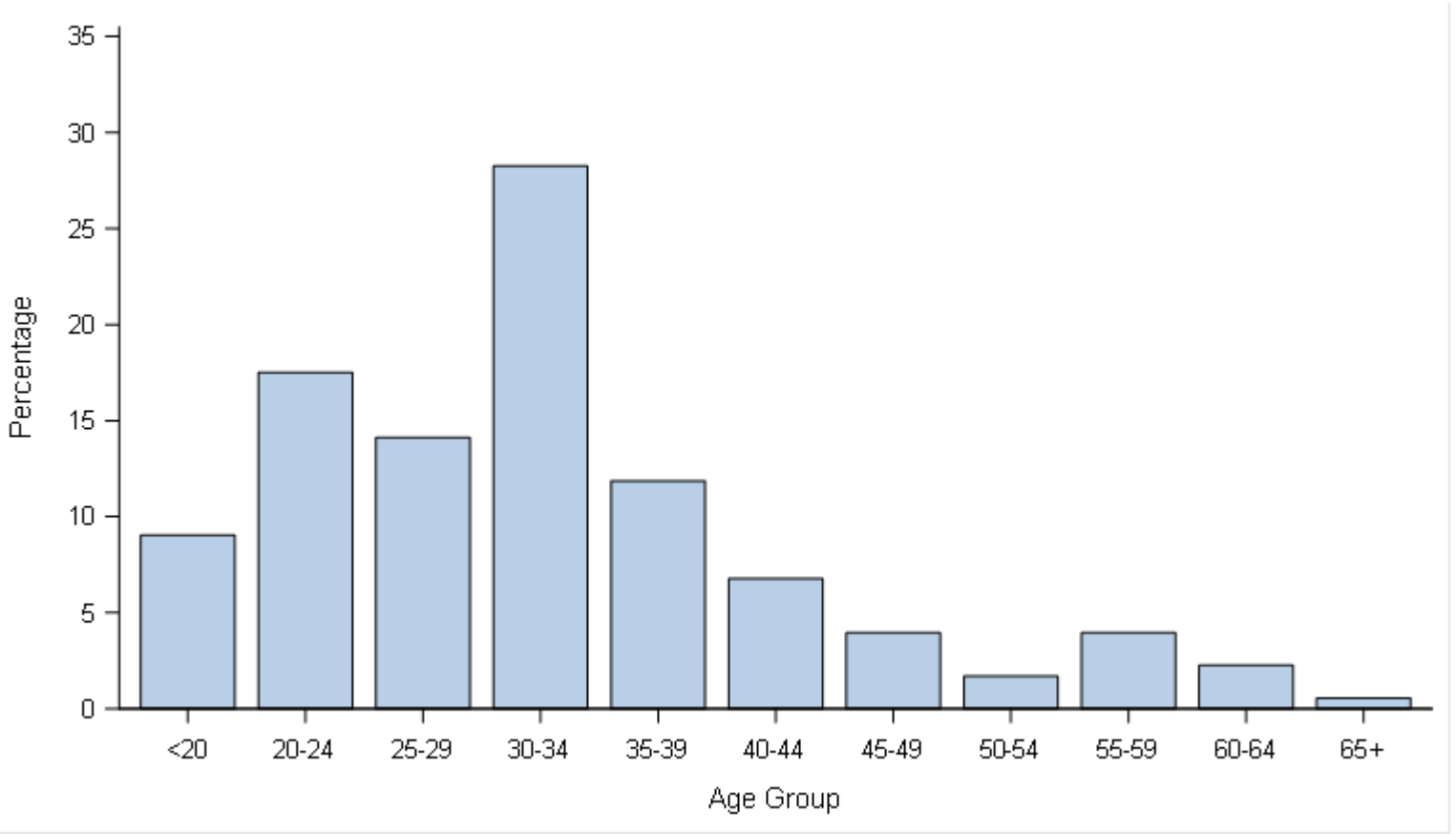
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	9 (16.4)	19 (7.5)	4 (1.3)	3 (1.0)	6 (2.0)	6 (2.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
29 (9.7)	25 (10.8)	51 (18.9)	63 (21.0)	83 (27.7)	103 (34.3)	91 (30.3)	23 (27.7)	29 (29.9)	64 (28.7)

Ciprofloxacin resistance MIC \geq 1.0 μ g/mL.

Site participated in GISP during 2007-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

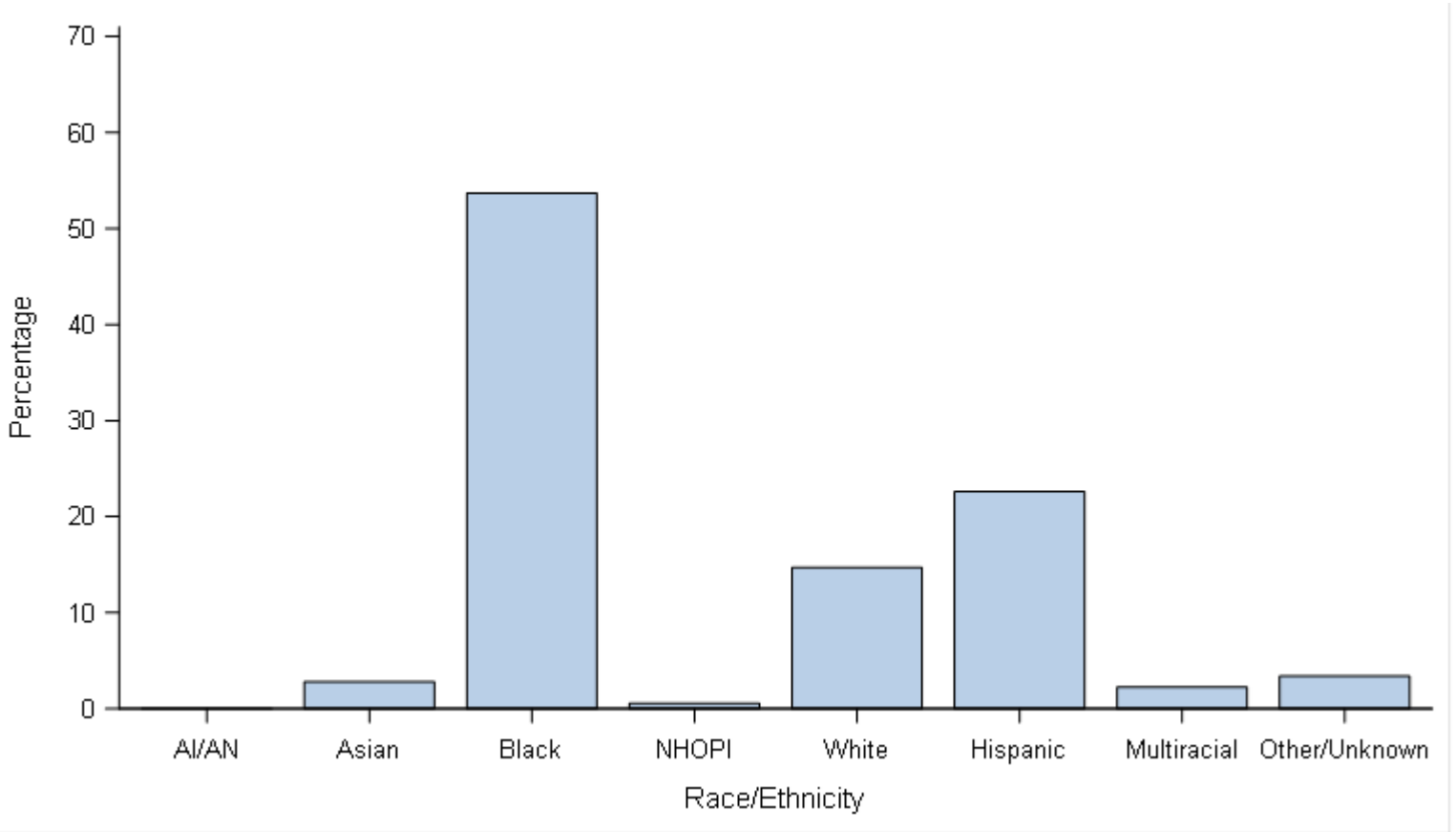
Figure A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Las Vegas, Nevada, 2022



<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
16 (9.0)	31 (17.5)	25 (14.1)	50 (28.2)	21 (11.9)	12 (6.8)	7 (4.0)	3 (1.7)	7 (4.0)	4 (2.3)	1 (0.6)	177

Cases with unknown age were excluded.

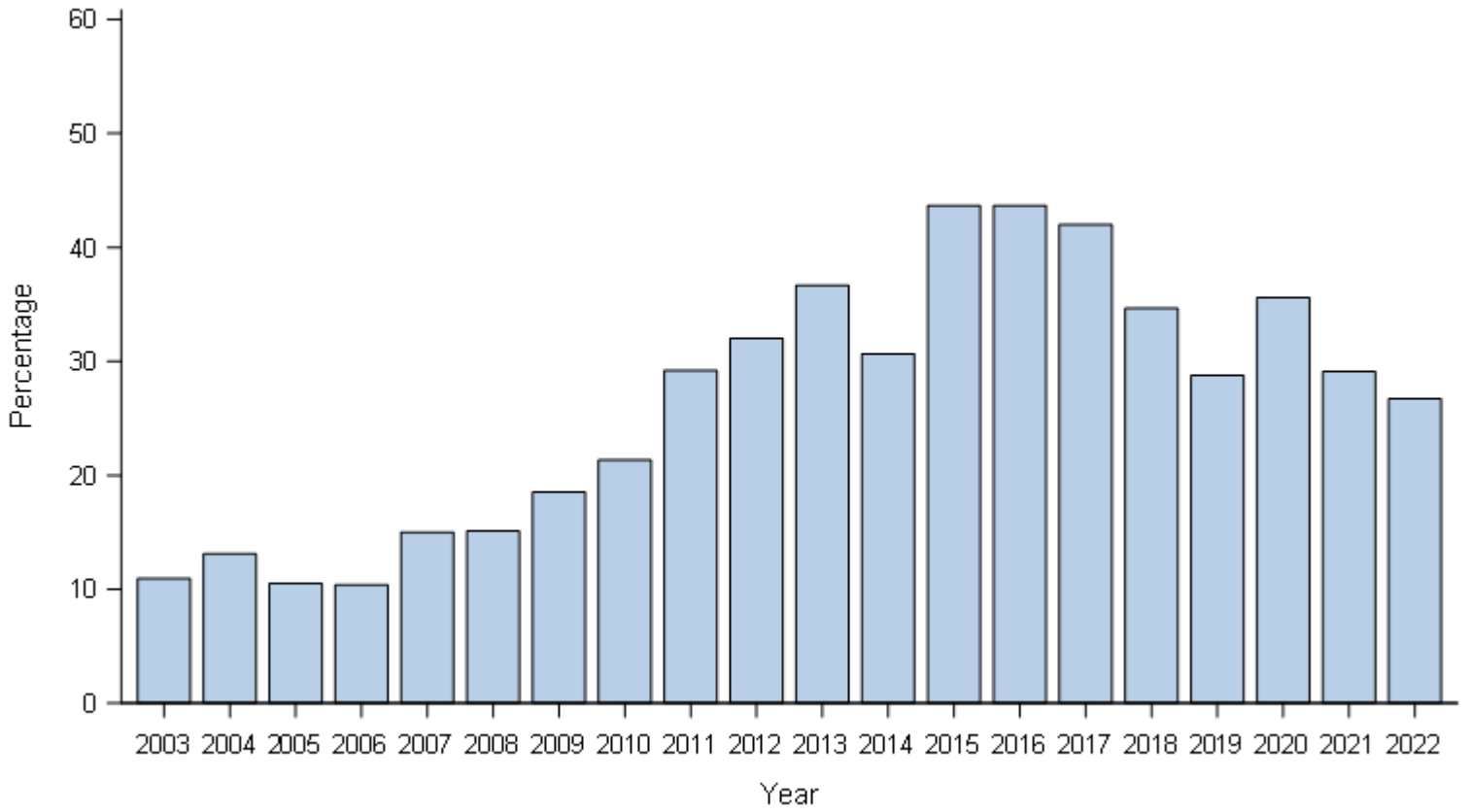
Figure B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Las Vegas, Nevada, 2022



AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	5 (2.8)	95 (53.7)	1 (0.6)	26 (14.7)	40 (22.6)	4 (2.3)	6 (3.4)	177

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

Figure C. Percentage of Participants Identifying as Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Las Vegas, Nevada, 2003-2022

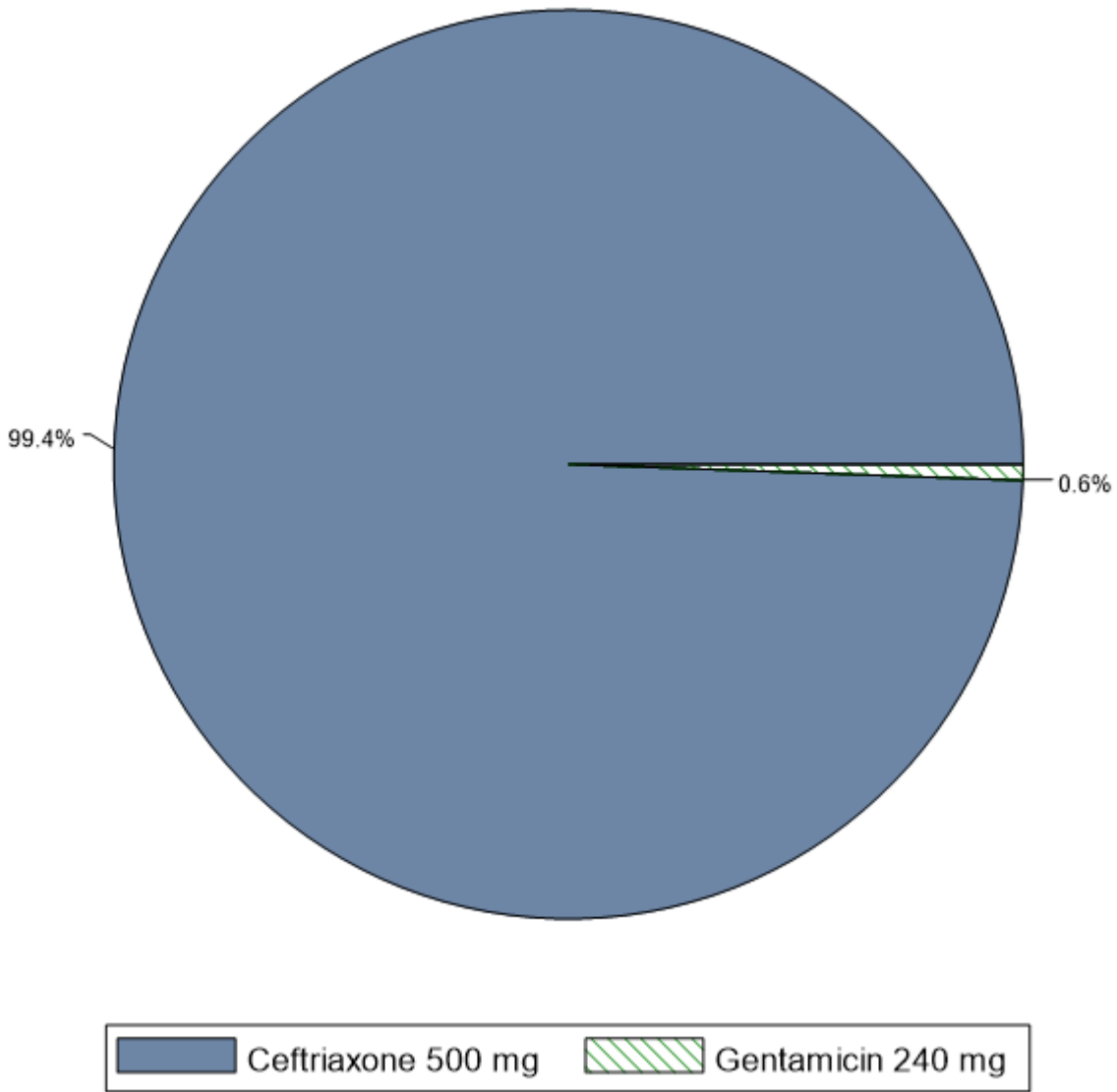


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
31 (11.0)	38 (13.1)	31 (10.5)	31 (10.4)	45 (15.0)	45 (15.1)	55 (18.5)	64 (21.3)	85 (29.2)	81 (32.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
110 (36.7)	92 (30.7)	131 (43.7)	131 (43.7)	126 (42.0)	97 (34.6)	69 (28.8)	58 (35.6)	48 (29.1)	47 (26.7)

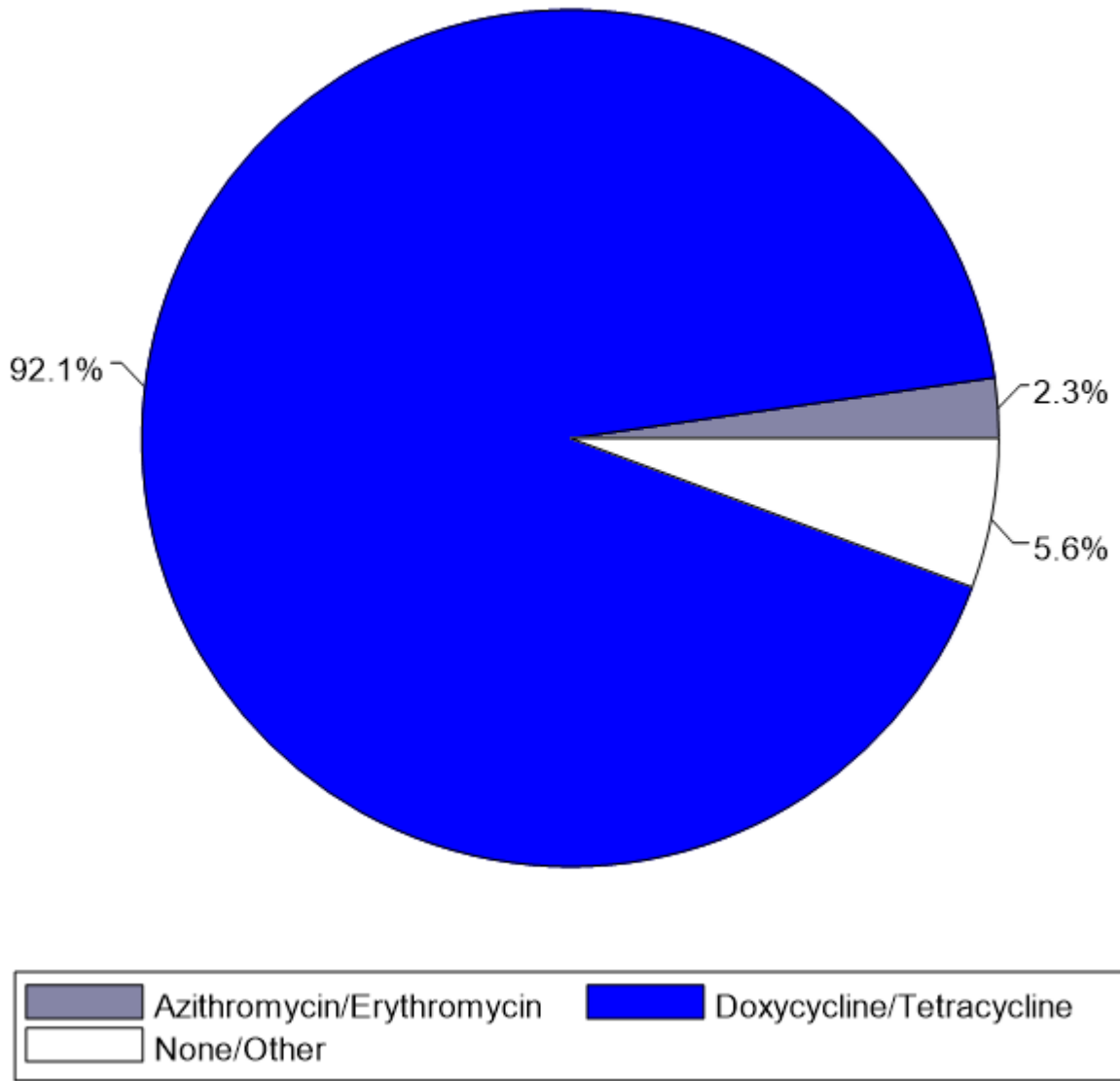
Men who have sex with men = men who self-identified as gay or bisexual or reported recent male sex partners.

Figure D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Las Vegas, Nevada, 2022



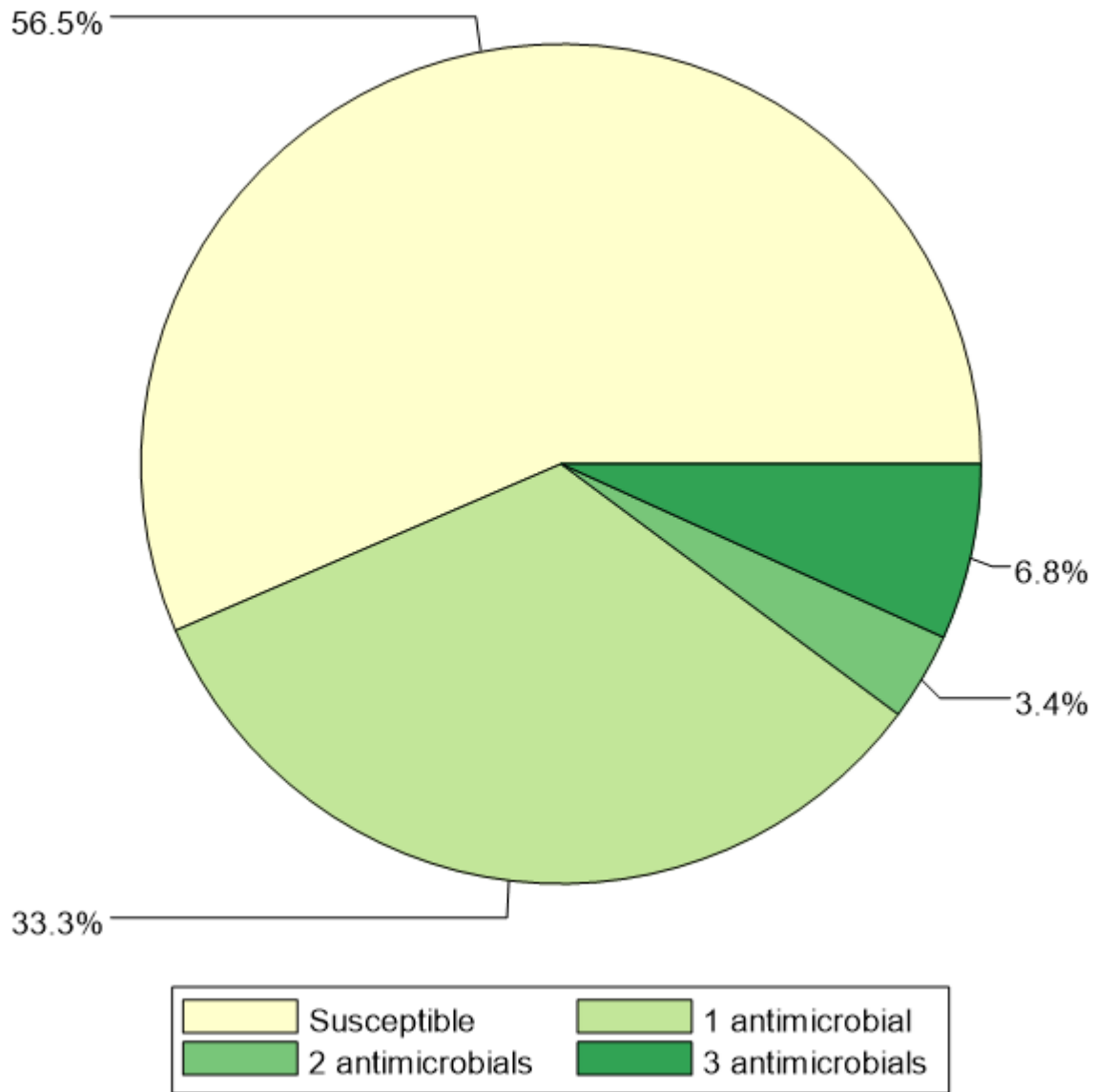
Primary Treatment	Count	Percentage
Ceftriaxone 500 mg	176	99.4
Gentamicin 240 mg	1	0.6

Figure E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Las Vegas, Nevada, 2022



Secondary Treatment	Count	Percentage
Azithromycin/Erythromycin	4	2.3
Doxycycline/Tetracycline	163	92.1
None/Other	10	5.6

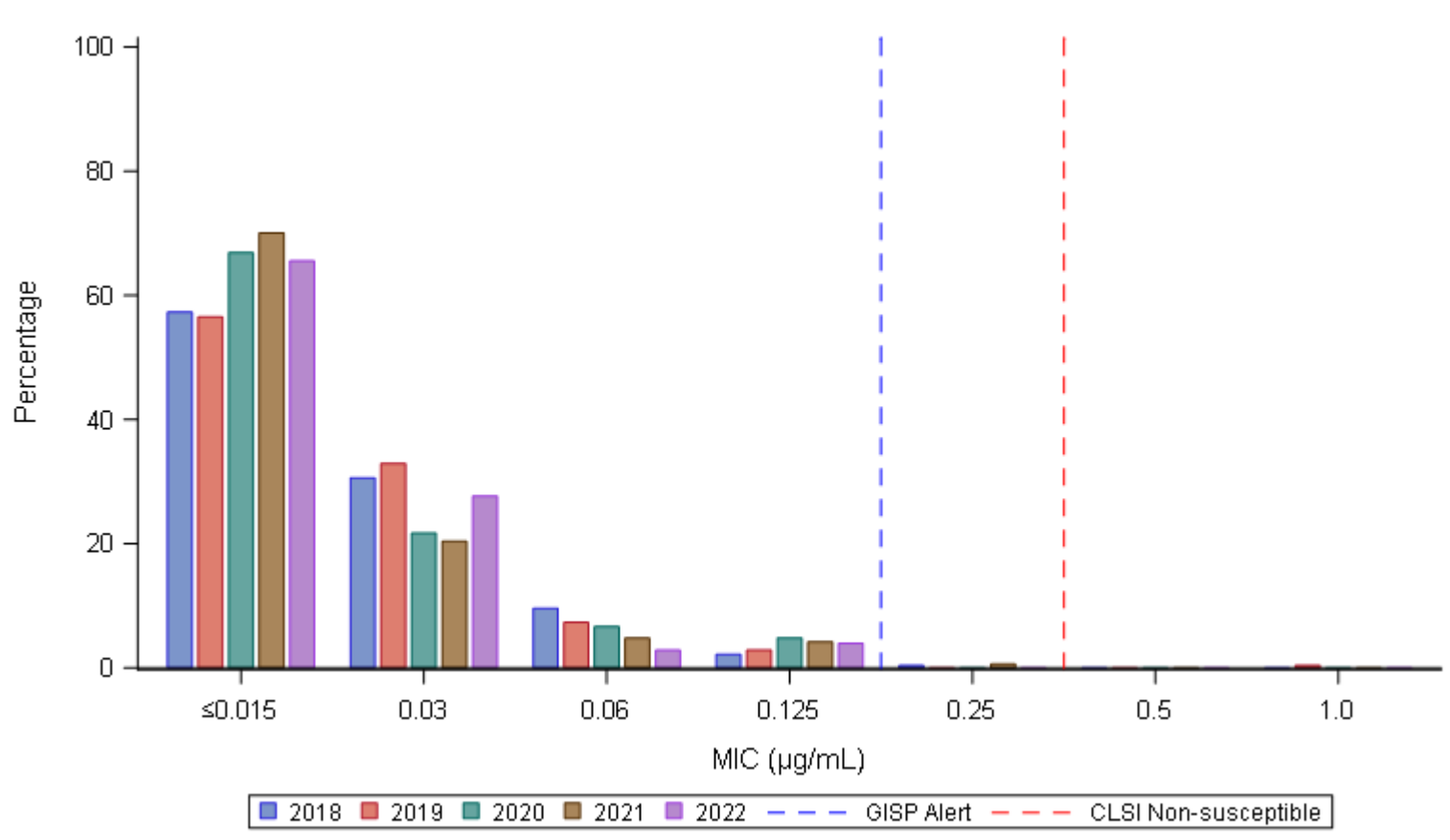
Figure F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Las Vegas, Nevada, 2022



Number of Antimicrobials	Count	Percentage
Susceptible	100	56.5
1 antimicrobial	59	33.3
2 antimicrobials	6	3.4
3 antimicrobials	12	6.8
4+ antimicrobials	0	0.0

Elevated MICs = ceftriaxone MIC ≥ 0.125 $\mu\text{g}/\text{mL}$; cefixime MIC ≥ 0.25 $\mu\text{g}/\text{mL}$; azithromycin MIC ≥ 2.0 $\mu\text{g}/\text{mL}$; Resistance = tetracycline MIC ≥ 2.0 $\mu\text{g}/\text{mL}$; ciprofloxacin MIC ≥ 1.0 $\mu\text{g}/\text{mL}$; penicillin MIC ≥ 2.0 $\mu\text{g}/\text{mL}$ or β -lactamase positive.

Figure G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Las Vegas, Nevada, 2018-2022



Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	161 (57.3)	86 (30.6)	27 (9.6)	6 (2.1)	1 (0.4)	0 (0.0)	0 (0.0)	281
2019	139 (56.5)	81 (32.9)	18 (7.3)	7 (2.8)	0 (0.0)	0 (0.0)	1 (0.4)	246
2020	111 (66.9)	36 (21.7)	11 (6.6)	8 (4.8)	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)	167
2022	116 (65.5)	49 (27.7)	5 (2.8)	7 (4.0)	0 (0.0)	0 (0.0)	0 (0.0)	177

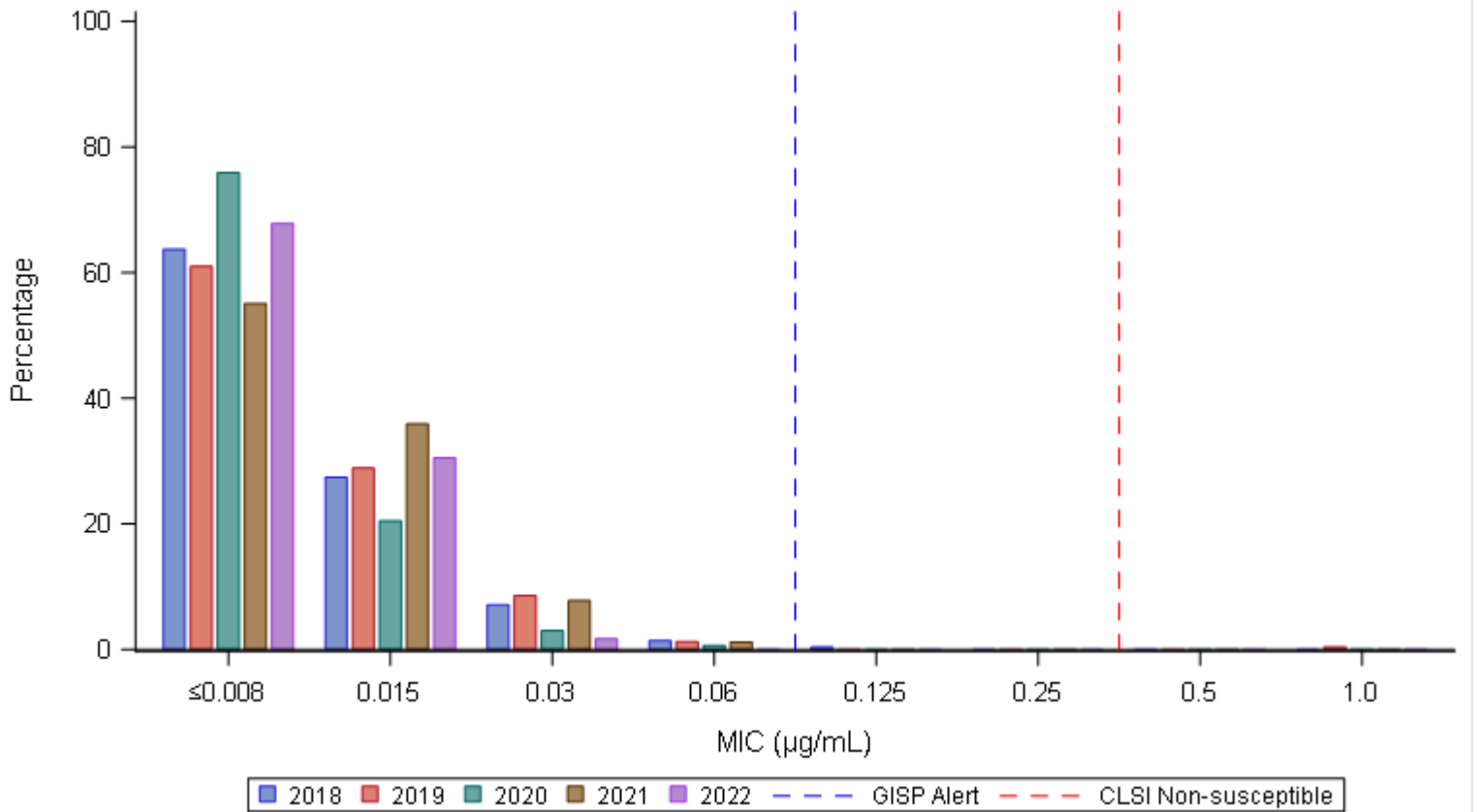
GISP Alert Value = cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; CLSI Non-susceptible = cefixime MIC ≥ 0.5 $\mu\text{g/mL}$.

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 the end of 2022, the CLSI has not established a cefixime resistance breakpoint for *N. gonorrhoeae*.

Figure H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Las Vegas, Nevada, 2018-2022



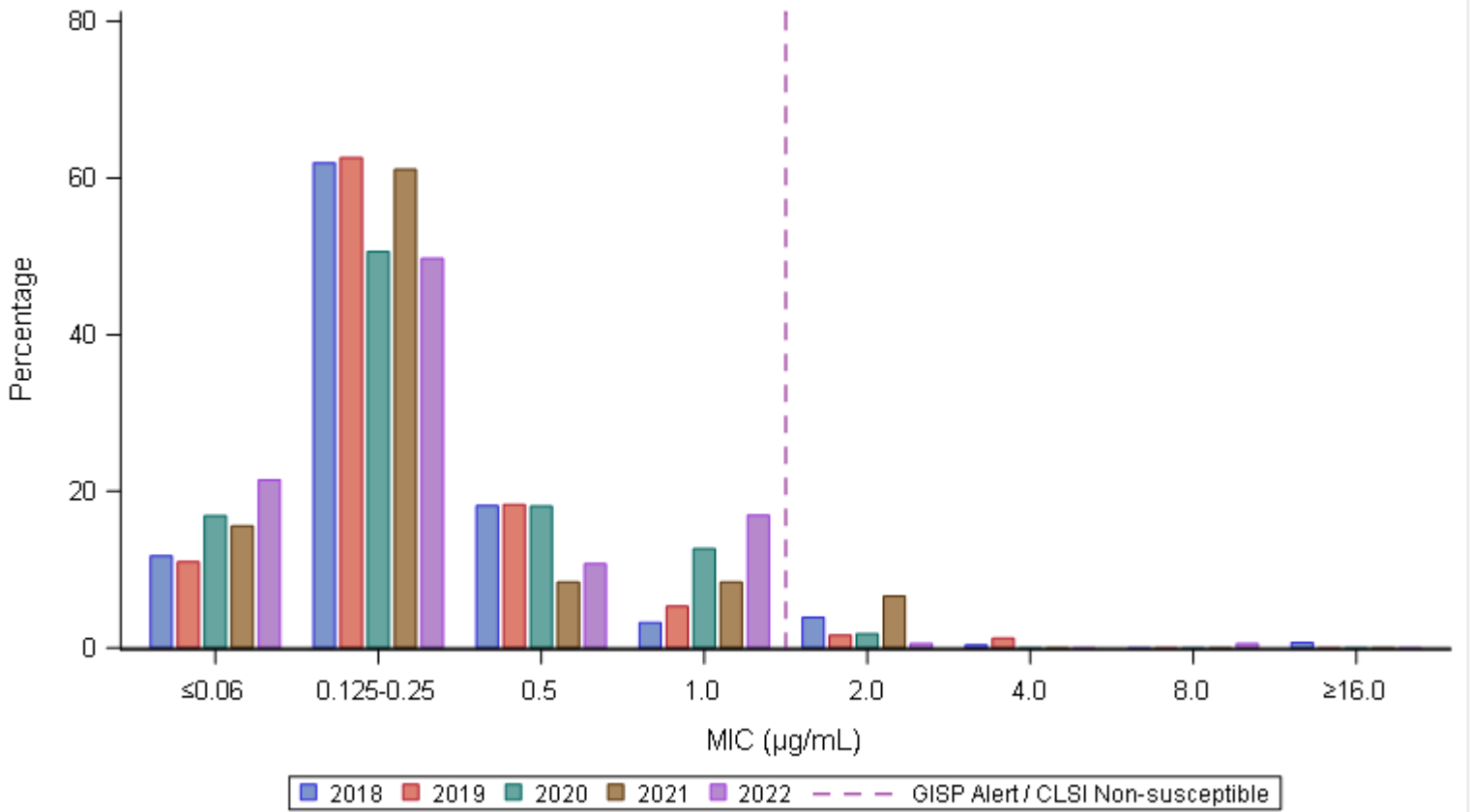
Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	179 (63.7)	77 (27.4)	20 (7.1)	4 (1.4)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	281
2019	150 (61.0)	71 (28.9)	21 (8.5)	3 (1.2)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.4)	246
2020	126 (75.9)	34 (20.5)	5 (3.0)	1 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	166
2021	92 (55.1)	60 (35.9)	13 (7.8)	2 (1.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	167
2022	120 (67.8)	54 (30.5)	3 (1.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	177

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 the end of 2022, the CLSI has not established a ceftriaxone resistance breakpoint for *N. gonorrhoeae*.

Figure I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Las Vegas, Nevada, 2018-2022



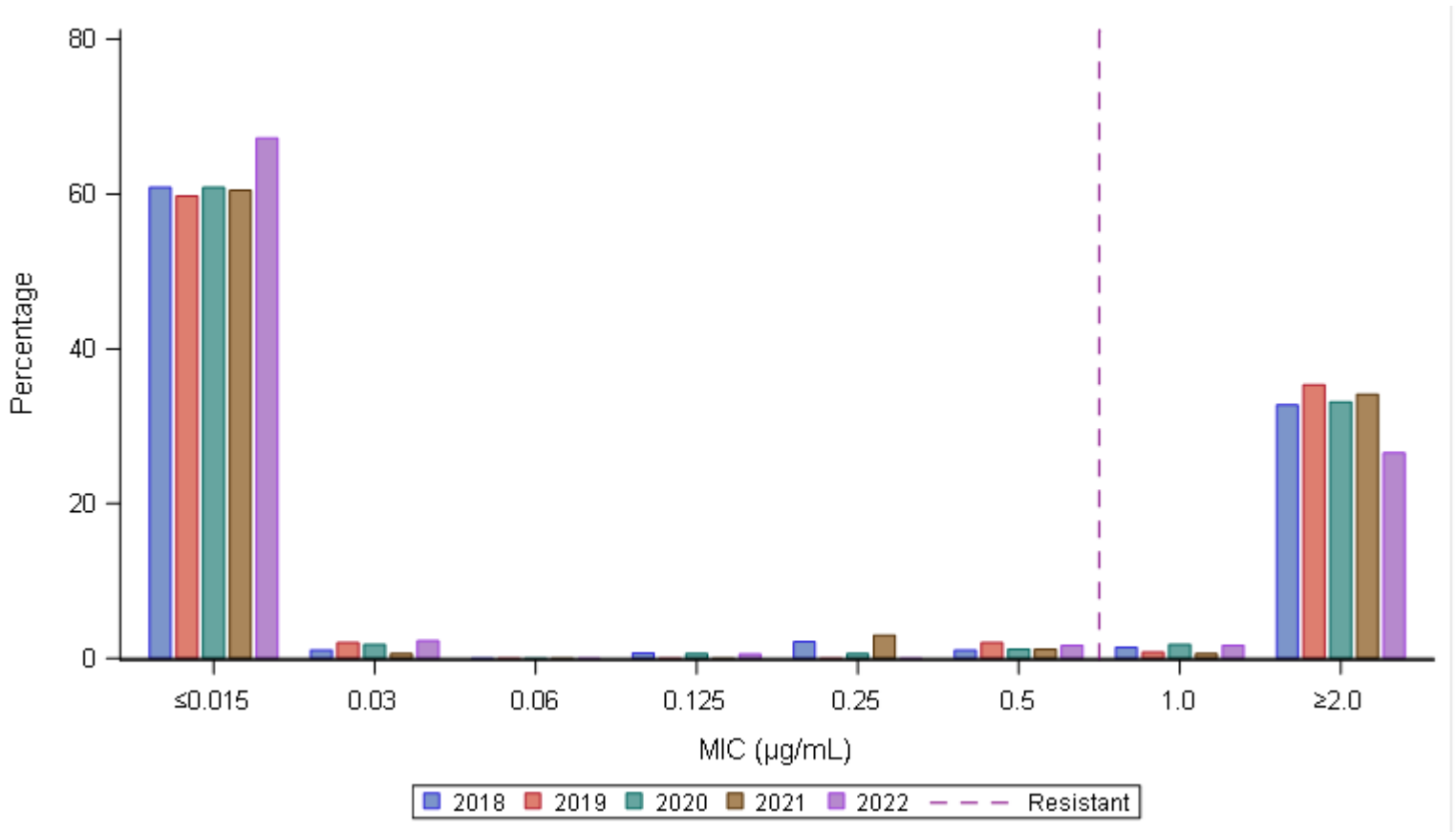
Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2018	33 (11.7)	174 (61.9)	51 (18.1)	9 (3.2)	11 (3.9)	1 (0.4)	0 (0.0)	2 (0.7)	281
2019	27 (11.0)	154 (62.6)	45 (18.3)	13 (5.3)	4 (1.6)	3 (1.2)	0 (0.0)	0 (0.0)	246
2020	28 (16.9)	84 (50.6)	30 (18.1)	21 (12.7)	3 (1.8)	0 (0.0)	0 (0.0)	0 (0.0)	166
2021	26 (15.6)	102 (61.1)	14 (8.4)	14 (8.4)	11 (6.6)	0 (0.0)	0 (0.0)	0 (0.0)	167
2022	38 (21.5)	88 (49.7)	19 (10.7)	30 (16.9)	1 (0.6)	0 (0.0)	1 (0.6)	0 (0.0)	177

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; CLSI Non-susceptible = azithromycin MIC ≥2.0 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 the end of 2022, the CLSI has not established an azithromycin resistance breakpoint for *N. gonorrhoeae*.

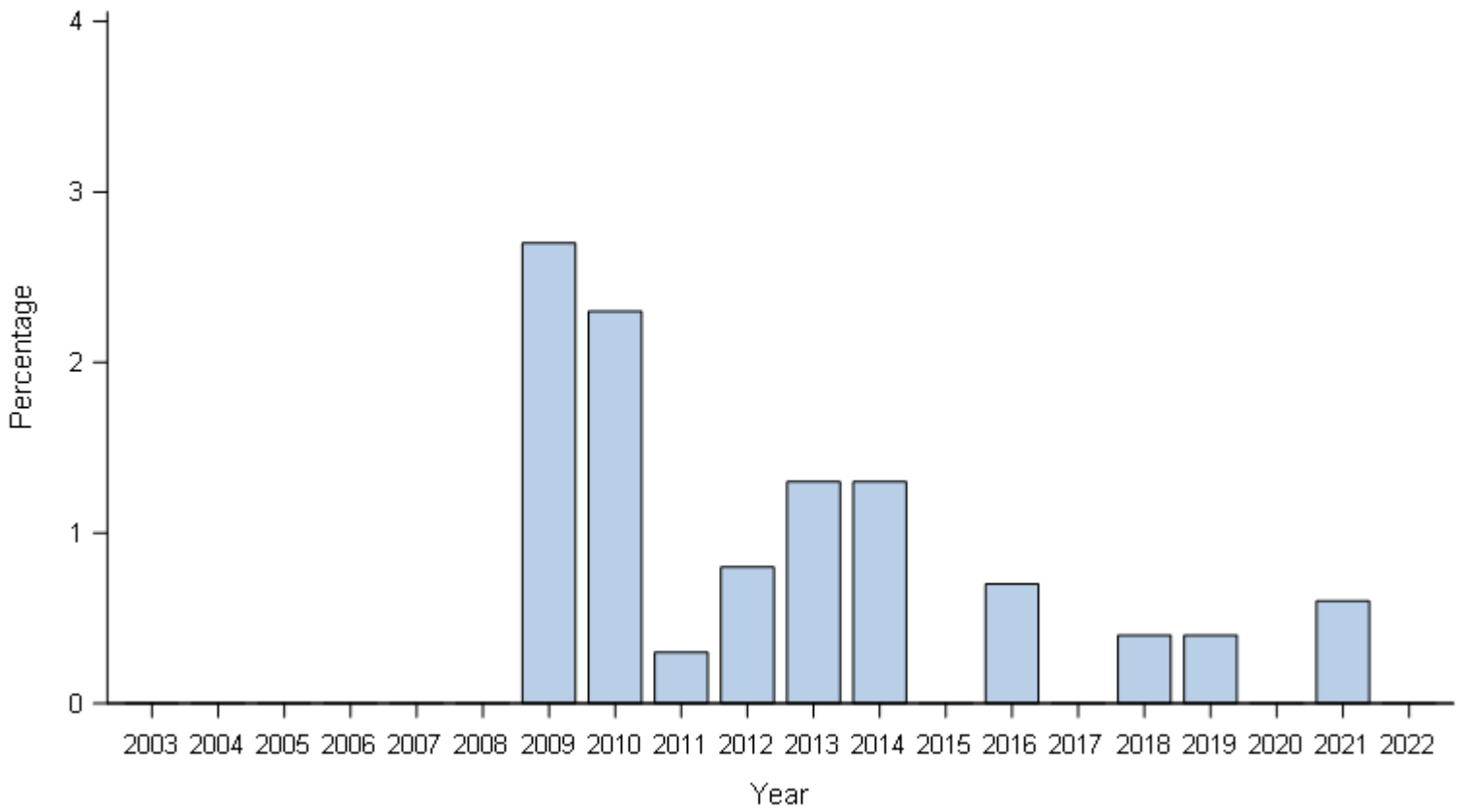
Figure J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Las Vegas, Nevada, 2018-2022



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
2018	171 (60.9)	3 (1.1)	0 (0.0)	2 (0.7)	6 (2.1)	3 (1.1)	4 (1.4)	92 (32.7)	281
2019	147 (59.8)	5 (2.0)	0 (0.0)	0 (0.0)	0 (0.0)	5 (2.0)	2 (0.8)	87 (35.4)	246
2020	101 (60.8)	3 (1.8)	0 (0.0)	1 (0.6)	1 (0.6)	2 (1.2)	3 (1.8)	55 (33.1)	166
2021	101 (60.5)	1 (0.6)	0 (0.0)	0 (0.0)	5 (3.0)	2 (1.2)	1 (0.6)	57 (34.1)	167
2022	119 (67.2)	4 (2.3)	0 (0.0)	1 (0.6)	0 (0.0)	3 (1.7)	3 (1.7)	47 (26.6)	177

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

Figure K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Las Vegas, Nevada, 2003-2022

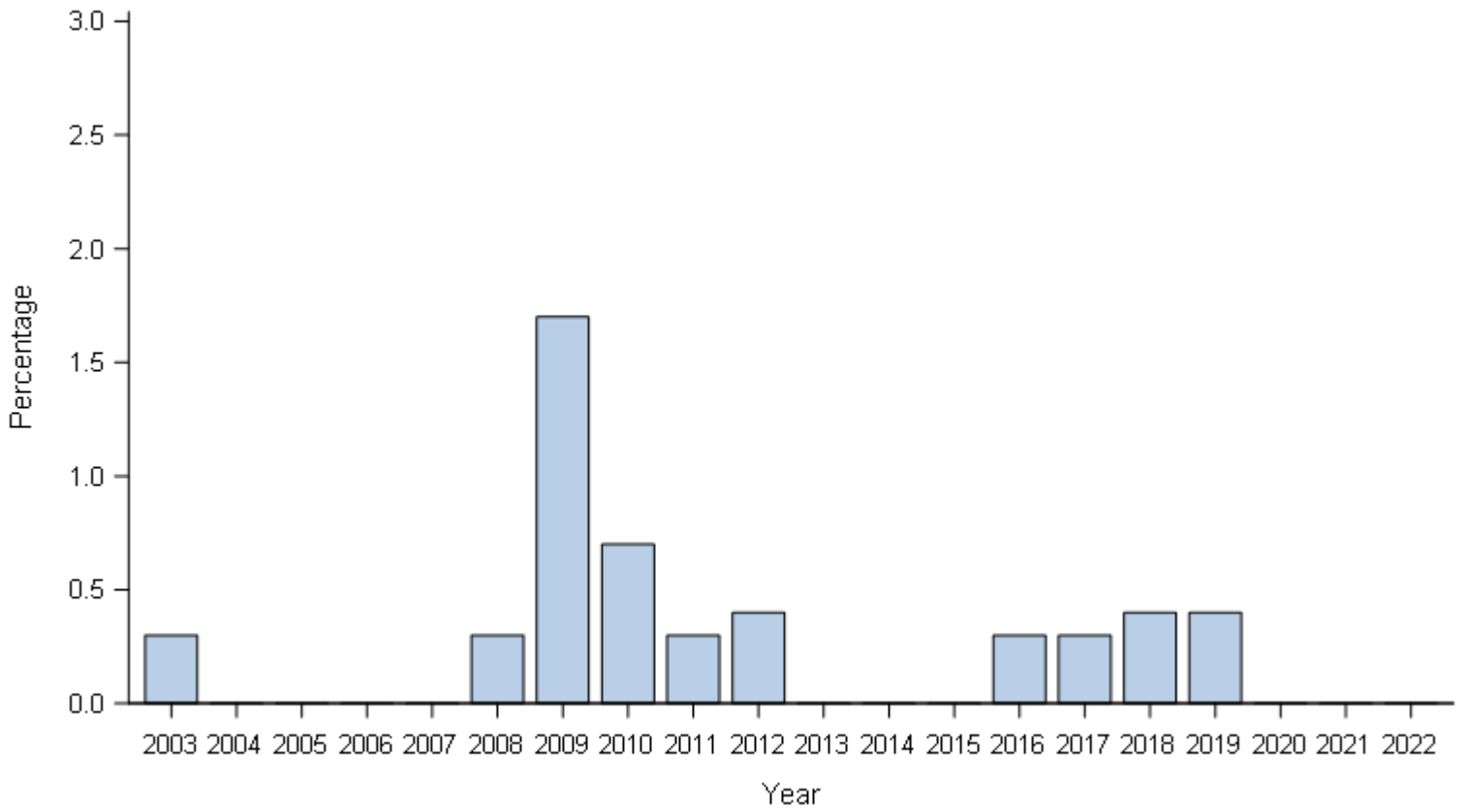


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	8 (2.7)	7 (2.3)	1 (0.3)	2 (0.8)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
4 (1.3)	4 (1.3)	0 (0.0)	2 (0.7)	0 (0.0)	1 (0.4)	1 (0.4)	0 (0.0)	1 (0.6)	0 (0.0)

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

Figure L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Las Vegas, Nevada, 2003-2022

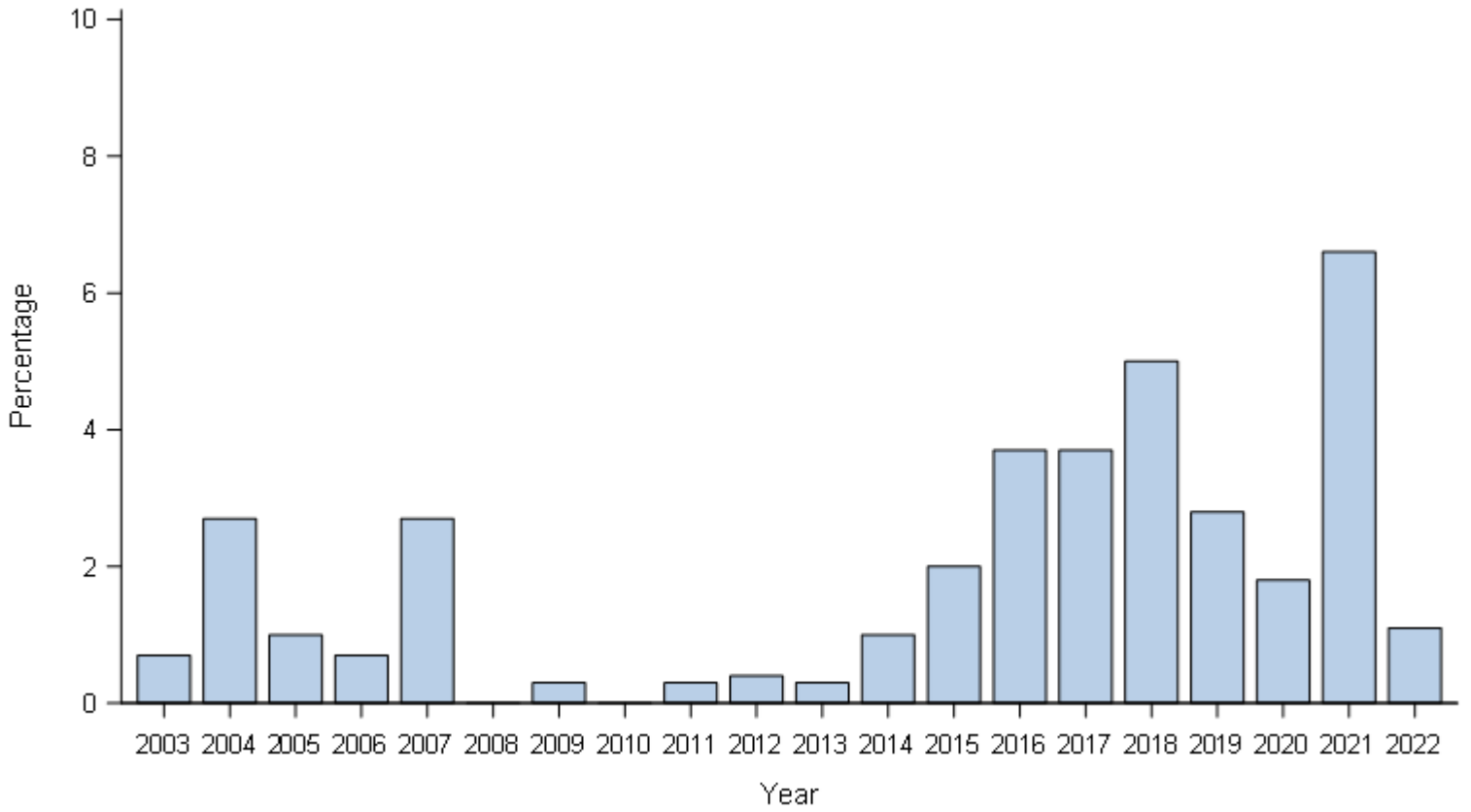


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
1 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.3)	5 (1.7)	2 (0.7)	1 (0.3)	1 (0.4)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	1 (0.3)	1 (0.3)	1 (0.4)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)

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

Figure M. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Las Vegas, Nevada, 2003-2022

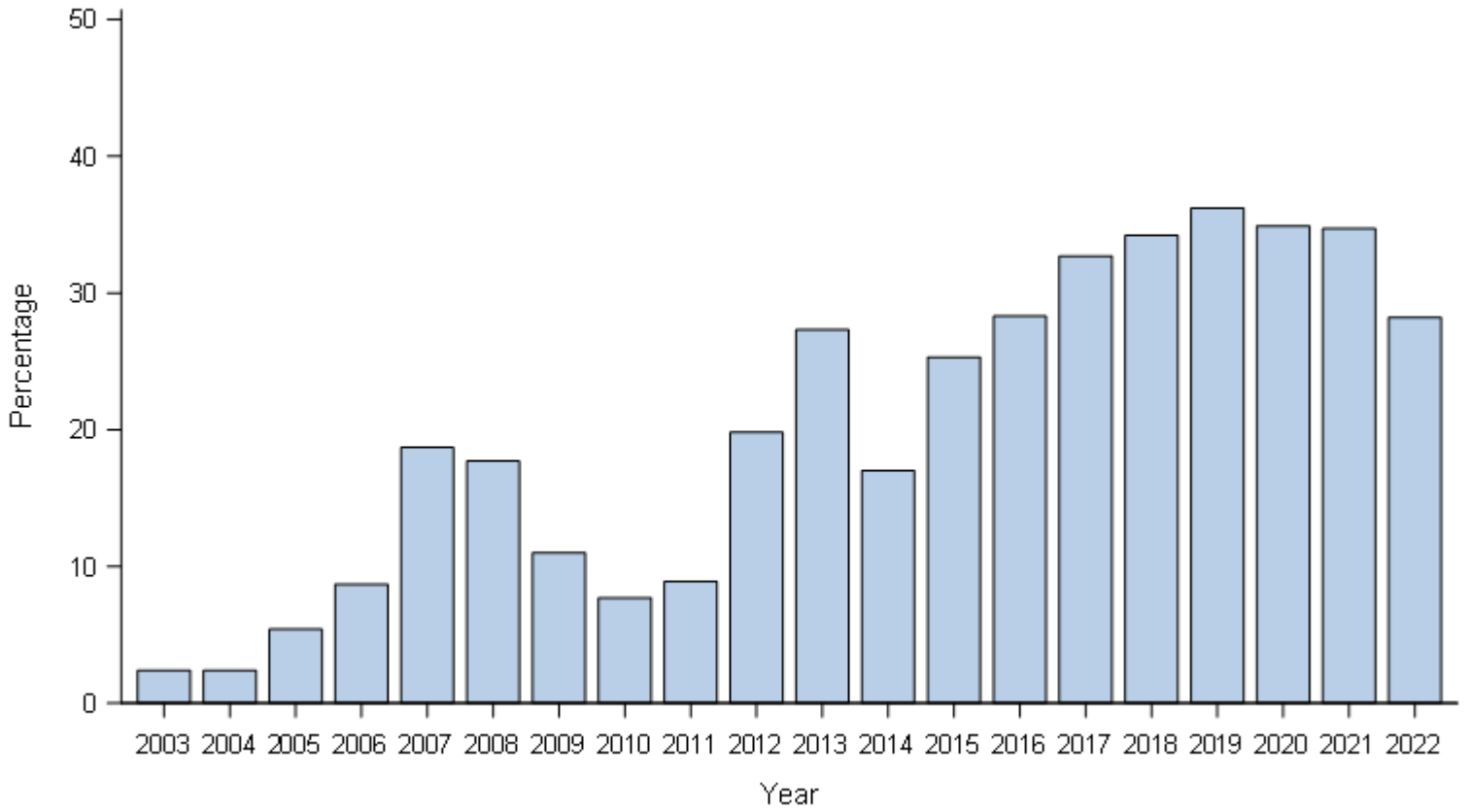


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
2 (0.7)	8 (2.7)	3 (1.0)	2 (0.7)	8 (2.7)	0 (0.0)	1 (0.3)	0 (0.0)	1 (0.3)	1 (0.4)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
1 (0.3)	3 (1.0)	6 (2.0)	11 (3.7)	11 (3.7)	14 (5.0)	7 (2.8)	3 (1.8)	11 (6.6)	2 (1.1)

Azithromycin elevated MIC ≥ 1.0 $\mu\text{g/mL}$ prior to 2005 and ≥ 2.0 $\mu\text{g/mL}$ during 2005-2022.

Figure N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Las Vegas, Nevada, 2003-2022

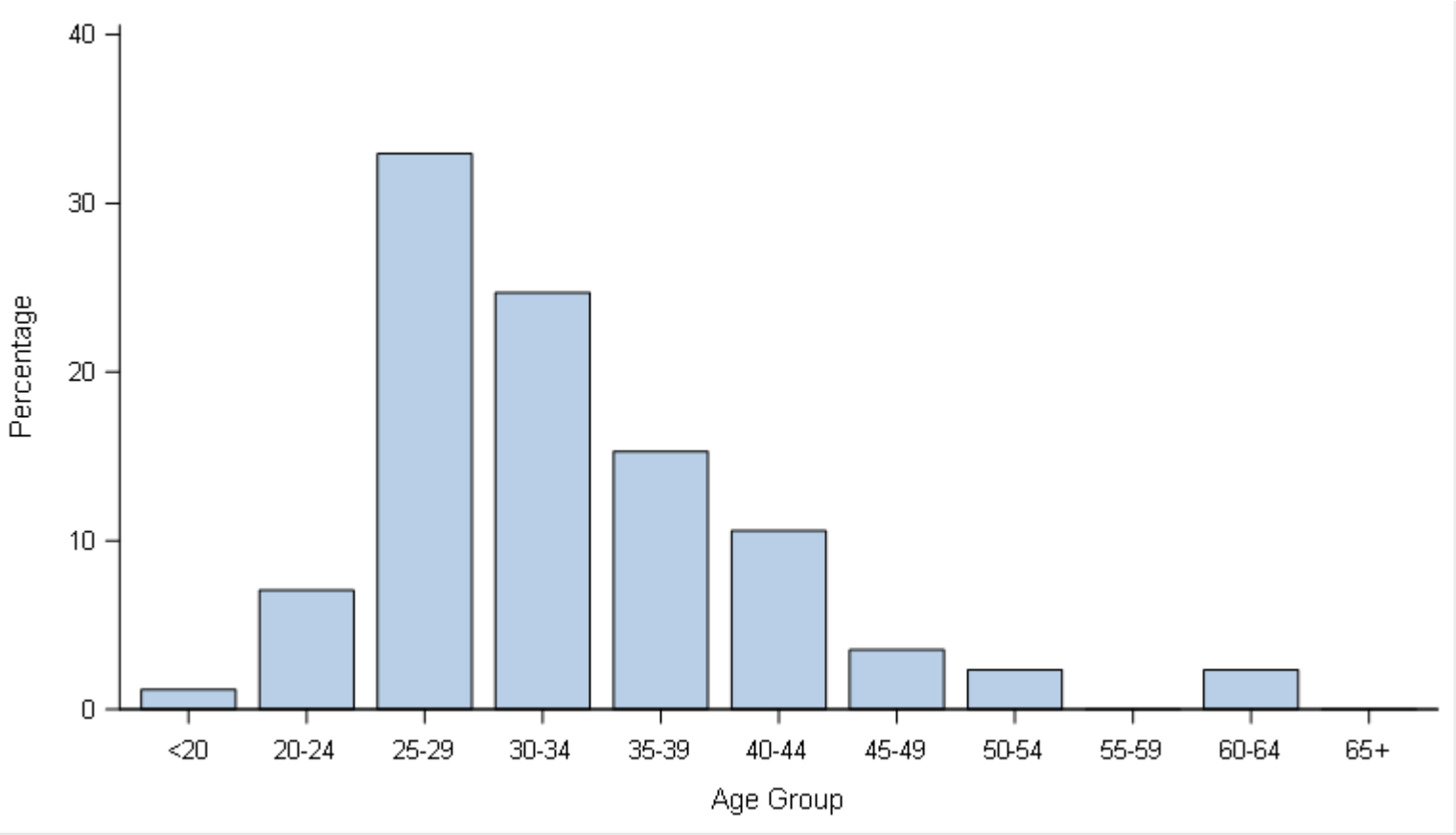


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
7 (2.4)	7 (2.4)	16 (5.4)	26 (8.7)	56 (18.7)	53 (17.7)	33 (11.0)	23 (7.7)	26 (8.9)	50 (19.8)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
82 (27.3)	51 (17.0)	76 (25.3)	85 (28.3)	98 (32.7)	96 (34.2)	89 (36.2)	58 (34.9)	58 (34.7)	50 (28.2)

Ciprofloxacin resistance MIC ≥1.0 µg/mL.

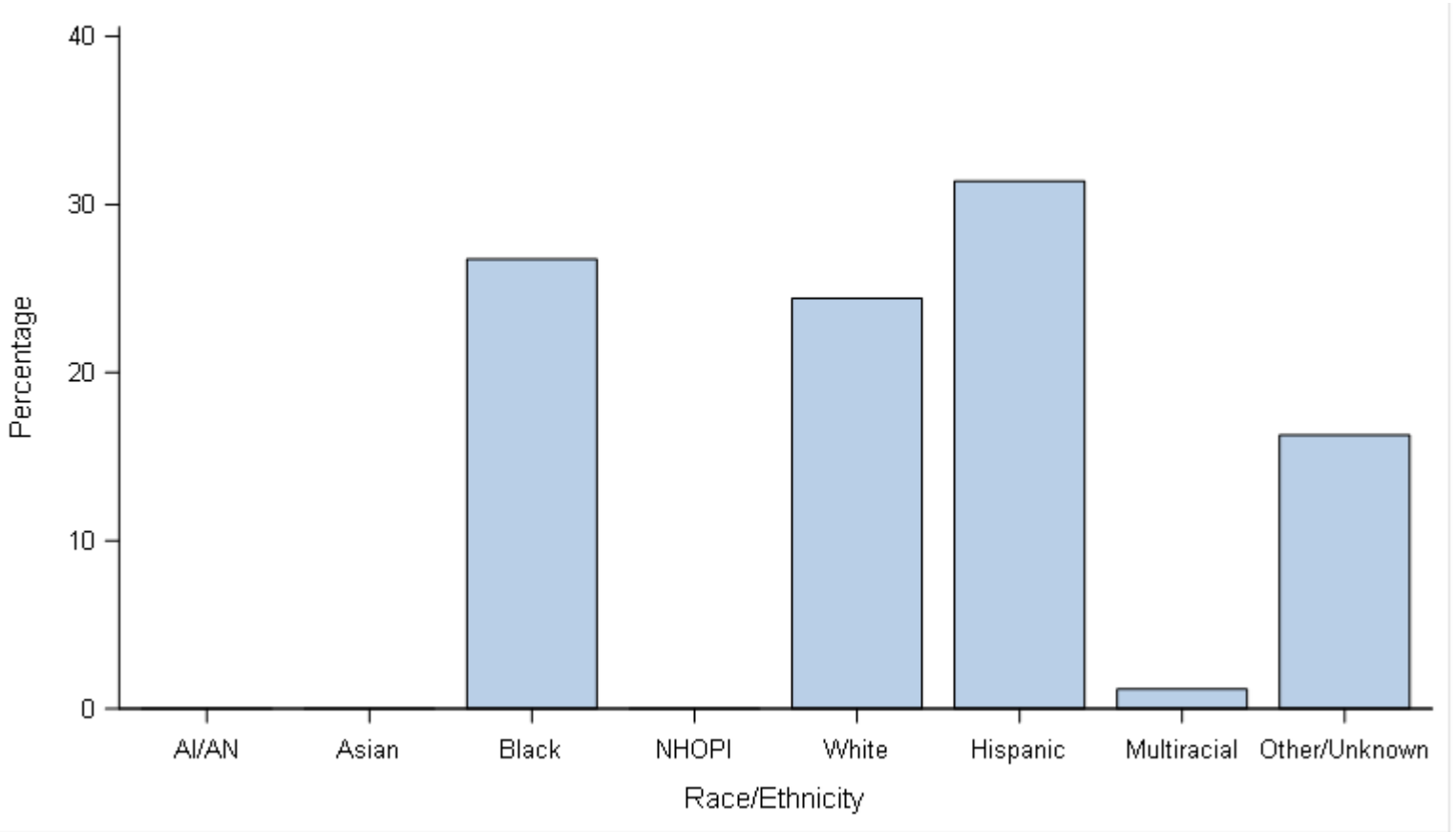
Figure A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Los Angeles, California, 2022



<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
1 (1.2)	6 (7.1)	28 (32.9)	21 (24.7)	13 (15.3)	9 (10.6)	3 (3.5)	2 (2.4)	0 (0.0)	2 (2.4)	0 (0.0)	85

Cases with unknown age were excluded.

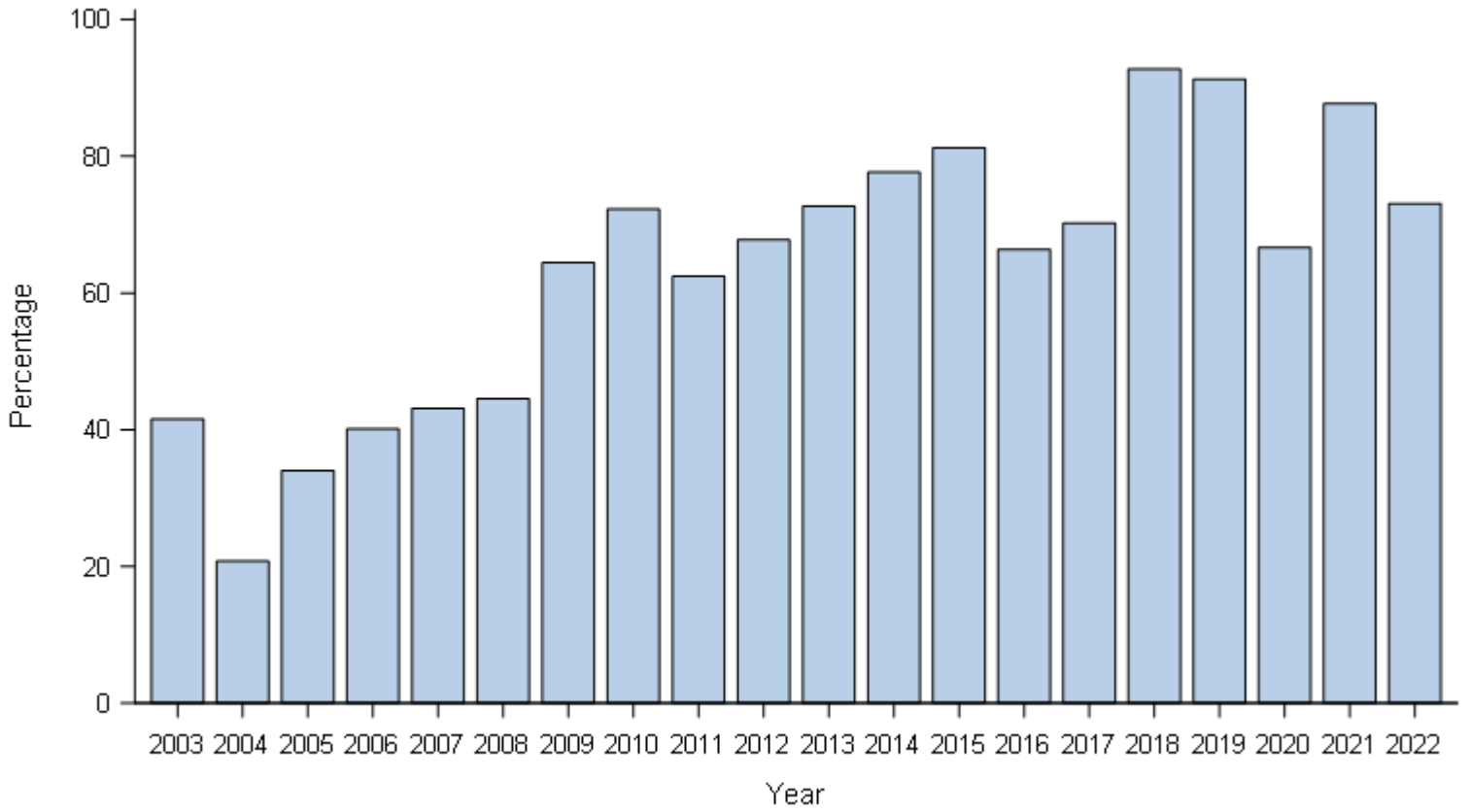
Figure B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Los Angeles, California, 2022



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)	23 (26.7)	0 (0.0)	21 (24.4)	27 (31.4)	1 (1.2)	14 (16.3)	86

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.

Figure C. Percentage of Participants Identifying as Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Los Angeles, California, 2003-2022

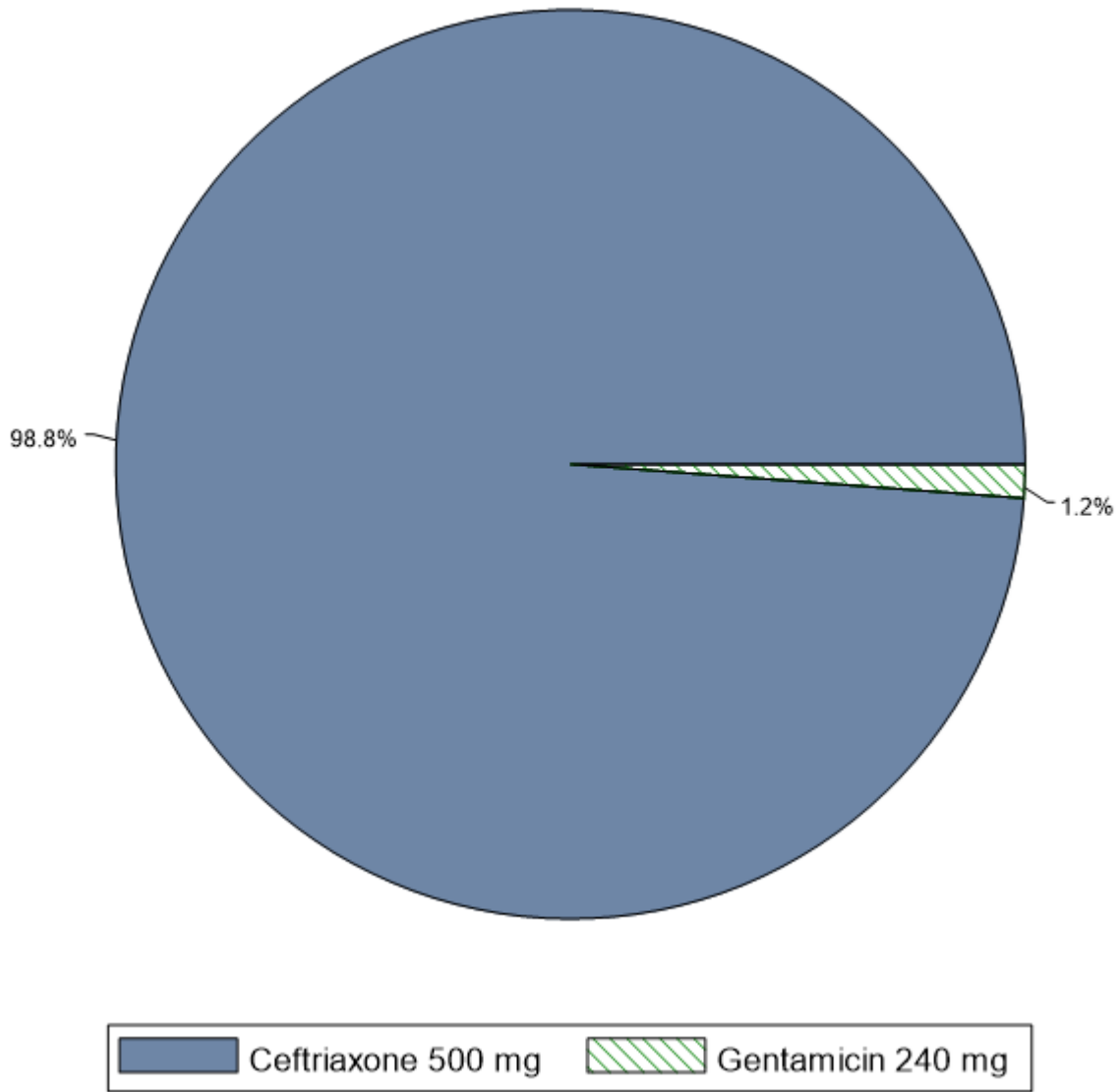


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
84 (41.6)	55 (20.8)	65 (34.0)	81 (40.1)	69 (43.1)	53 (44.5)	134 (64.4)	190 (72.2)	108 (62.4)	101 (67.8)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
141 (72.7)	132 (77.6)	65 (81.3)	81 (66.4)	125 (70.2)	141 (92.8)	136 (91.3)	28 (66.7)	64 (87.7)	57 (73.1)

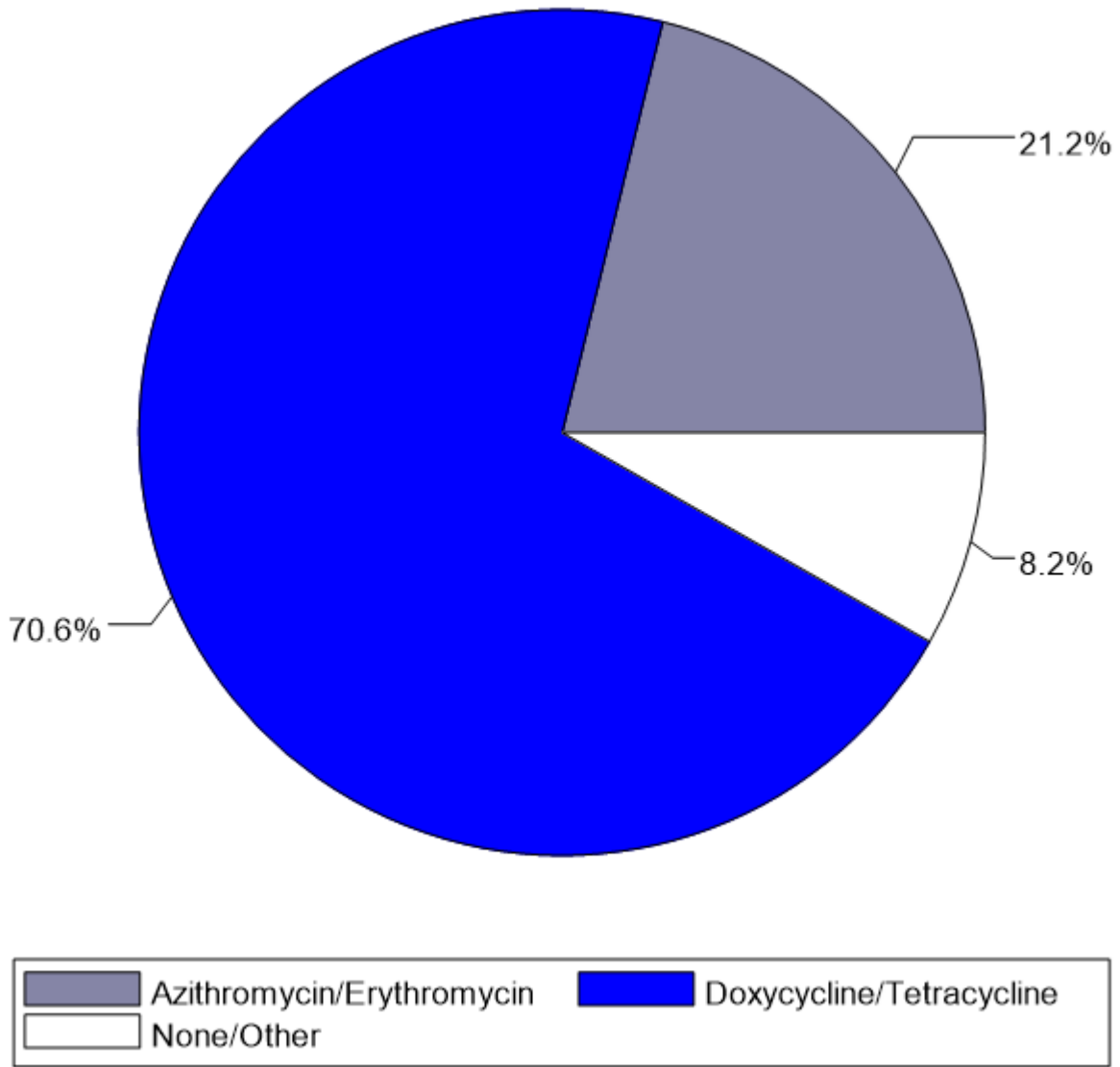
Men who have sex with men = men who self-identified as gay or bisexual or reported recent male sex partners.

Figure D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Los Angeles, California, 2022



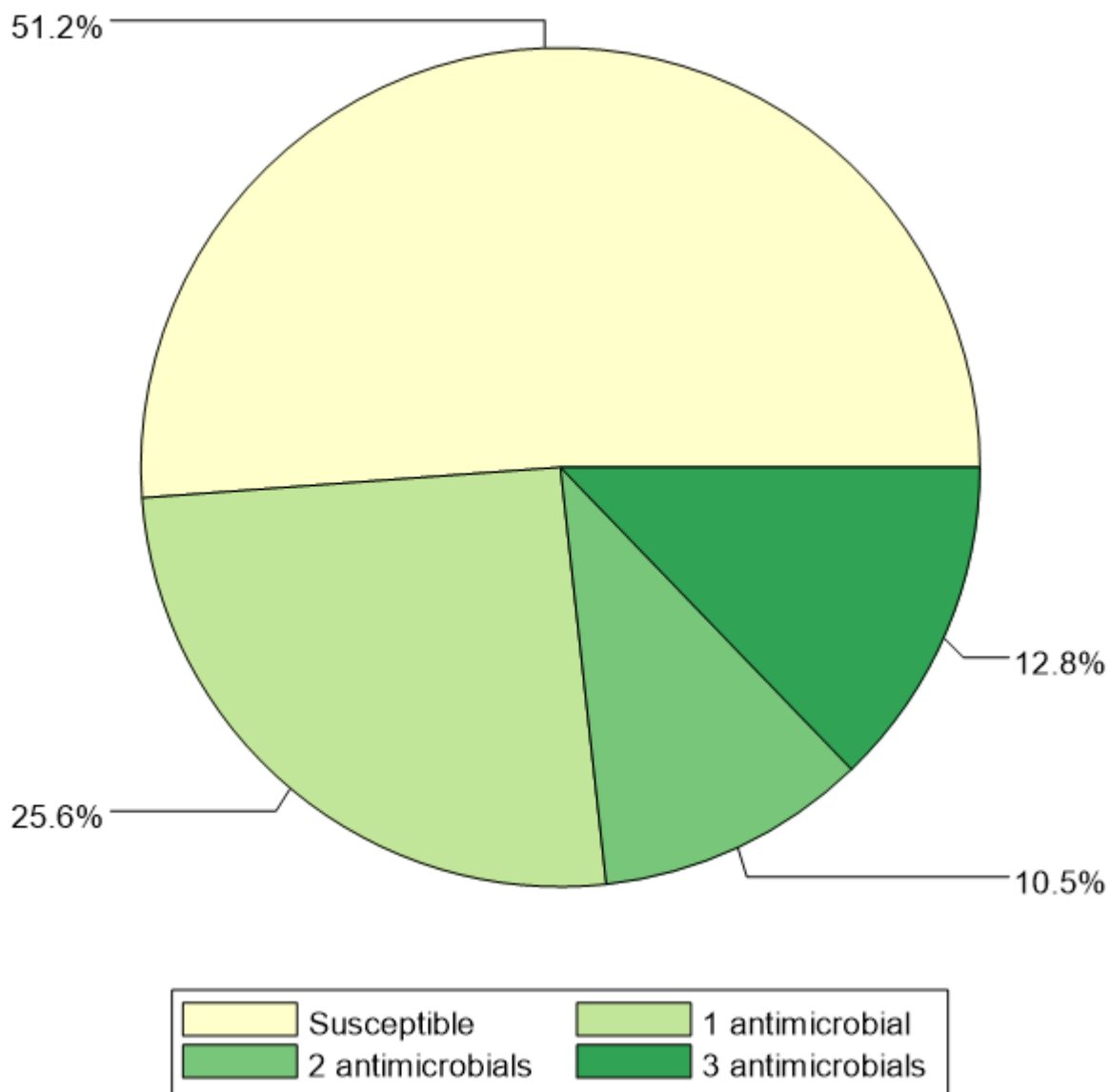
Primary Treatment	Count	Percentage
Ceftriaxone 500 mg	83	98.8
Gentamicin 240 mg	1	1.2

Figure E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Los Angeles, California, 2022



Secondary Treatment	Count	Percentage
Azithromycin/Erythromycin	18	21.2
Doxycycline/Tetracycline	60	70.6
None/Other	7	8.2

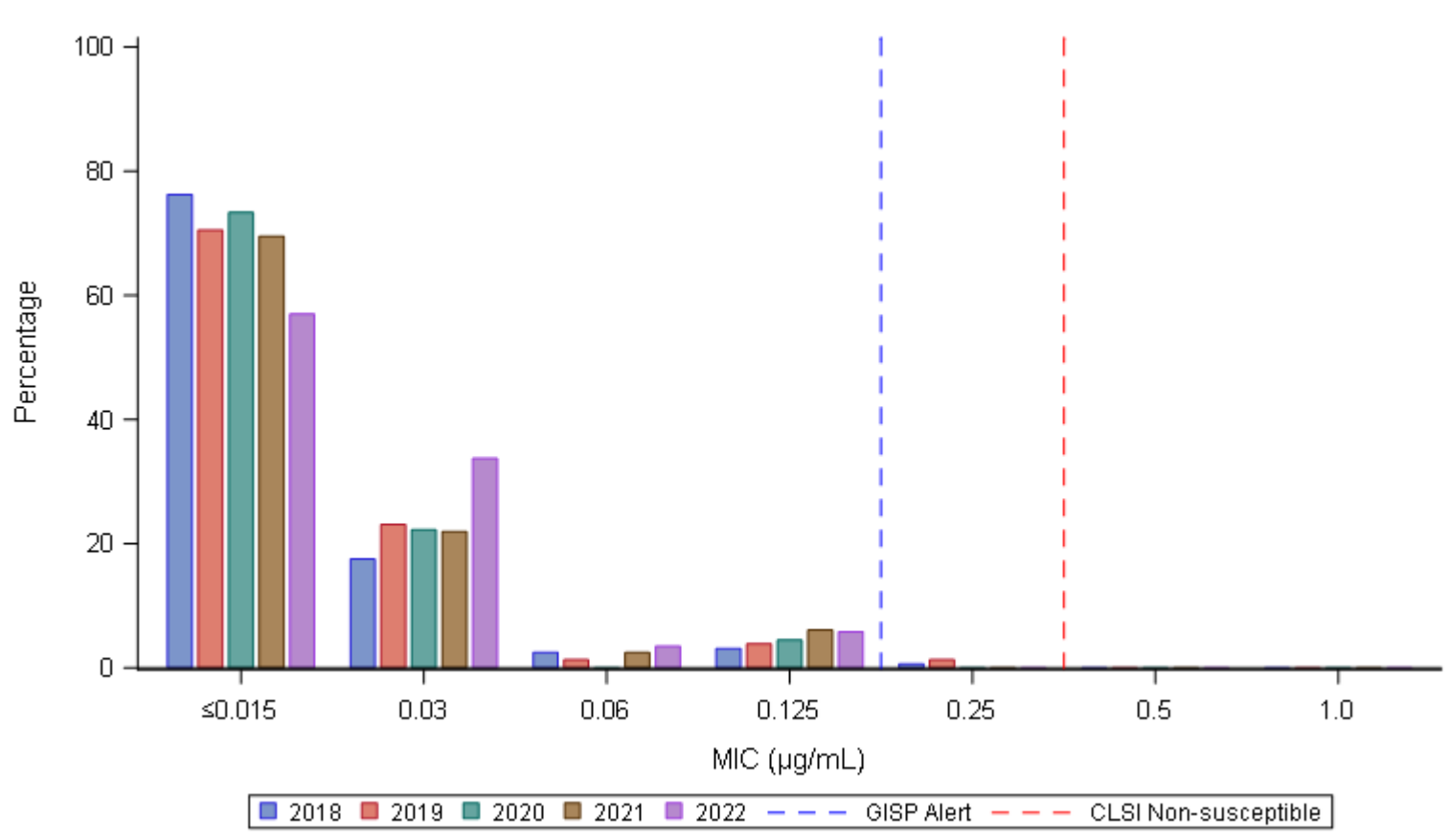
Figure F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Los Angeles, California, 2022



Number of Antimicrobials	Count	Percentage
Susceptible	44	51.2
1 antimicrobial	22	25.6
2 antimicrobials	9	10.5
3 antimicrobials	11	12.8
4+ antimicrobials	0	0.0

Elevated MICs = ceftriaxone MIC ≥ 0.125 $\mu\text{g}/\text{mL}$; cefixime MIC ≥ 0.25 $\mu\text{g}/\text{mL}$; azithromycin MIC ≥ 2.0 $\mu\text{g}/\text{mL}$; Resistance = tetracycline MIC ≥ 2.0 $\mu\text{g}/\text{mL}$; ciprofloxacin MIC ≥ 1.0 $\mu\text{g}/\text{mL}$; penicillin MIC ≥ 2.0 $\mu\text{g}/\text{mL}$ or β -lactamase positive.

Figure G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Los Angeles, California, 2018-2022



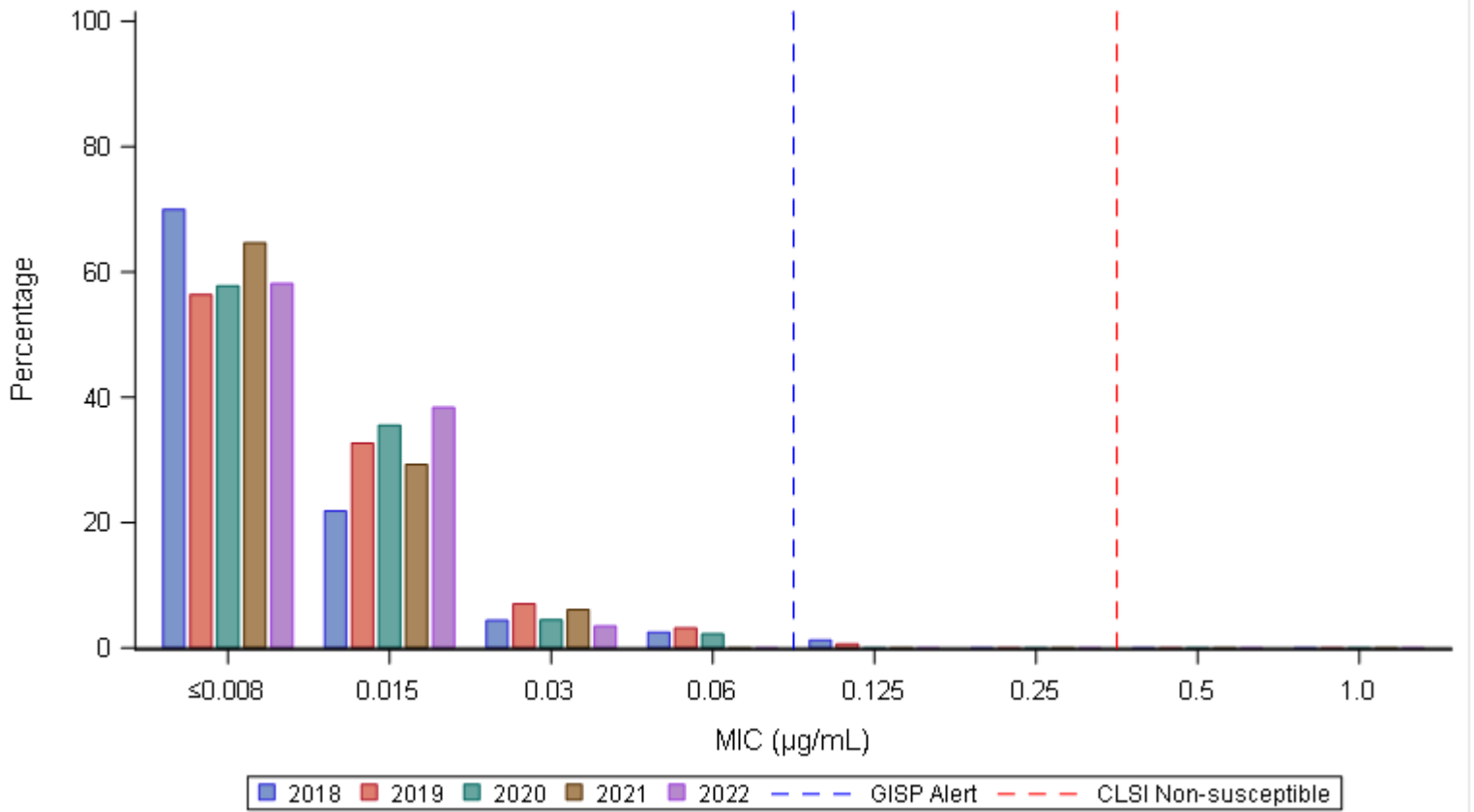
Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	122 (76.3)	28 (17.5)	4 (2.5)	5 (3.1)	1 (0.6)	0 (0.0)	0 (0.0)	160
2019	110 (70.5)	36 (23.1)	2 (1.3)	6 (3.8)	2 (1.3)	0 (0.0)	0 (0.0)	156
2020	33 (73.3)	10 (22.2)	0 (0.0)	2 (4.4)	0 (0.0)	0 (0.0)	0 (0.0)	45
2021	57 (69.5)	18 (22.0)	2 (2.4)	5 (6.1)	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)	86

GISP Alert Value = cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; CLSI Non-susceptible = cefixime MIC ≥ 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 the end of 2022, the CLSI has not established a cefixime resistance breakpoint for *N. gonorrhoeae*.

Figure H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Los Angeles, California, 2018-2022



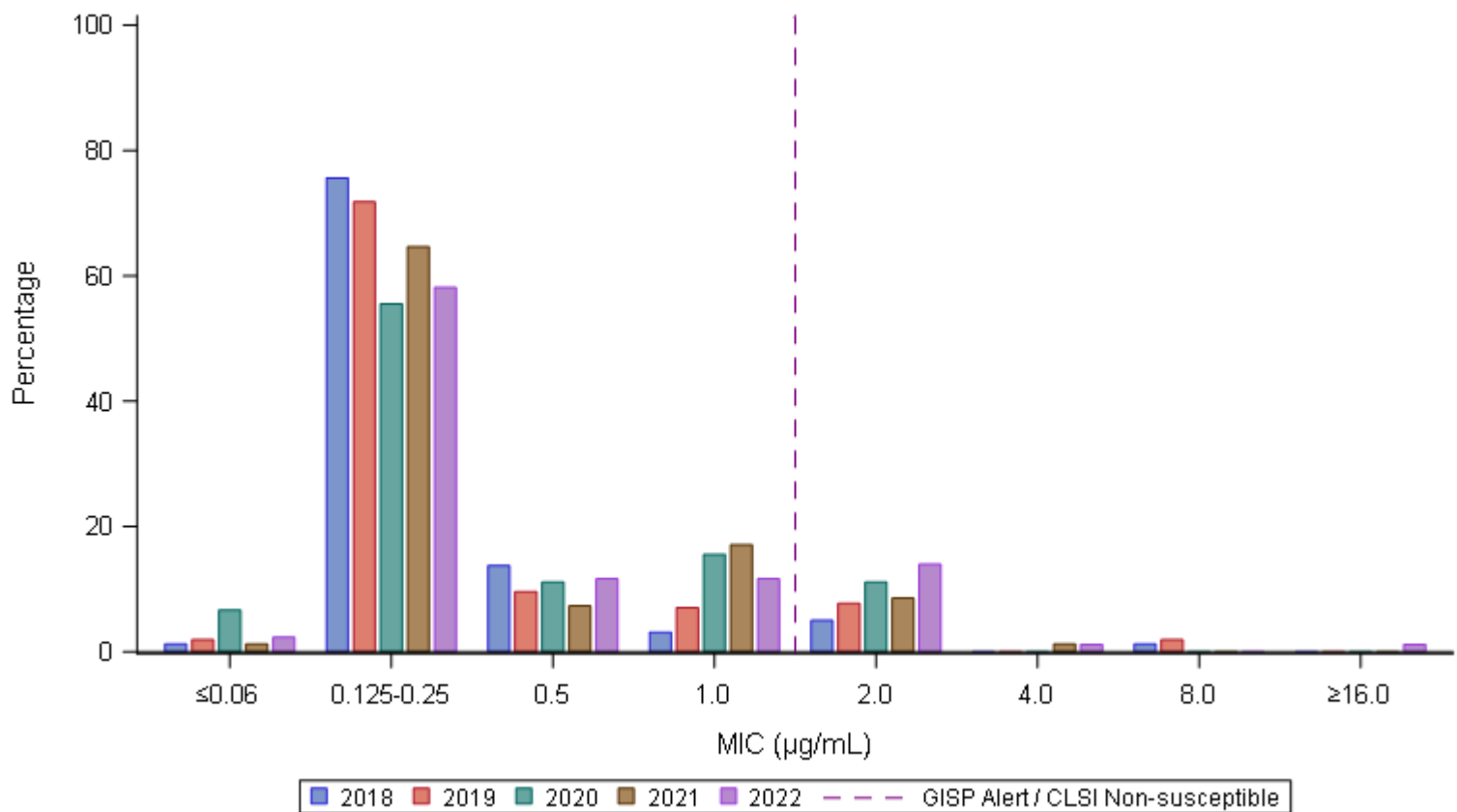
Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	112 (70.0)	35 (21.9)	7 (4.4)	4 (2.5)	2 (1.3)	0 (0.0)	0 (0.0)	0 (0.0)	160
2019	88 (56.4)	51 (32.7)	11 (7.1)	5 (3.2)	1 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)	156
2020	26 (57.8)	16 (35.6)	2 (4.4)	1 (2.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	45
2021	53 (64.6)	24 (29.3)	5 (6.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	82
2022	50 (58.1)	33 (38.4)	3 (3.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	86

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 the end of 2022, the CLSI has not established a ceftriaxone resistance breakpoint for *N. gonorrhoeae*.

Figure I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Los Angeles, California, 2018-2022



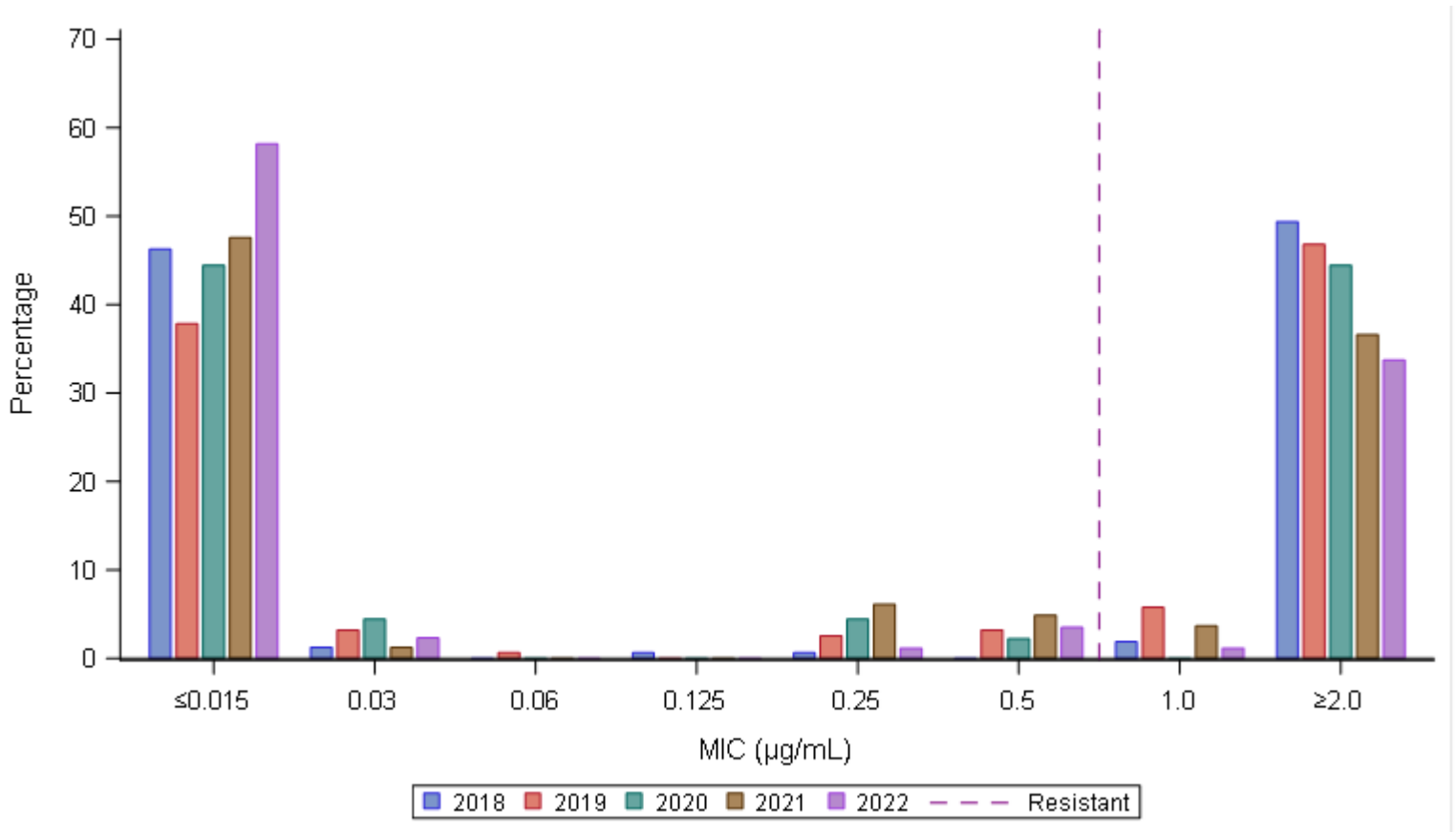
Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2018	2 (1.3)	121 (75.6)	22 (13.8)	5 (3.1)	8 (5.0)	0 (0.0)	2 (1.3)	0 (0.0)	160
2019	3 (1.9)	112 (71.8)	15 (9.6)	11 (7.1)	12 (7.7)	0 (0.0)	3 (1.9)	0 (0.0)	156
2020	3 (6.7)	25 (55.6)	5 (11.1)	7 (15.6)	5 (11.1)	0 (0.0)	0 (0.0)	0 (0.0)	45
2021	1 (1.2)	53 (64.6)	6 (7.3)	14 (17.1)	7 (8.5)	1 (1.2)	0 (0.0)	0 (0.0)	82
2022	2 (2.3)	50 (58.1)	10 (11.6)	10 (11.6)	12 (14.0)	1 (1.2)	0 (0.0)	1 (1.2)	86

GISP Alert Value: azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; CLSI Non-susceptible = azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$.

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 the end of 2022, the CLSI has not established an azithromycin resistance breakpoint for *N. gonorrhoeae*.

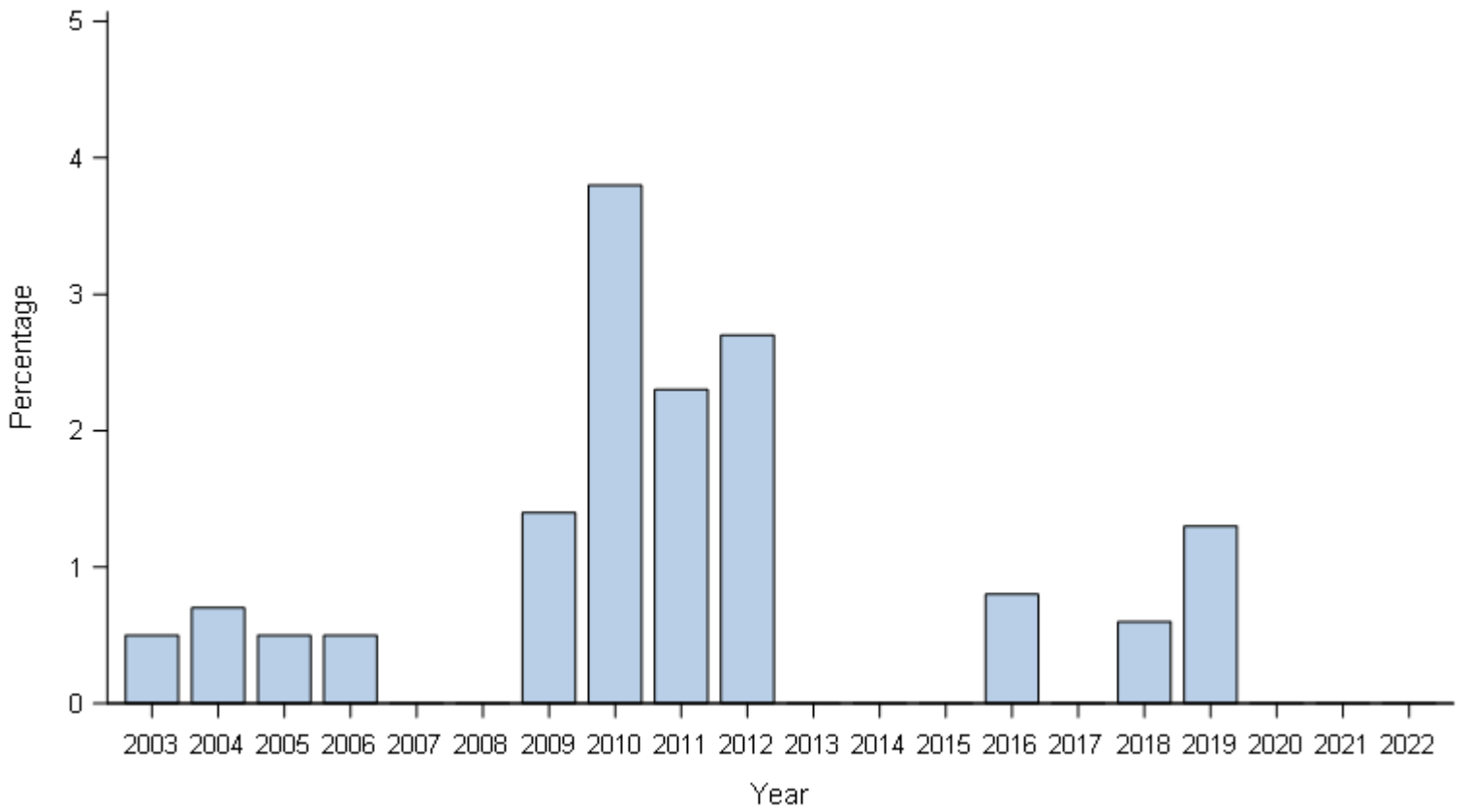
Figure J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Los Angeles, California, 2018-2022



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
2018	74 (46.3)	2 (1.3)	0 (0.0)	1 (0.6)	1 (0.6)	0 (0.0)	3 (1.9)	79 (49.4)	160
2019	59 (37.8)	5 (3.2)	1 (0.6)	0 (0.0)	4 (2.6)	5 (3.2)	9 (5.8)	73 (46.8)	156
2020	20 (44.4)	2 (4.4)	0 (0.0)	0 (0.0)	2 (4.4)	1 (2.2)	0 (0.0)	20 (44.4)	45
2021	39 (47.6)	1 (1.2)	0 (0.0)	0 (0.0)	5 (6.1)	4 (4.9)	3 (3.7)	30 (36.6)	82
2022	50 (58.1)	2 (2.3)	0 (0.0)	0 (0.0)	1 (1.2)	3 (3.5)	1 (1.2)	29 (33.7)	86

Ciprofloxacin resistance MIC ≥1.0 µg/mL.

Figure K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Los Angeles, California, 2003-2022

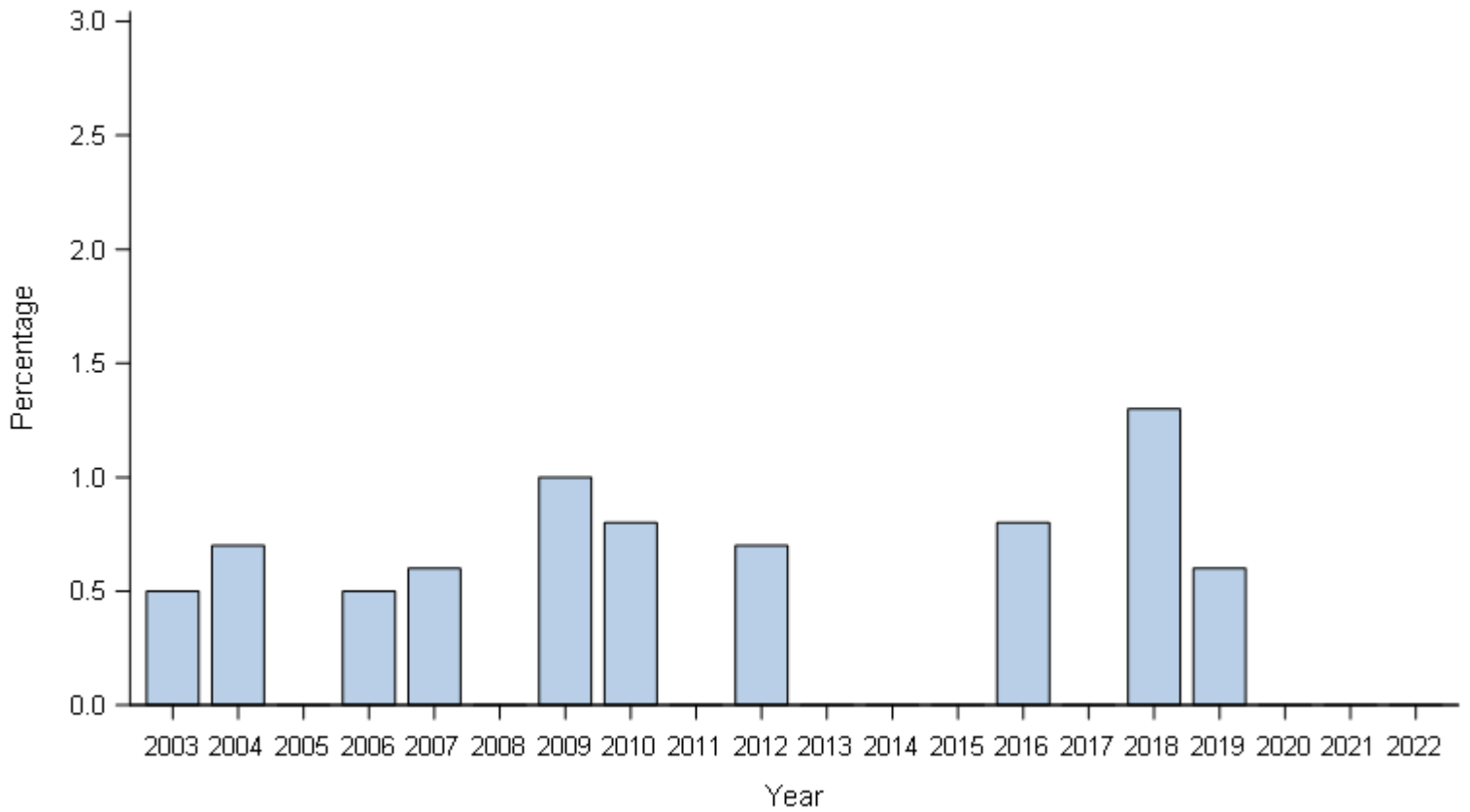


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
1 (0.5)	2 (0.7)	1 (0.5)	1 (0.5)	0 (0.0)	0 (0.0)	3 (1.4)	10 (3.8)	4 (2.3)	4 (2.7)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	1 (0.8)	0 (0.0)	1 (0.6)	2 (1.3)	0 (0.0)	0 (0.0)	0 (0.0)

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

Figure L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Los Angeles, California, 2003-2022

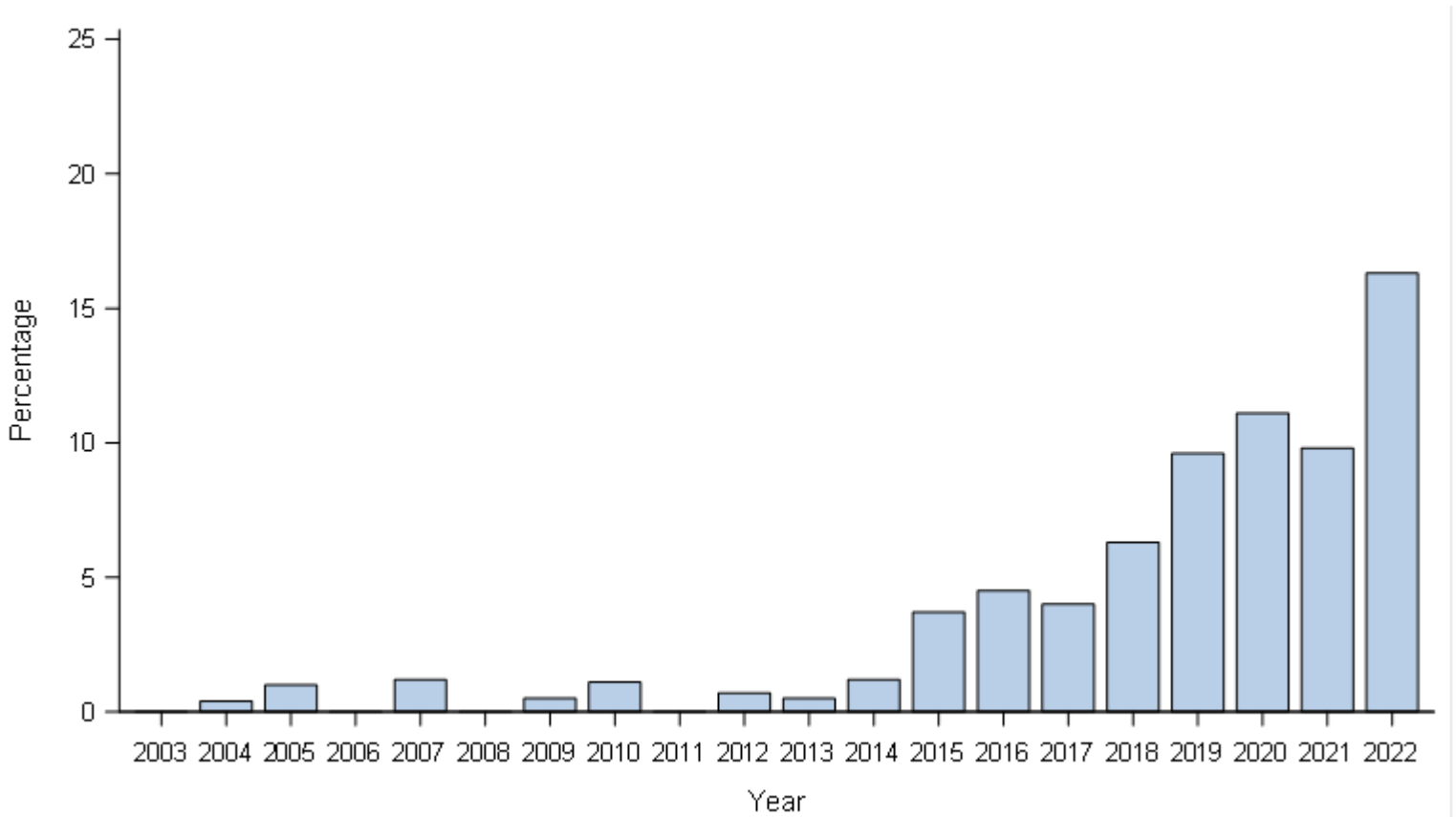


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
1 (0.5)	2 (0.7)	0 (0.0)	1 (0.5)	1 (0.6)	0 (0.0)	2 (1.0)	2 (0.8)	0 (0.0)	1 (0.7)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	1 (0.8)	0 (0.0)	2 (1.3)	1 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)

Ceftriaxone elevated MIC \geq 0.125 μ g/mL.

Figure M. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Los Angeles, California, 2003-2022

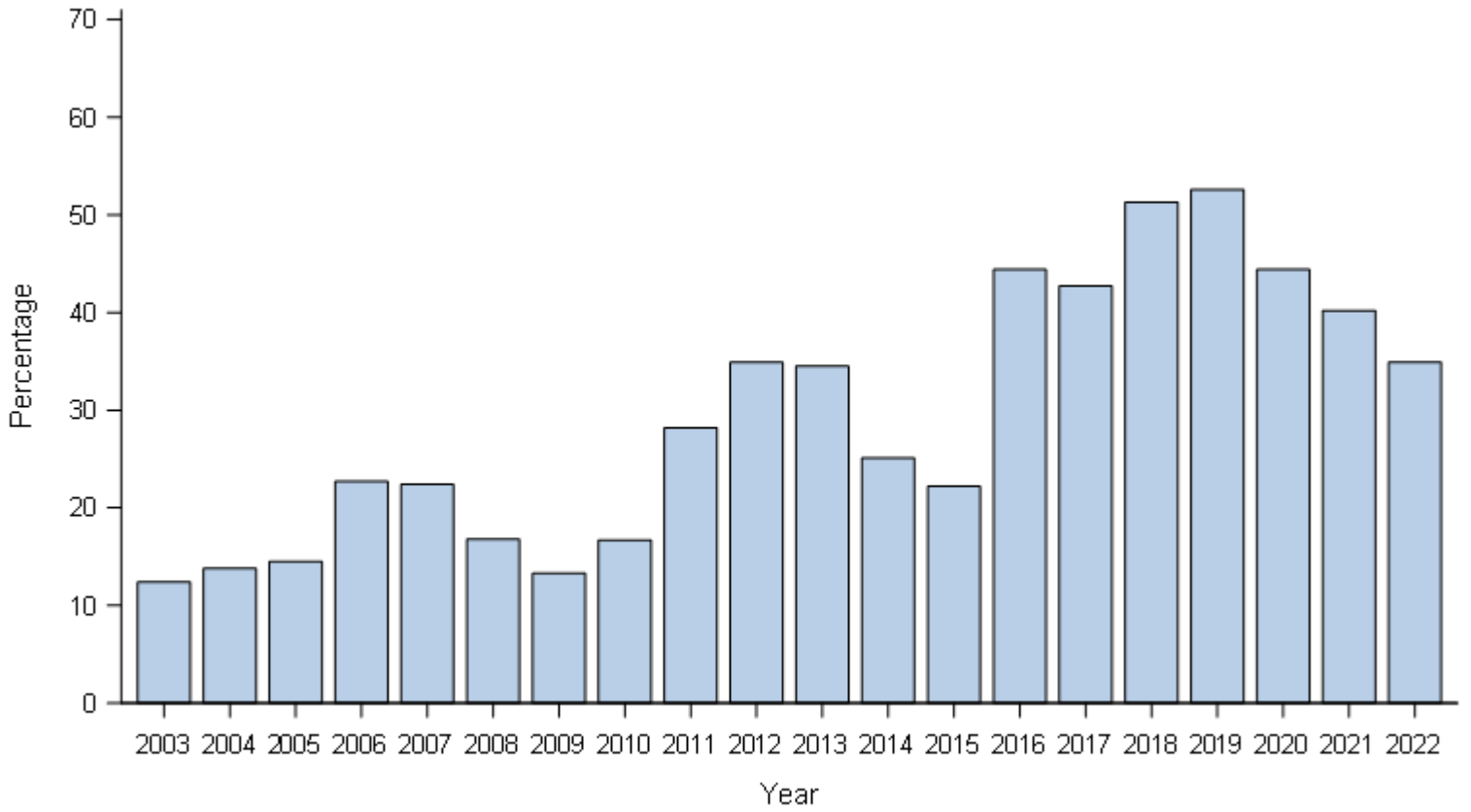


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	1 (0.4)	2 (1.0)	0 (0.0)	2 (1.2)	0 (0.0)	1 (0.5)	3 (1.1)	0 (0.0)	1 (0.7)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
1 (0.5)	2 (1.2)	3 (3.7)	6 (4.5)	8 (4.0)	10 (6.3)	15 (9.6)	5 (11.1)	8 (9.8)	14 (16.3)

Azithromycin elevated MIC ≥ 1.0 $\mu\text{g/mL}$ prior to 2005 and ≥ 2.0 $\mu\text{g/mL}$ during 2005-2022.

Figure N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Los Angeles, California, 2003-2022

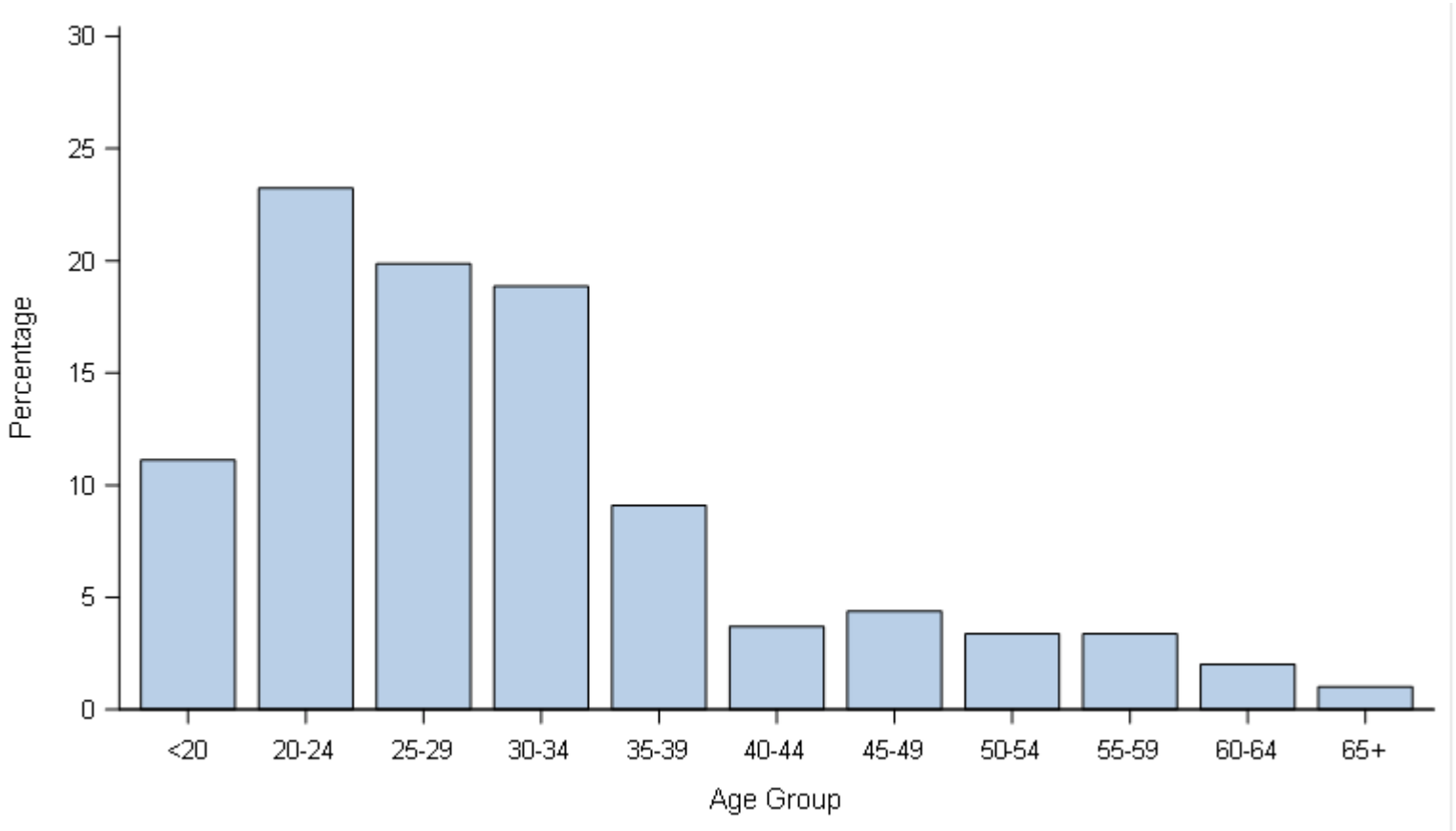


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
25 (12.4)	37 (13.8)	28 (14.5)	47 (22.7)	37 (22.4)	21 (16.8)	28 (13.3)	44 (16.7)	49 (28.2)	52 (34.9)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
67 (34.5)	43 (25.1)	18 (22.2)	59 (44.4)	85 (42.7)	82 (51.3)	82 (52.6)	20 (44.4)	33 (40.2)	30 (34.9)

Ciprofloxacin resistance MIC \geq 1.0 μ g/mL.

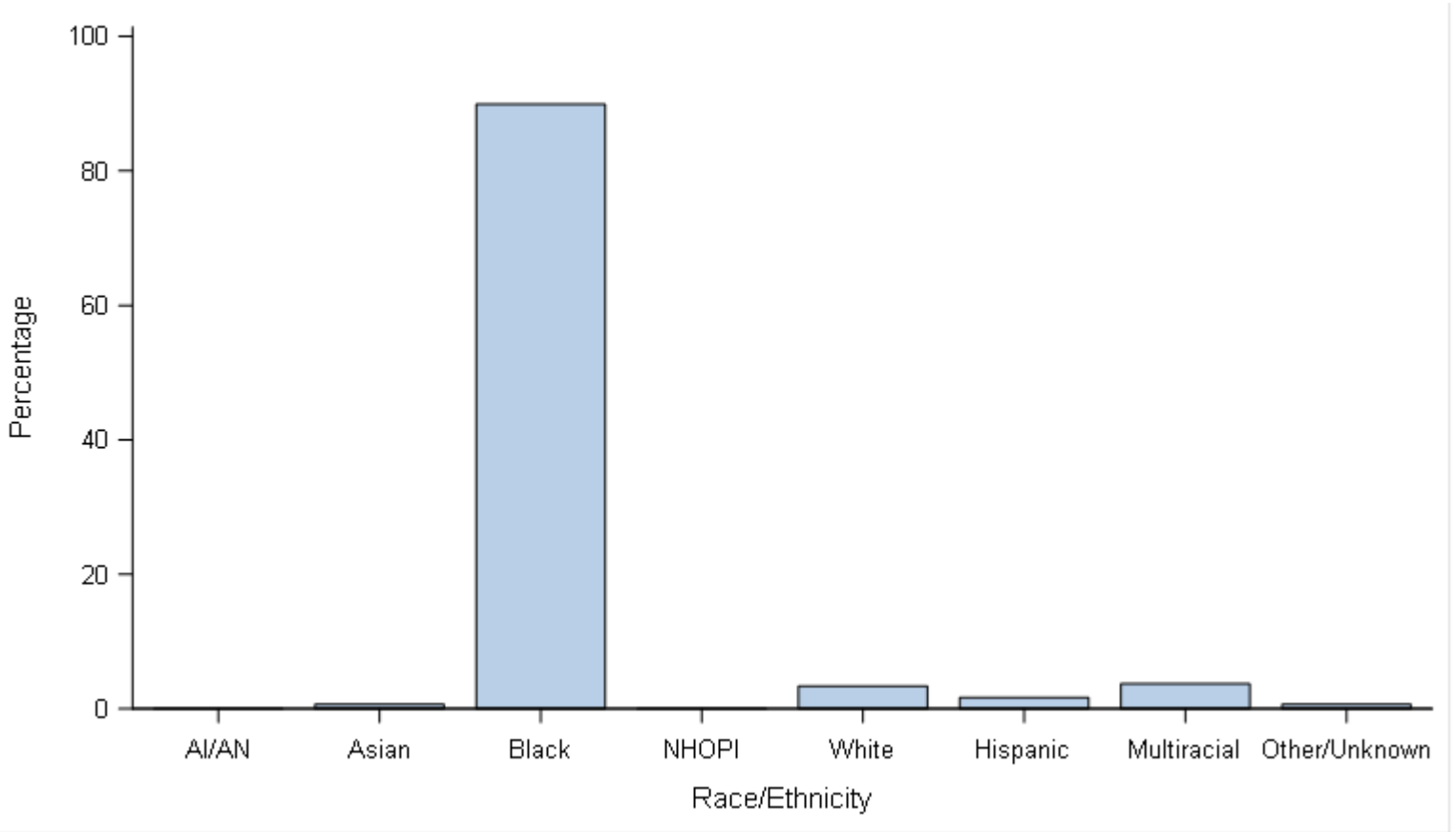
Figure A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Milwaukee, Wisconsin, 2022



<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
33 (11.1)	69 (23.2)	59 (19.9)	56 (18.9)	27 (9.1)	11 (3.7)	13 (4.4)	10 (3.4)	10 (3.4)	6 (2.0)	3 (1.0)	297

Cases with unknown age were excluded.

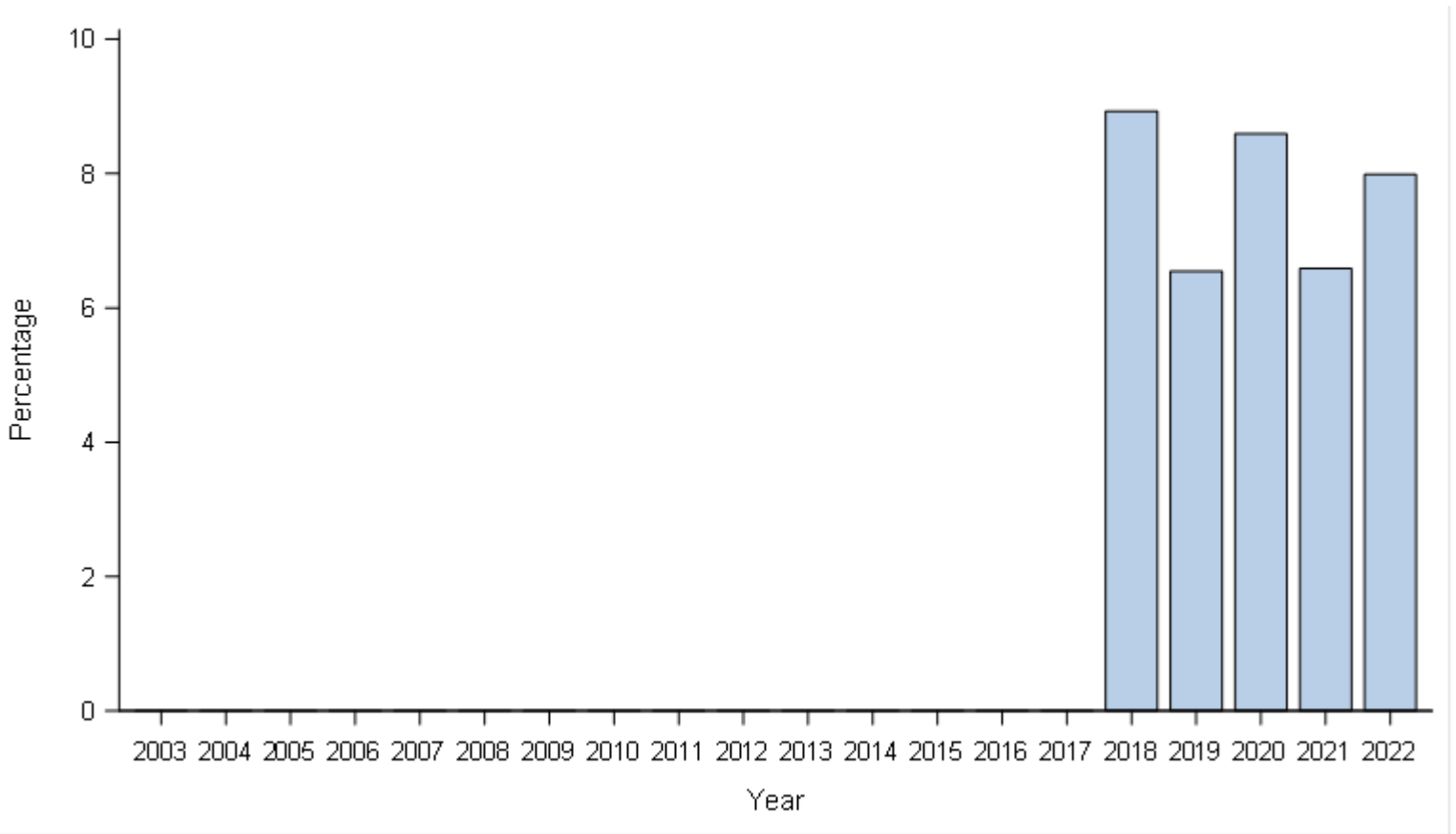
Figure B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Milwaukee, Wisconsin, 2022



AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	2 (0.7)	267 (89.9)	0 (0.0)	10 (3.4)	5 (1.7)	11 (3.7)	2 (0.7)	297

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.

Figure C. Percentage of Participants Identifying as Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Milwaukee, Wisconsin, 2003-2022

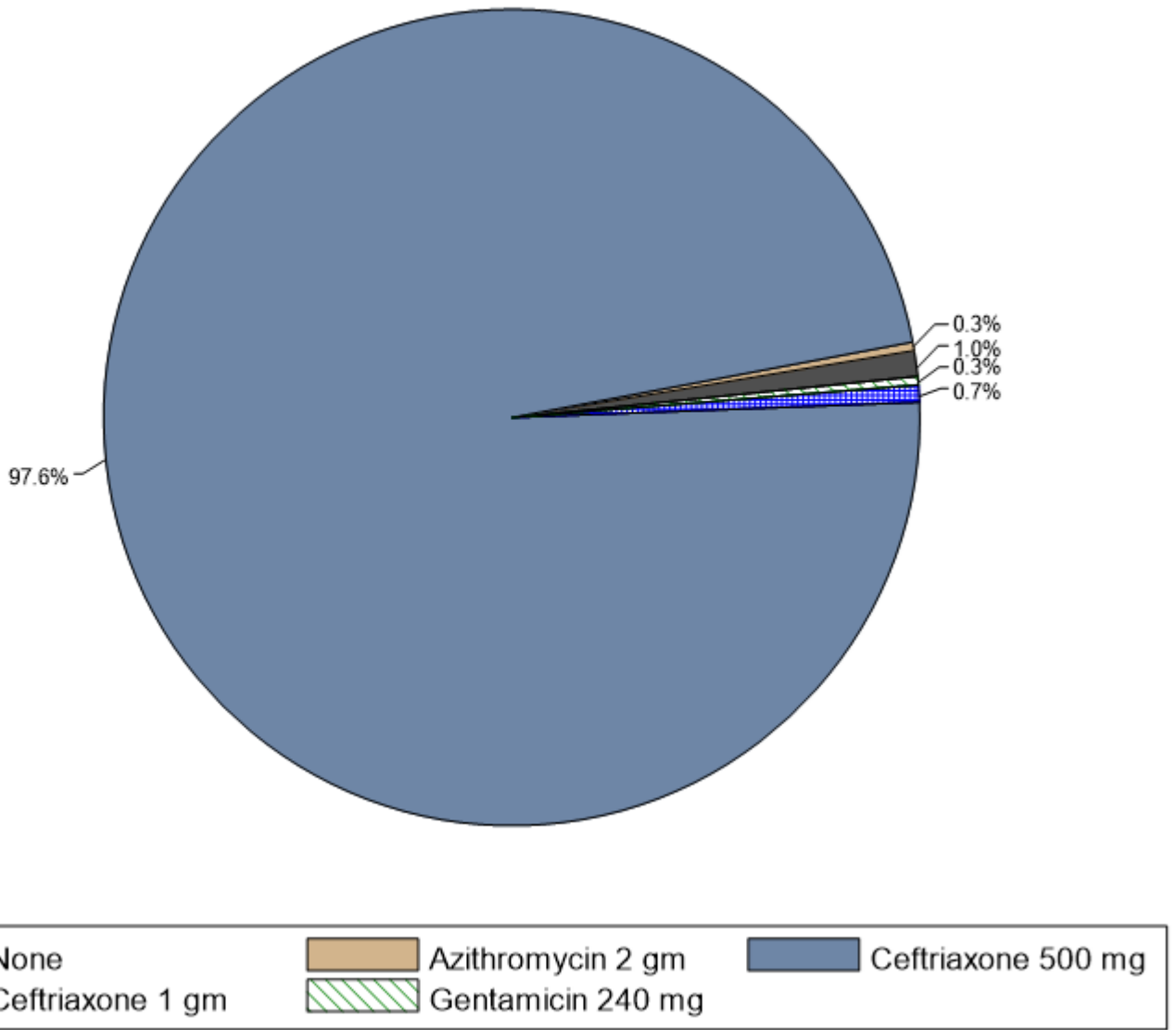


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	5 (8.9)	18 (6.5)	25 (8.6)	16 (6.6)	23 (8.0)

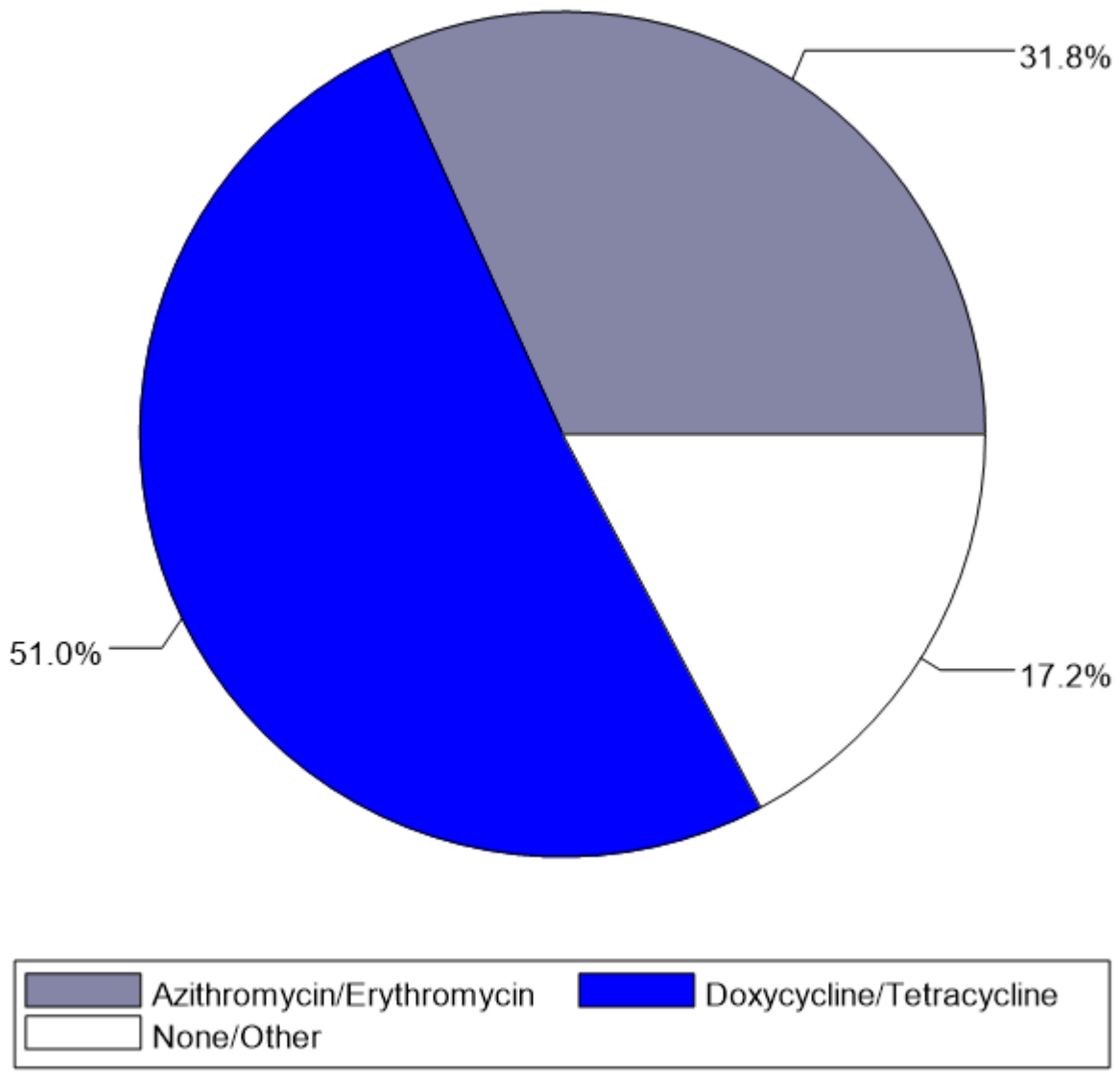
Men who have sex with men = men who self-identified as gay or bisexual or reported recent male sex partners.
 Site participated in GISP during 2018-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Milwaukee, Wisconsin, 2022



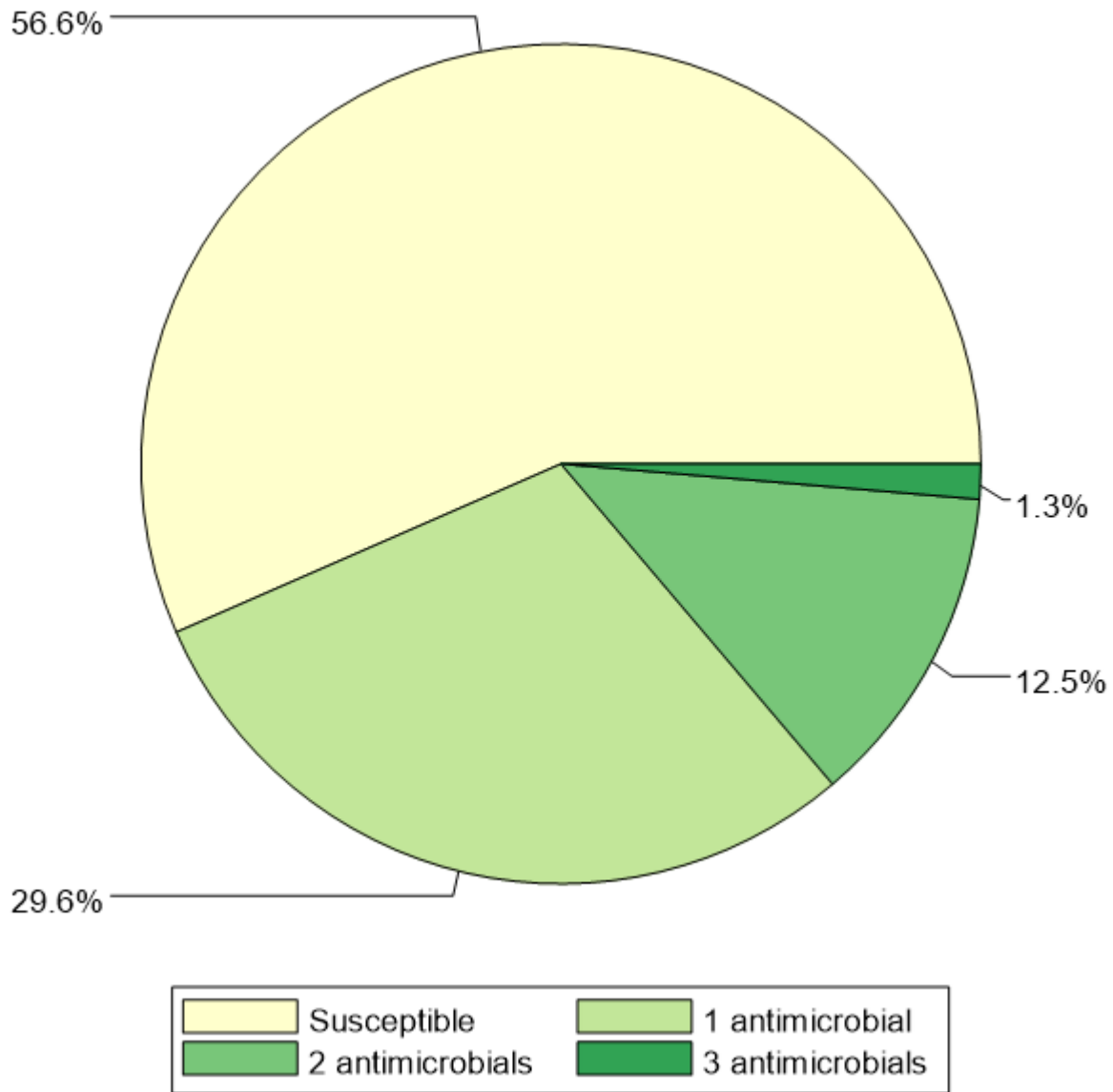
Primary Treatment	Count	Percentage
None	3	1.0
Azithromycin 2 gm	1	0.3
Ceftriaxone 500 mg	289	97.6
Ceftriaxone 1 gm	2	0.7
Gentamicin 240 mg	1	0.3

Figure E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Milwaukee, Wisconsin, 2022



Secondary Treatment	Count	Percentage
Azithromycin/Erythromycin	94	31.8
Doxycycline/Tetracycline	151	51.0
None/Other	51	17.2

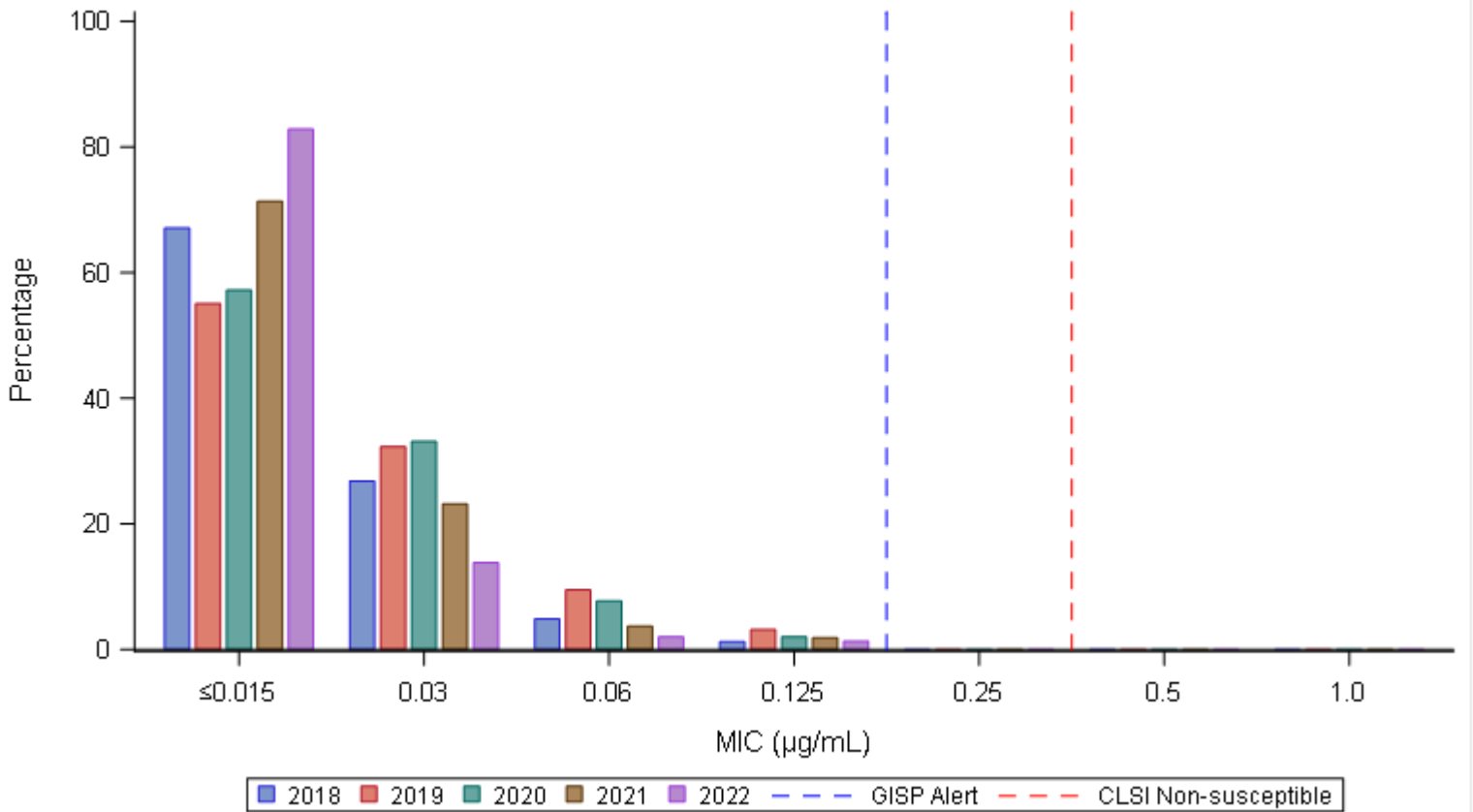
Figure F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Milwaukee, Wisconsin, 2022



Number of Antimicrobials	Count	Percentage
Susceptible	168	56.6
1 antimicrobial	88	29.6
2 antimicrobials	37	12.5
3 antimicrobials	4	1.3
4+ antimicrobials	0	0.0

Elevated MICs = ceftriaxone MIC ≥ 0.125 $\mu\text{g}/\text{mL}$; cefixime MIC ≥ 0.25 $\mu\text{g}/\text{mL}$; azithromycin MIC ≥ 2.0 $\mu\text{g}/\text{mL}$; Resistance = tetracycline MIC ≥ 2.0 $\mu\text{g}/\text{mL}$; ciprofloxacin MIC ≥ 1.0 $\mu\text{g}/\text{mL}$; penicillin MIC ≥ 2.0 $\mu\text{g}/\text{mL}$ or β -lactamase positive.

Figure G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Milwaukee, Wisconsin, 2018-2022



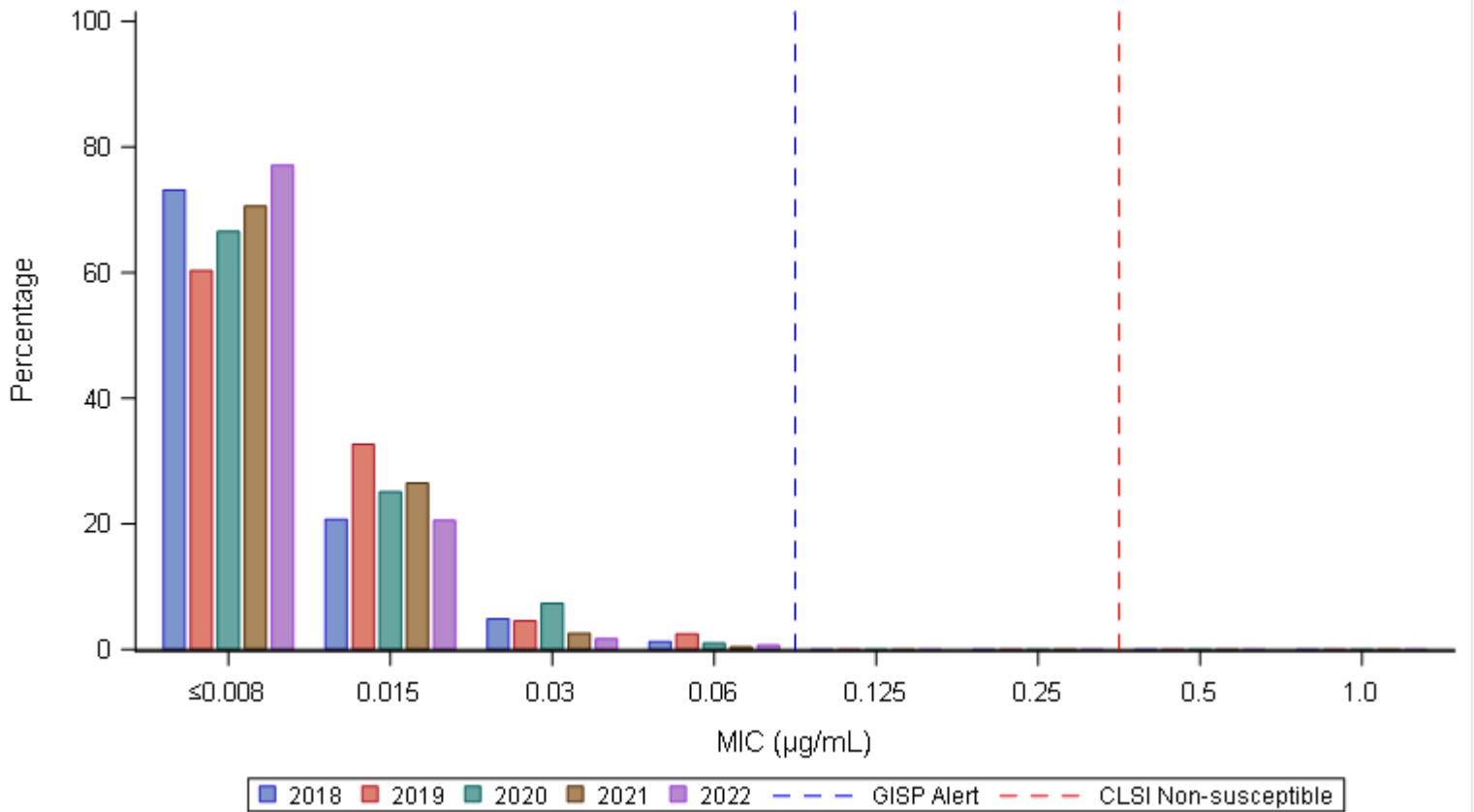
Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	55 (67.1)	22 (26.8)	4 (4.9)	1 (1.2)	0 (0.0)	0 (0.0)	0 (0.0)	82
2019	157 (55.1)	92 (32.3)	27 (9.5)	9 (3.2)	0 (0.0)	0 (0.0)	0 (0.0)	285
2020	171 (57.2)	99 (33.1)	23 (7.7)	6 (2.0)	0 (0.0)	0 (0.0)	0 (0.0)	299
2021	194 (71.3)	63 (23.2)	10 (3.7)	5 (1.8)	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)	297

GISP Alert Value = cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; CLSI Non-susceptible = cefixime MIC ≥ 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 the end of 2022, the CLSI has not established a cefixime resistance breakpoint for *N. gonorrhoeae*.

Figure H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Milwaukee, Wisconsin, 2018-2022



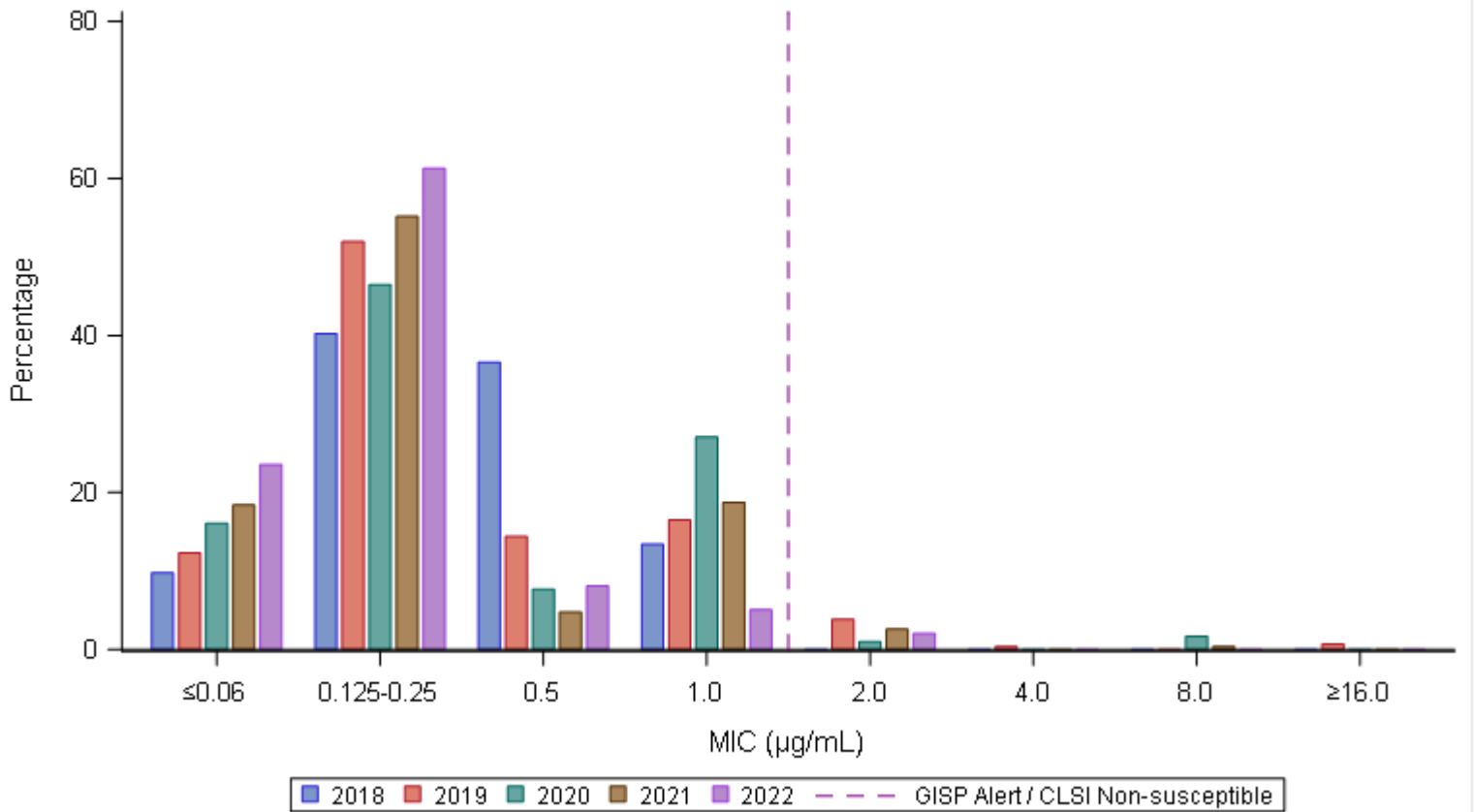
Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	60 (73.2)	17 (20.7)	4 (4.9)	1 (1.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	82
2019	172 (60.4)	93 (32.6)	13 (4.6)	7 (2.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	285
2020	199 (66.6)	75 (25.1)	22 (7.4)	3 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	299
2021	192 (70.6)	72 (26.5)	7 (2.6)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	272
2022	229 (77.1)	61 (20.5)	5 (1.7)	2 (0.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	297

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 the end of 2022, the CLSI has not established a ceftriaxone resistance breakpoint for *N. gonorrhoeae*.

Figure I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Milwaukee, Wisconsin, 2018-2022



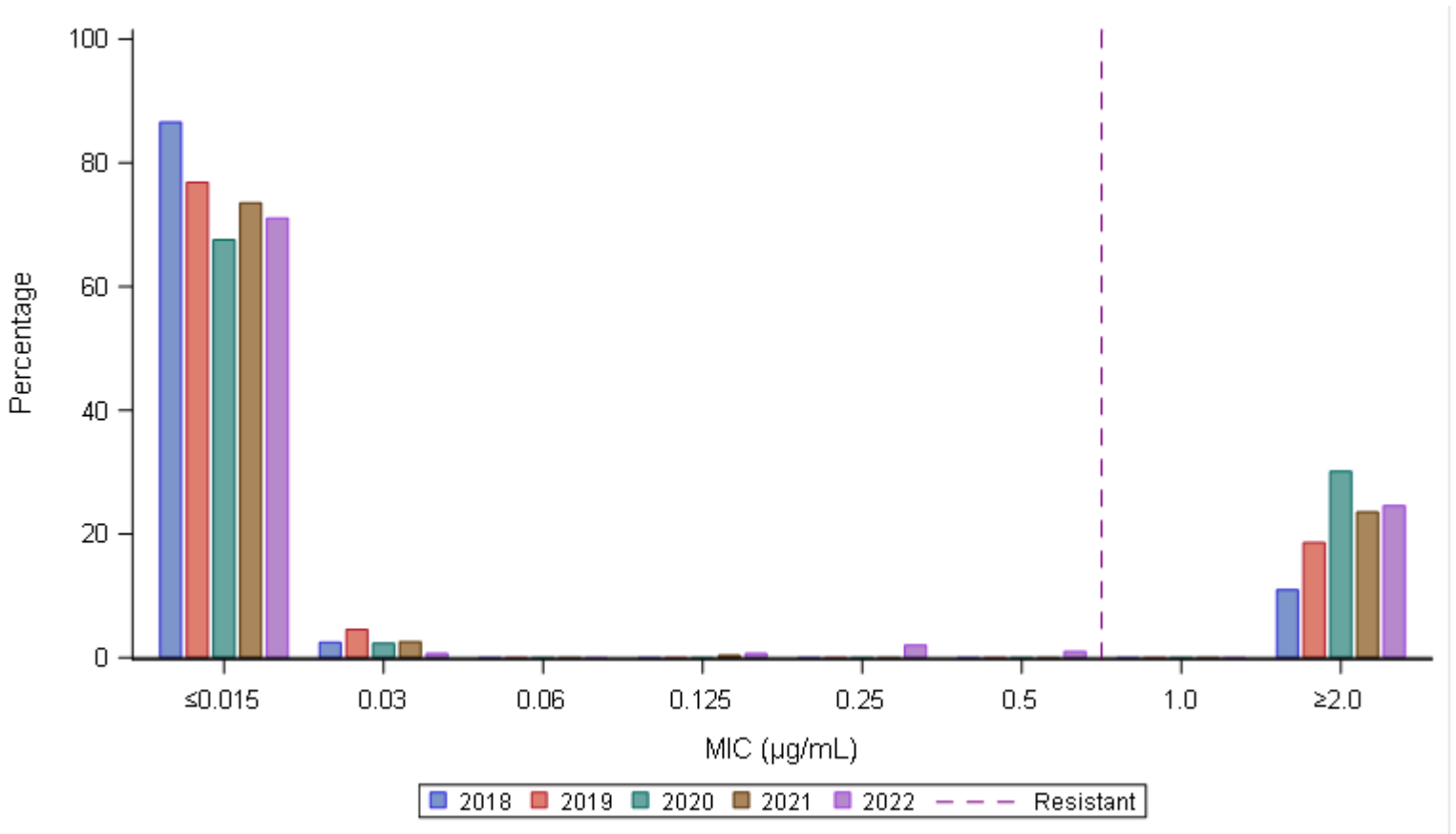
Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2018	8 (9.8)	33 (40.2)	30 (36.6)	11 (13.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	82
2019	35 (12.3)	148 (51.9)	41 (14.4)	47 (16.5)	11 (3.9)	1 (0.4)	0 (0.0)	2 (0.7)	285
2020	48 (16.1)	139 (46.5)	23 (7.7)	81 (27.1)	3 (1.0)	0 (0.0)	5 (1.7)	0 (0.0)	299
2021	50 (18.4)	150 (55.1)	13 (4.8)	51 (18.8)	7 (2.6)	0 (0.0)	1 (0.4)	0 (0.0)	272
2022	70 (23.6)	182 (61.3)	24 (8.1)	15 (5.1)	6 (2.0)	0 (0.0)	0 (0.0)	0 (0.0)	297

GISP Alert Value: azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; CLSI Non-susceptible = azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$.

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 the end of 2022, the CLSI has not established an azithromycin resistance breakpoint for *N. gonorrhoeae*.

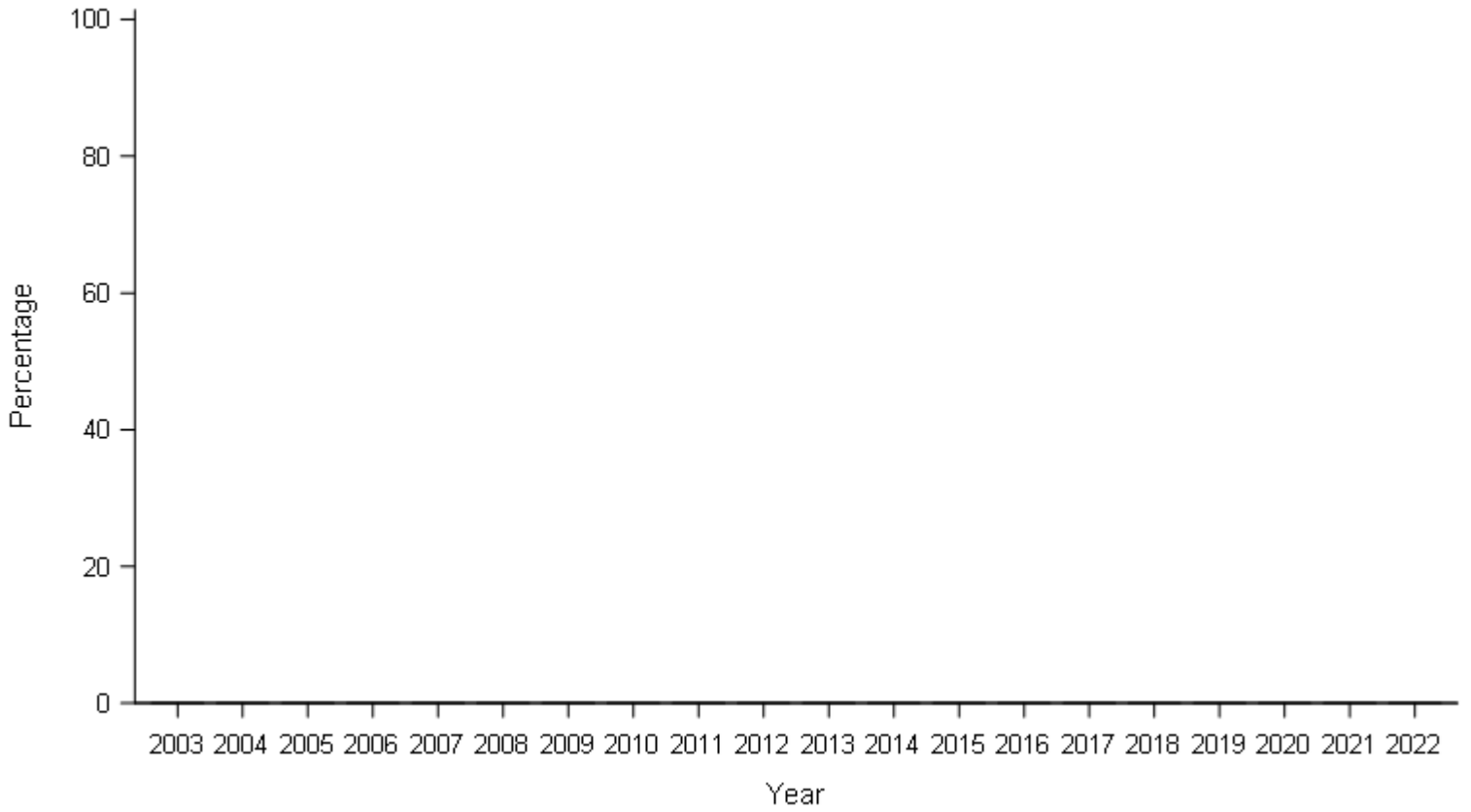
Figure J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Milwaukee, Wisconsin, 2018-2022



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
2018	71 (86.6)	2 (2.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	9 (11.0)	82
2019	219 (76.8)	13 (4.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	53 (18.6)	285
2020	202 (67.6)	7 (2.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	90 (30.1)	299
2021	200 (73.5)	7 (2.6)	0 (0.0)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	64 (23.5)	272
2022	211 (71.0)	2 (0.7)	0 (0.0)	2 (0.7)	6 (2.0)	3 (1.0)	0 (0.0)	73 (24.6)	297

Ciprofloxacin resistance MIC ≥1.0 µg/mL.

Figure K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Milwaukee, Wisconsin, 2003-2022



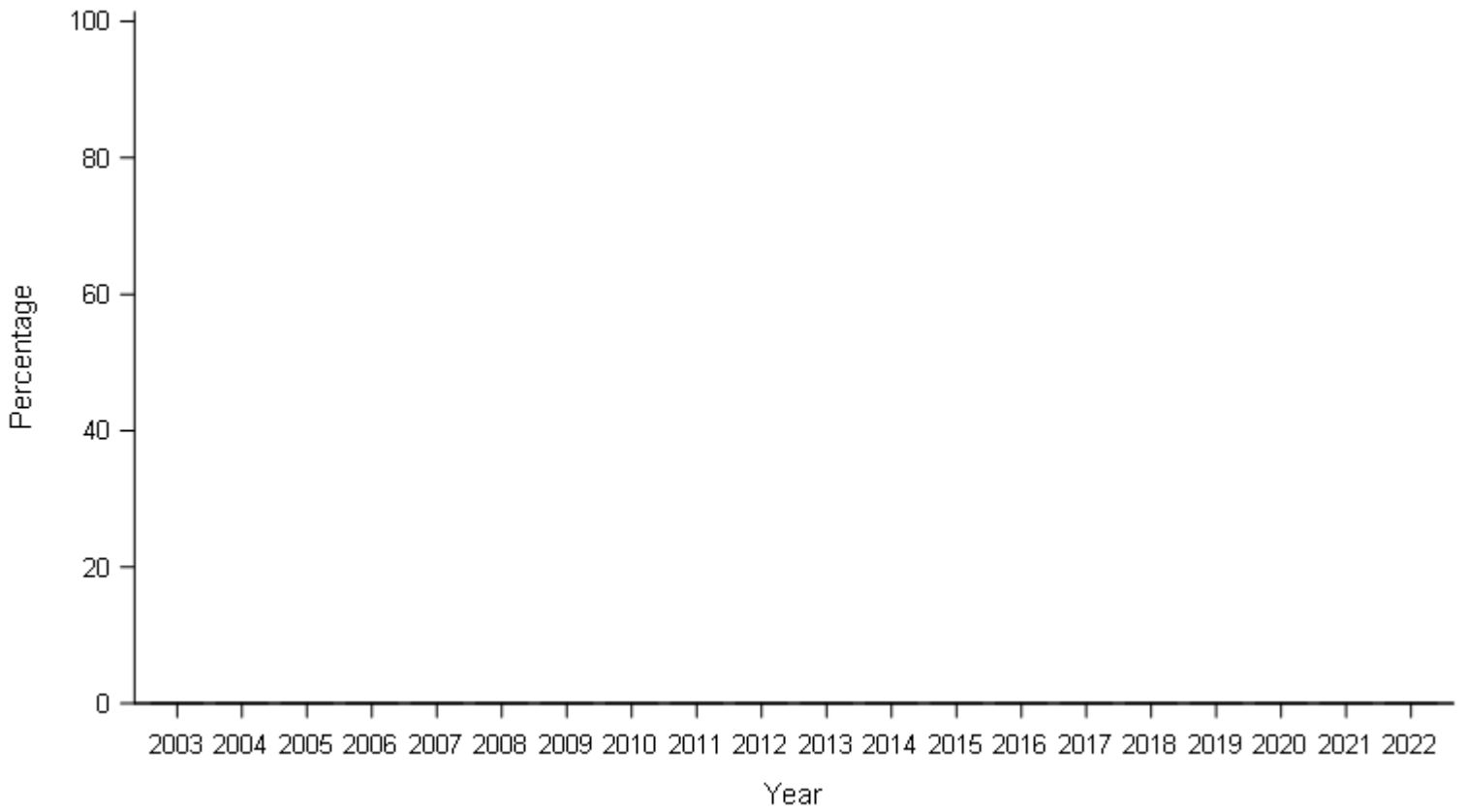
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

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

Site participated in GISP during 2018-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Milwaukee, Wisconsin, 2003-2022



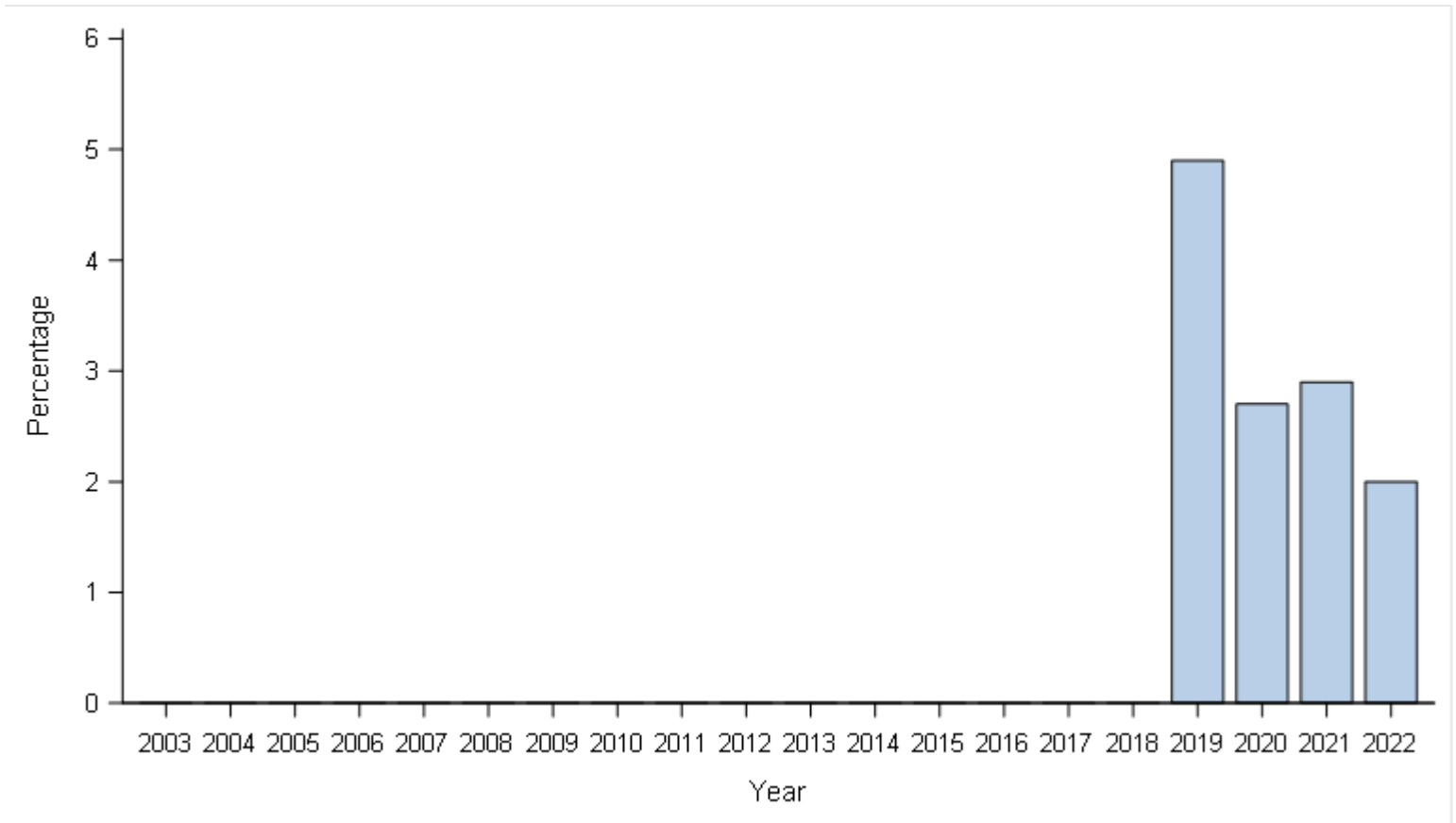
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

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

Site participated in GISP during 2018-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure M. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Milwaukee, Wisconsin, 2003-2022



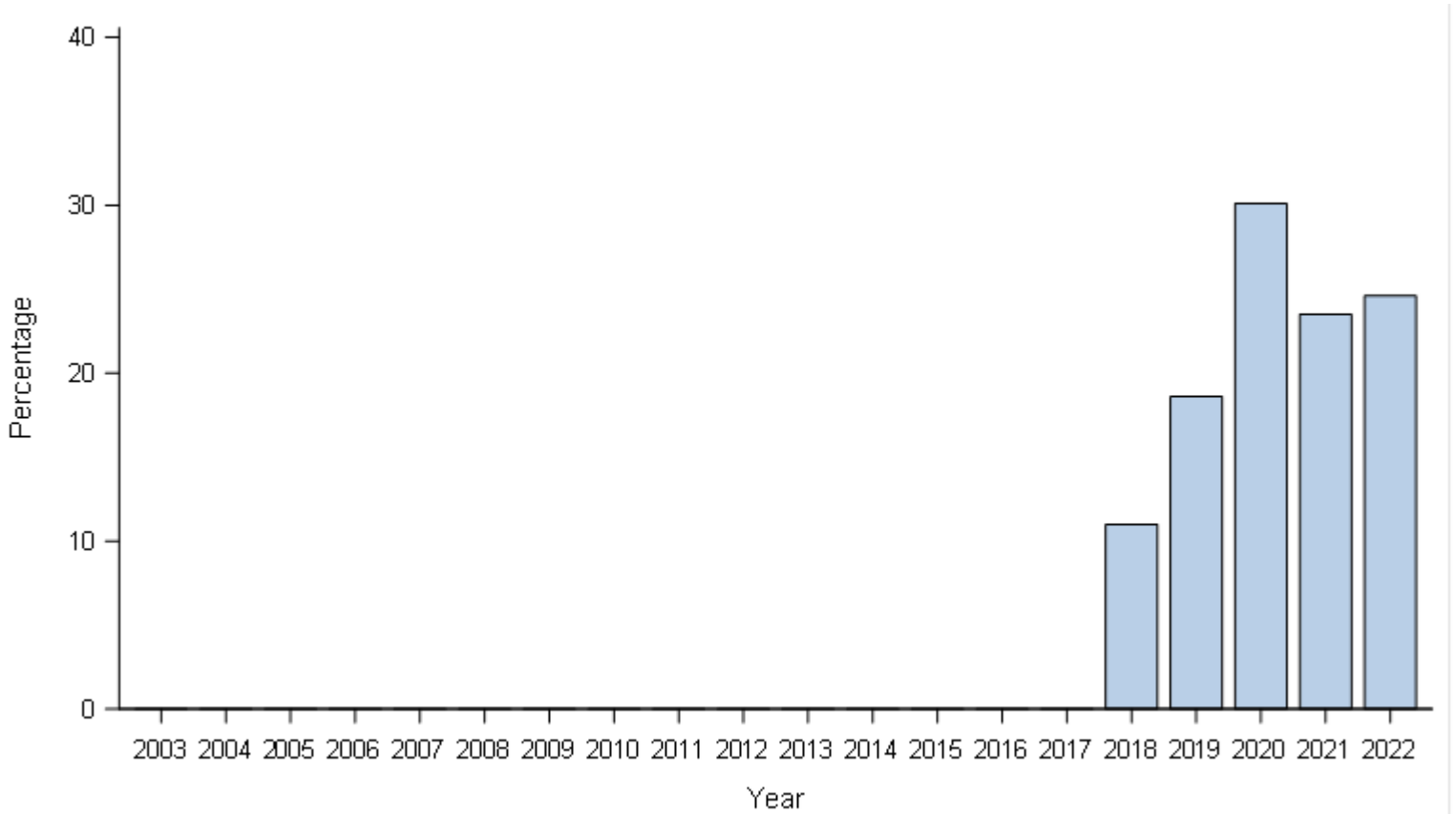
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	14 (4.9)	8 (2.7)	8 (2.9)	6 (2.0)

Azithromycin elevated MIC ≥ 1.0 $\mu\text{g/mL}$ prior to 2005 and ≥ 2.0 $\mu\text{g/mL}$ during 2005-2022.

Site participated in GISP during 2018-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Milwaukee, Wisconsin, 2003-2022



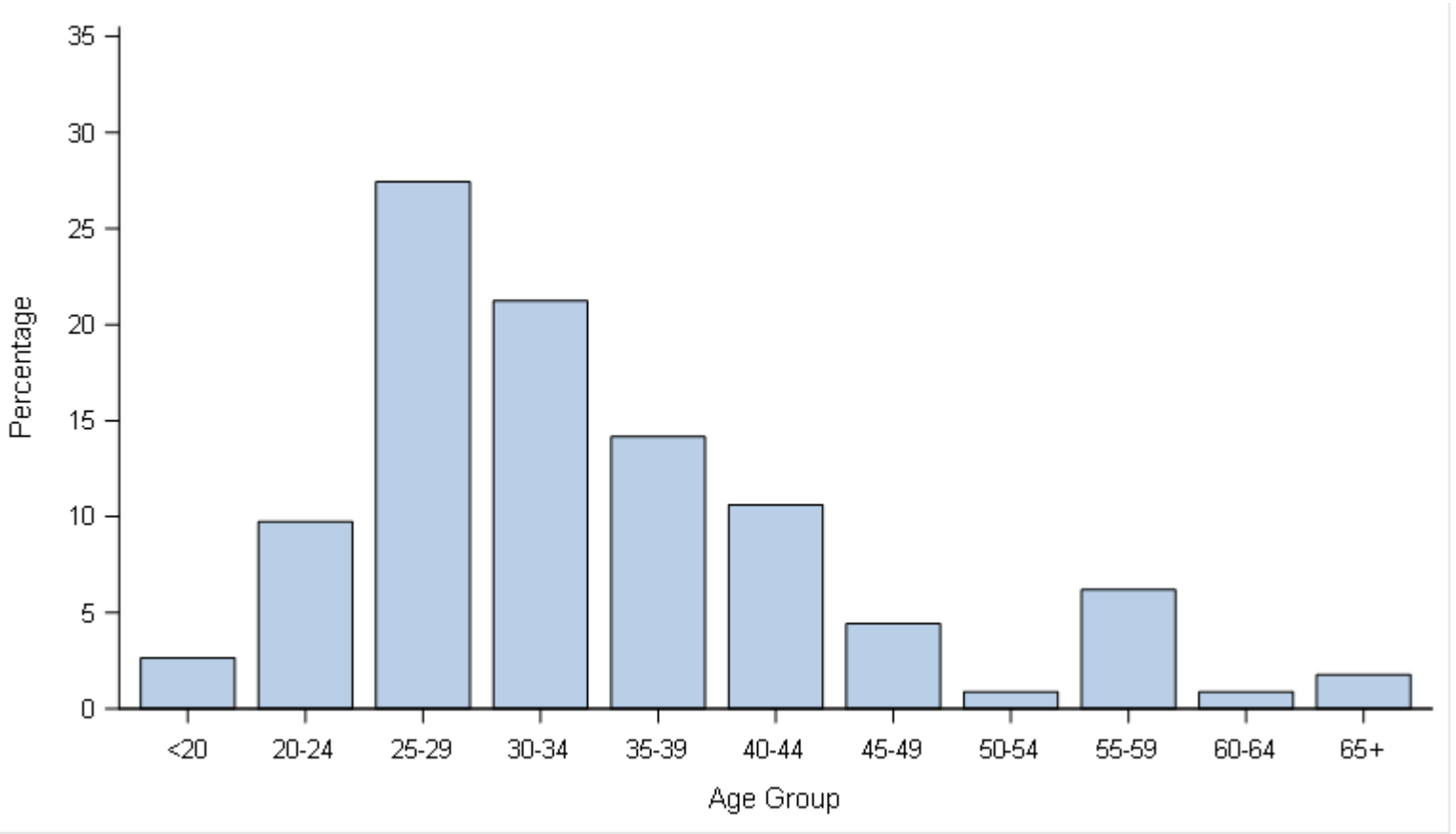
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	9 (11.0)	53 (18.6)	90 (30.1)	64 (23.5)	73 (24.6)

Ciprofloxacin resistance MIC \geq 1.0 μ g/mL.

Site participated in GISP during 2018-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

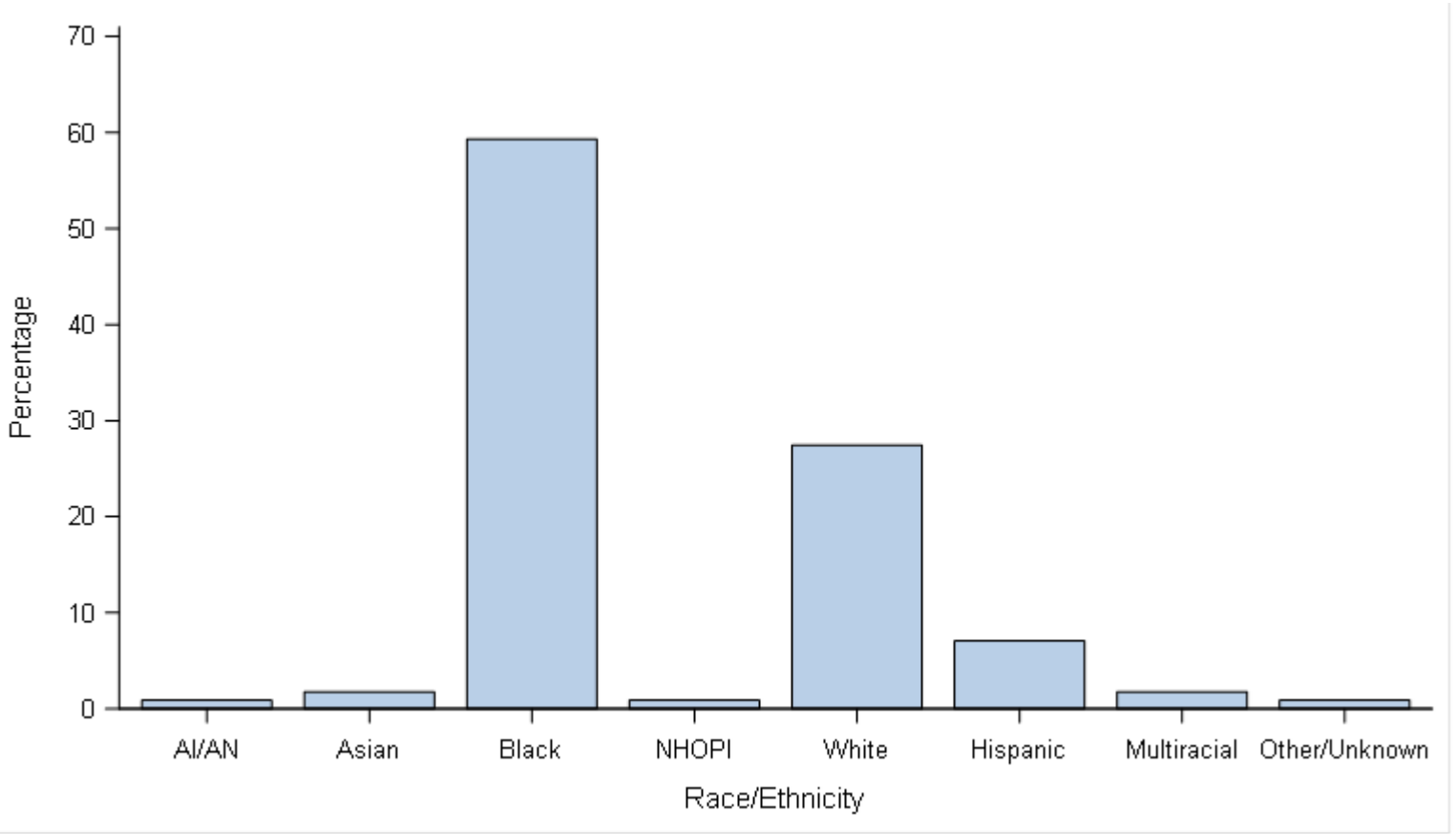
Figure A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Minneapolis, Minnesota, 2022



<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 (2.7)	11 (9.7)	31 (27.4)	24 (21.2)	16 (14.2)	12 (10.6)	5 (4.4)	1 (0.9)	7 (6.2)	1 (0.9)	2 (1.8)	113

Cases with unknown age were excluded.

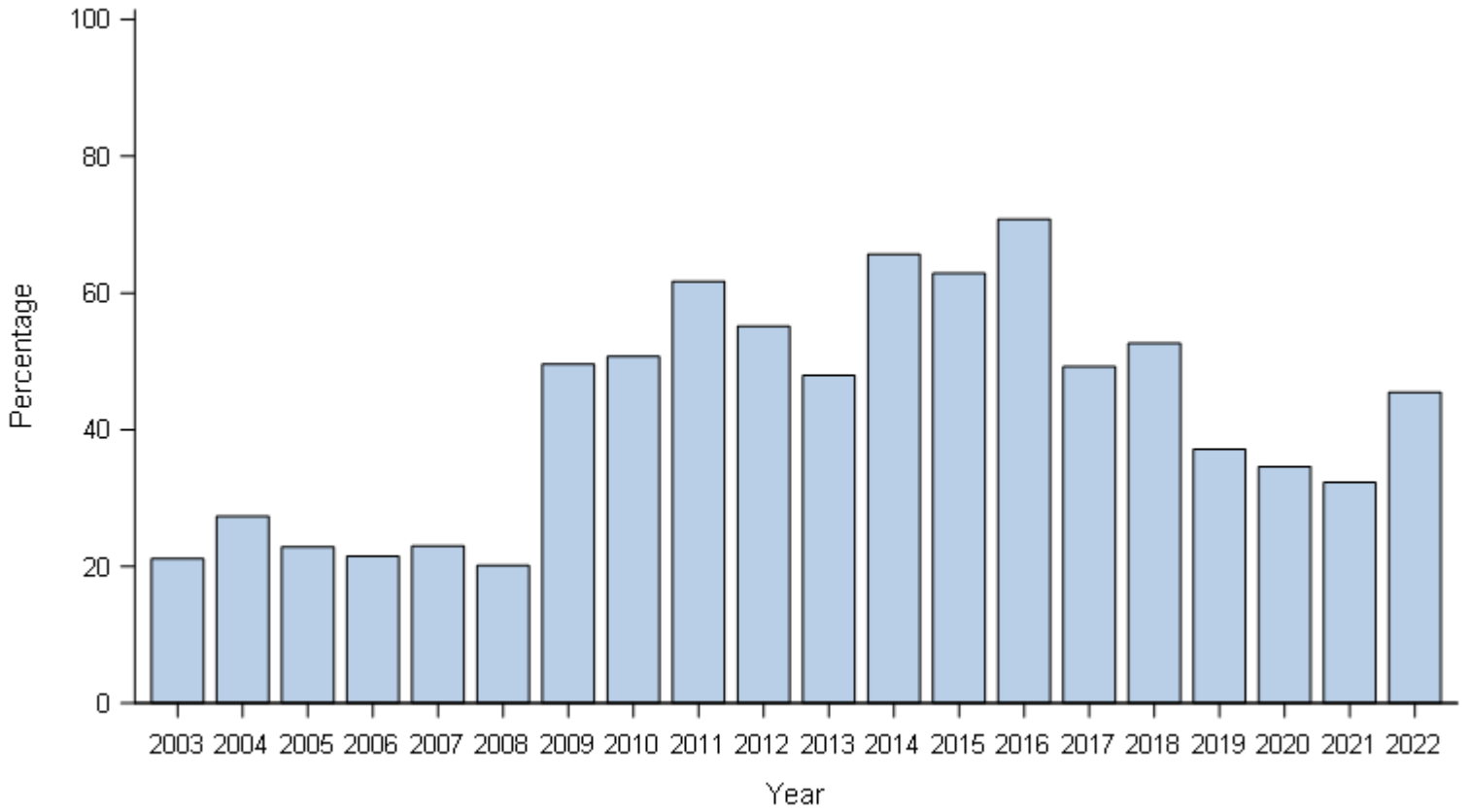
Figure B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Minneapolis, Minnesota, 2022



AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
1 (0.9)	2 (1.8)	67 (59.3)	1 (0.9)	31 (27.4)	8 (7.1)	2 (1.8)	1 (0.9)	113

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.

Figure C. Percentage of Participants Identifying as Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Minneapolis, Minnesota, 2003-2022

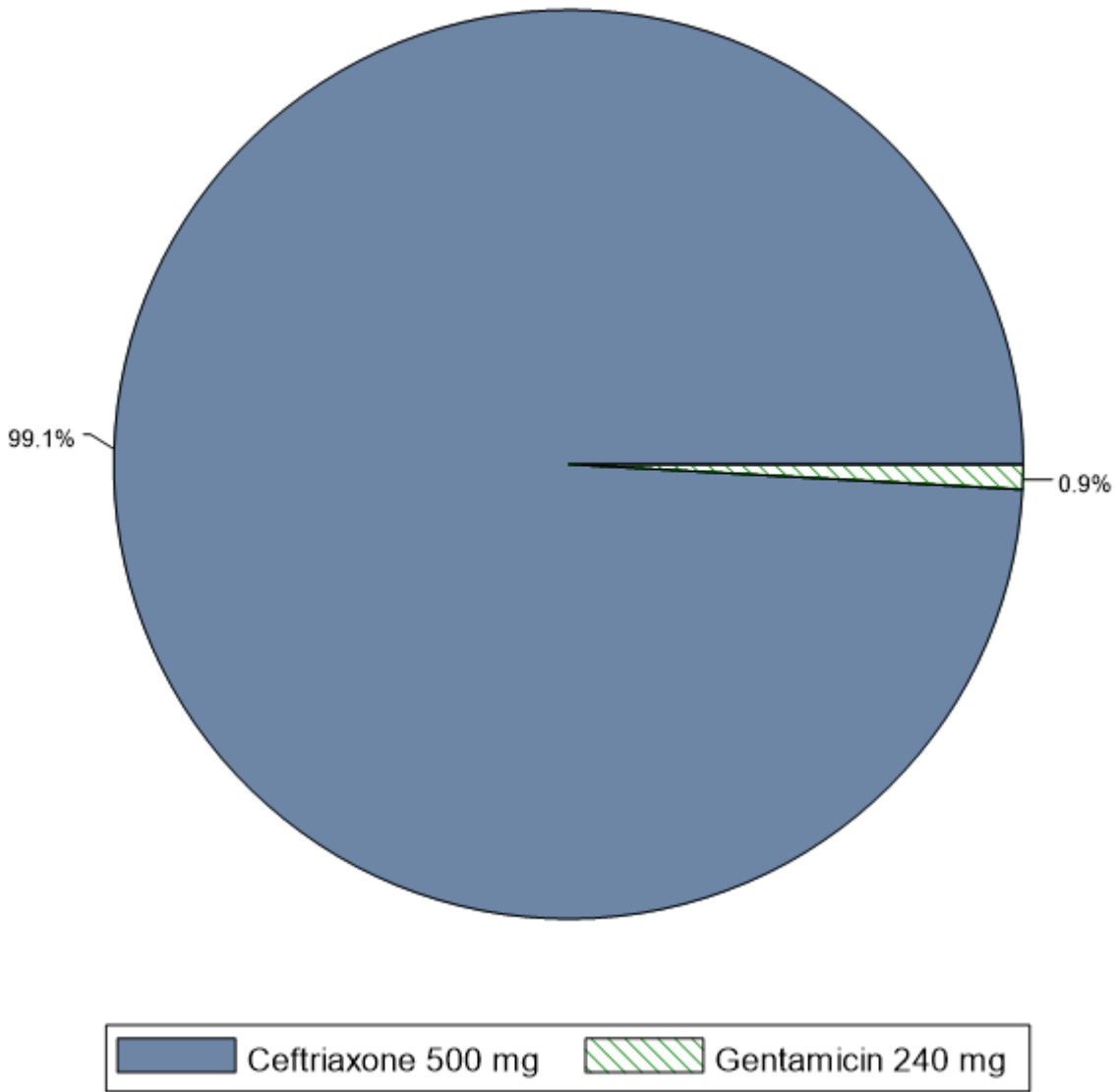


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
45 (21.1)	64 (27.4)	56 (22.9)	49 (21.5)	57 (23.0)	36 (20.1)	61 (49.6)	36 (50.7)	29 (61.7)	43 (55.1)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
46 (47.9)	65 (65.7)	66 (62.9)	63 (70.8)	31 (49.2)	40 (52.6)	26 (37.1)	27 (34.6)	51 (32.3)	50 (45.5)

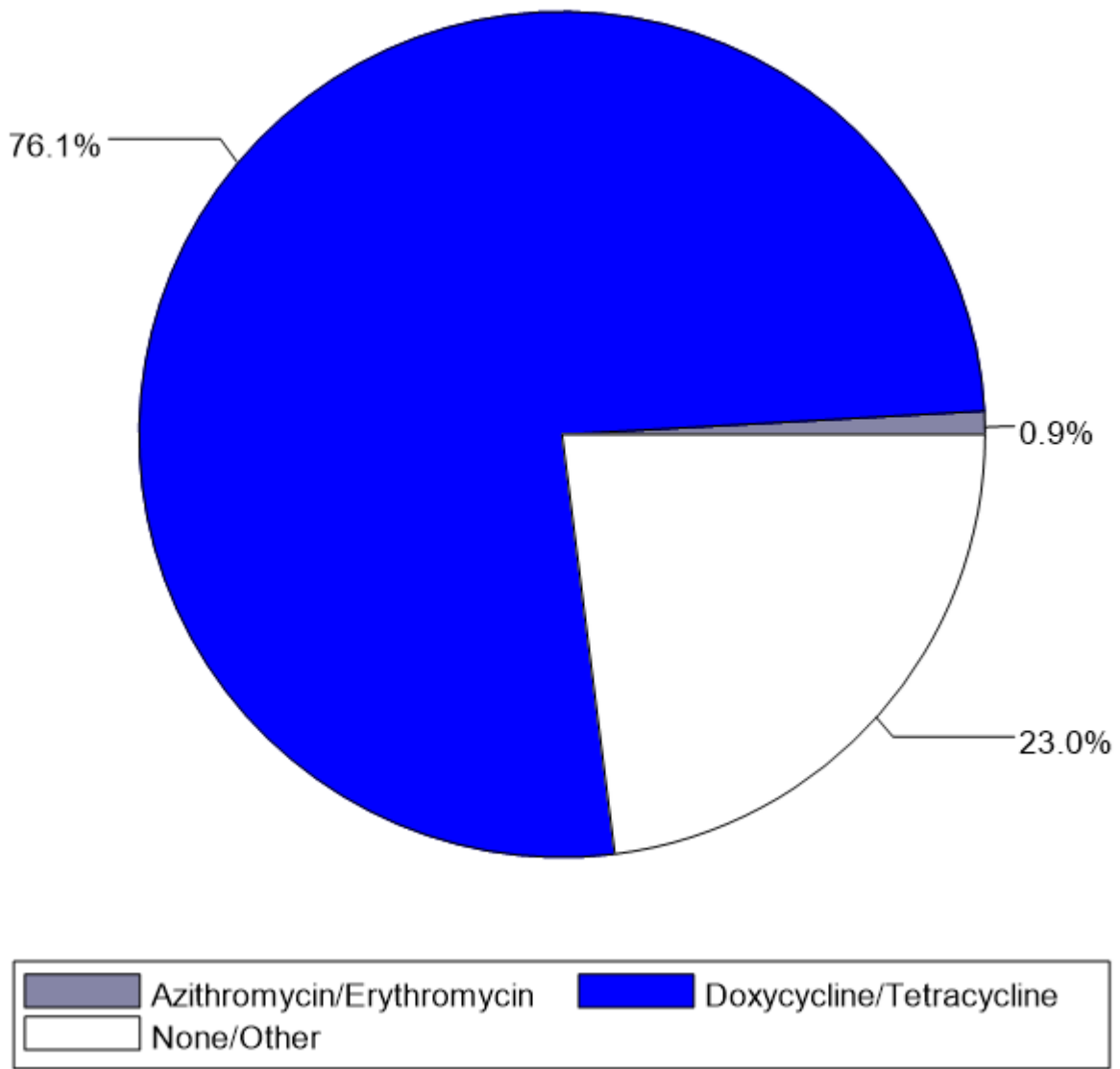
Men who have sex with men = men who self-identified as gay or bisexual or reported recent male sex partners.

Figure D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Minneapolis, Minnesota, 2022



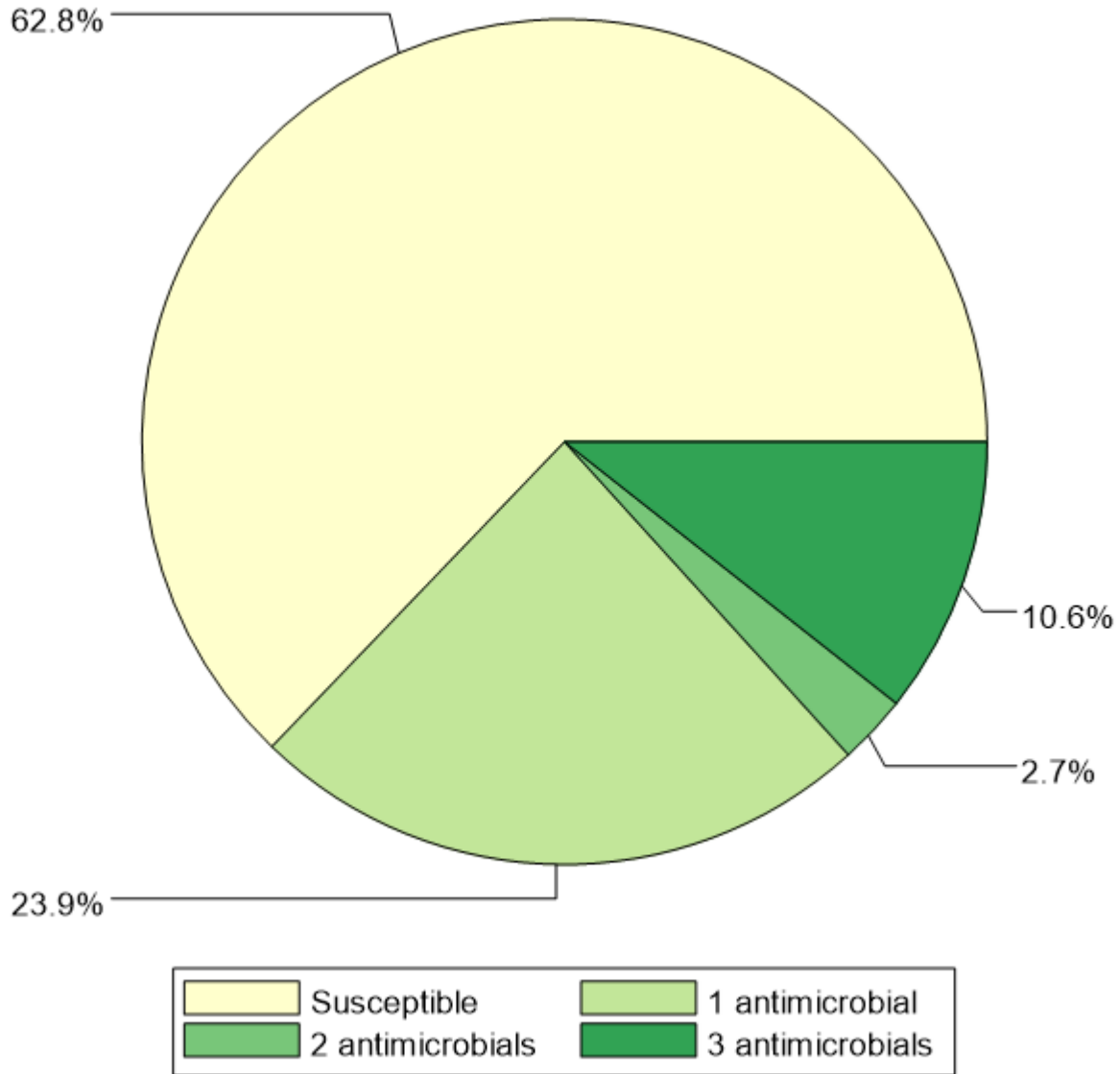
Primary Treatment	Count	Percentage
Ceftriaxone 500 mg	112	99.1
Gentamicin 240 mg	1	0.9

Figure E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Minneapolis, Minnesota, 2022



Secondary Treatment	Count	Percentage
Azithromycin/Erythromycin	1	0.9
Doxycycline/Tetracycline	86	76.1
None/Other	26	23.0

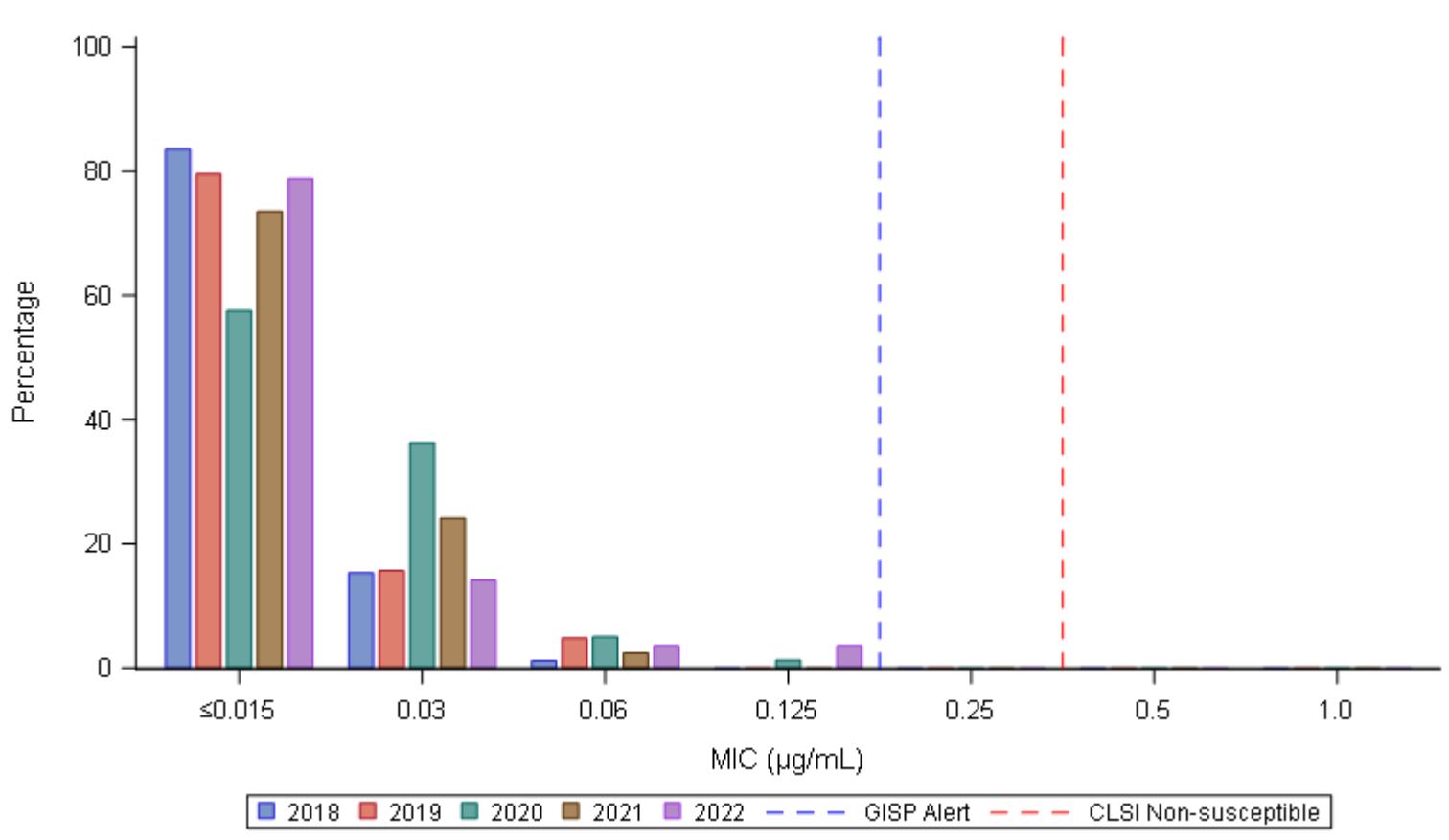
Figure F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Minneapolis, Minnesota, 2022



Number of Antimicrobials	Count	Percentage
Susceptible	71	62.8
1 antimicrobial	27	23.9
2 antimicrobials	3	2.7
3 antimicrobials	12	10.6
4+ antimicrobials	0	0.0

Elevated MICs = ceftriaxone MIC ≥ 0.125 $\mu\text{g/mL}$; cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; Resistance = tetracycline MIC ≥ 2.0 $\mu\text{g/mL}$; ciprofloxacin MIC ≥ 1.0 $\mu\text{g/mL}$; penicillin MIC ≥ 2.0 $\mu\text{g/mL}$ or β -lactamase positive.

Figure G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Minneapolis, Minnesota, 2018-2022



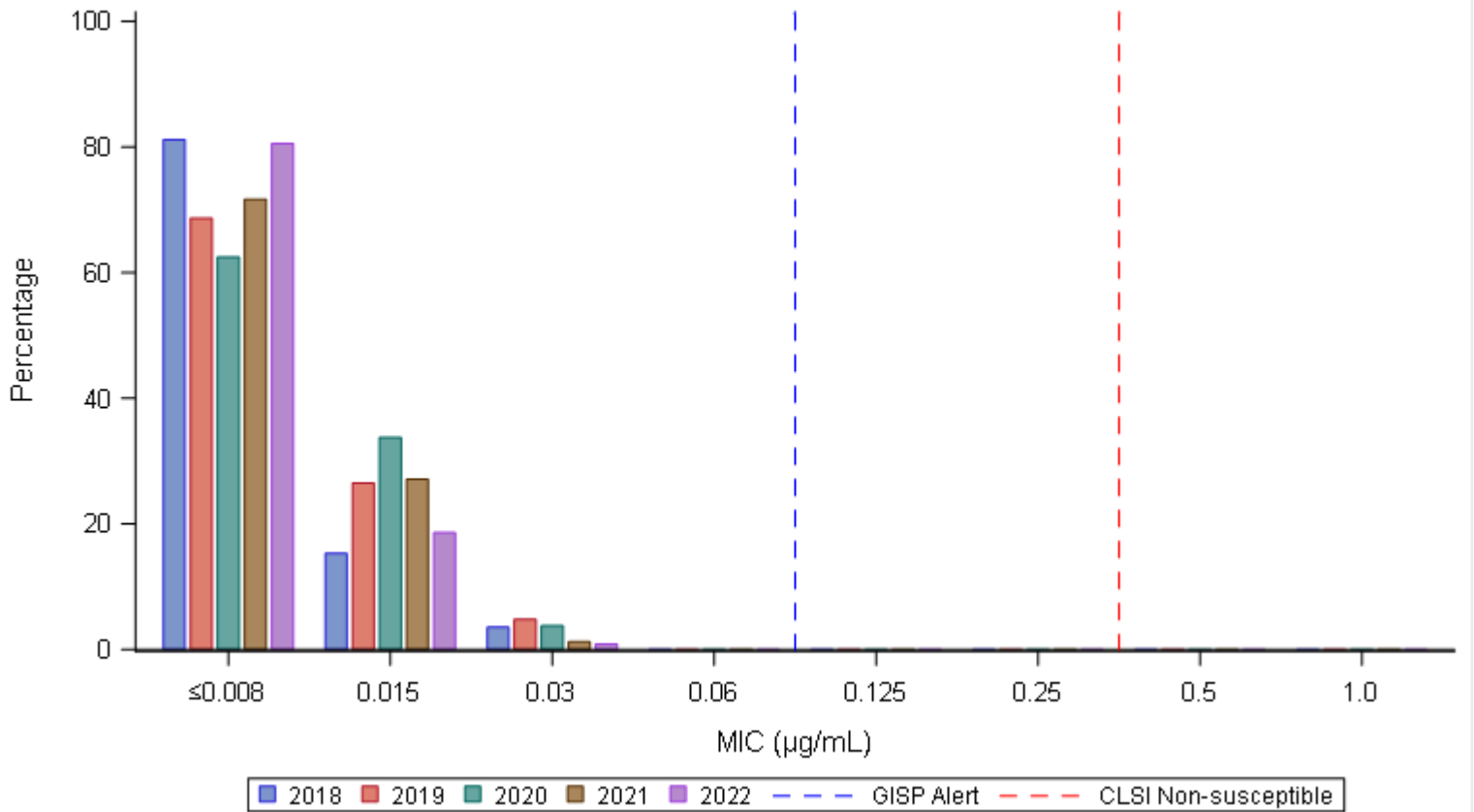
Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	71 (83.5)	13 (15.3)	1 (1.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	85
2019	66 (79.5)	13 (15.7)	4 (4.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	83
2020	46 (57.5)	29 (36.3)	4 (5.0)	1 (1.3)	0 (0.0)	0 (0.0)	0 (0.0)	80
2021	122 (73.5)	40 (24.1)	4 (2.4)	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)	113

GISP Alert Value = cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; CLSI Non-susceptible = cefixime MIC ≥ 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 the end of 2022, the CLSI has not established a cefixime resistance breakpoint for *N. gonorrhoeae*.

Figure H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Minneapolis, Minnesota, 2018-2022



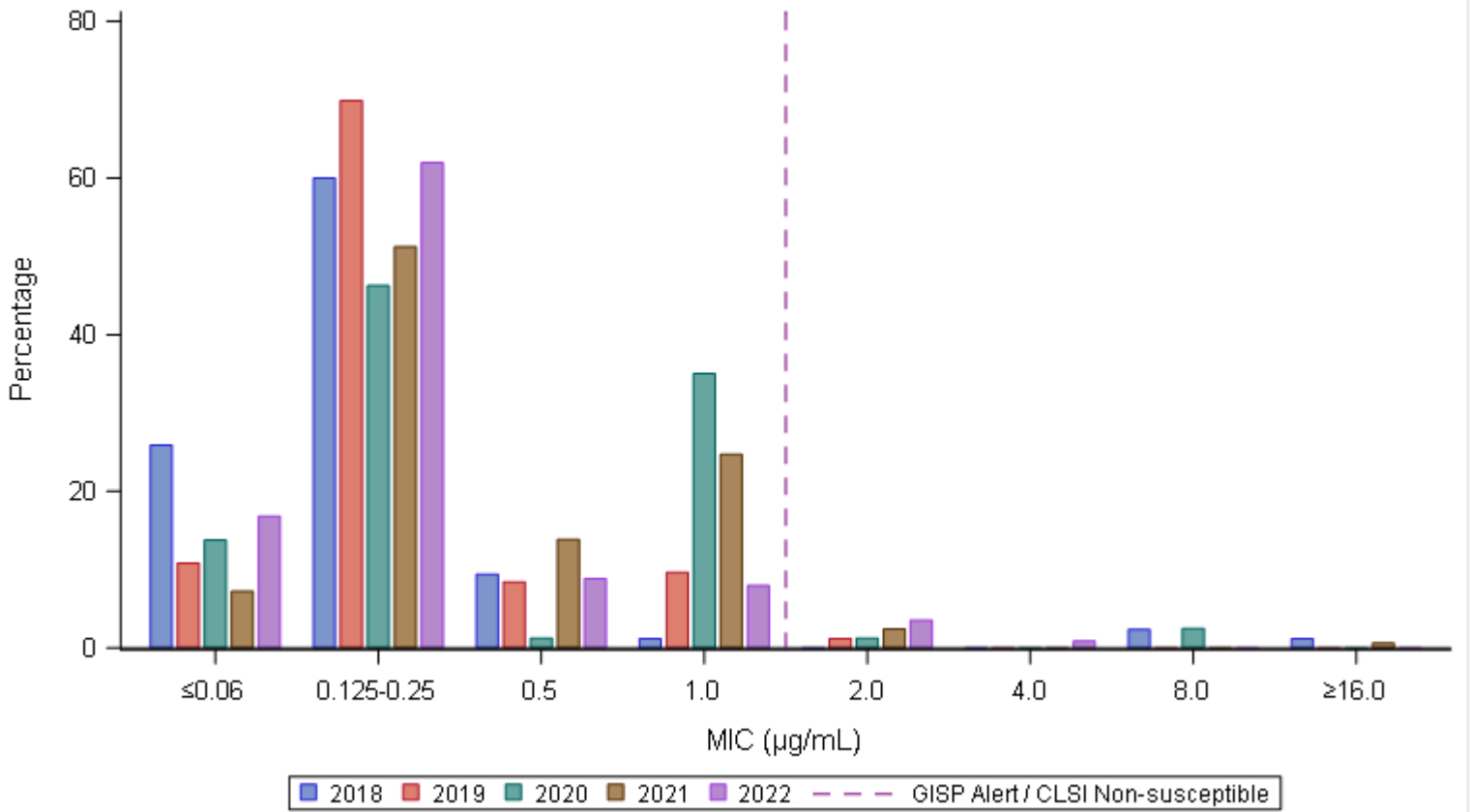
Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	69 (81.2)	13 (15.3)	3 (3.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	85
2019	57 (68.7)	22 (26.5)	4 (4.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	83
2020	50 (62.5)	27 (33.8)	3 (3.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	80
2021	119 (71.7)	45 (27.1)	2 (1.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	166
2022	91 (80.5)	21 (18.6)	1 (0.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	113

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 the end of 2022, the CLSI has not established a ceftriaxone resistance breakpoint for *N. gonorrhoeae*.

Figure I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Minneapolis, Minnesota, 2018-2022



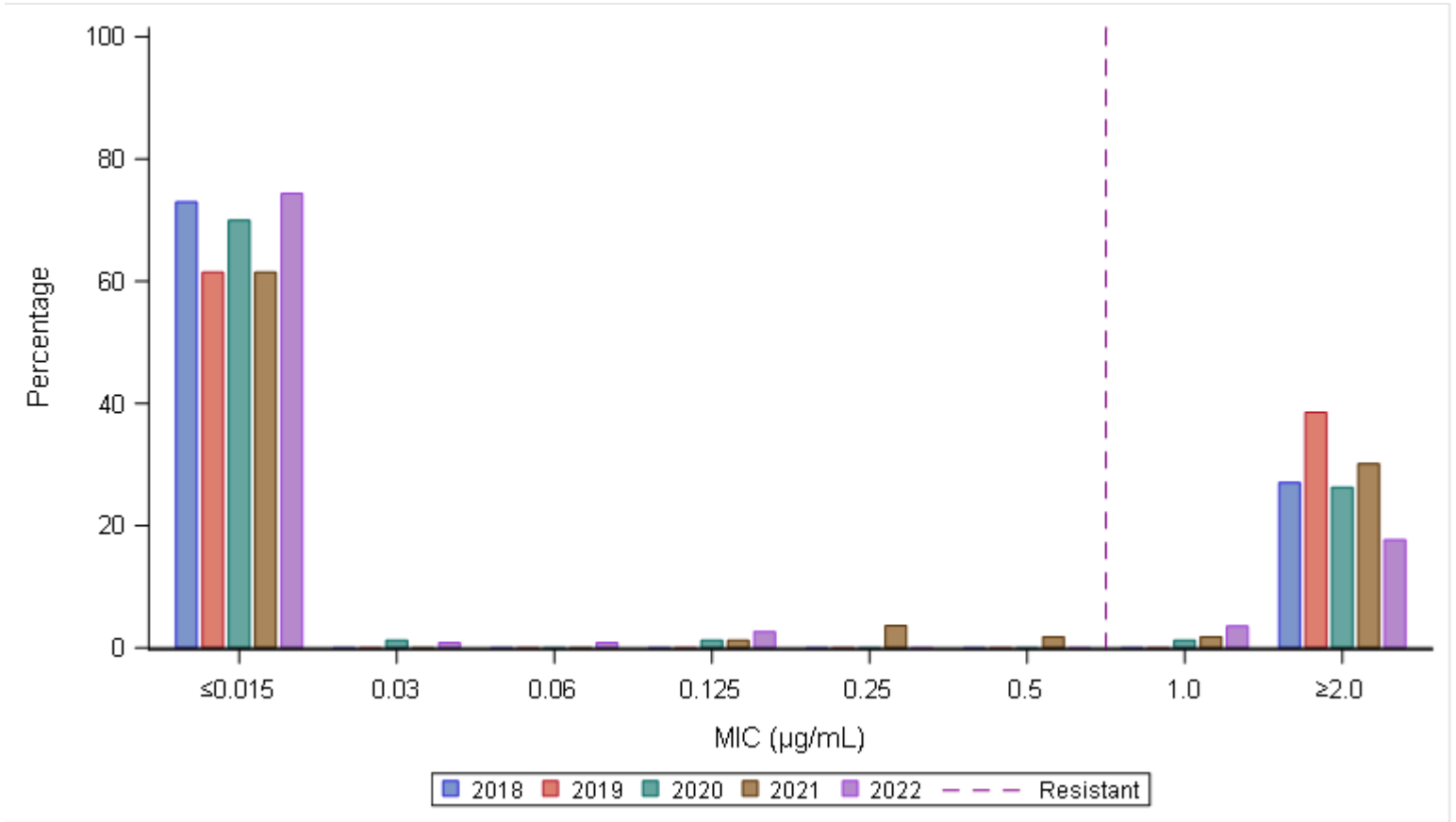
Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2018	22 (25.9)	51 (60.0)	8 (9.4)	1 (1.2)	0 (0.0)	0 (0.0)	2 (2.4)	1 (1.2)	85
2019	9 (10.8)	58 (69.9)	7 (8.4)	8 (9.6)	1 (1.2)	0 (0.0)	0 (0.0)	0 (0.0)	83
2020	11 (13.8)	37 (46.3)	1 (1.3)	28 (35.0)	1 (1.3)	0 (0.0)	2 (2.5)	0 (0.0)	80
2021	12 (7.2)	85 (51.2)	23 (13.9)	41 (24.7)	4 (2.4)	0 (0.0)	0 (0.0)	1 (0.6)	166
2022	19 (16.8)	70 (61.9)	10 (8.8)	9 (8.0)	4 (3.5)	1 (0.9)	0 (0.0)	0 (0.0)	113

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; CLSI Non-susceptible = azithromycin MIC ≥2.0 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 the end of 2022, the CLSI has not established an azithromycin resistance breakpoint for *N. gonorrhoeae*.

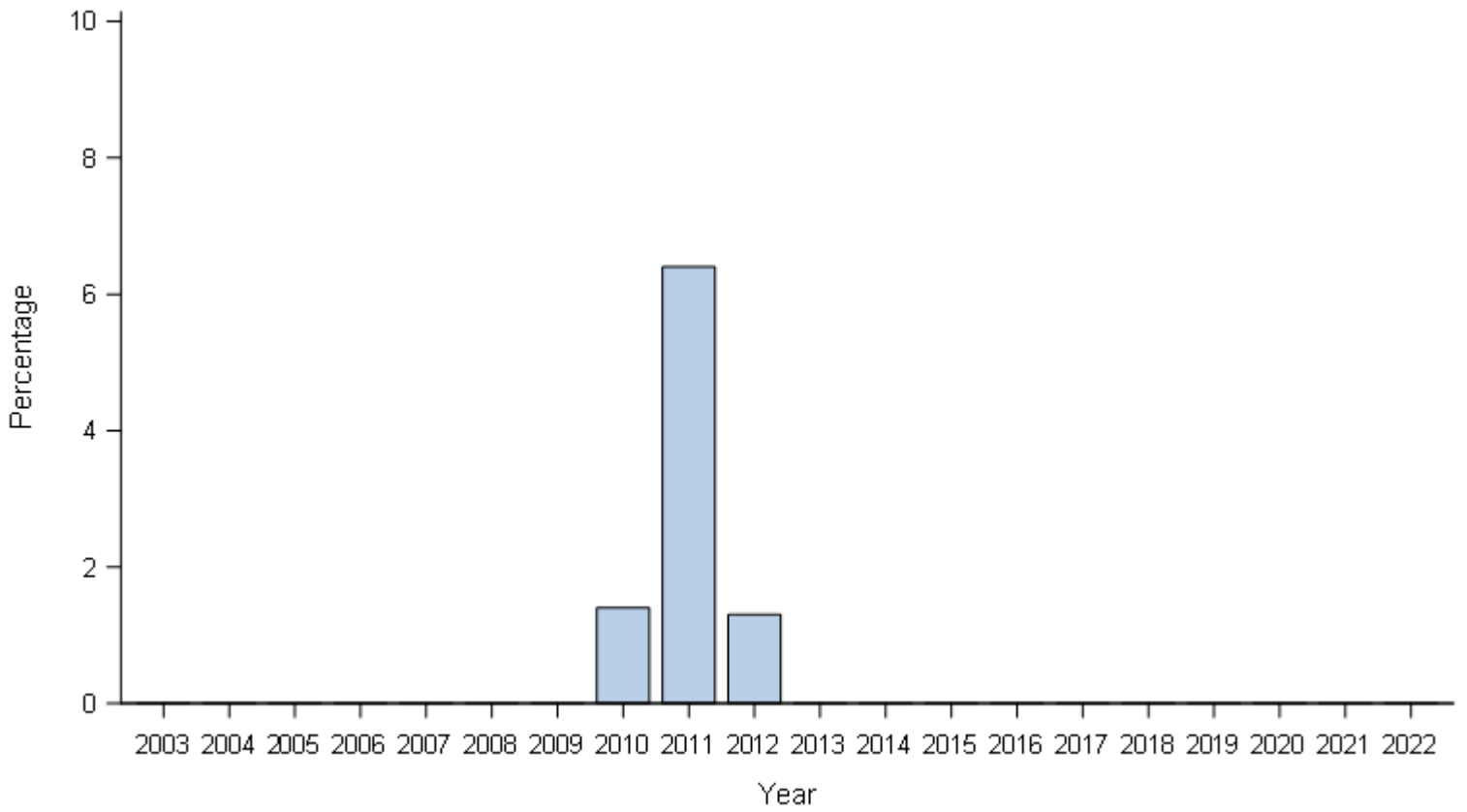
Figure J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Minneapolis, Minnesota, 2018-2022



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
2018	62 (72.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	23 (27.1)	85
2019	51 (61.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	32 (38.6)	83
2020	56 (70.0)	1 (1.3)	0 (0.0)	1 (1.3)	0 (0.0)	0 (0.0)	1 (1.3)	21 (26.3)	80
2021	102 (61.4)	0 (0.0)	0 (0.0)	2 (1.2)	6 (3.6)	3 (1.8)	3 (1.8)	50 (30.1)	166
2022	84 (74.3)	1 (0.9)	1 (0.9)	3 (2.7)	0 (0.0)	0 (0.0)	4 (3.5)	20 (17.7)	113

Ciprofloxacin resistance MIC ≥1.0 µg/mL.

Figure K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Minneapolis, Minnesota, 2003-2022

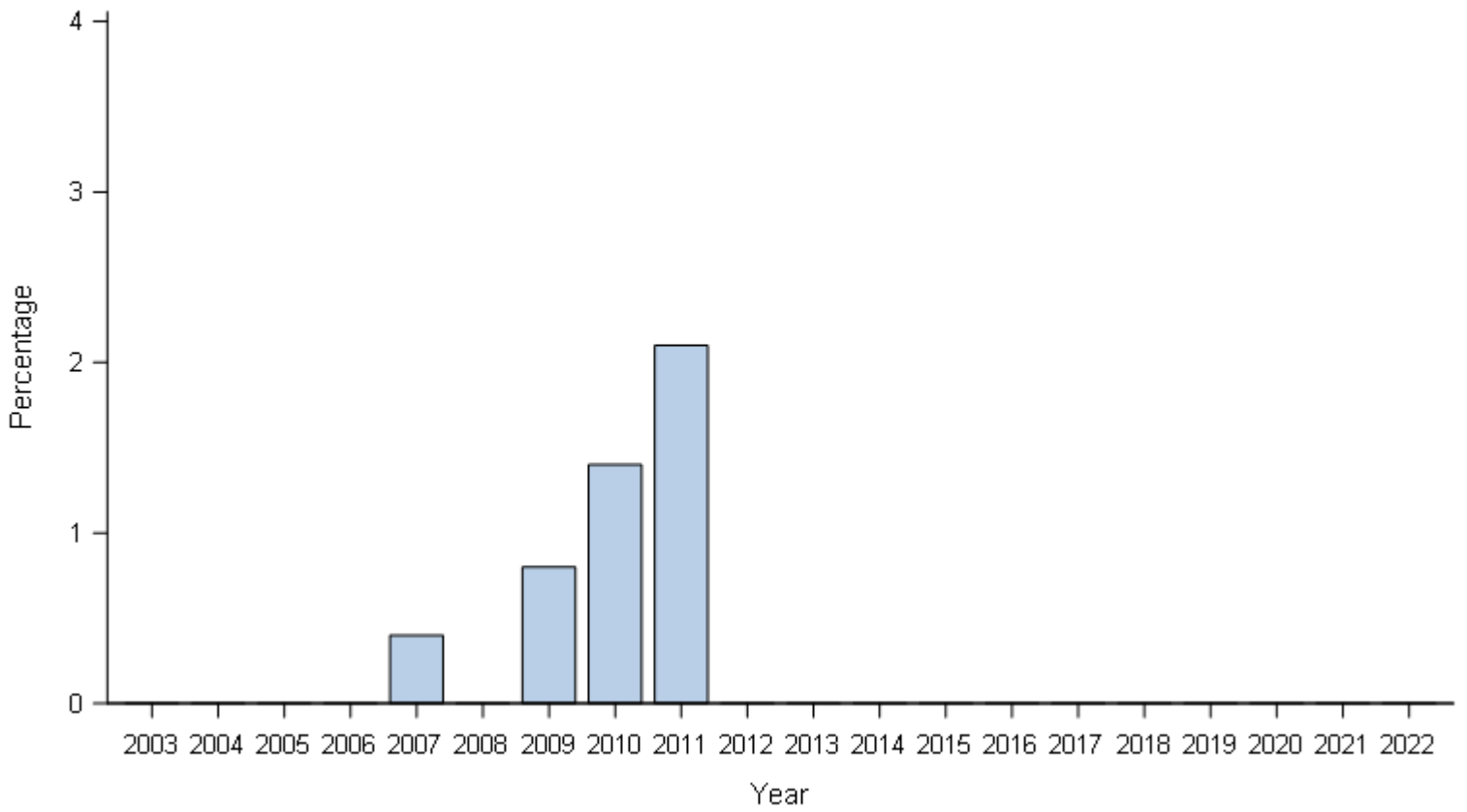


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.4)	3 (6.4)	1 (1.3)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

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

Figure L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Minneapolis, Minnesota, 2003-2022

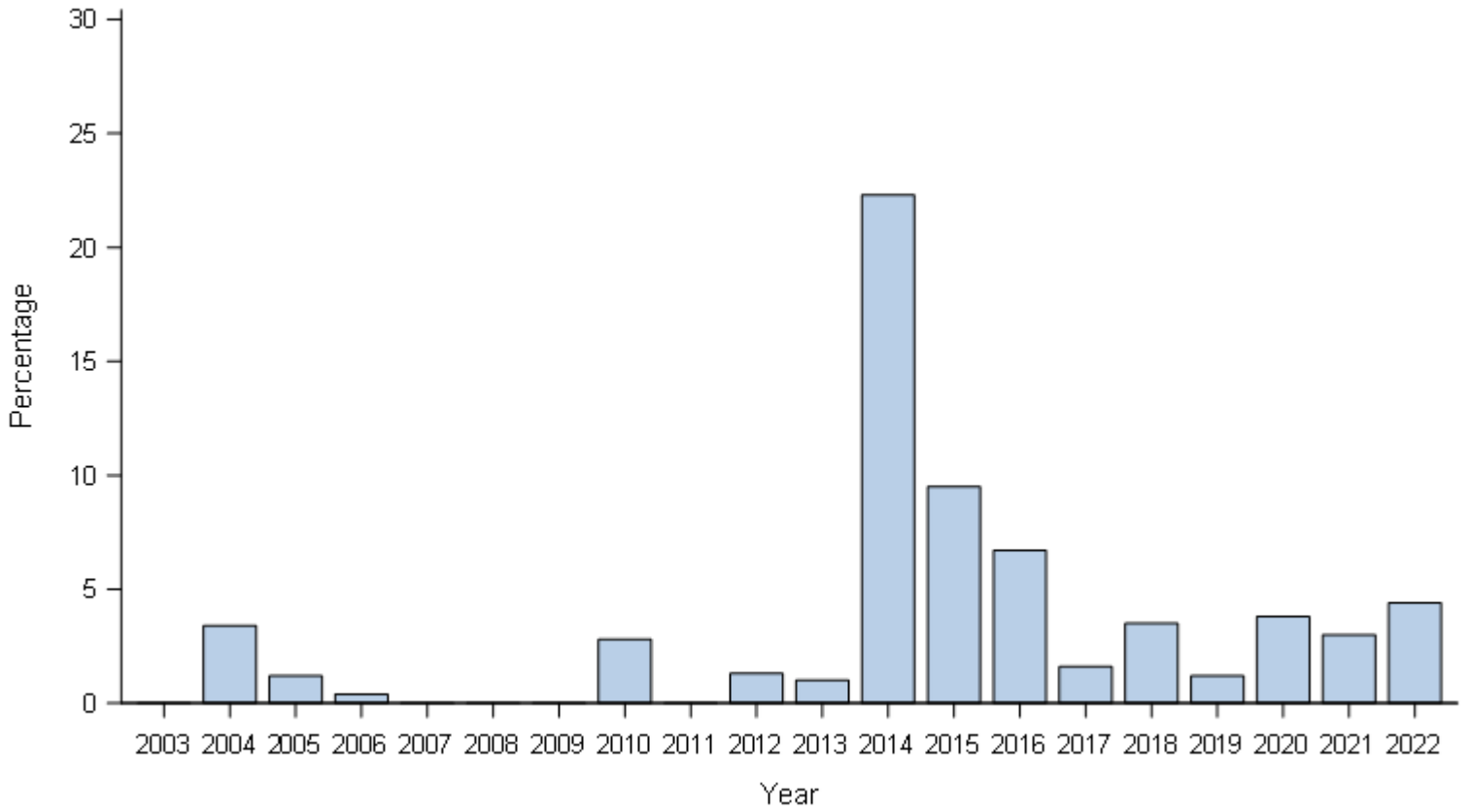


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.4)	0 (0.0)	1 (0.8)	1 (1.4)	1 (2.1)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

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

Figure M. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Minneapolis, Minnesota, 2003-2022

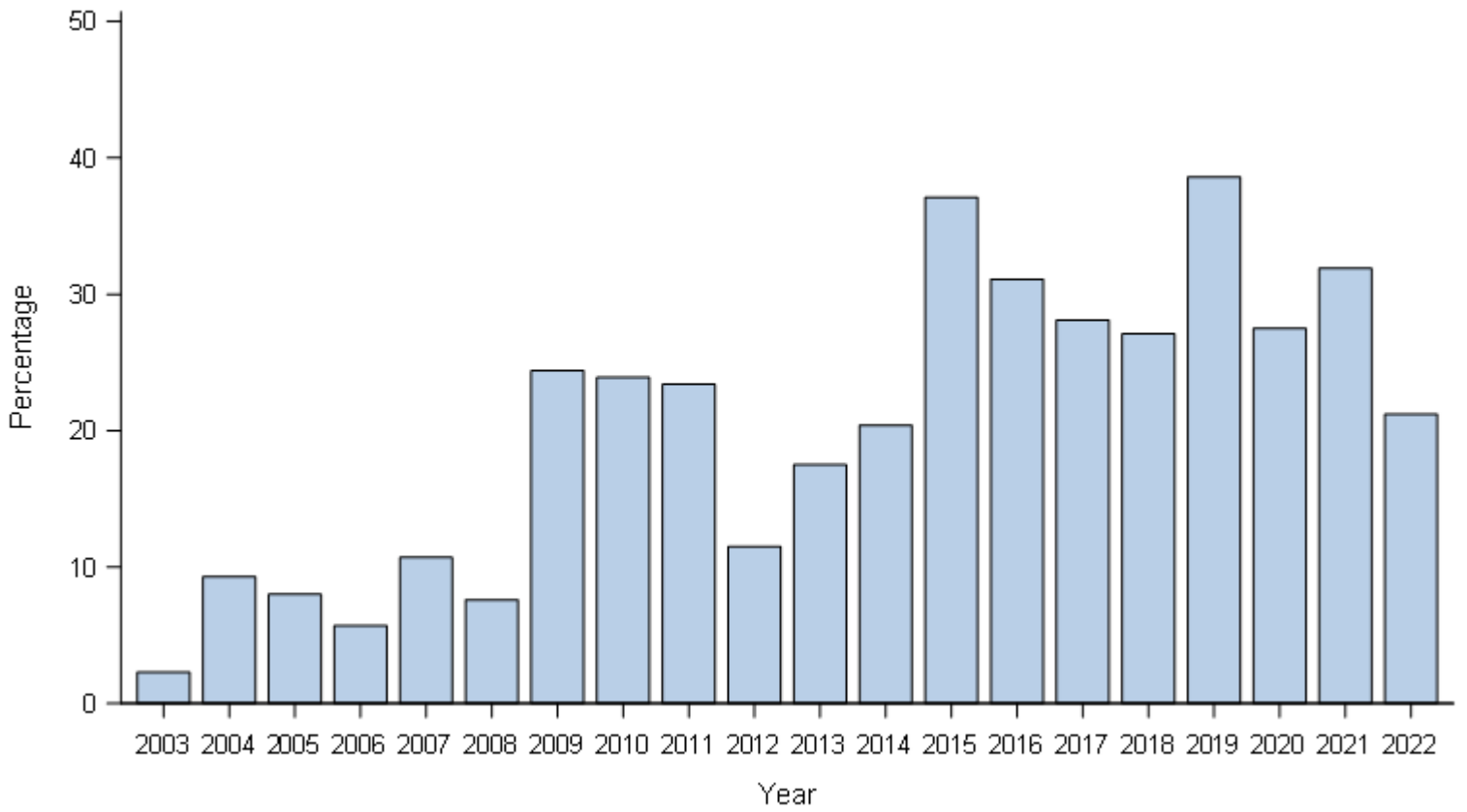


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	8 (3.4)	3 (1.2)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	2 (2.8)	0 (0.0)	1 (1.3)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
1 (1.0)	23 (22.3)	10 (9.5)	6 (6.7)	1 (1.6)	3 (3.5)	1 (1.2)	3 (3.8)	5 (3.0)	5 (4.4)

Azithromycin elevated MIC ≥ 1.0 $\mu\text{g/mL}$ prior to 2005 and ≥ 2.0 $\mu\text{g/mL}$ during 2005-2022.

Figure N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Minneapolis, Minnesota, 2003-2022

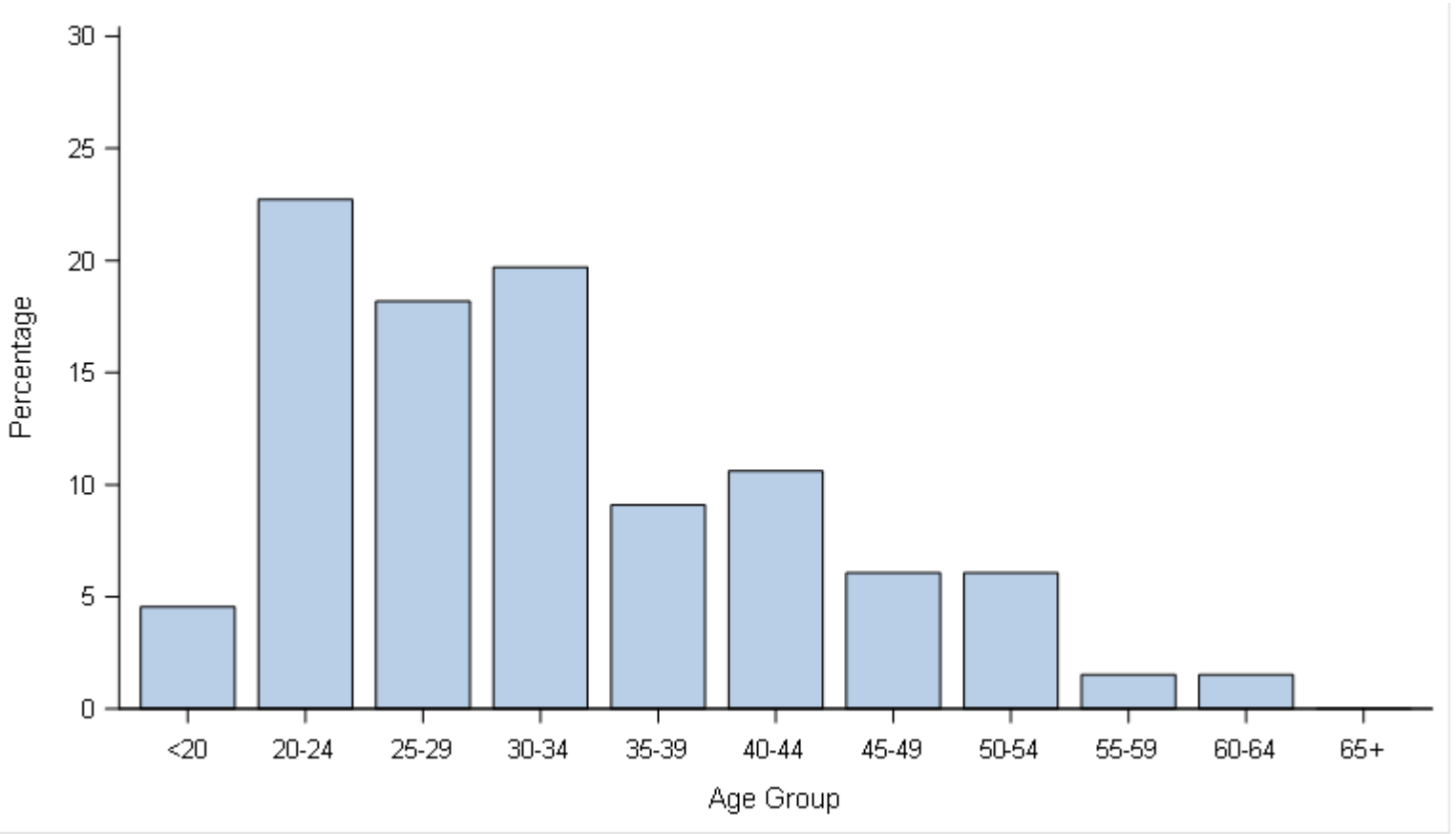


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
5 (2.3)	22 (9.3)	20 (8.0)	13 (5.7)	27 (10.7)	14 (7.6)	30 (24.4)	17 (23.9)	11 (23.4)	9 (11.5)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
17 (17.5)	21 (20.4)	39 (37.1)	28 (31.1)	18 (28.1)	23 (27.1)	32 (38.6)	22 (27.5)	53 (31.9)	24 (21.2)

Ciprofloxacin resistance MIC \geq 1.0 μ g/mL.

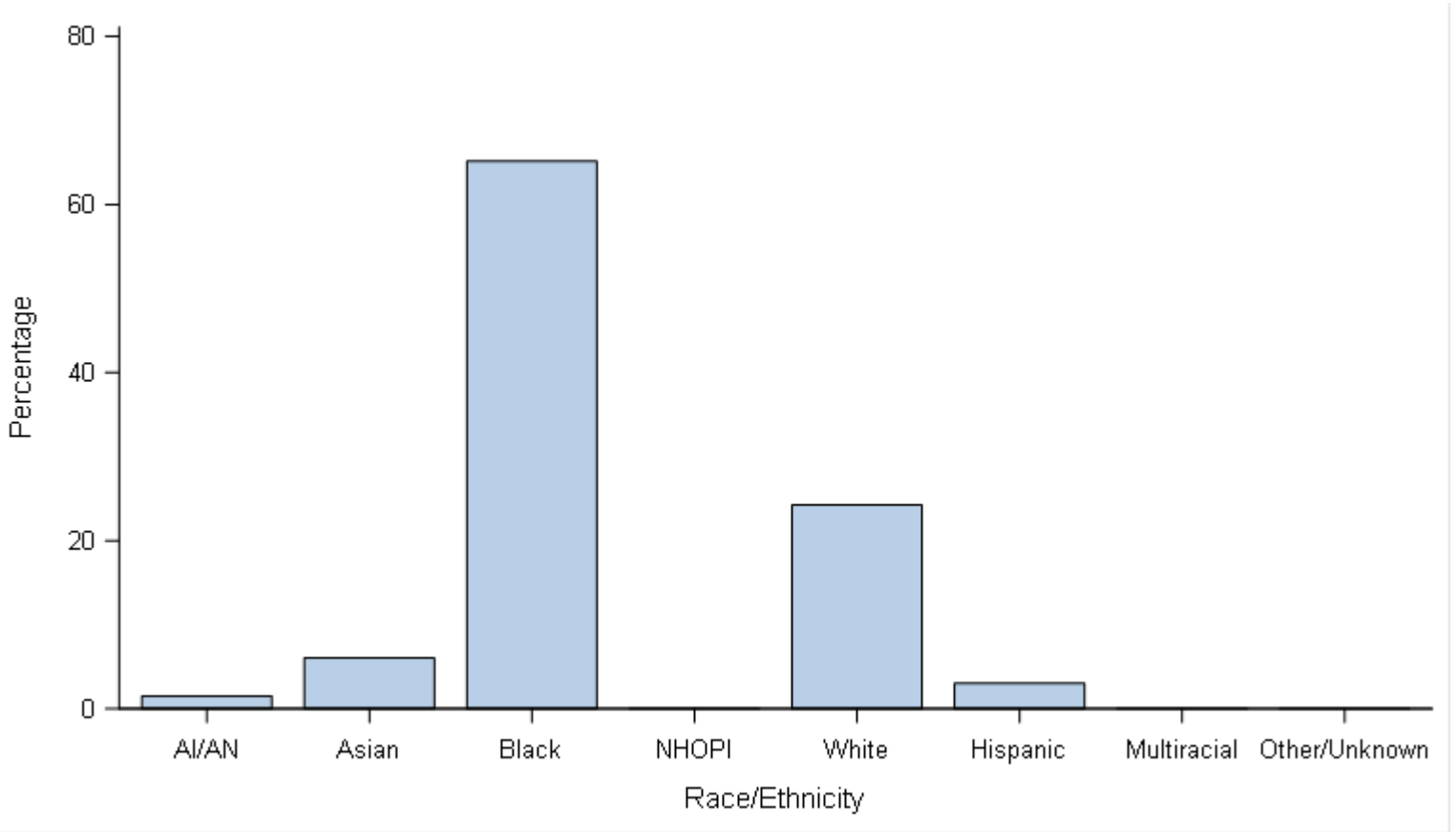
Figure A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), New Orleans, Louisiana, 2022



<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 (4.5)	15 (22.7)	12 (18.2)	13 (19.7)	6 (9.1)	7 (10.6)	4 (6.1)	4 (6.1)	1 (1.5)	1 (1.5)	0 (0.0)	66

Cases with unknown age were excluded.

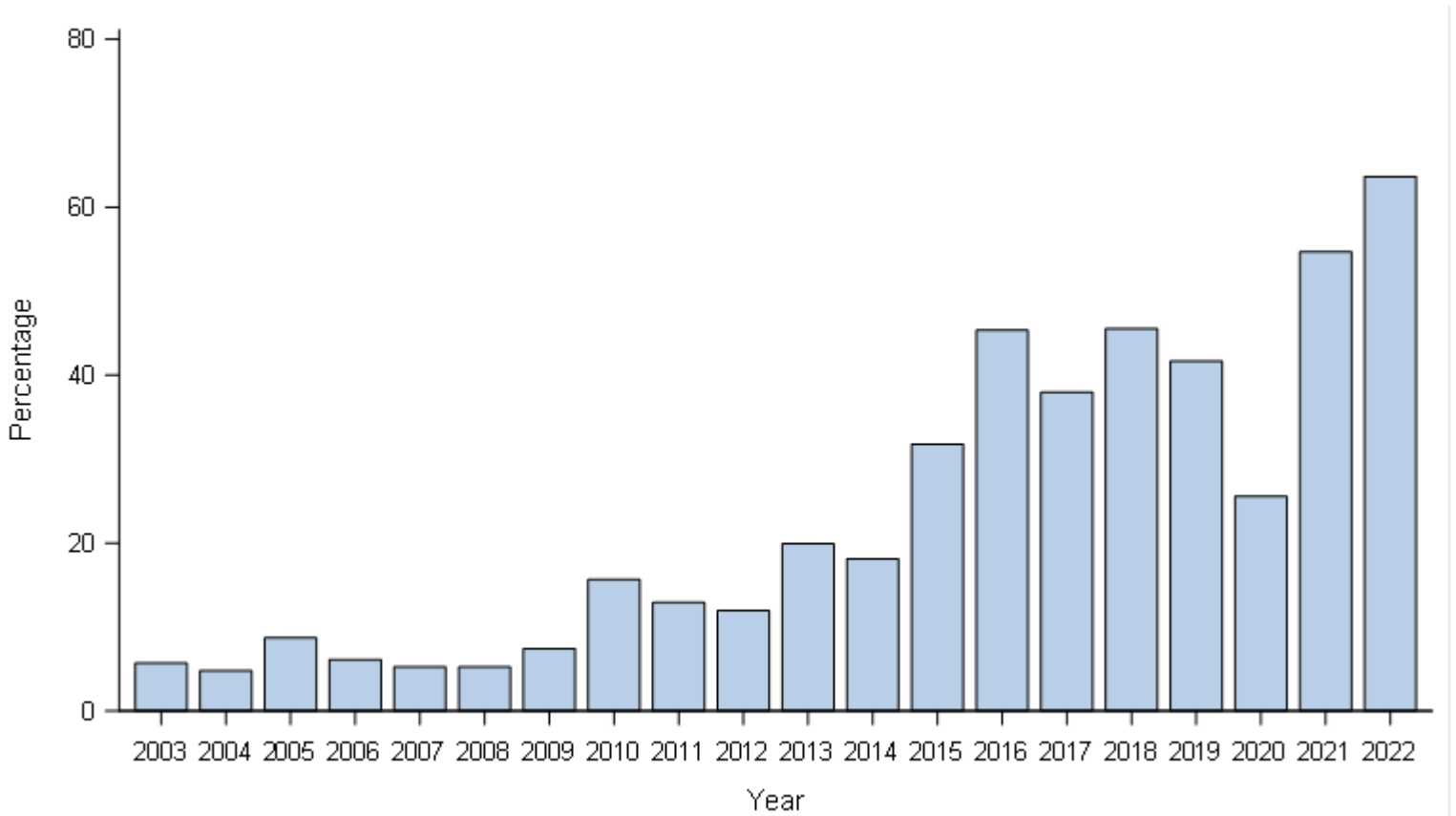
Figure B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), New Orleans, Louisiana, 2022



AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
1 (1.5)	4 (6.1)	43 (65.2)	0 (0.0)	16 (24.2)	2 (3.0)	0 (0.0)	0 (0.0)	66

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.

Figure C. Percentage of Participants Identifying as Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), New Orleans, Louisiana, 2003-2022

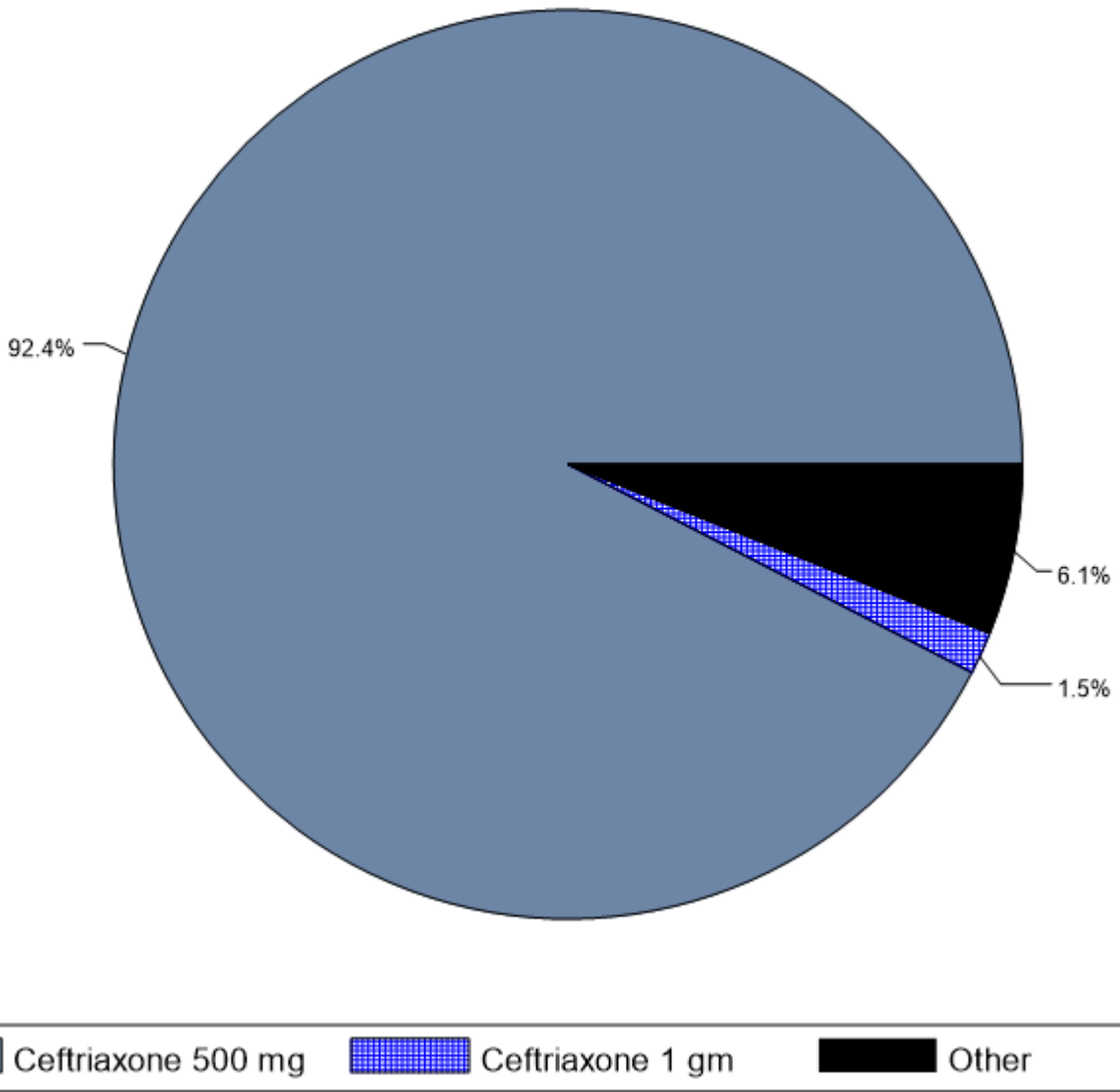


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
14 (5.7)	9 (4.8)	8 (8.7)	3 (6.1)	13 (5.2)	9 (5.2)	18 (7.4)	38 (15.6)	32 (12.9)	24 (11.9)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
41 (19.9)	31 (18.1)	41 (31.8)	73 (45.3)	52 (38.0)	56 (45.5)	50 (41.7)	22 (25.6)	41 (54.7)	42 (63.6)

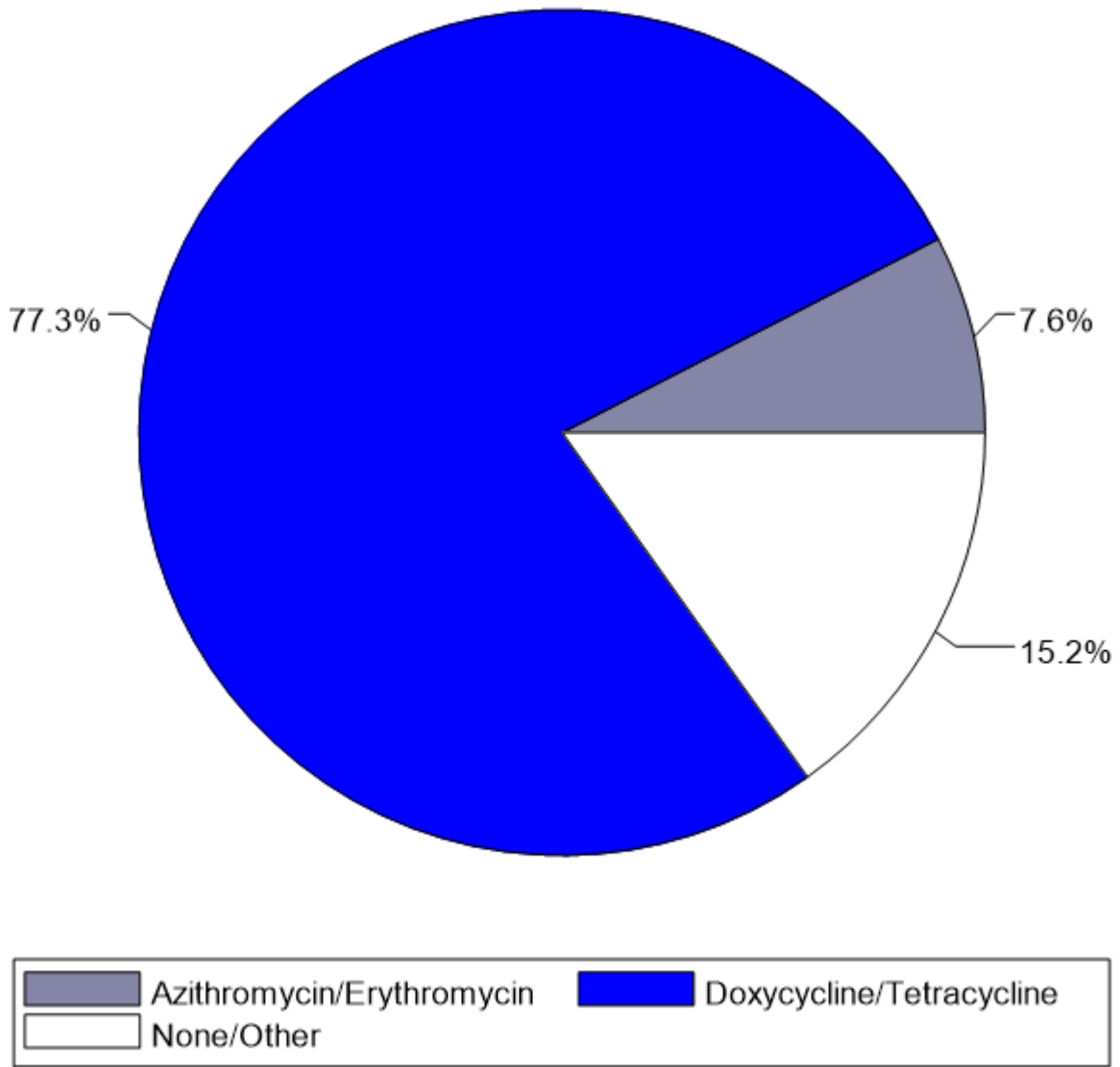
Men who have sex with men = men who self-identified as gay or bisexual or reported recent male sex partners.

Figure D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), New Orleans, Louisiana, 2022



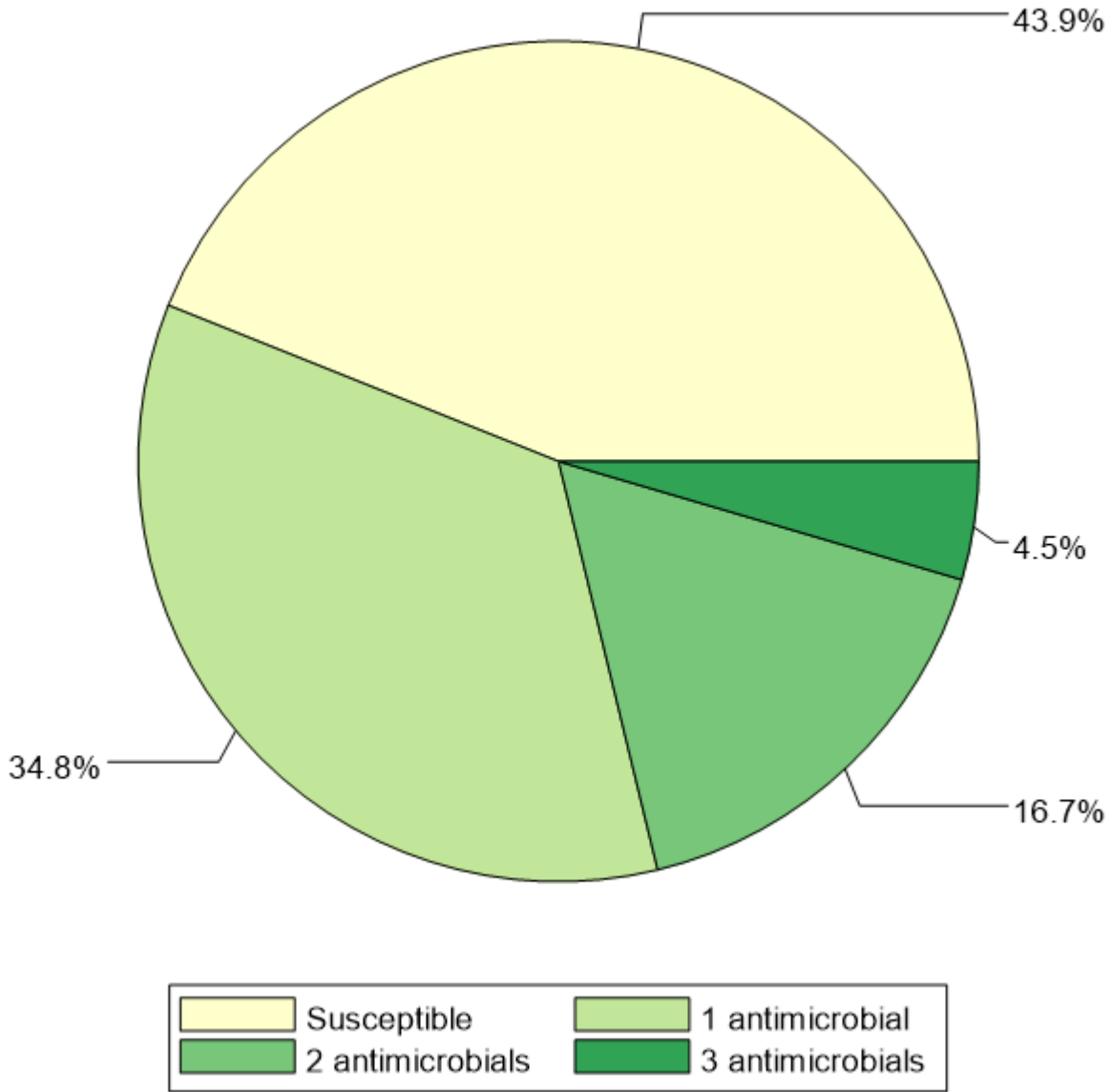
Primary Treatment	Count	Percentage
Ceftriaxone 500 mg	61	92.4
Ceftriaxone 1 gm	1	1.5
Other	4	6.1

Figure E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), New Orleans, Louisiana, 2022



Secondary Treatment	Count	Percentage
Azithromycin/Erythromycin	5	7.6
Doxycycline/Tetracycline	51	77.3
None/Other	10	15.2

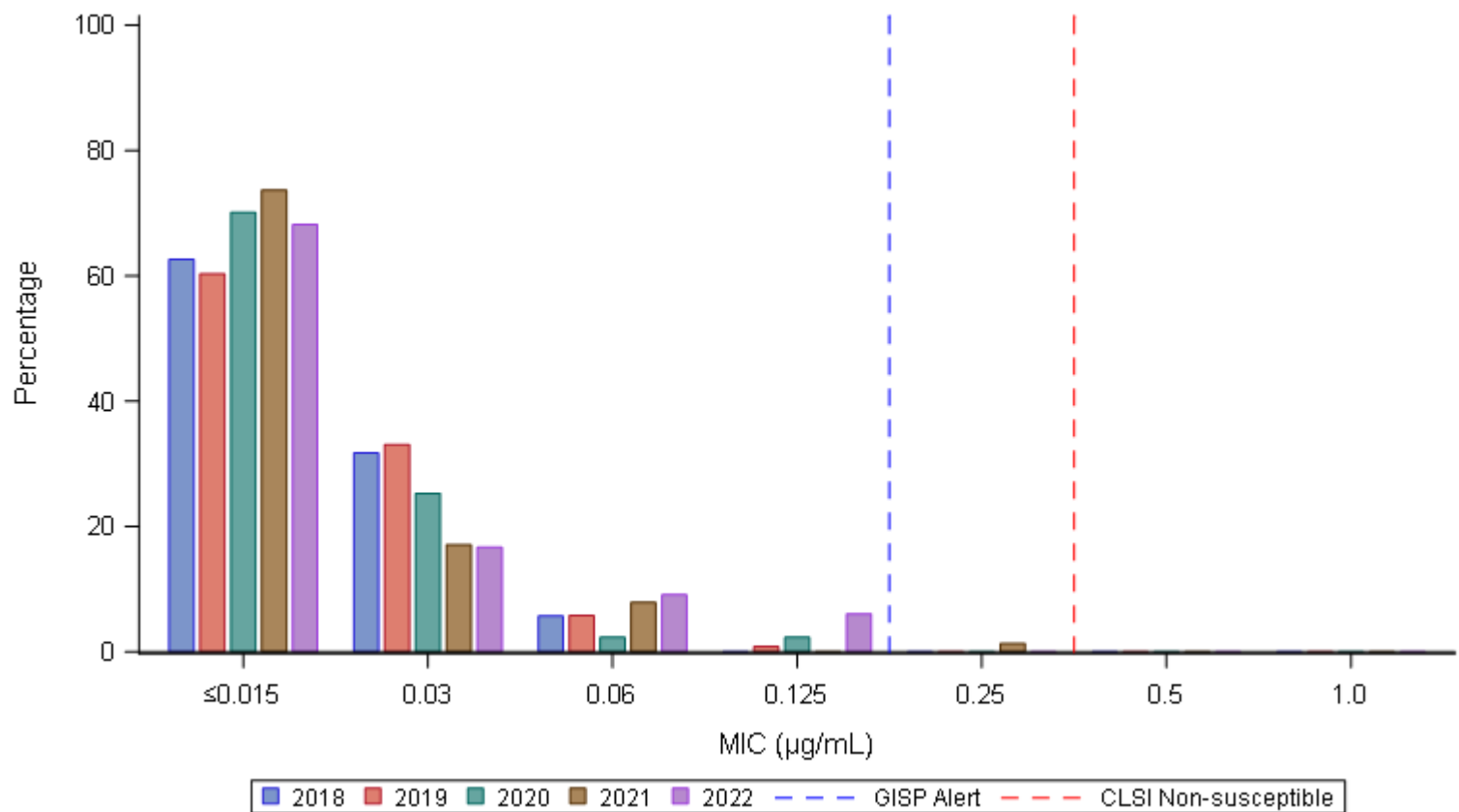
Figure F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), New Orleans, Louisiana, 2022



Number of Antimicrobials	Count	Percentage
Susceptible	29	43.9
1 antimicrobial	23	34.8
2 antimicrobials	11	16.7
3 antimicrobials	3	4.5
4+ antimicrobials	0	0.0

Elevated MICs = ceftriaxone MIC ≥ 0.125 $\mu\text{g/mL}$; cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; Resistance = tetracycline MIC ≥ 2.0 $\mu\text{g/mL}$; ciprofloxacin MIC ≥ 1.0 $\mu\text{g/mL}$; penicillin MIC ≥ 2.0 $\mu\text{g/mL}$ or β -lactamase positive.

Figure G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), New Orleans, Louisiana, 2018-2022



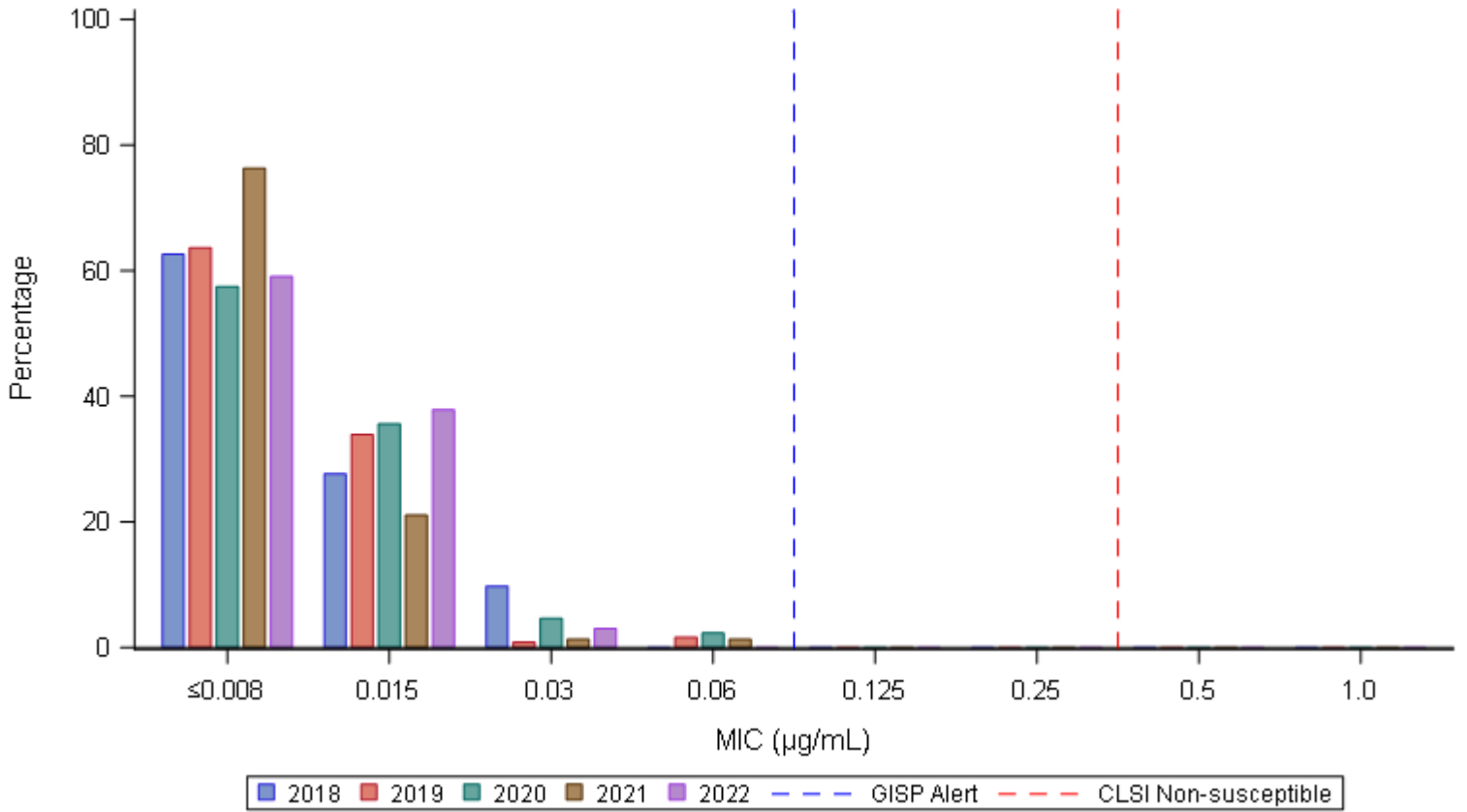
Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	77 (62.6)	39 (31.7)	7 (5.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	123
2019	73 (60.3)	40 (33.1)	7 (5.8)	1 (0.8)	0 (0.0)	0 (0.0)	0 (0.0)	121
2020	61 (70.1)	22 (25.3)	2 (2.3)	2 (2.3)	0 (0.0)	0 (0.0)	0 (0.0)	87
2021	56 (73.7)	13 (17.1)	6 (7.9)	0 (0.0)	1 (1.3)	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)	66

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

CLSI = Clinical & Laboratory Standards Institute.

Non-susceptible = Category used for isolates when only a susceptible breakpoint has been designated and the MIC is above the susceptible breakpoint. As of the end of 2022, the CLSI has not established a cefixime resistance breakpoint for *N. gonorrhoeae*.

Figure H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), New Orleans, Louisiana, 2018-2022



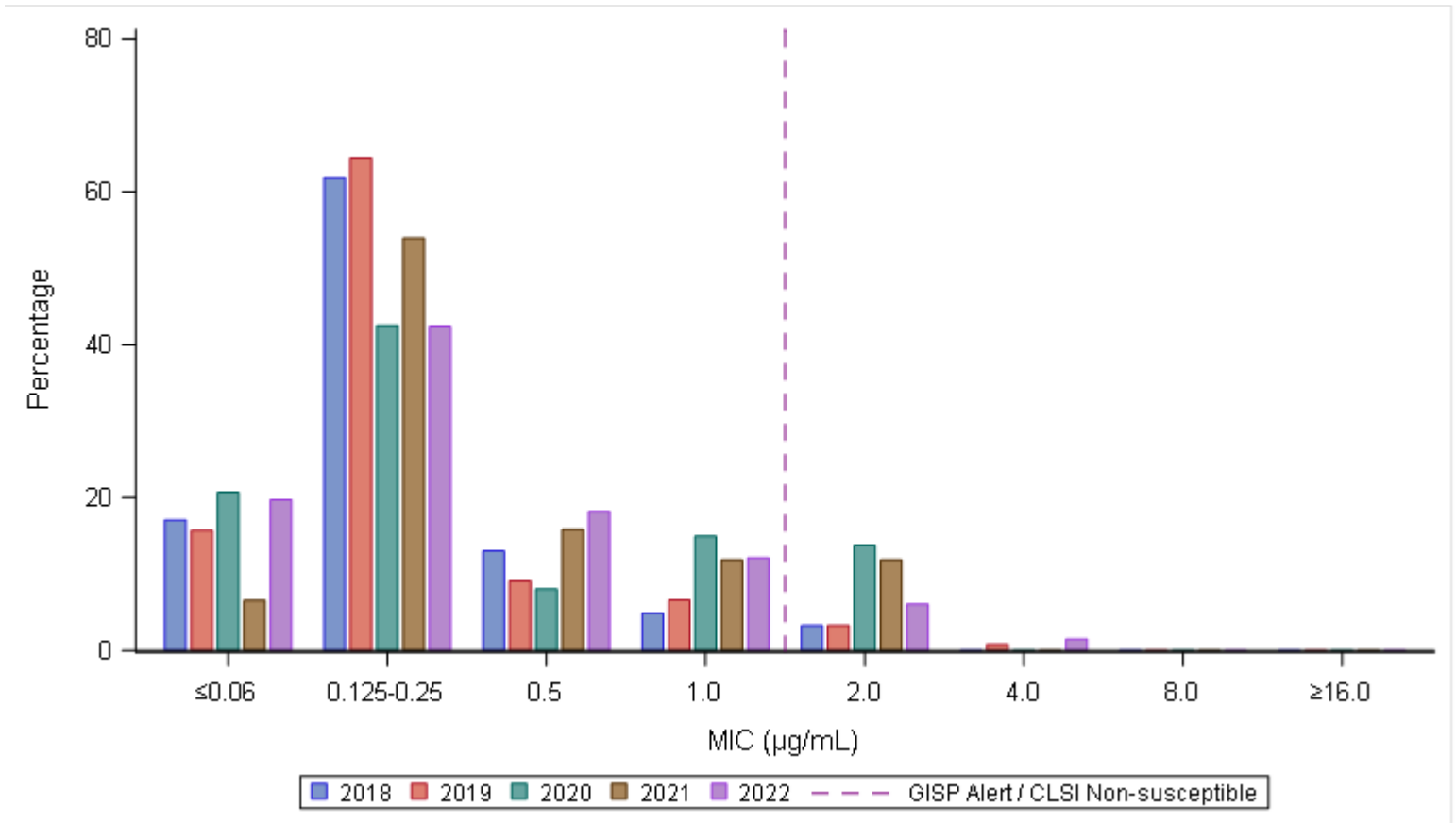
Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	77 (62.6)	34 (27.6)	12 (9.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	123
2019	77 (63.6)	41 (33.9)	1 (0.8)	2 (1.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	121
2020	50 (57.5)	31 (35.6)	4 (4.6)	2 (2.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	87
2021	58 (76.3)	16 (21.1)	1 (1.3)	1 (1.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	76
2022	39 (59.1)	25 (37.9)	2 (3.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	66

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 the end of 2022, the CLSI has not established a ceftriaxone resistance breakpoint for *N. gonorrhoeae*.

Figure I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), New Orleans, Louisiana, 2018-2022



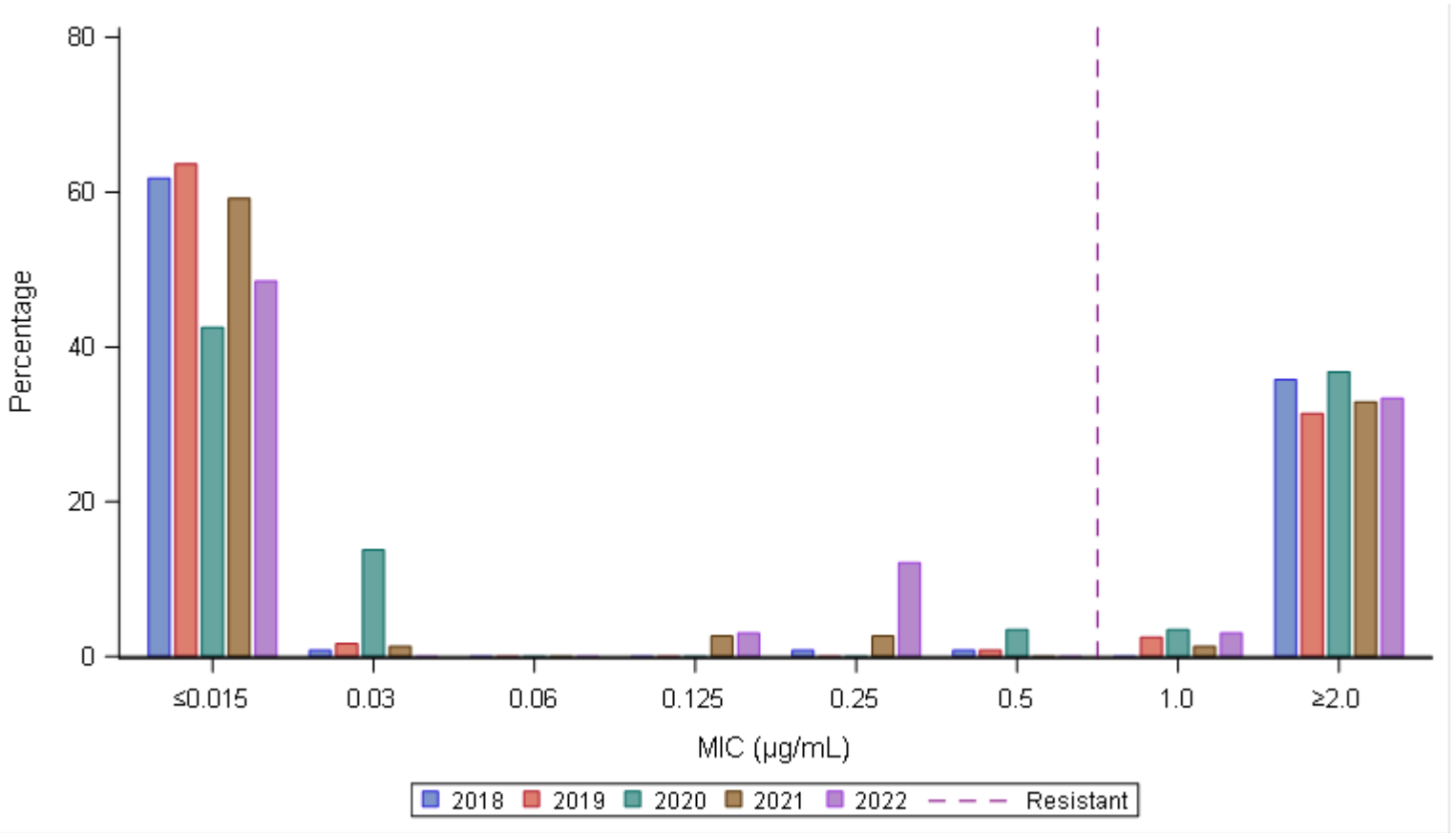
Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2018	21 (17.1)	76 (61.8)	16 (13.0)	6 (4.9)	4 (3.3)	0 (0.0)	0 (0.0)	0 (0.0)	123
2019	19 (15.7)	78 (64.5)	11 (9.1)	8 (6.6)	4 (3.3)	1 (0.8)	0 (0.0)	0 (0.0)	121
2020	18 (20.7)	37 (42.5)	7 (8.0)	13 (14.9)	12 (13.8)	0 (0.0)	0 (0.0)	0 (0.0)	87
2021	5 (6.6)	41 (53.9)	12 (15.8)	9 (11.8)	9 (11.8)	0 (0.0)	0 (0.0)	0 (0.0)	76
2022	13 (19.7)	28 (42.4)	12 (18.2)	8 (12.1)	4 (6.1)	1 (1.5)	0 (0.0)	0 (0.0)	66

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; CLSI Non-susceptible = azithromycin MIC ≥2.0 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 the end of 2022, the CLSI has not established an azithromycin resistance breakpoint for *N. gonorrhoeae*.

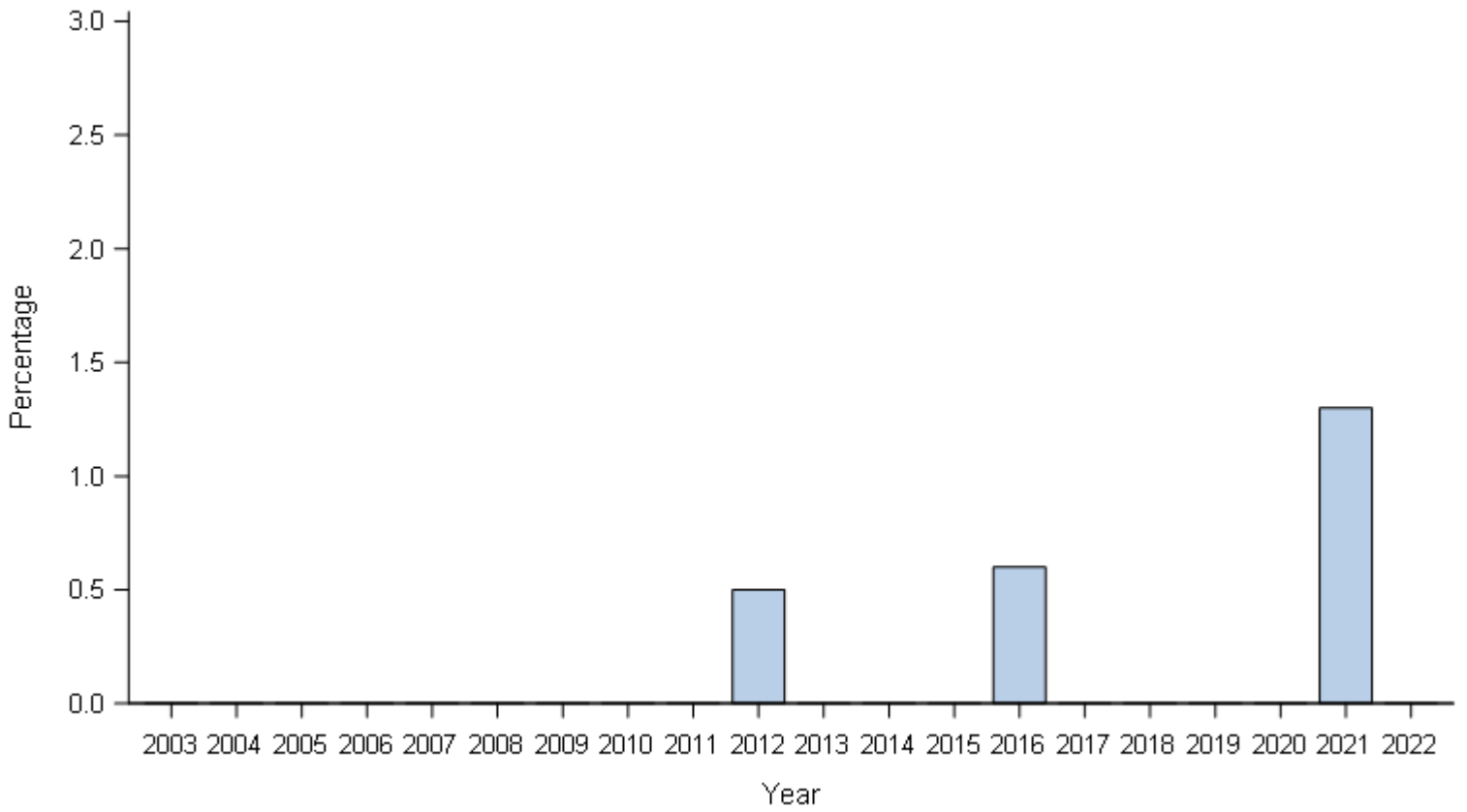
Figure J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), New Orleans, Louisiana, 2018-2022



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
2018	76 (61.8)	1 (0.8)	0 (0.0)	0 (0.0)	1 (0.8)	1 (0.8)	0 (0.0)	44 (35.8)	123
2019	77 (63.6)	2 (1.7)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.8)	3 (2.5)	38 (31.4)	121
2020	37 (42.5)	12 (13.8)	0 (0.0)	0 (0.0)	0 (0.0)	3 (3.4)	3 (3.4)	32 (36.8)	87
2021	45 (59.2)	1 (1.3)	0 (0.0)	2 (2.6)	2 (2.6)	0 (0.0)	1 (1.3)	25 (32.9)	76
2022	32 (48.5)	0 (0.0)	0 (0.0)	2 (3.0)	8 (12.1)	0 (0.0)	2 (3.0)	22 (33.3)	66

Ciprofloxacin resistance MIC ≥1.0 µg/mL.

Figure K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), New Orleans, Louisiana, 2003-2022

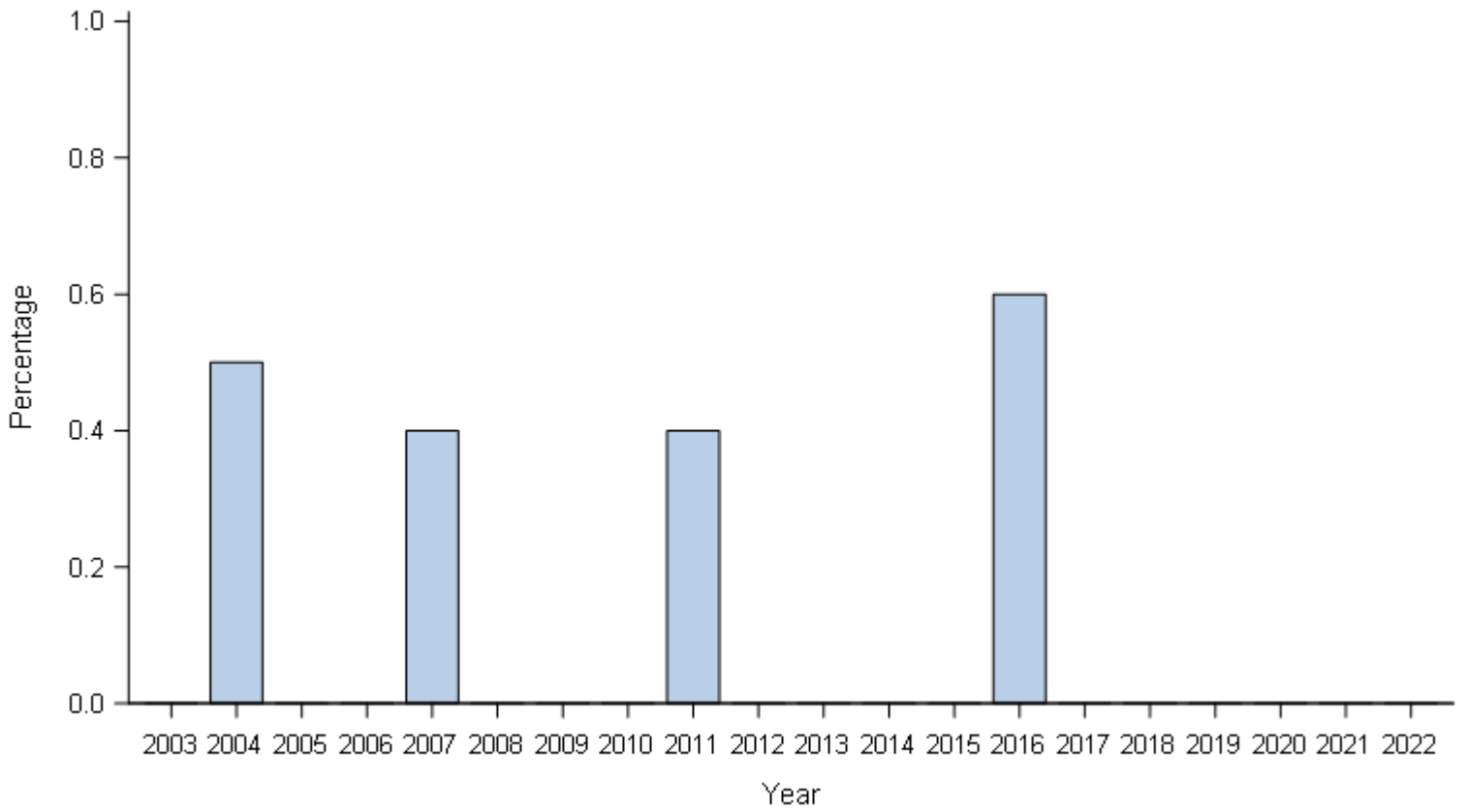


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.5)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	1 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.3)	0 (0.0)

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

Figure L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), New Orleans, Louisiana, 2003-2022

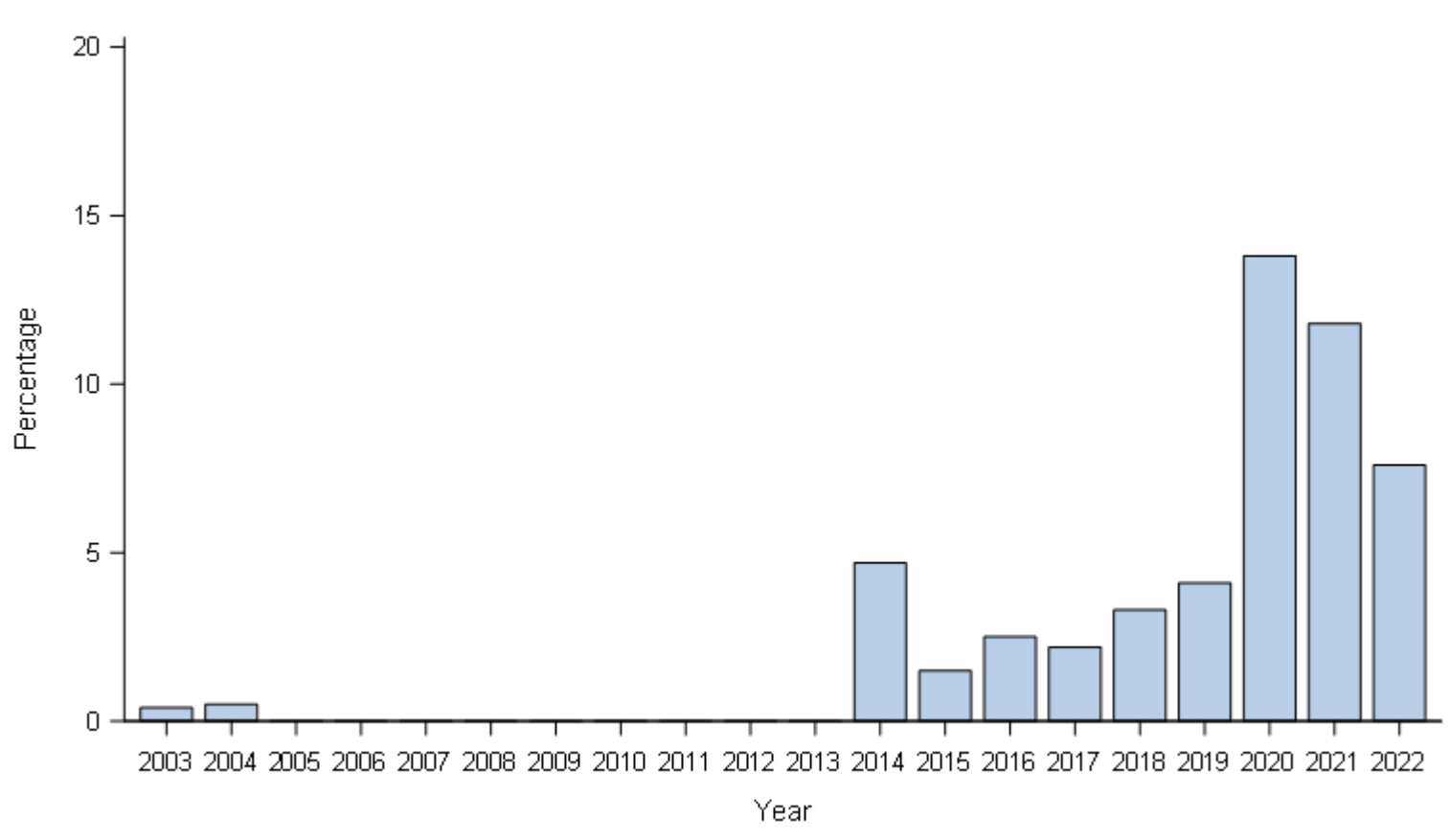


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	1 (0.5)	0 (0.0)	0 (0.0)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.4)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	1 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

Ceftriaxone elevated MIC \geq 0.125 μ g/mL.

Figure M. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), New Orleans, Louisiana, 2003-2022

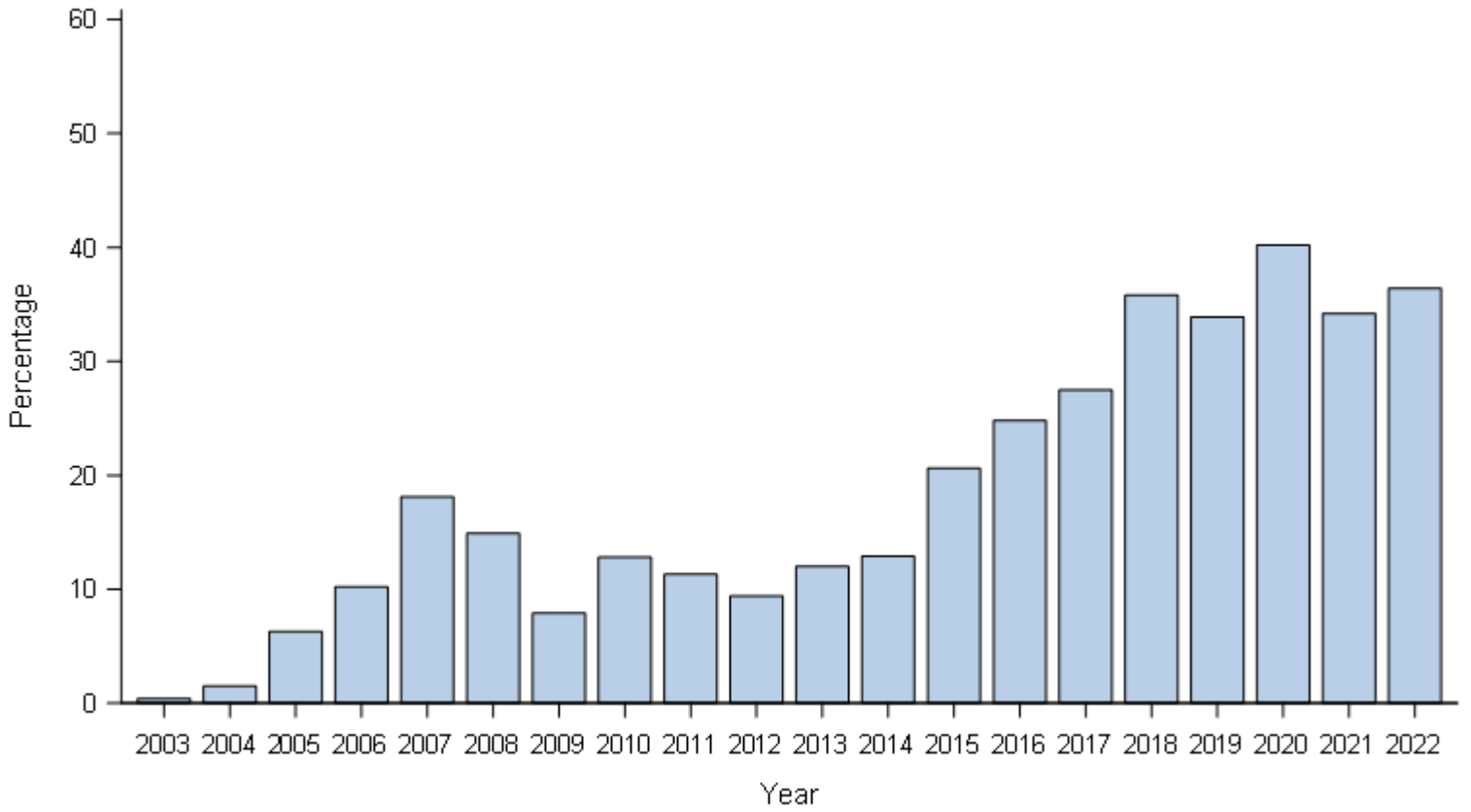


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
1 (0.4)	1 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	8 (4.7)	2 (1.5)	4 (2.5)	3 (2.2)	4 (3.3)	5 (4.1)	12 (13.8)	9 (11.8)	5 (7.6)

Azithromycin elevated MIC ≥ 1.0 $\mu\text{g/mL}$ prior to 2005 and ≥ 2.0 $\mu\text{g/mL}$ during 2005-2022.

Figure N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), New Orleans, Louisiana, 2003-2022

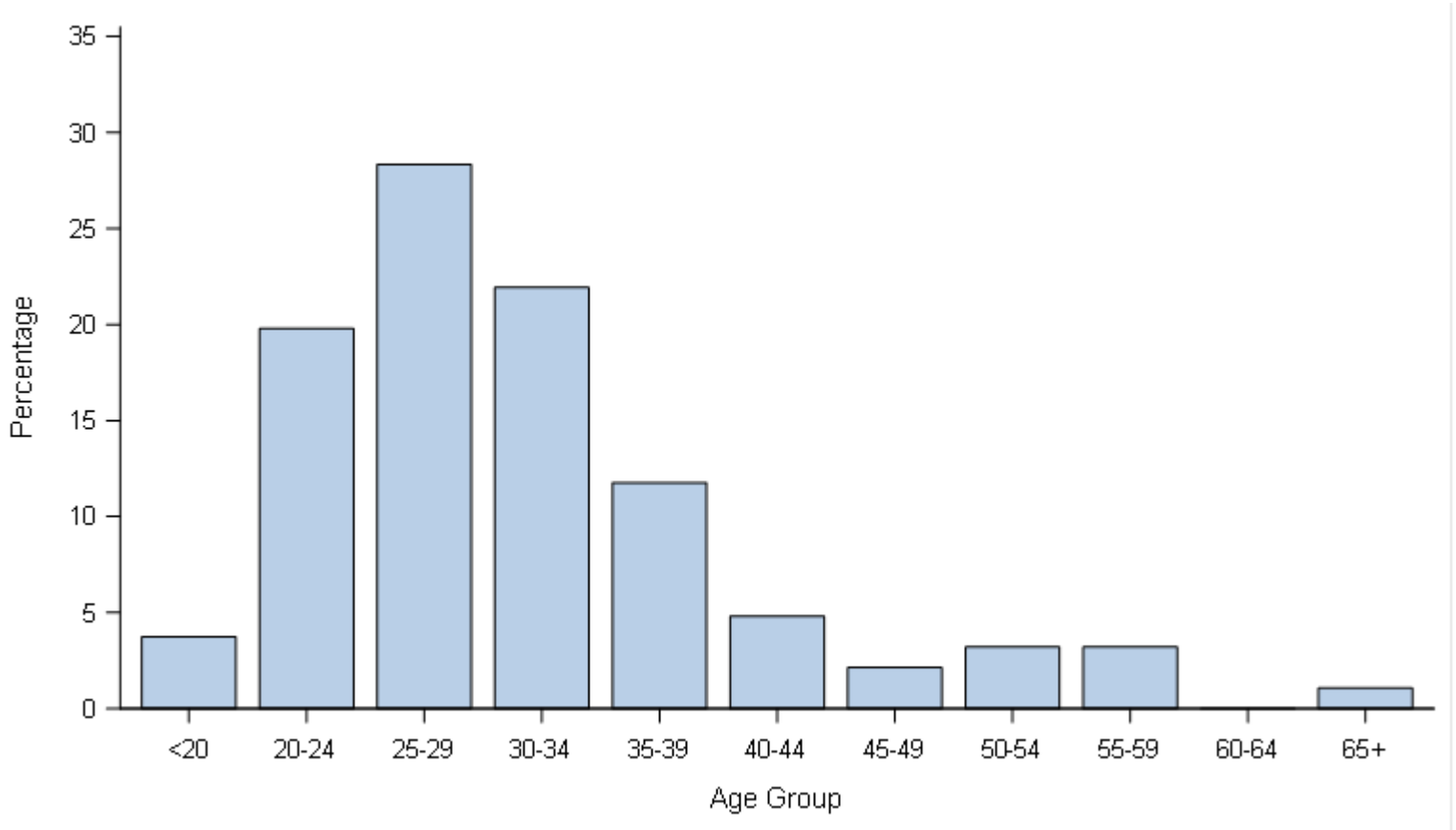


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
1 (0.4)	3 (1.5)	6 (6.3)	5 (10.2)	45 (18.1)	26 (14.9)	19 (7.9)	31 (12.8)	28 (11.3)	19 (9.4)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
25 (12.0)	22 (12.9)	27 (20.6)	40 (24.8)	38 (27.5)	44 (35.8)	41 (33.9)	35 (40.2)	26 (34.2)	24 (36.4)

Ciprofloxacin resistance MIC \geq 1.0 μ g/mL.

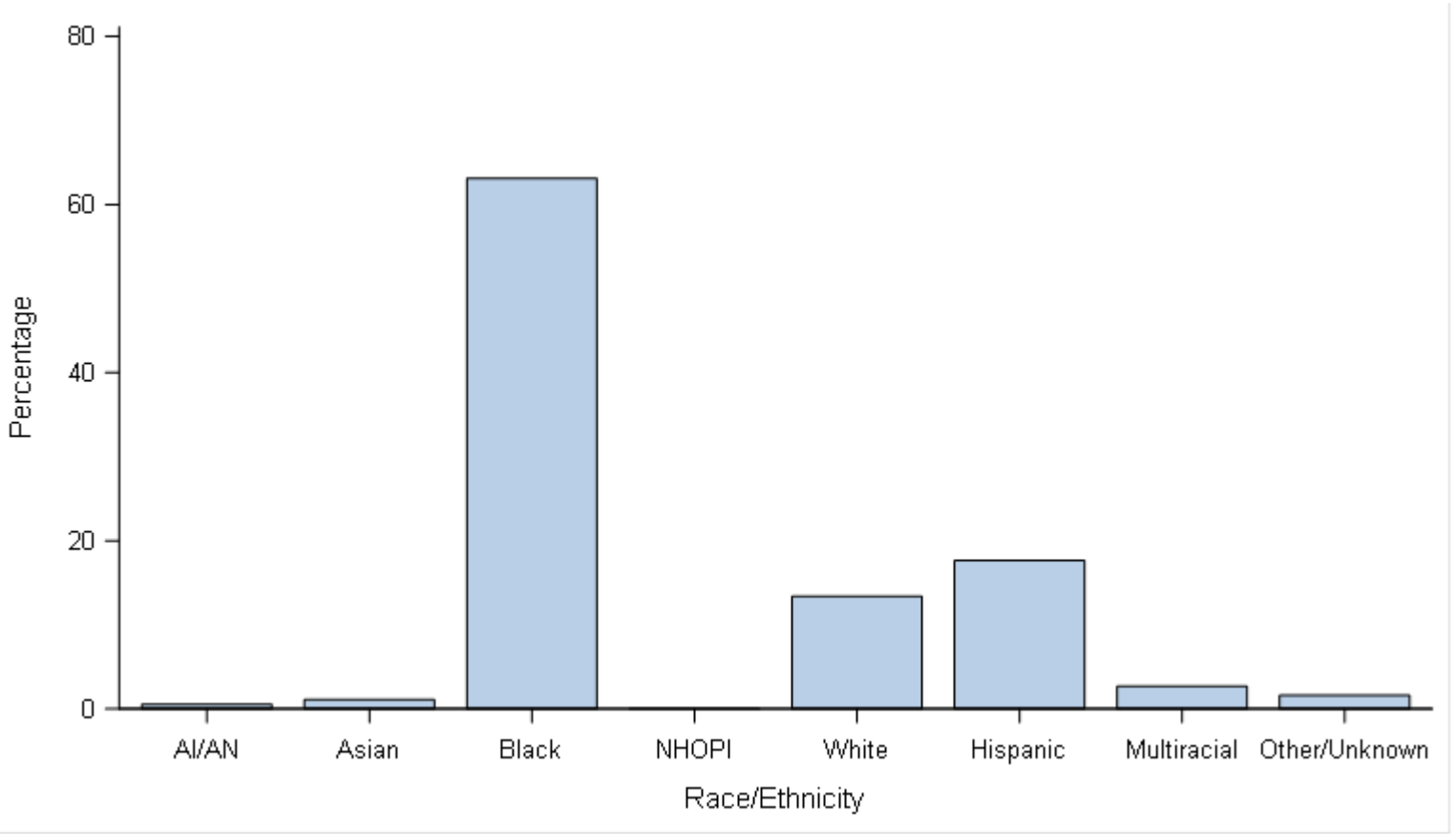
Figure A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), New York City, New York, 2022



<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 (3.7)	37 (19.8)	53 (28.3)	41 (21.9)	22 (11.8)	9 (4.8)	4 (2.1)	6 (3.2)	6 (3.2)	0 (0.0)	2 (1.1)	187

Cases with unknown age were excluded.

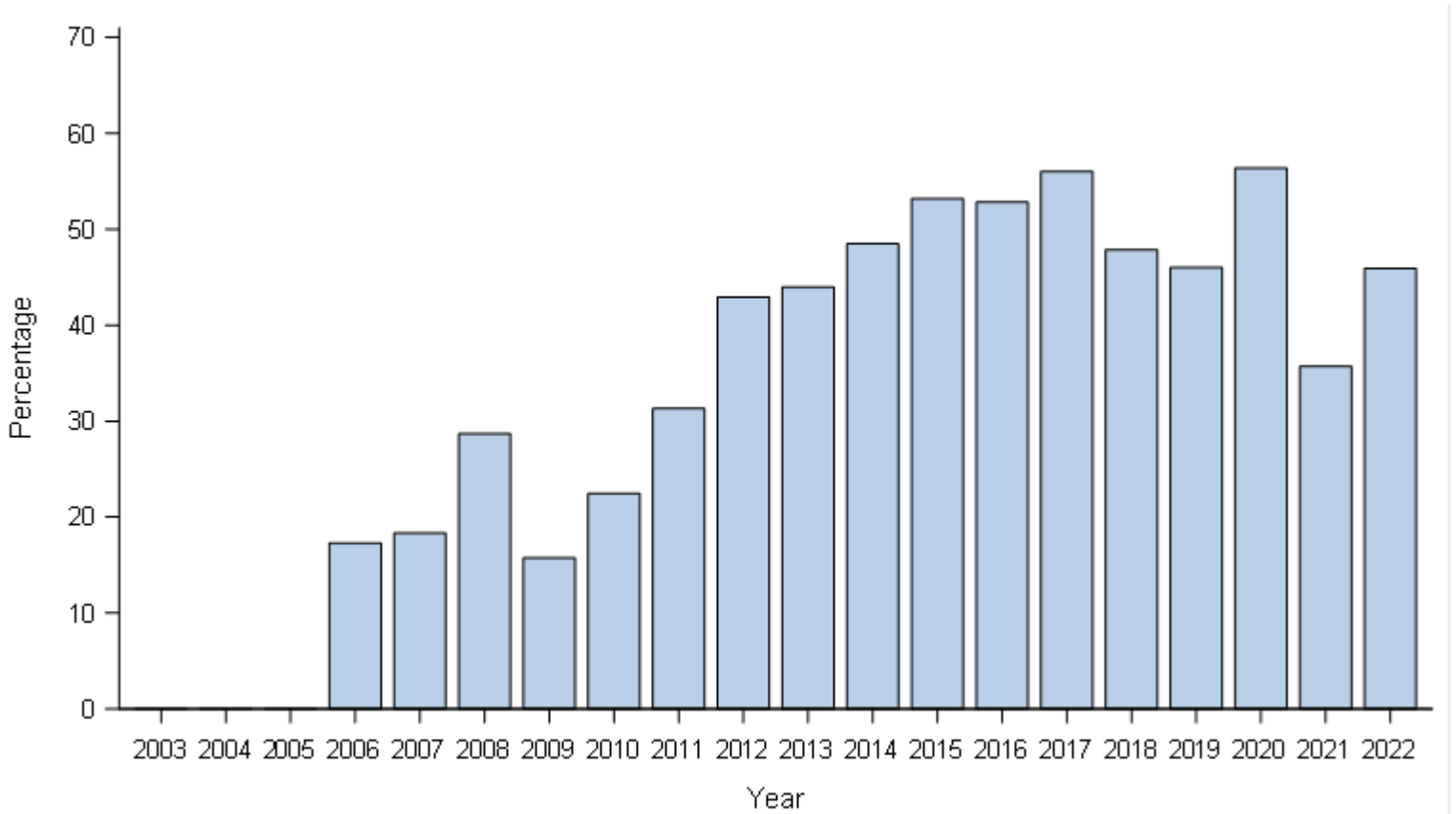
Figure B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), New York City, New York, 2022



AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
1 (0.5)	2 (1.1)	118 (63.1)	0 (0.0)	25 (13.4)	33 (17.6)	5 (2.7)	3 (1.6)	187

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.

Figure C. Percentage of Participants Identifying as Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), New York City, New York, 2003-2022

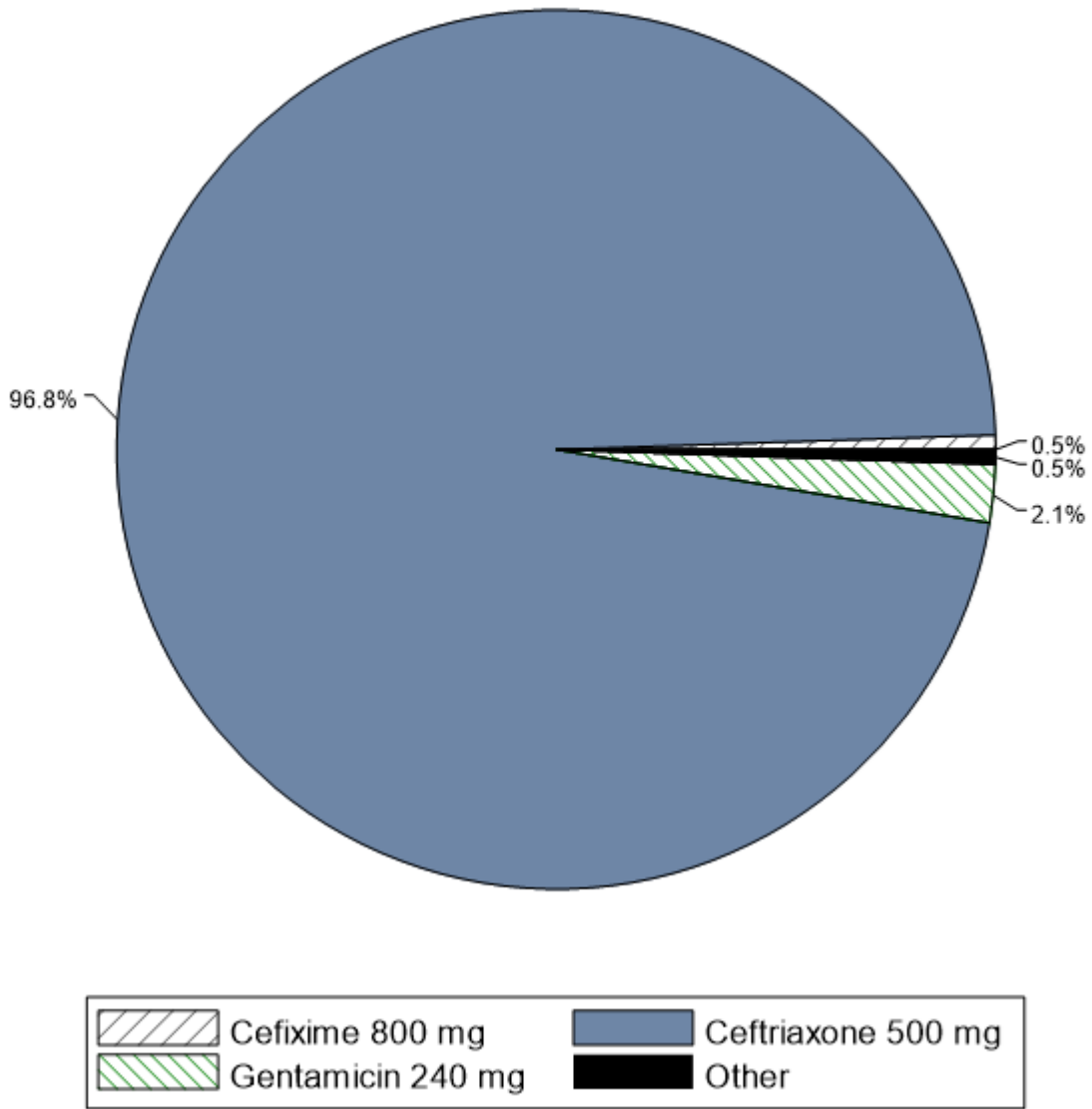


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	9 (17.3)	33 (18.3)	35 (28.7)	28 (15.7)	44 (22.4)	67 (31.3)	76 (42.9)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
62 (44.0)	64 (48.5)	75 (53.2)	94 (52.8)	112 (56.0)	101 (47.9)	110 (46.0)	31 (56.4)	45 (35.7)	84 (45.9)

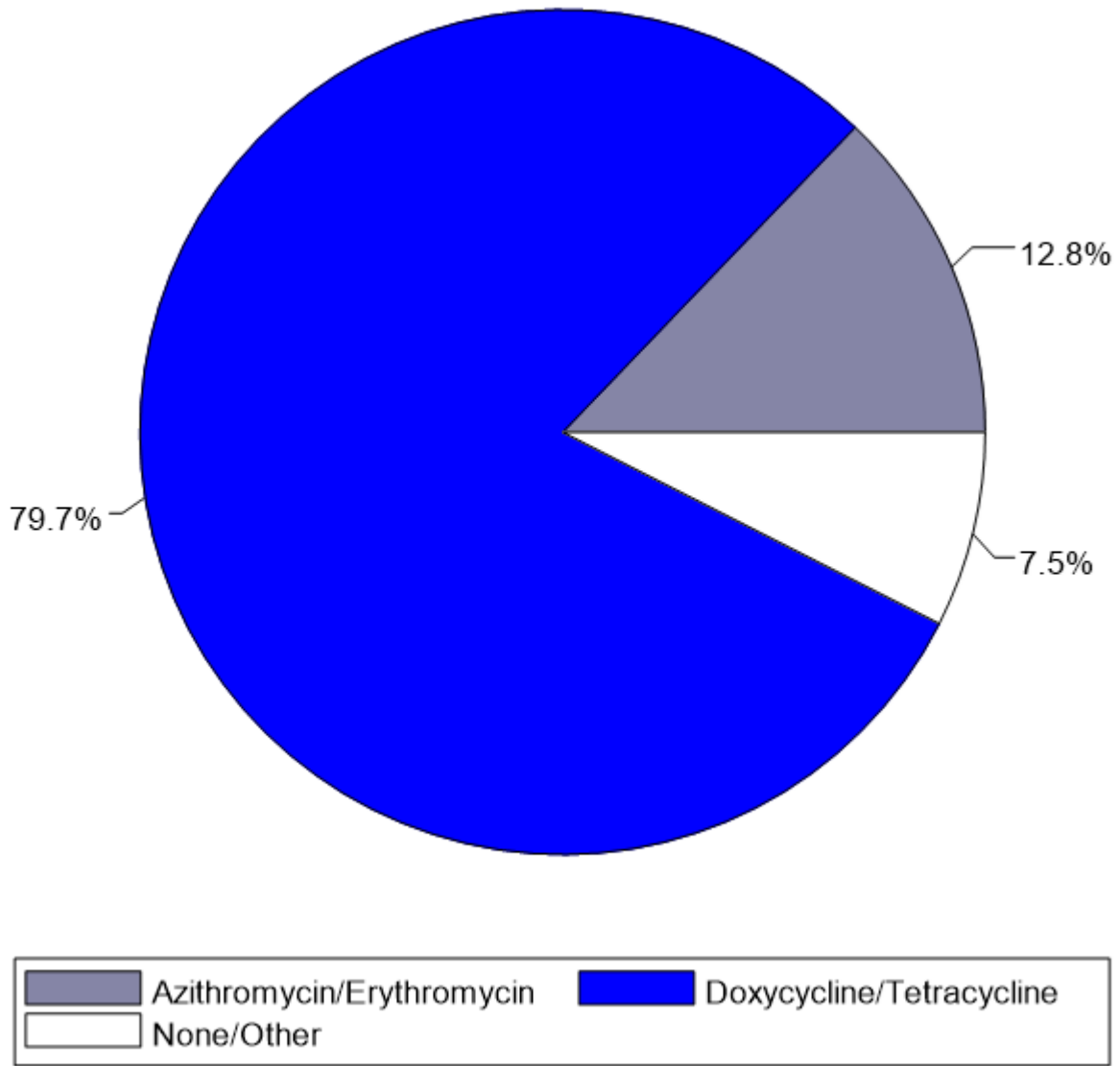
Men who have sex with men = men who self-identified as gay or bisexual or reported recent male sex partners.
 Site participated in GISP during 2006-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), New York City, New York, 2022



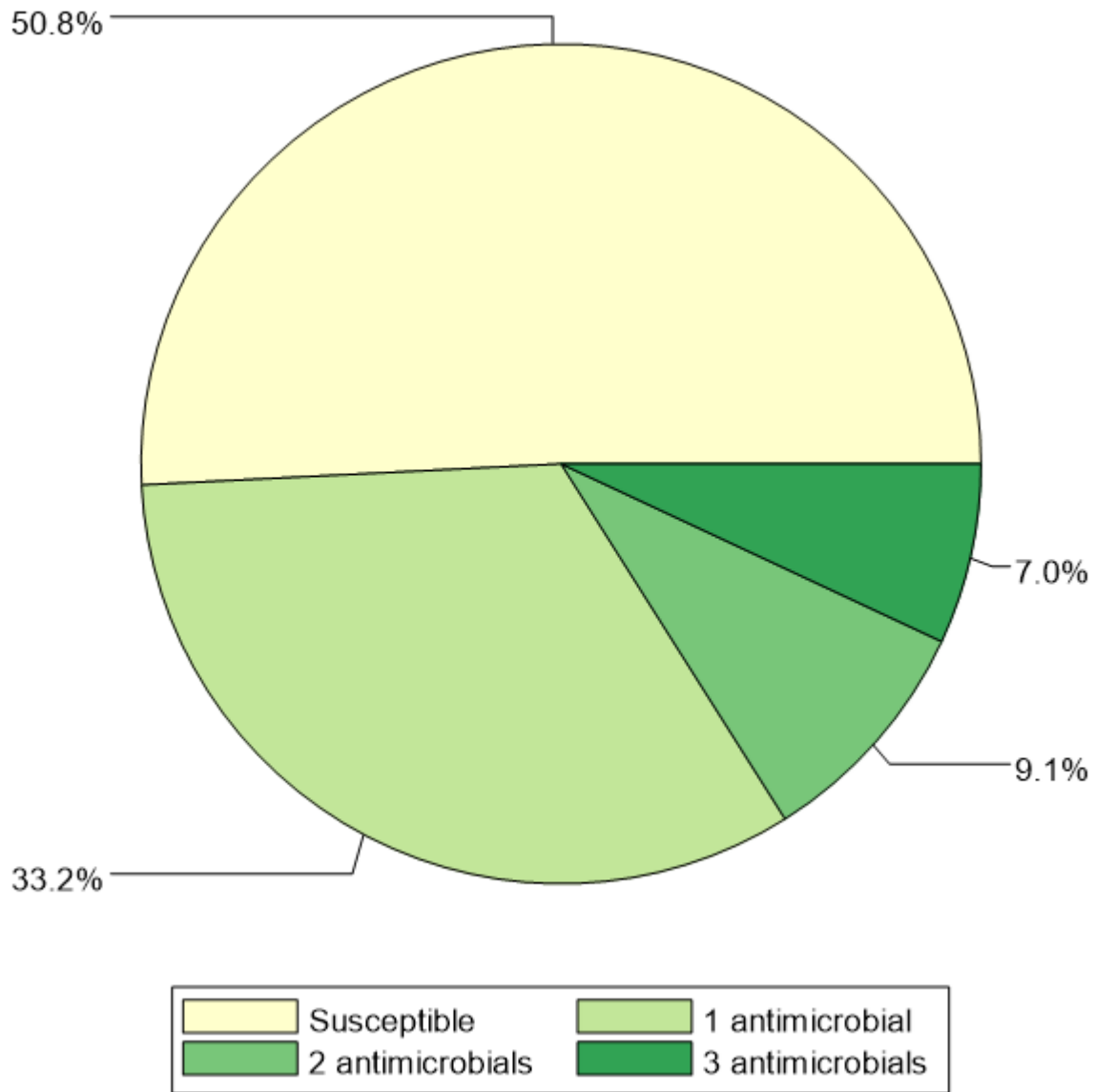
Primary Treatment	Count	Percentage
Cefixime 800 mg	1	0.5
Ceftriaxone 500 mg	181	96.8
Gentamicin 240 mg	4	2.1
Other	1	0.5

Figure E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), New York City, New York, 2022



Secondary Treatment	Count	Percentage
Azithromycin/Erythromycin	24	12.8
Doxycycline/Tetracycline	149	79.7
None/Other	14	7.5

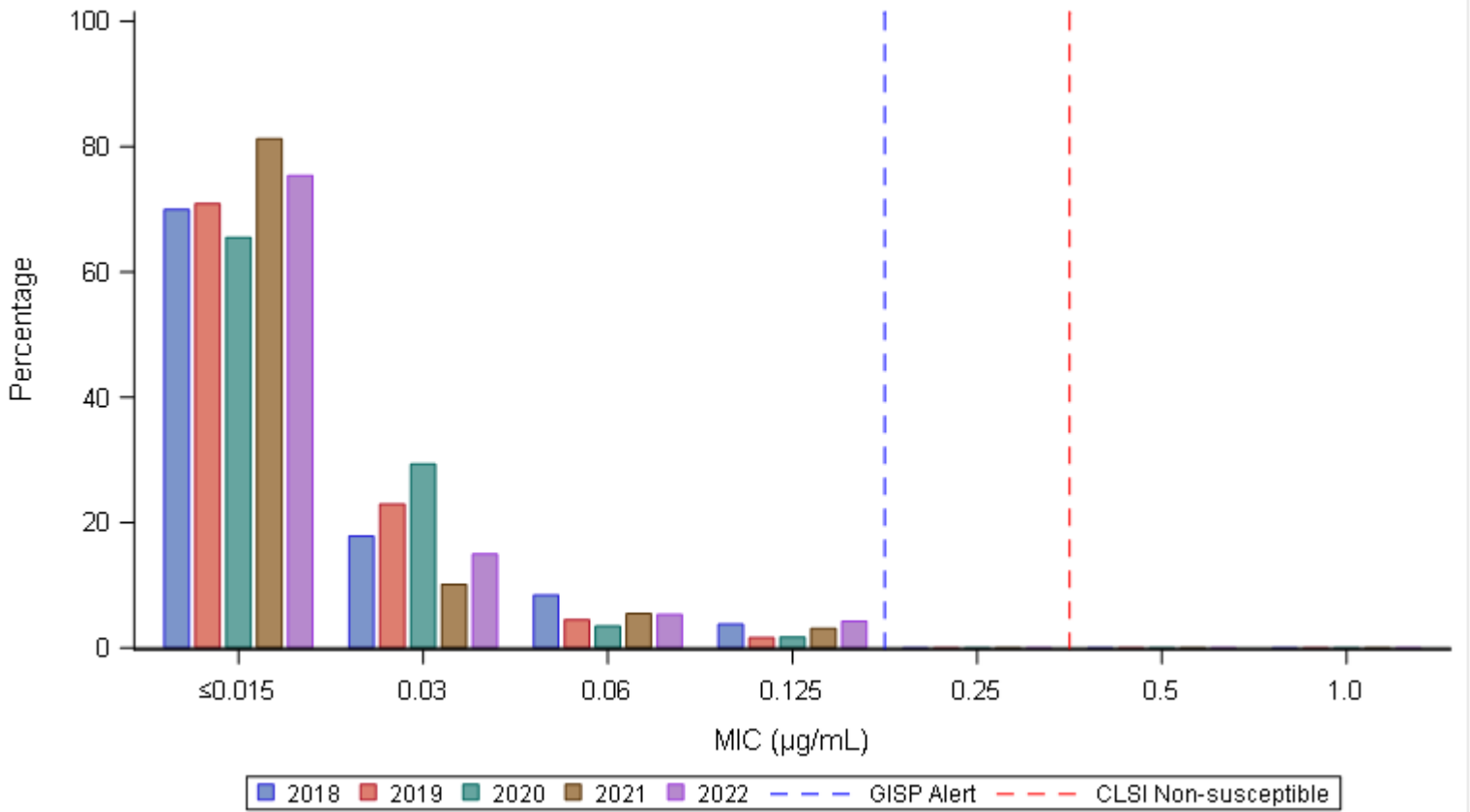
Figure F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), New York City, New York, 2022



Number of Antimicrobials	Count	Percentage
Susceptible	95	50.8
1 antimicrobial	62	33.2
2 antimicrobials	17	9.1
3 antimicrobials	13	7.0
4+ antimicrobials	0	0.0

Elevated MICs = ceftriaxone MIC ≥ 0.125 $\mu\text{g}/\text{mL}$; cefixime MIC ≥ 0.25 $\mu\text{g}/\text{mL}$; azithromycin MIC ≥ 2.0 $\mu\text{g}/\text{mL}$; Resistance = tetracycline MIC ≥ 2.0 $\mu\text{g}/\text{mL}$; ciprofloxacin MIC ≥ 1.0 $\mu\text{g}/\text{mL}$; penicillin MIC ≥ 2.0 $\mu\text{g}/\text{mL}$ or β -lactamase positive.

Figure G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), New York City, New York, 2018-2022



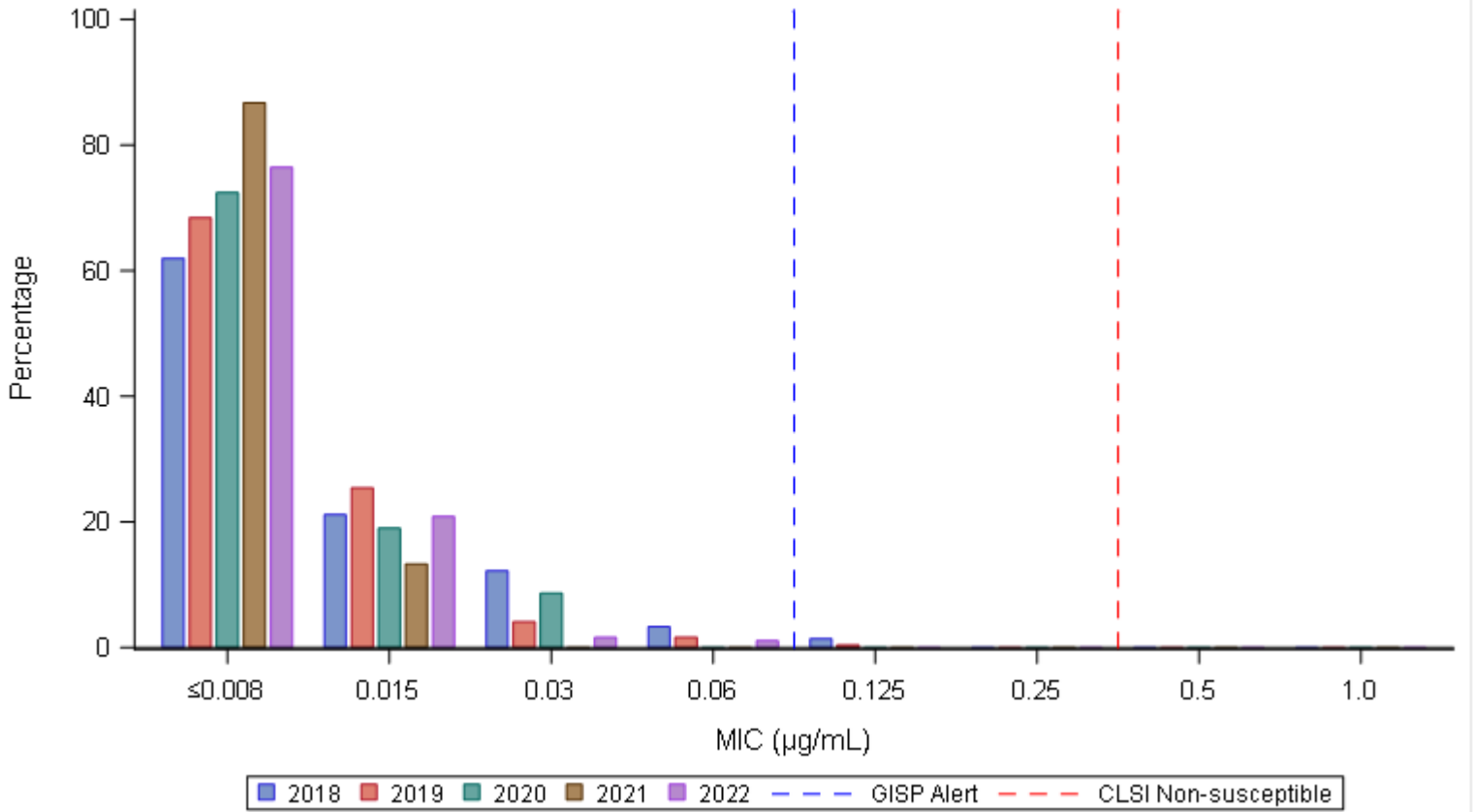
Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	149 (70.0)	38 (17.8)	18 (8.5)	8 (3.8)	0 (0.0)	0 (0.0)	0 (0.0)	213
2019	173 (70.9)	56 (23.0)	11 (4.5)	4 (1.6)	0 (0.0)	0 (0.0)	0 (0.0)	244
2020	38 (65.5)	17 (29.3)	2 (3.4)	1 (1.7)	0 (0.0)	0 (0.0)	0 (0.0)	58
2021	104 (81.3)	13 (10.2)	7 (5.5)	4 (3.1)	0 (0.0)	0 (0.0)	0 (0.0)	128
2022	141 (75.4)	28 (15.0)	10 (5.3)	8 (4.3)	0 (0.0)	0 (0.0)	0 (0.0)	187

GISP Alert Value = cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; CLSI Non-susceptible = cefixime MIC ≥ 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 the end of 2022, the CLSI has not established a cefixime resistance breakpoint for *N. gonorrhoeae*.

Figure H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), New York City, New York, 2018-2022



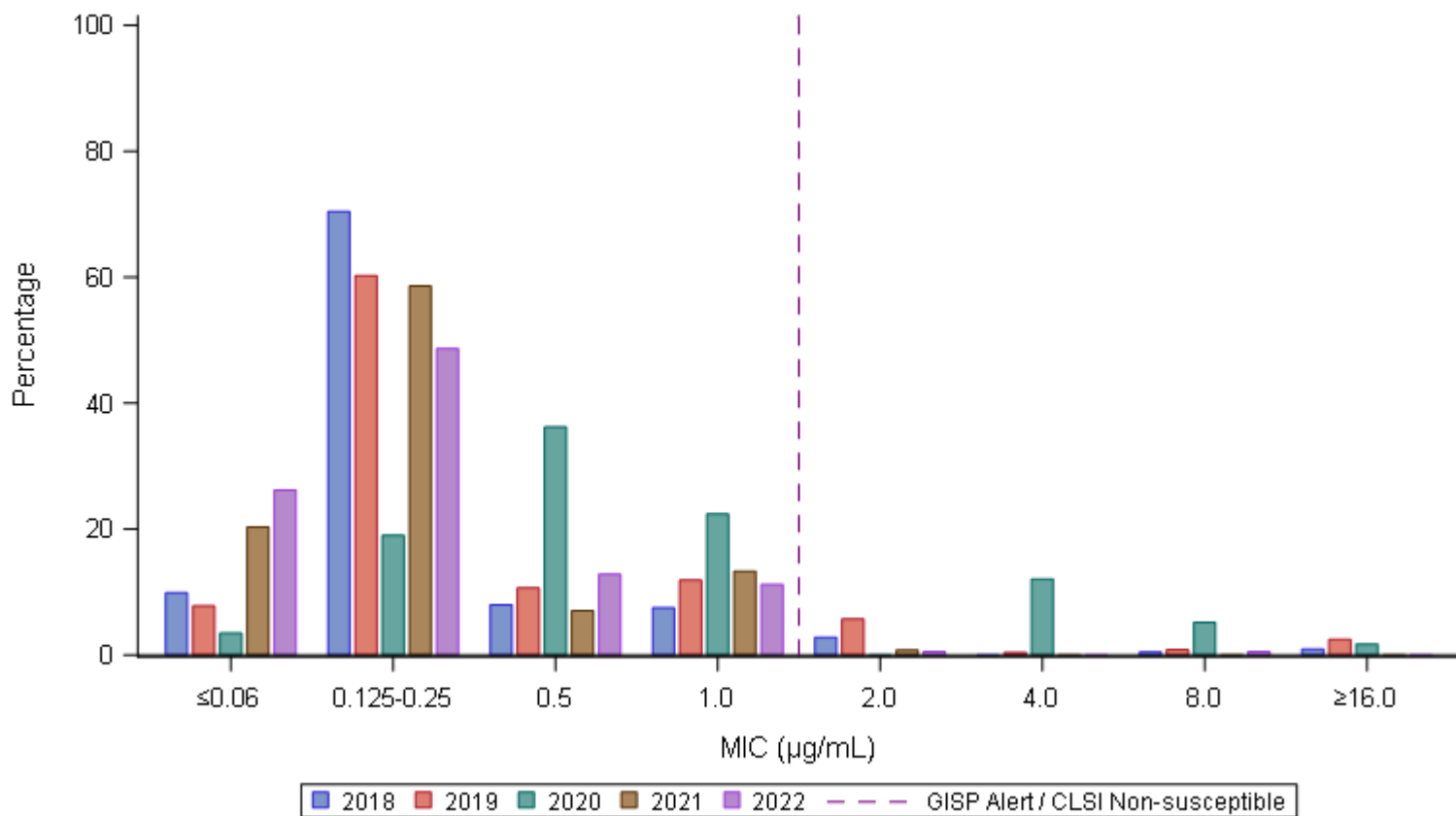
Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	132 (62.0)	45 (21.1)	26 (12.2)	7 (3.3)	3 (1.4)	0 (0.0)	0 (0.0)	0 (0.0)	213
2019	167 (68.4)	62 (25.4)	10 (4.1)	4 (1.6)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	244
2020	42 (72.4)	11 (19.0)	5 (8.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	58
2021	111 (86.7)	17 (13.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	128
2022	143 (76.5)	39 (20.9)	3 (1.6)	2 (1.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	187

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 the end of 2022, the CLSI has not established a ceftriaxone resistance breakpoint for *N. gonorrhoeae*.

Figure I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), New York City, New York, 2018-2022



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
2018	21 (9.9)	150 (70.4)	17 (8.0)	16 (7.5)	6 (2.8)	0 (0.0)	1 (0.5)	2 (0.9)	213
2019	19 (7.8)	147 (60.2)	26 (10.7)	29 (11.9)	14 (5.7)	1 (0.4)	2 (0.8)	6 (2.5)	244
2020	2 (3.4)	11 (19.0)	21 (36.2)	13 (22.4)	0 (0.0)	7 (12.1)	3 (5.2)	1 (1.7)	58
2021	26 (20.3)	75 (58.6)	9 (7.0)	17 (13.3)	1 (0.8)	0 (0.0)	0 (0.0)	0 (0.0)	128
2022	49 (26.2)	91 (48.7)	24 (12.8)	21 (11.2)	1 (0.5)	0 (0.0)	1 (0.5)	0 (0.0)	187

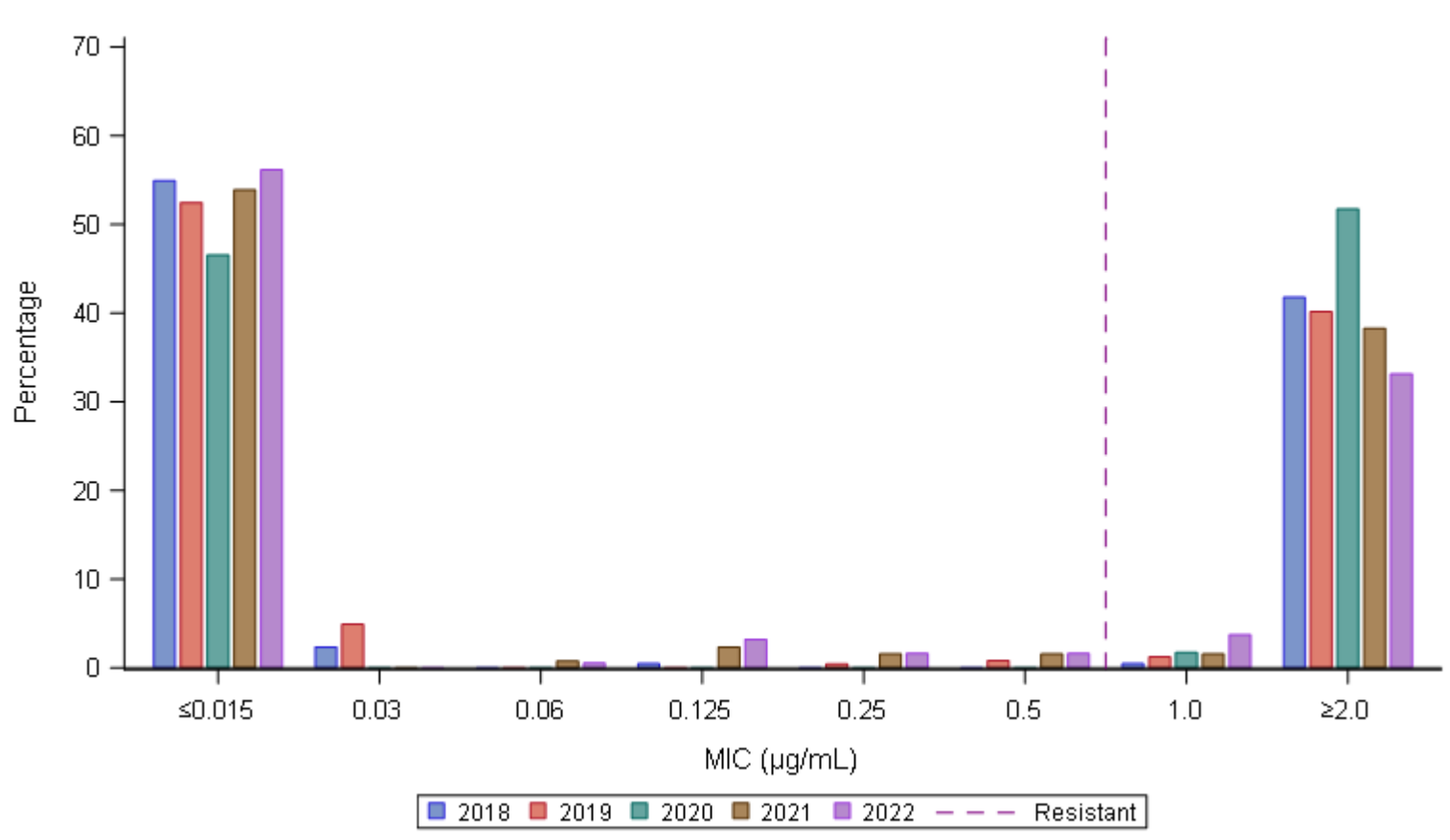
GISP Alert Value: azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; CLSI Non-susceptible = azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$.

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 the end of 2022, the CLSI has not established an azithromycin resistance breakpoint for *N. gonorrhoeae*.

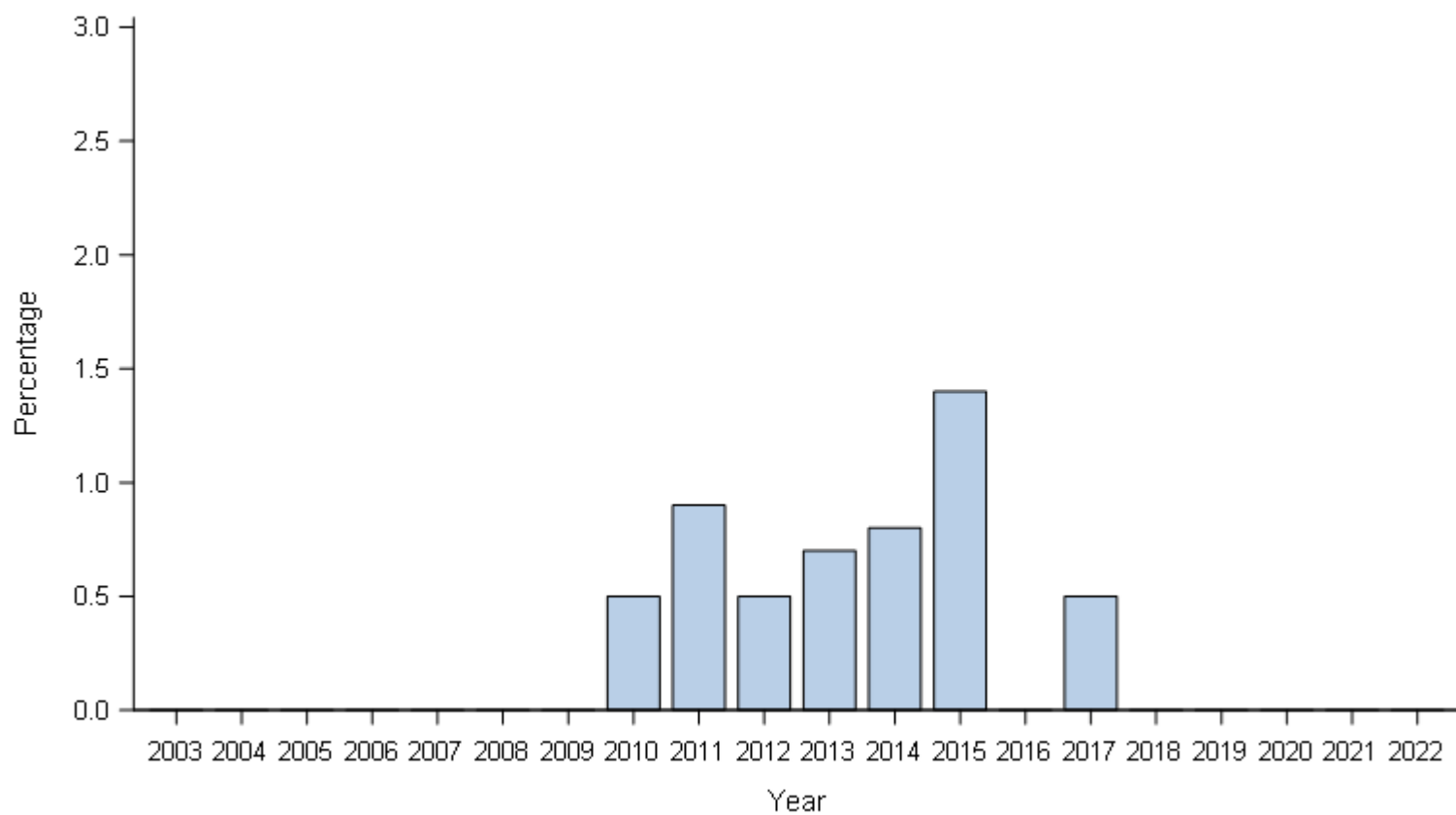
Figure J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), New York City, New York, 2018-2022



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
2018	117 (54.9)	5 (2.3)	0 (0.0)	1 (0.5)	0 (0.0)	0 (0.0)	1 (0.5)	89 (41.8)	213
2019	128 (52.5)	12 (4.9)	0 (0.0)	0 (0.0)	1 (0.4)	2 (0.8)	3 (1.2)	98 (40.2)	244
2020	27 (46.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.7)	30 (51.7)	58
2021	69 (53.9)	0 (0.0)	1 (0.8)	3 (2.3)	2 (1.6)	2 (1.6)	2 (1.6)	49 (38.3)	128
2022	105 (56.1)	0 (0.0)	1 (0.5)	6 (3.2)	3 (1.6)	3 (1.6)	7 (3.7)	62 (33.2)	187

Ciprofloxacin resistance MIC ≥1.0 µg/mL.

Figure K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), New York City, New York, 2003-2022



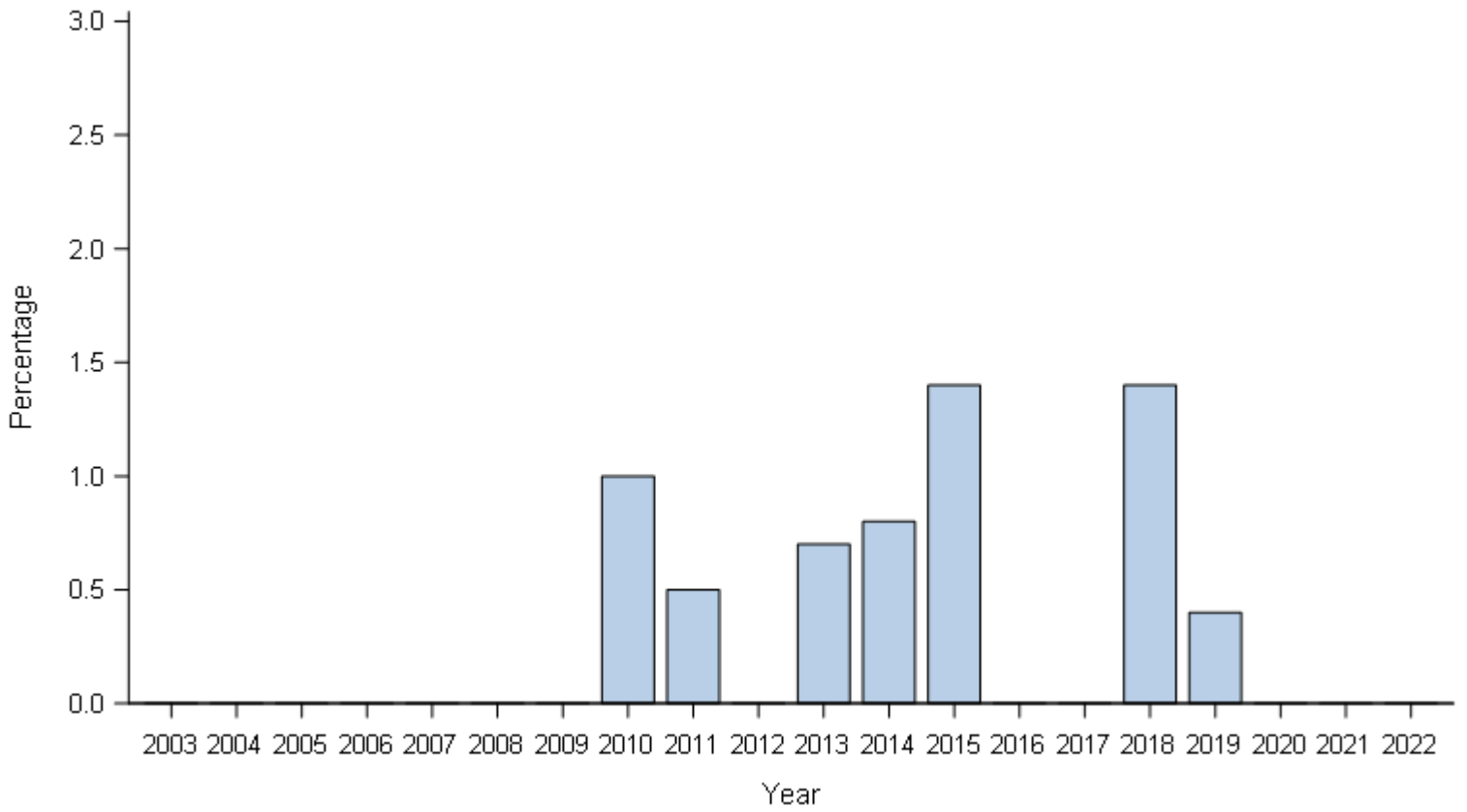
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.5)	2 (0.9)	1 (0.5)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
1 (0.7)	1 (0.8)	2 (1.4)	0 (0.0)	1 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

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

Site participated in GISP during 2006-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), New York City, New York, 2003-2022



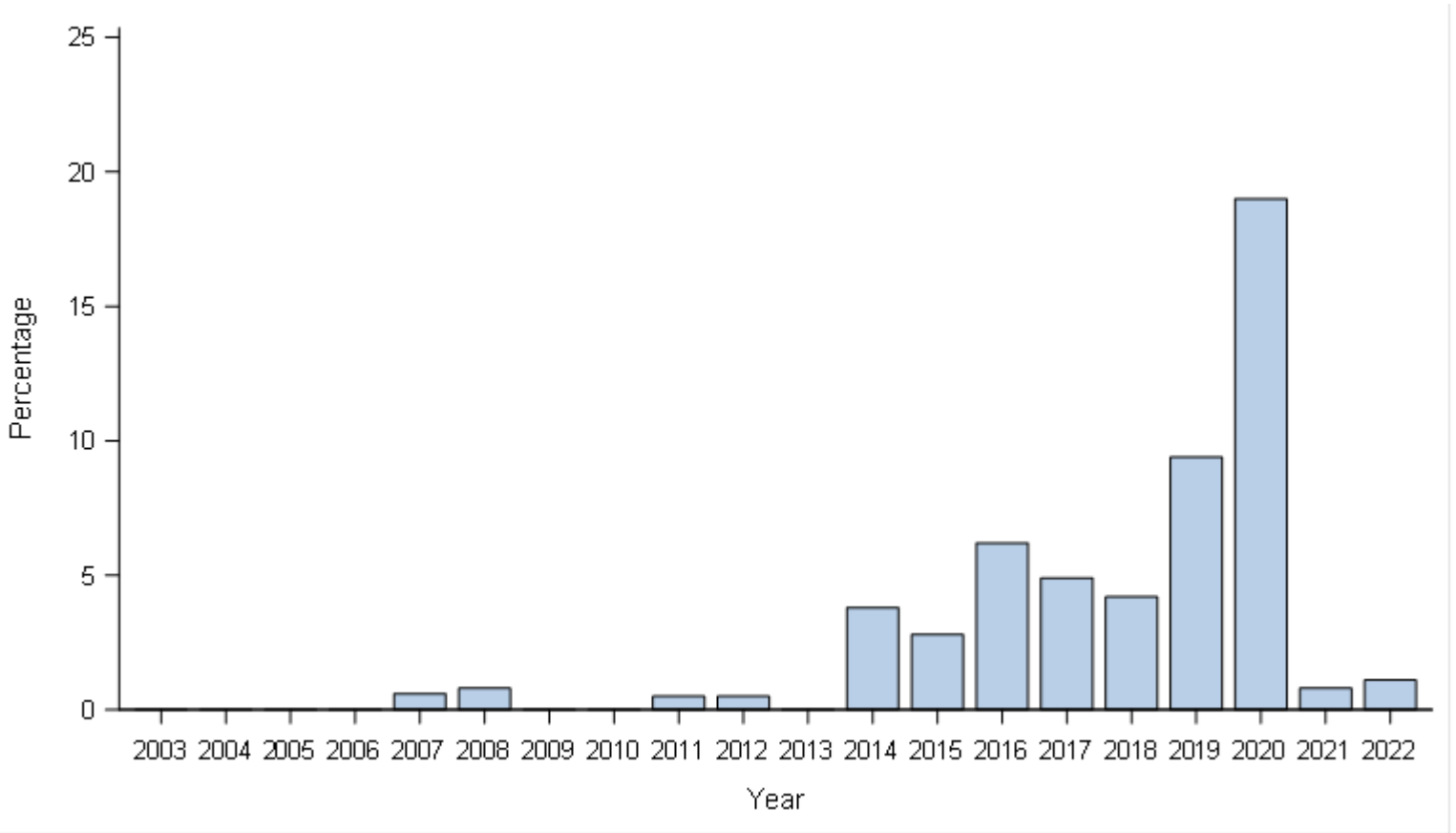
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (1.0)	1 (0.5)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
1 (0.7)	1 (0.8)	2 (1.4)	0 (0.0)	0 (0.0)	3 (1.4)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)

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

Site participated in GISP during 2006-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure M. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), New York City, New York, 2003-2022

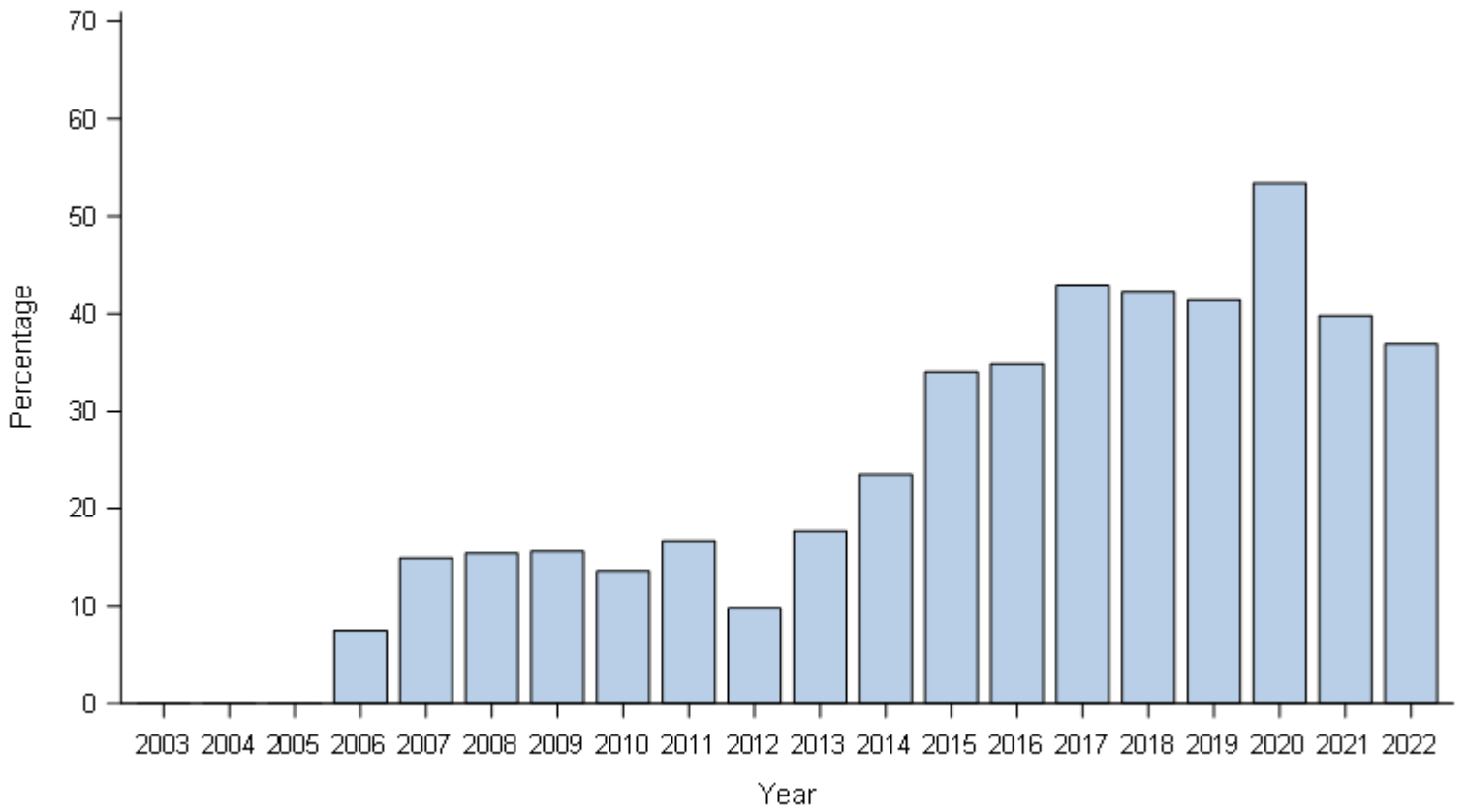


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.6)	1 (0.8)	0 (0.0)	0 (0.0)	1 (0.5)	1 (0.5)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	5 (3.8)	4 (2.8)	11 (6.2)	10 (4.9)	9 (4.2)	23 (9.4)	11 (19.0)	1 (0.8)	2 (1.1)

Azithromycin elevated MIC ≥ 1.0 $\mu\text{g/mL}$ prior to 2005 and ≥ 2.0 $\mu\text{g/mL}$ during 2005-2022. Site participated in GISP during 2006-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), New York City, New York, 2003-2022



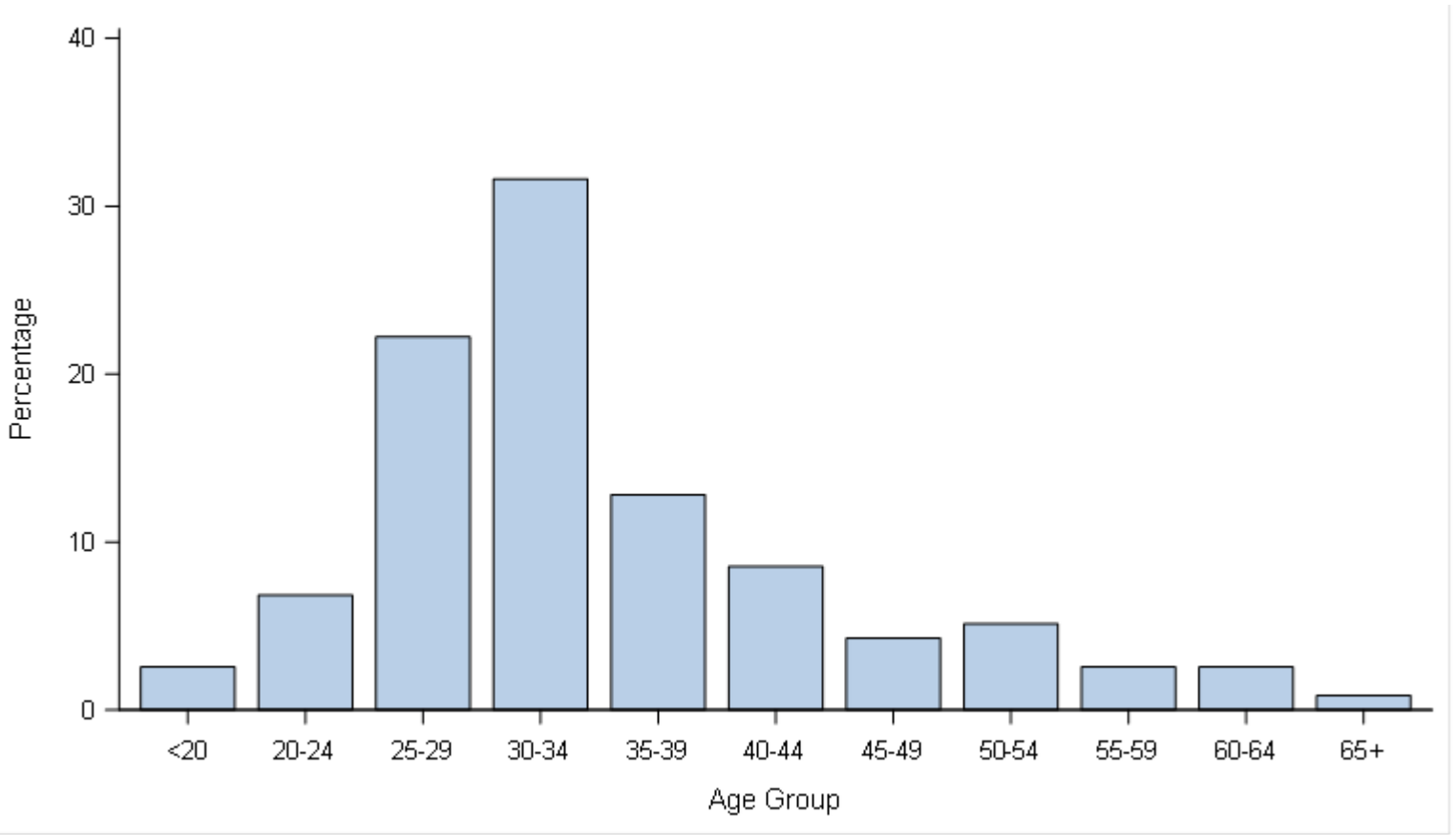
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	4 (7.5)	27 (14.9)	19 (15.4)	28 (15.6)	27 (13.6)	36 (16.7)	18 (9.8)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
25 (17.7)	31 (23.5)	48 (34.0)	62 (34.8)	87 (42.9)	90 (42.3)	101 (41.4)	31 (53.4)	51 (39.8)	69 (36.9)

Ciprofloxacin resistance MIC \geq 1.0 μ g/mL.

Site participated in GISP during 2006-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

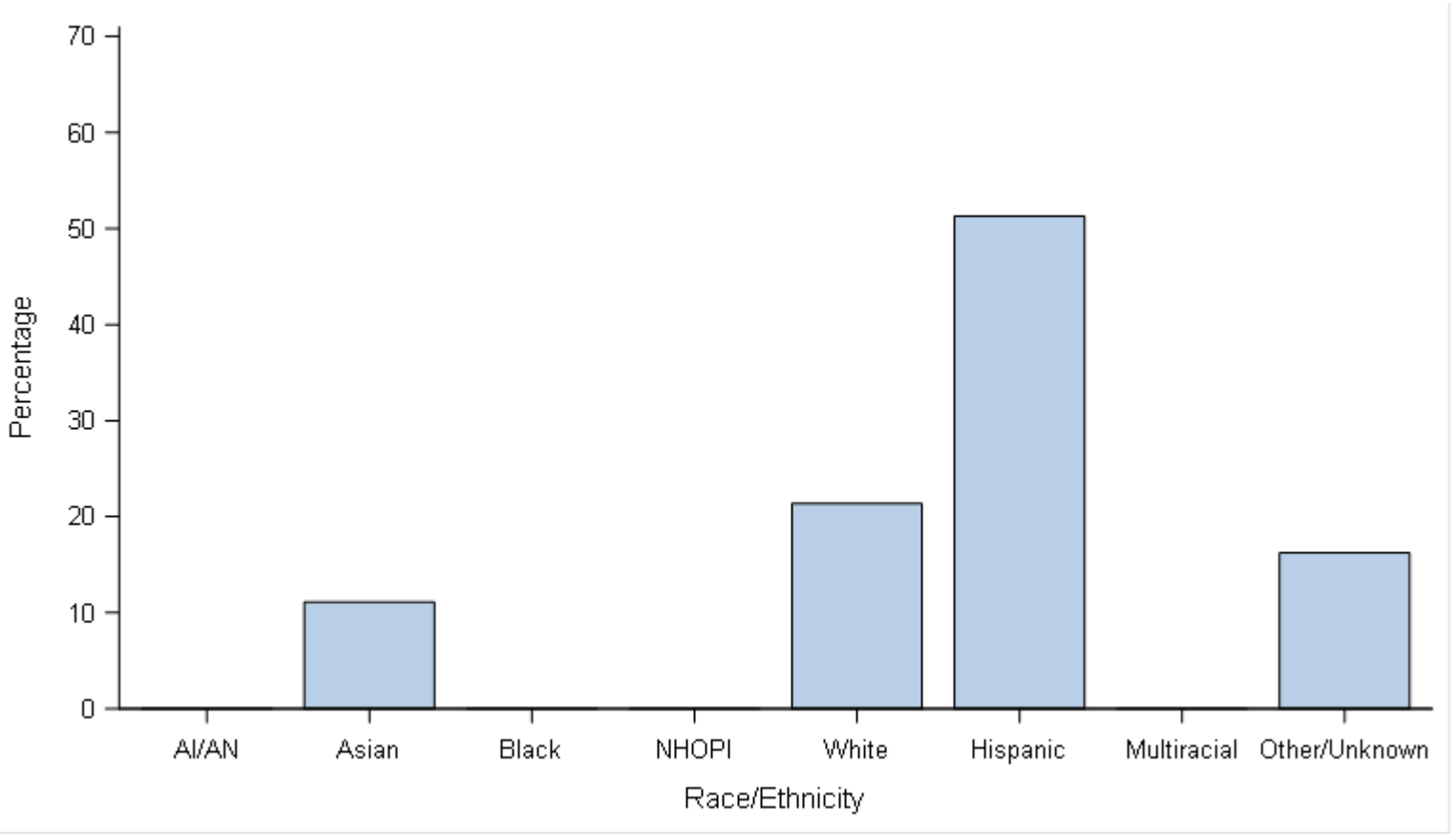
Figure A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Orange County, California, 2022



<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 (2.6)	8 (6.8)	26 (22.2)	37 (31.6)	15 (12.8)	10 (8.5)	5 (4.3)	6 (5.1)	3 (2.6)	3 (2.6)	1 (0.9)	117

Cases with unknown age were excluded.

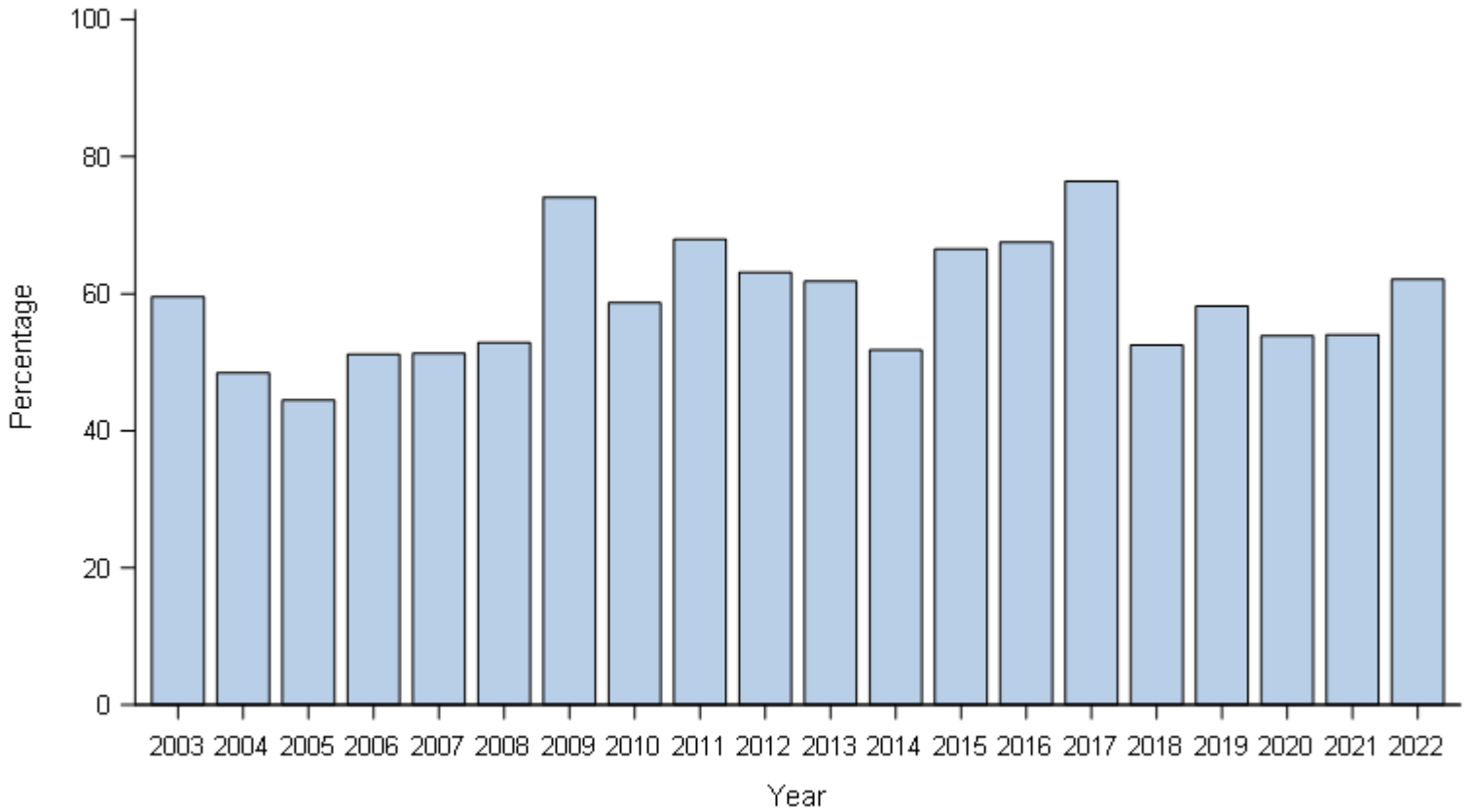
Figure B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Orange County, California, 2022



AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	13 (11.1)	0 (0.0)	0 (0.0)	25 (21.4)	60 (51.3)	0 (0.0)	19 (16.2)	117

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.

Figure C. Percentage of Participants Identifying as Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Orange County, California, 2003-2022

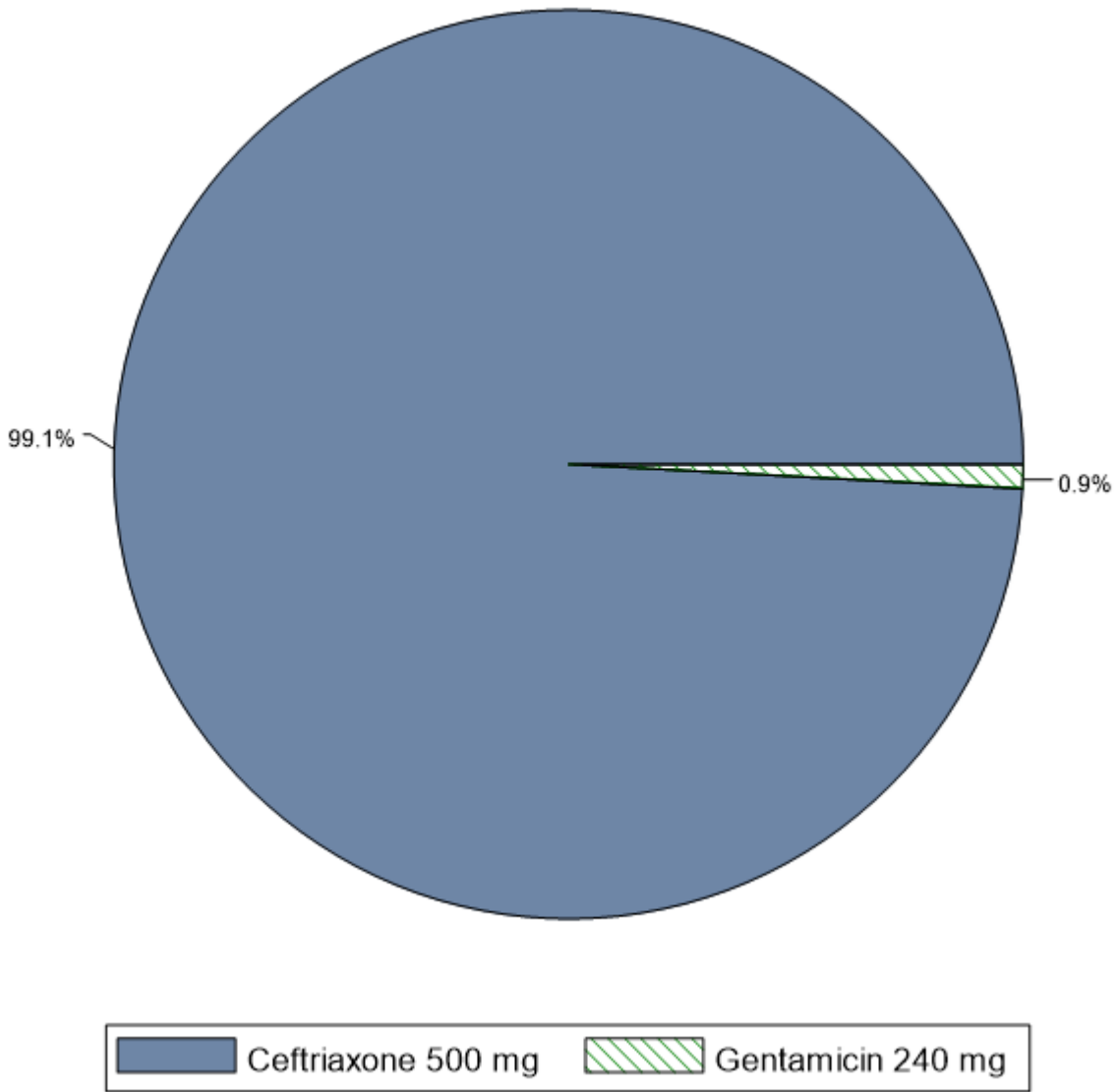


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
106 (59.6)	78 (48.4)	52 (44.4)	68 (51.1)	59 (51.3)	46 (52.9)	60 (74.1)	61 (58.7)	72 (67.9)	77 (63.1)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
76 (61.8)	88 (51.8)	121 (66.5)	131 (67.5)	107 (76.4)	53 (52.5)	82 (58.2)	84 (53.8)	47 (54.0)	72 (62.1)

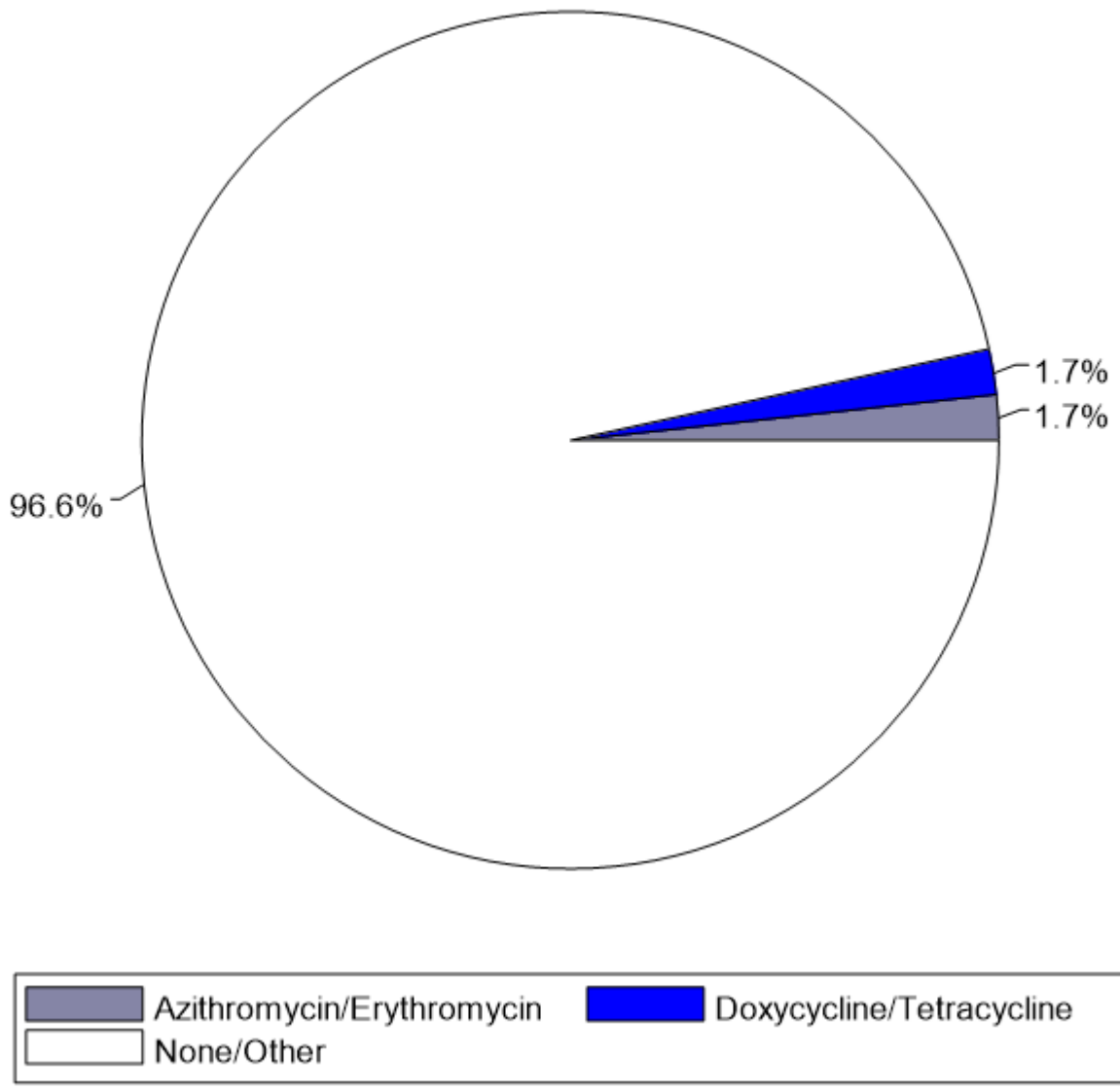
Men who have sex with men = men who self-identified as gay or bisexual or reported recent male sex partners.

Figure D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Orange County, California, 2022



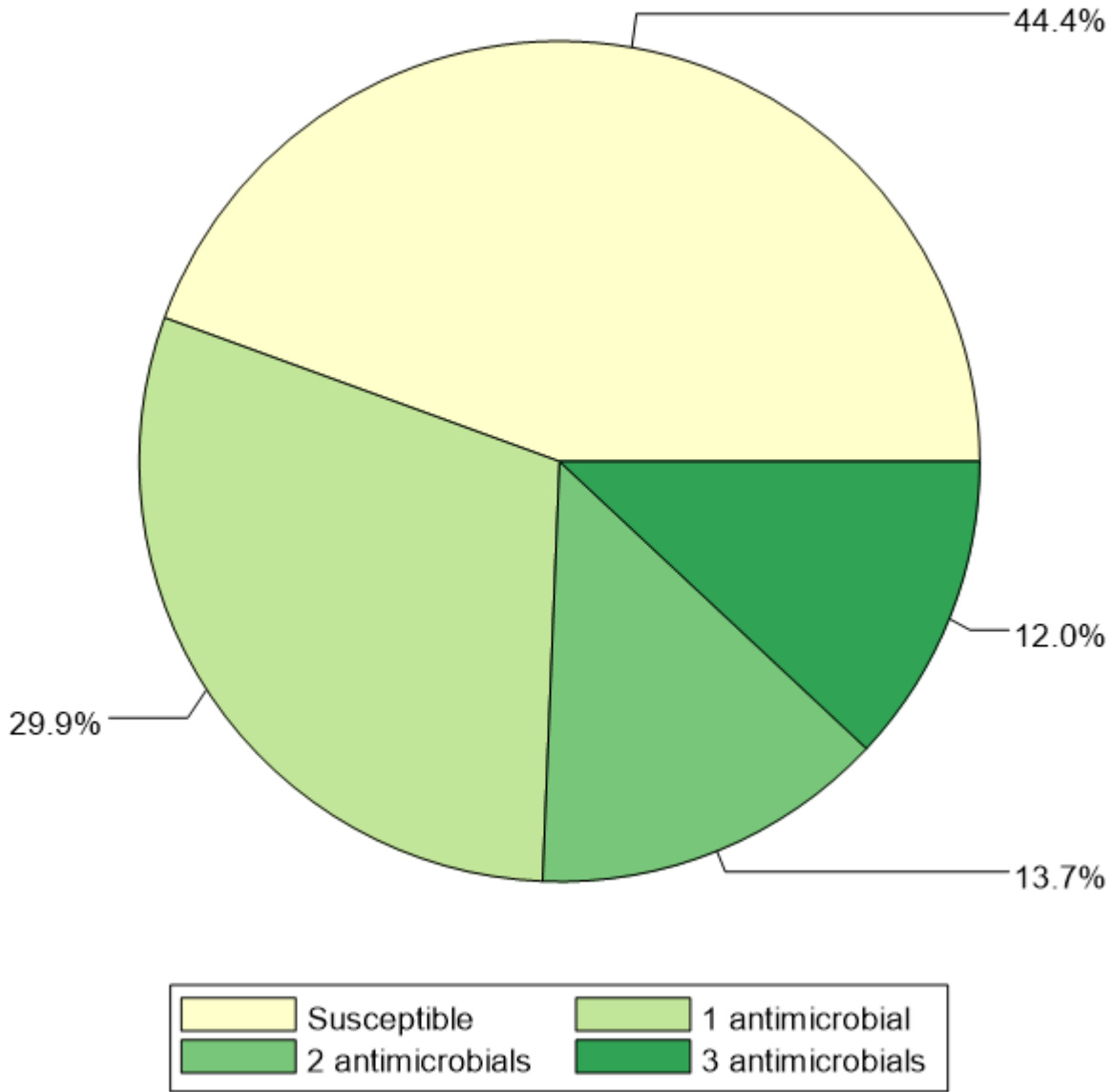
Primary Treatment	Count	Percentage
Ceftriaxone 500 mg	116	99.1
Gentamicin 240 mg	1	0.9

Figure E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Orange County, California, 2022



Secondary Treatment	Count	Percentage
Azithromycin/Erythromycin	2	1.7
Doxycycline/Tetracycline	2	1.7
None/Other	113	96.6

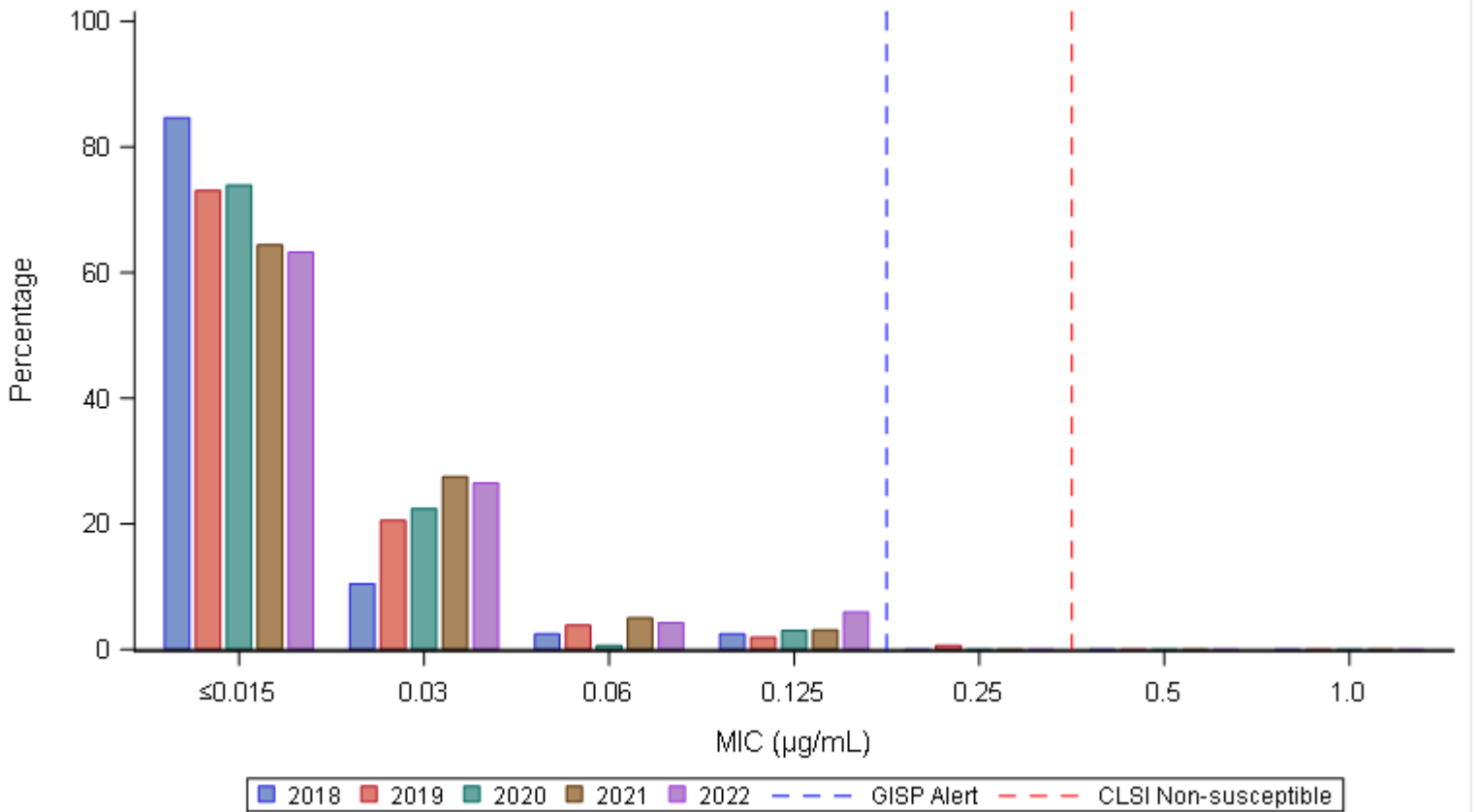
Figure F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Orange County, California, 2022



Number of Antimicrobials	Count	Percentage
Susceptible	52	44.4
1 antimicrobial	35	29.9
2 antimicrobials	16	13.7
3 antimicrobials	14	12.0
4+ antimicrobials	0	0.0

Elevated MICs = ceftriaxone MIC ≥ 0.125 $\mu\text{g/mL}$; cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; Resistance = tetracycline MIC ≥ 2.0 $\mu\text{g/mL}$; ciprofloxacin MIC ≥ 1.0 $\mu\text{g/mL}$; penicillin MIC ≥ 2.0 $\mu\text{g/mL}$ or β -lactamase positive.

Figure G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Orange County, California, 2018-2022



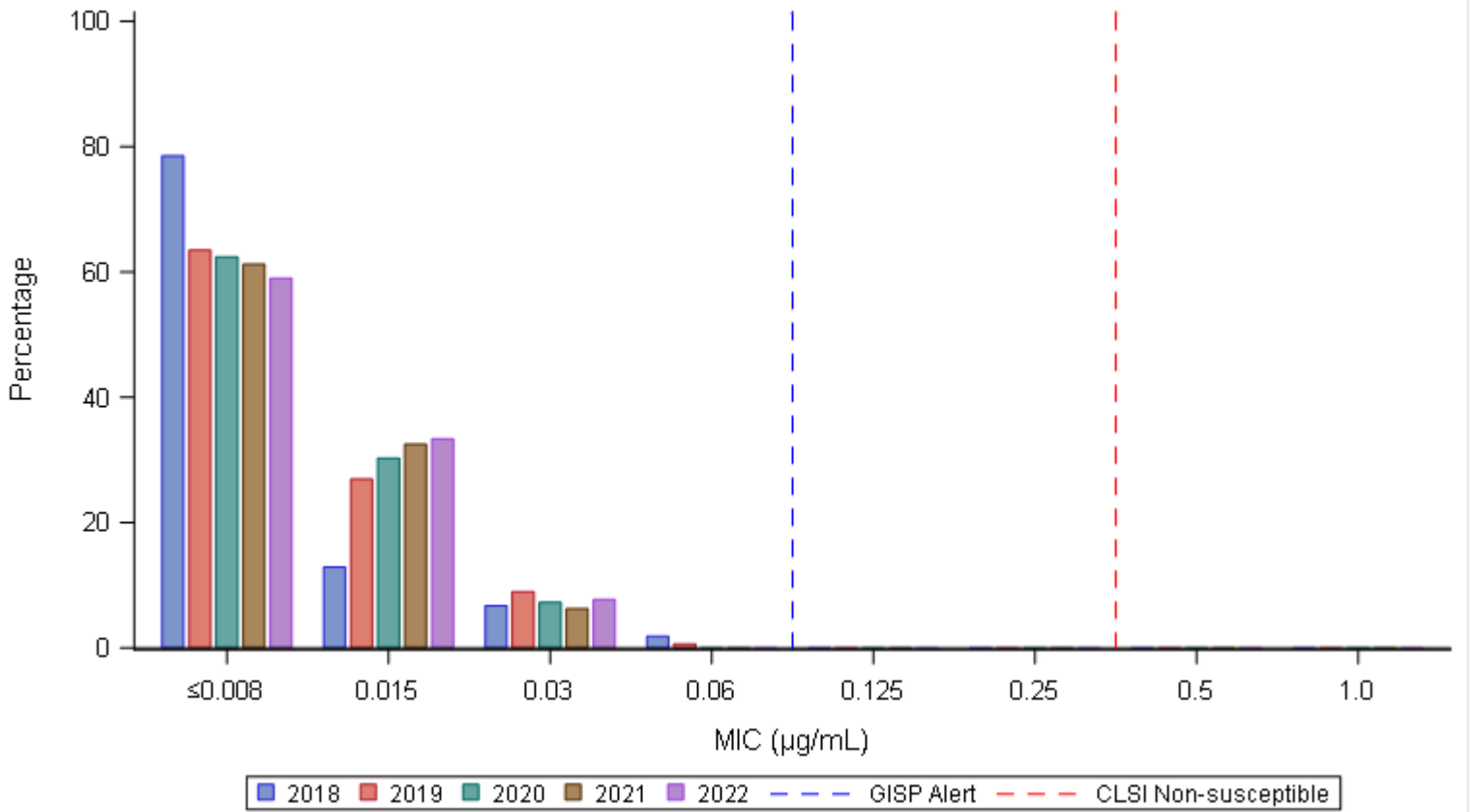
Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	138 (84.7)	17 (10.4)	4 (2.5)	4 (2.5)	0 (0.0)	0 (0.0)	0 (0.0)	163
2019	114 (73.1)	32 (20.5)	6 (3.8)	3 (1.9)	1 (0.6)	0 (0.0)	0 (0.0)	156
2020	122 (73.9)	37 (22.4)	1 (0.6)	5 (3.0)	0 (0.0)	0 (0.0)	0 (0.0)	165
2021	103 (64.4)	44 (27.5)	8 (5.0)	5 (3.1)	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)	117

GISP Alert Value = cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; CLSI Non-susceptible = cefixime MIC ≥ 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 the end of 2022, the CLSI has not established a cefixime resistance breakpoint for *N. gonorrhoeae*.

Figure H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Orange County, California, 2018-2022



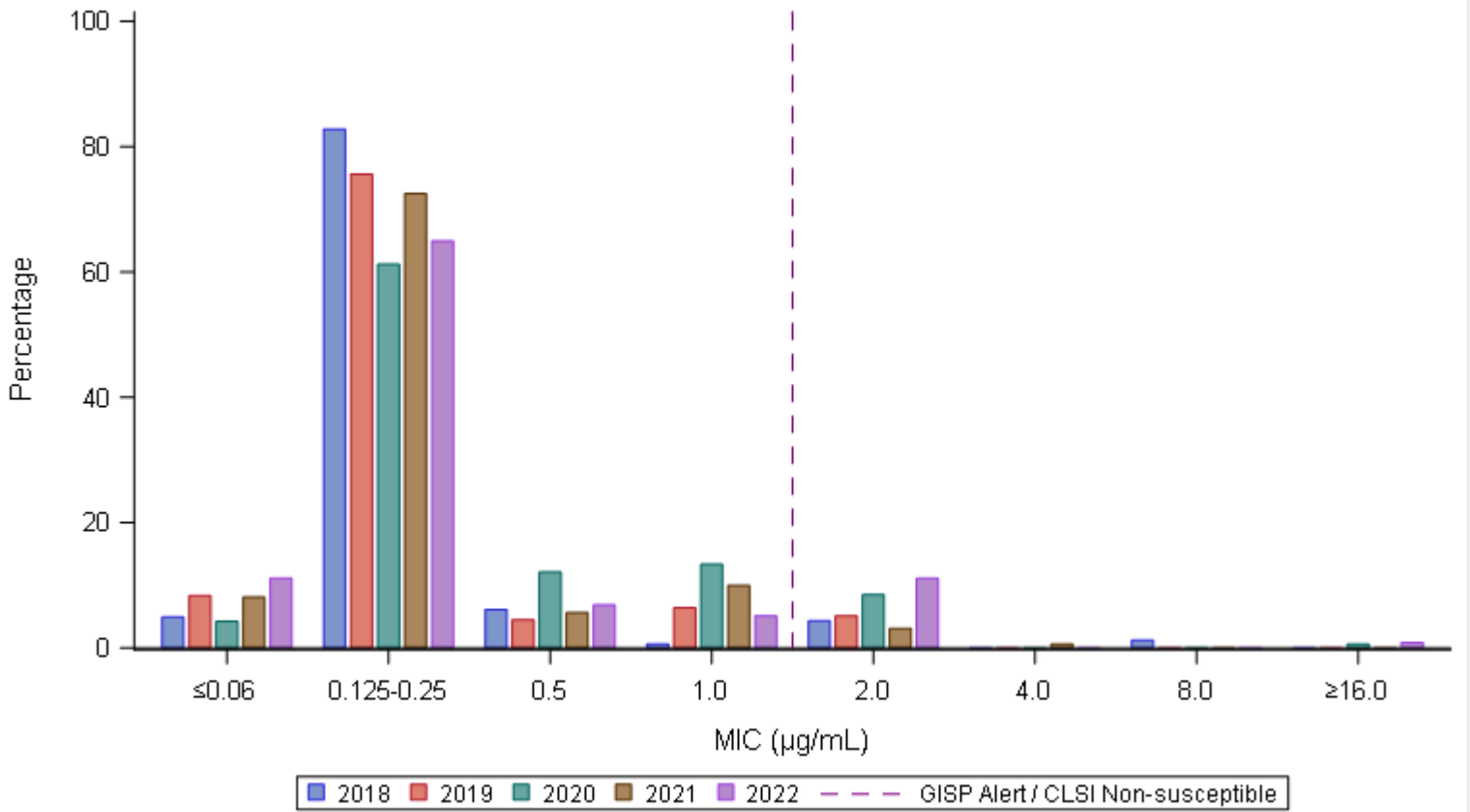
Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	128 (78.5)	21 (12.9)	11 (6.7)	3 (1.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	163
2019	99 (63.5)	42 (26.9)	14 (9.0)	1 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	156
2020	103 (62.4)	50 (30.3)	12 (7.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	165
2021	98 (61.3)	52 (32.5)	10 (6.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	160
2022	69 (59.0)	39 (33.3)	9 (7.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	117

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 the end of 2022, the CLSI has not established a ceftriaxone resistance breakpoint for *N. gonorrhoeae*.

Figure I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Orange County, California, 2018-2022



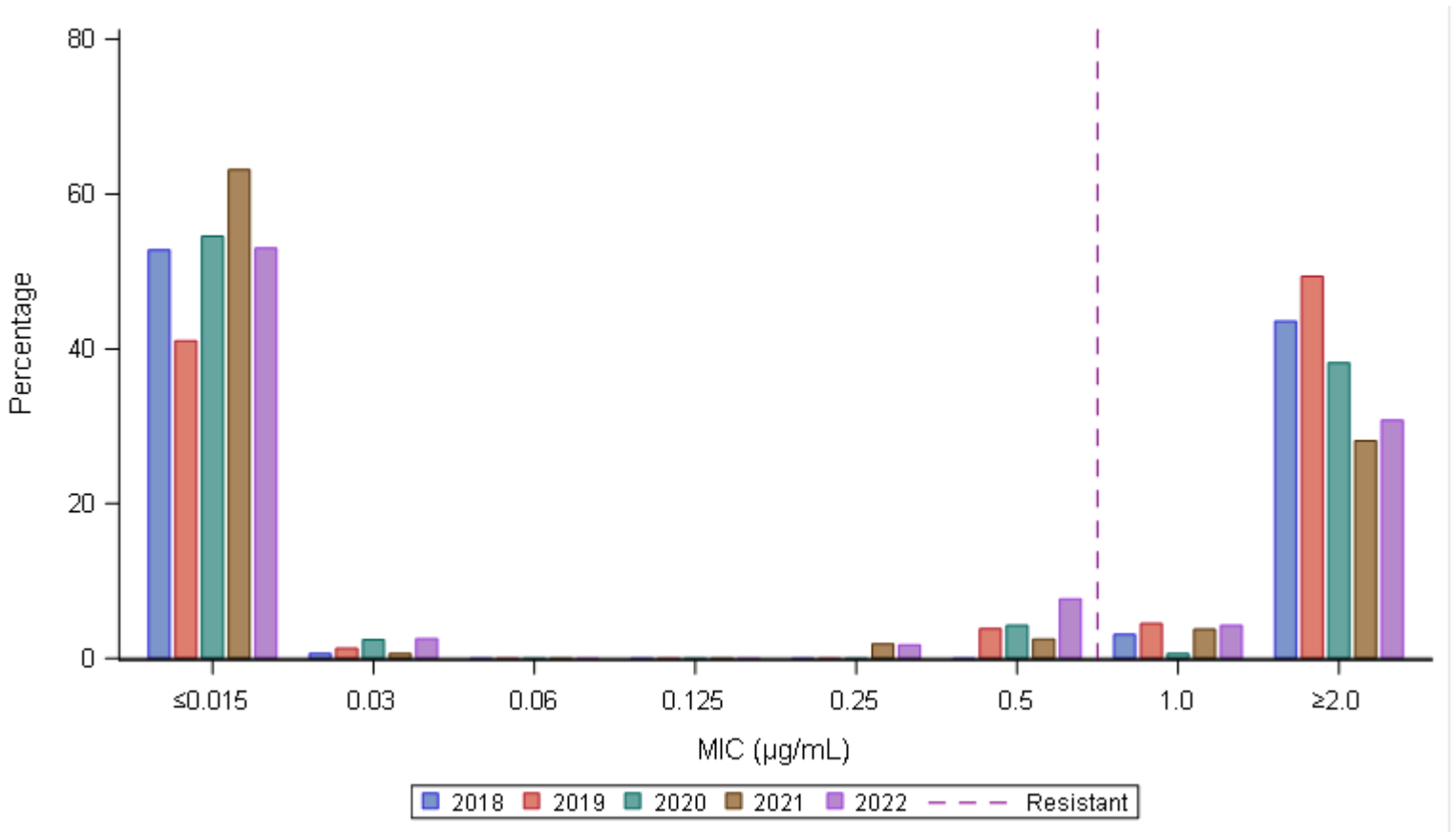
Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2018	8 (4.9)	135 (82.8)	10 (6.1)	1 (0.6)	7 (4.3)	0 (0.0)	2 (1.2)	0 (0.0)	163
2019	13 (8.3)	118 (75.6)	7 (4.5)	10 (6.4)	8 (5.1)	0 (0.0)	0 (0.0)	0 (0.0)	156
2020	7 (4.2)	101 (61.2)	20 (12.1)	22 (13.3)	14 (8.5)	0 (0.0)	0 (0.0)	1 (0.6)	165
2021	13 (8.1)	116 (72.5)	9 (5.6)	16 (10.0)	5 (3.1)	1 (0.6)	0 (0.0)	0 (0.0)	160
2022	13 (11.1)	76 (65.0)	8 (6.8)	6 (5.1)	13 (11.1)	0 (0.0)	0 (0.0)	1 (0.9)	117

GISP Alert Value: azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; CLSI Non-susceptible = azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$.

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 the end of 2022, the CLSI has not established an azithromycin resistance breakpoint for *N. gonorrhoeae*.

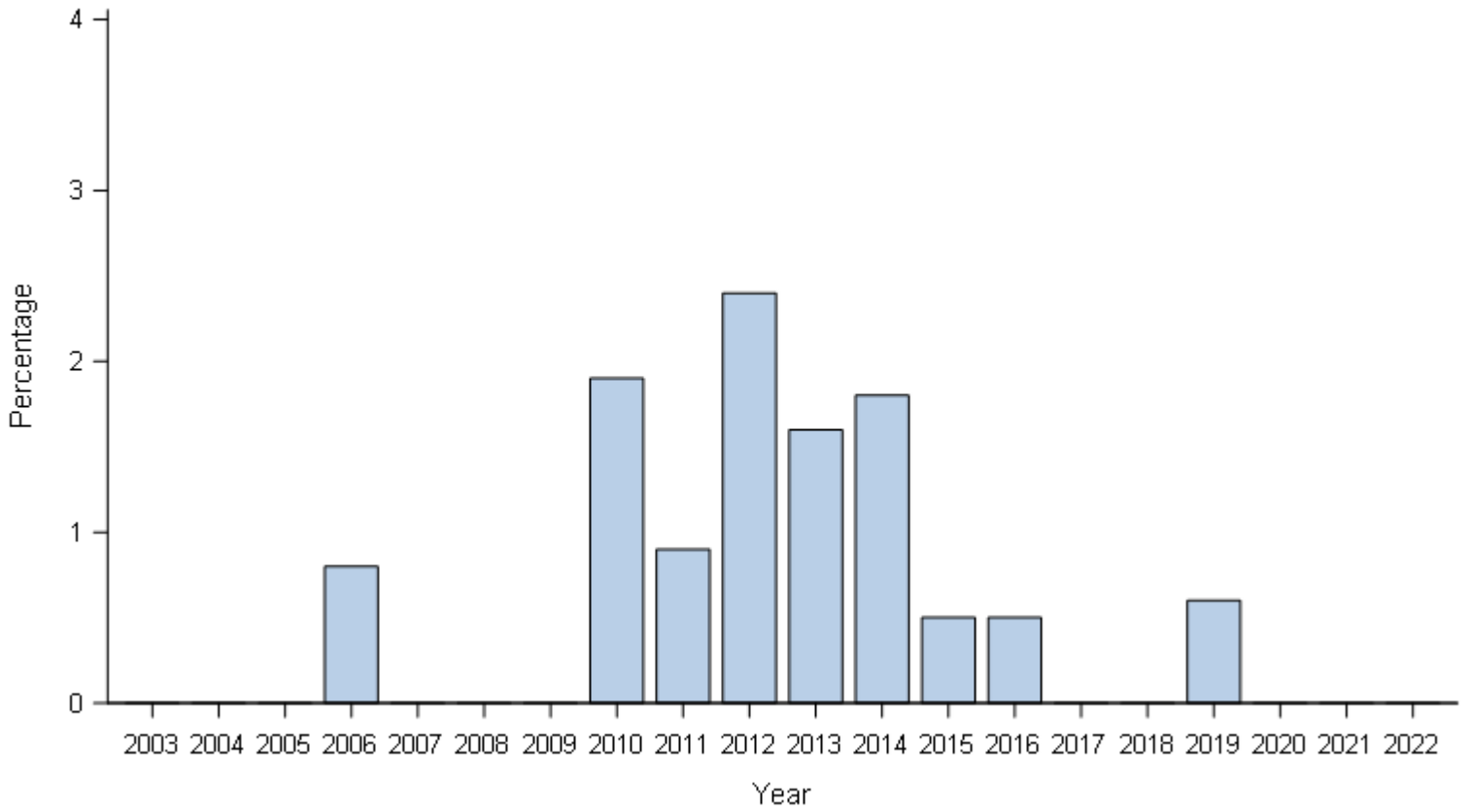
Figure J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Orange County, California, 2018-2022



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
2018	86 (52.8)	1 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	5 (3.1)	71 (43.6)	163
2019	64 (41.0)	2 (1.3)	0 (0.0)	0 (0.0)	0 (0.0)	6 (3.8)	7 (4.5)	77 (49.4)	156
2020	90 (54.5)	4 (2.4)	0 (0.0)	0 (0.0)	0 (0.0)	7 (4.2)	1 (0.6)	63 (38.2)	165
2021	101 (63.1)	1 (0.6)	0 (0.0)	0 (0.0)	3 (1.9)	4 (2.5)	6 (3.8)	45 (28.1)	160
2022	62 (53.0)	3 (2.6)	0 (0.0)	0 (0.0)	2 (1.7)	9 (7.7)	5 (4.3)	36 (30.8)	117

Ciprofloxacin resistance MIC ≥1.0 µg/mL.

Figure K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Orange County, California, 2003-2022

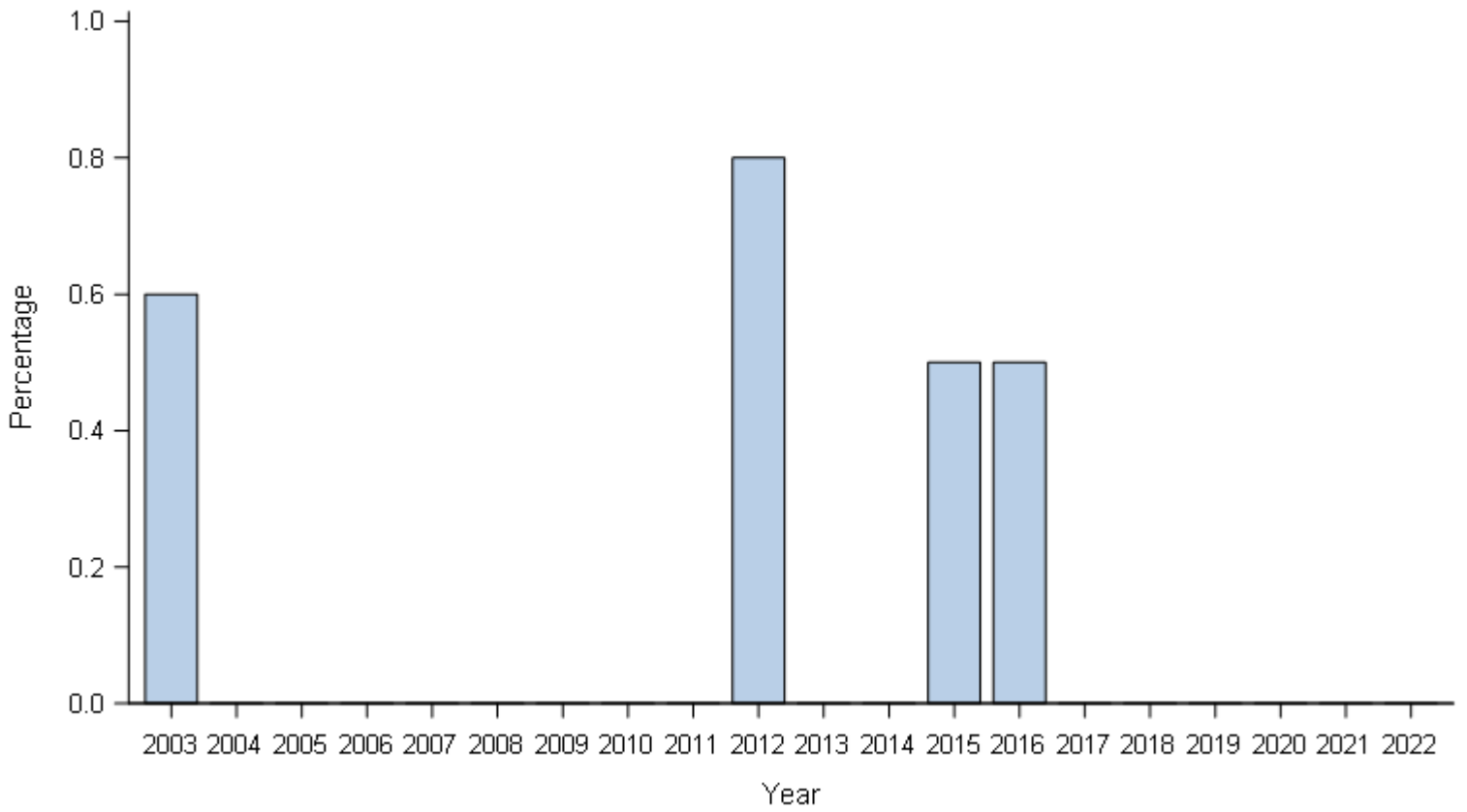


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	1 (0.8)	0 (0.0)	0 (0.0)	0 (0.0)	2 (1.9)	1 (0.9)	3 (2.4)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
2 (1.6)	3 (1.8)	1 (0.5)	1 (0.5)	0 (0.0)	0 (0.0)	1 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)

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

Figure L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Orange County, California, 2003-2022

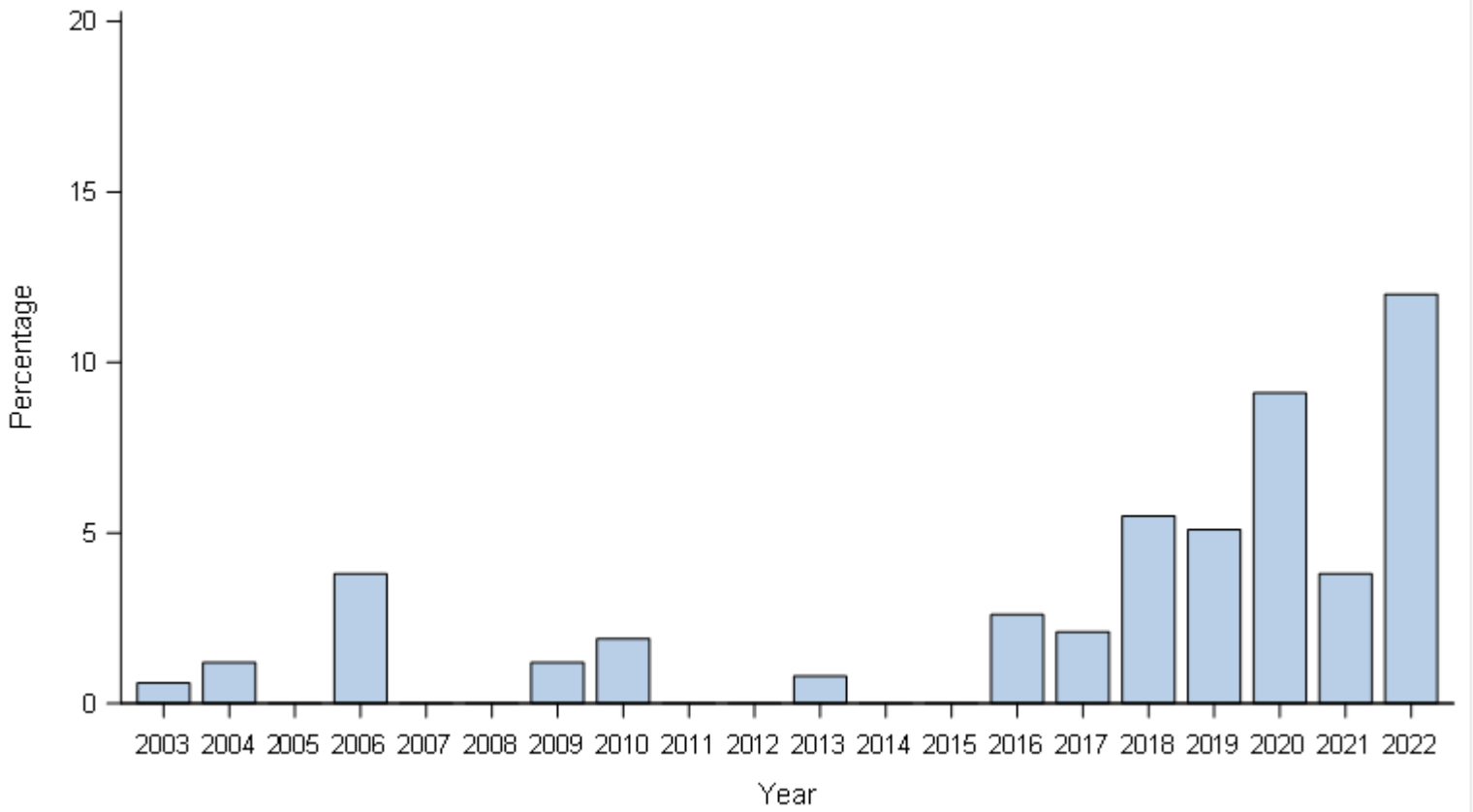


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
1 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.8)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	1 (0.5)	1 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

Ceftriaxone elevated MIC \geq 0.125 μ g/mL.

Figure M. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Orange County, California, 2003-2022

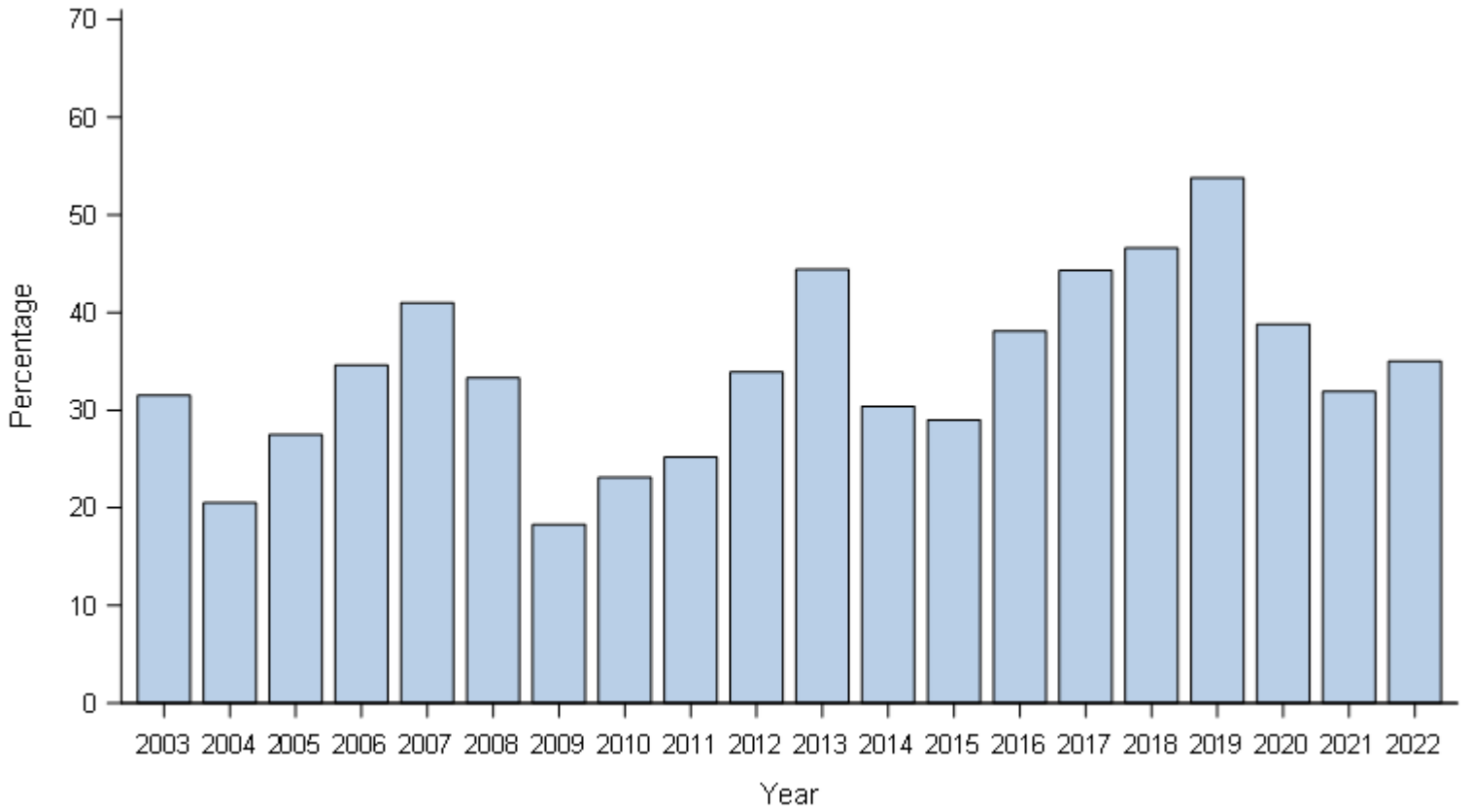


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
1 (0.6)	2 (1.2)	0 (0.0)	5 (3.8)	0 (0.0)	0 (0.0)	1 (1.2)	2 (1.9)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
1 (0.8)	0 (0.0)	0 (0.0)	5 (2.6)	3 (2.1)	9 (5.5)	8 (5.1)	15 (9.1)	6 (3.8)	14 (12.0)

Azithromycin elevated MIC ≥ 1.0 $\mu\text{g/mL}$ prior to 2005 and ≥ 2.0 $\mu\text{g/mL}$ during 2005-2022.

Figure N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Orange County, California, 2003-2022

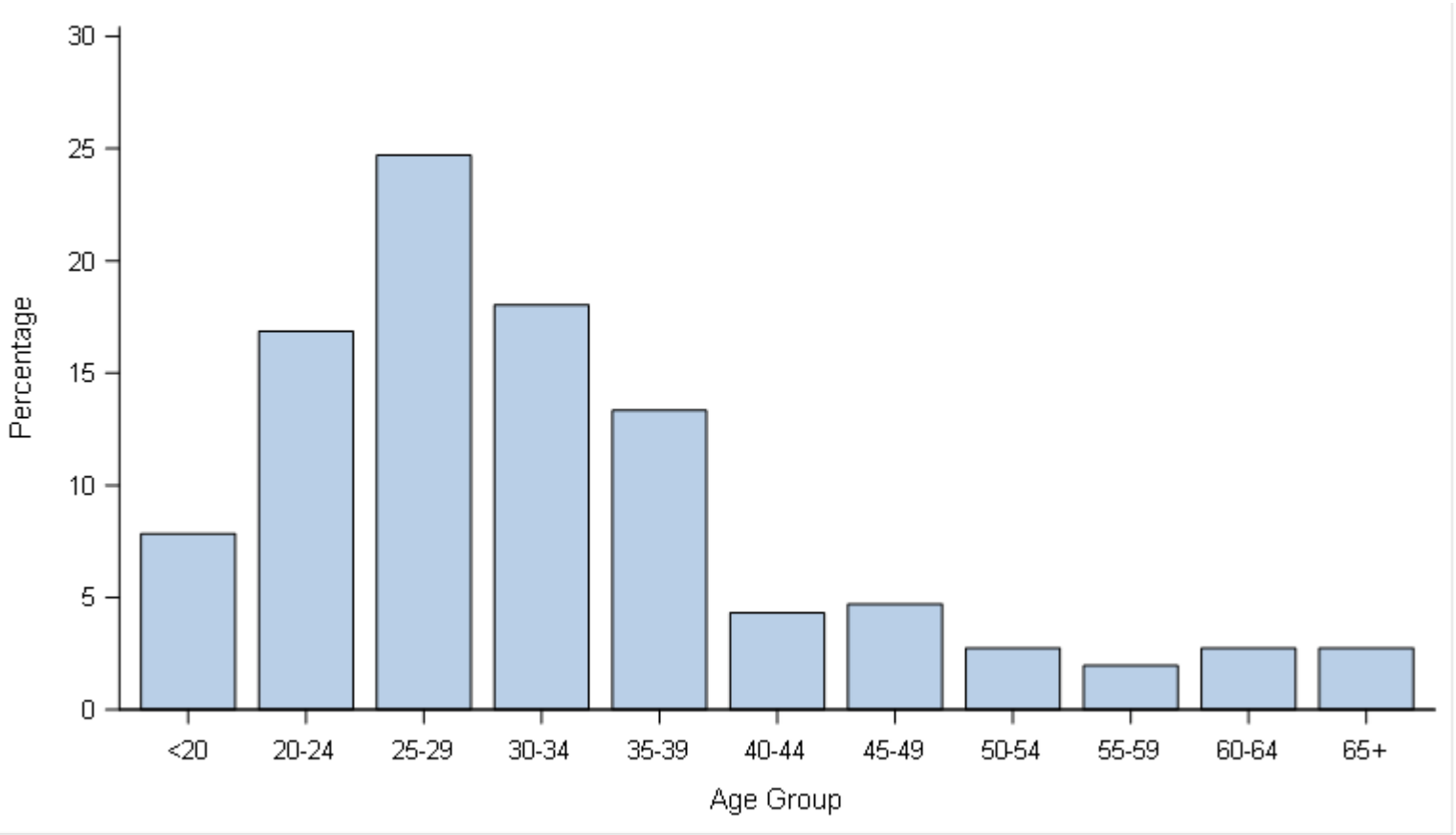


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
56 (31.5)	33 (20.5)	33 (27.5)	46 (34.6)	48 (41.0)	29 (33.3)	15 (18.3)	24 (23.1)	27 (25.2)	42 (33.9)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
55 (44.4)	52 (30.4)	53 (29.0)	74 (38.1)	62 (44.3)	76 (46.6)	84 (53.8)	64 (38.8)	51 (31.9)	41 (35.0)

Ciprofloxacin resistance MIC ≥1.0 µg/mL.

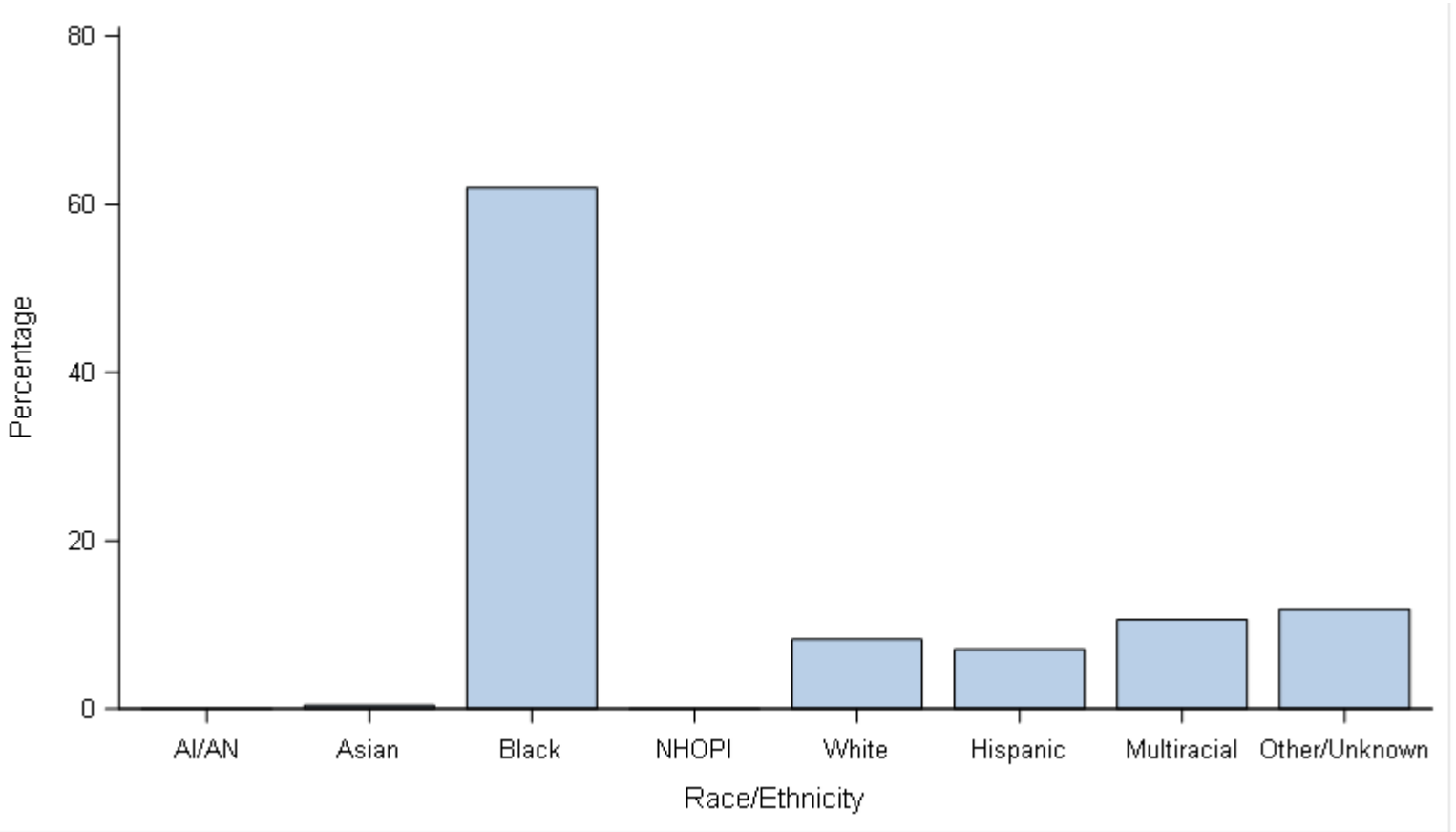
Figure A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Philadelphia, Pennsylvania, 2022



<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
20 (7.8)	43 (16.9)	63 (24.7)	46 (18.0)	34 (13.3)	11 (4.3)	12 (4.7)	7 (2.7)	5 (2.0)	7 (2.7)	7 (2.7)	255

Cases with unknown age were excluded.

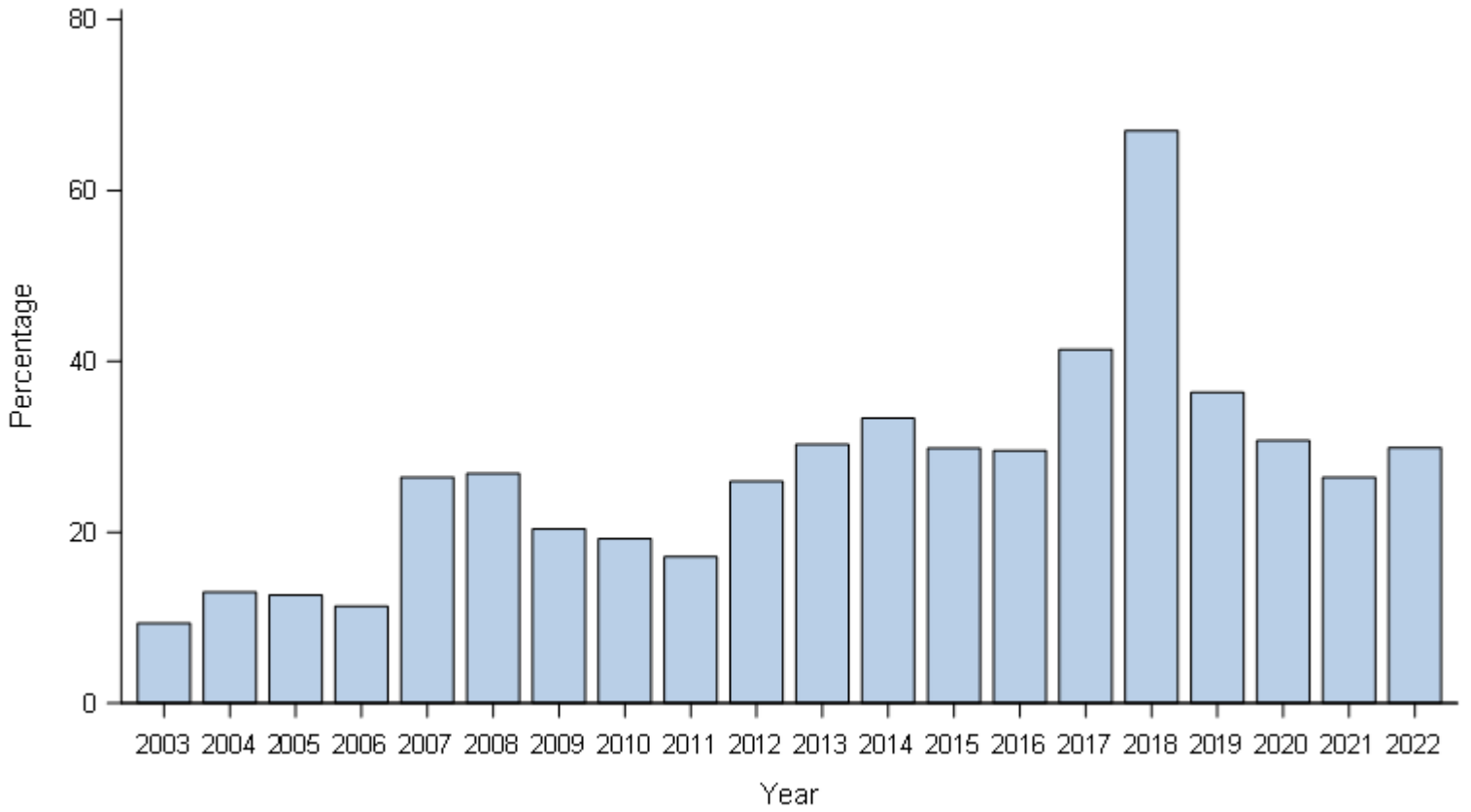
Figure B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Philadelphia, Pennsylvania, 2022



AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	1 (0.4)	158 (62.0)	0 (0.0)	21 (8.2)	18 (7.1)	27 (10.6)	30 (11.8)	255

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.

Figure C. Percentage of Participants Identifying as Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Philadelphia, Pennsylvania, 2003-2022

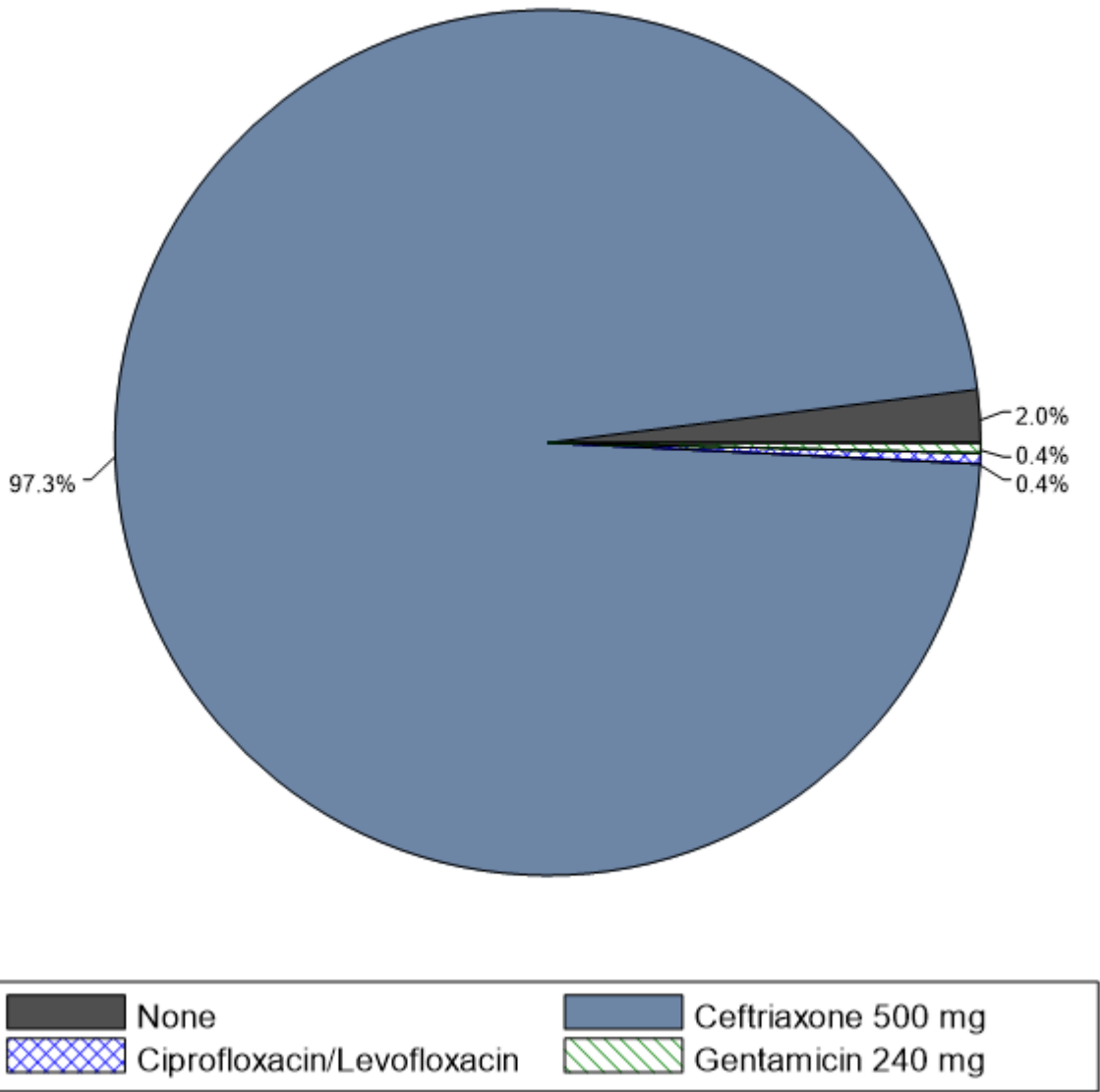


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
28 (9.4)	39 (13.0)	38 (12.7)	34 (11.3)	74 (26.4)	68 (26.9)	42 (20.4)	57 (19.3)	49 (17.1)	75 (26.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
89 (30.3)	99 (33.3)	88 (29.8)	86 (29.6)	113 (41.4)	199 (67.0)	108 (36.4)	47 (30.7)	51 (26.4)	75 (29.9)

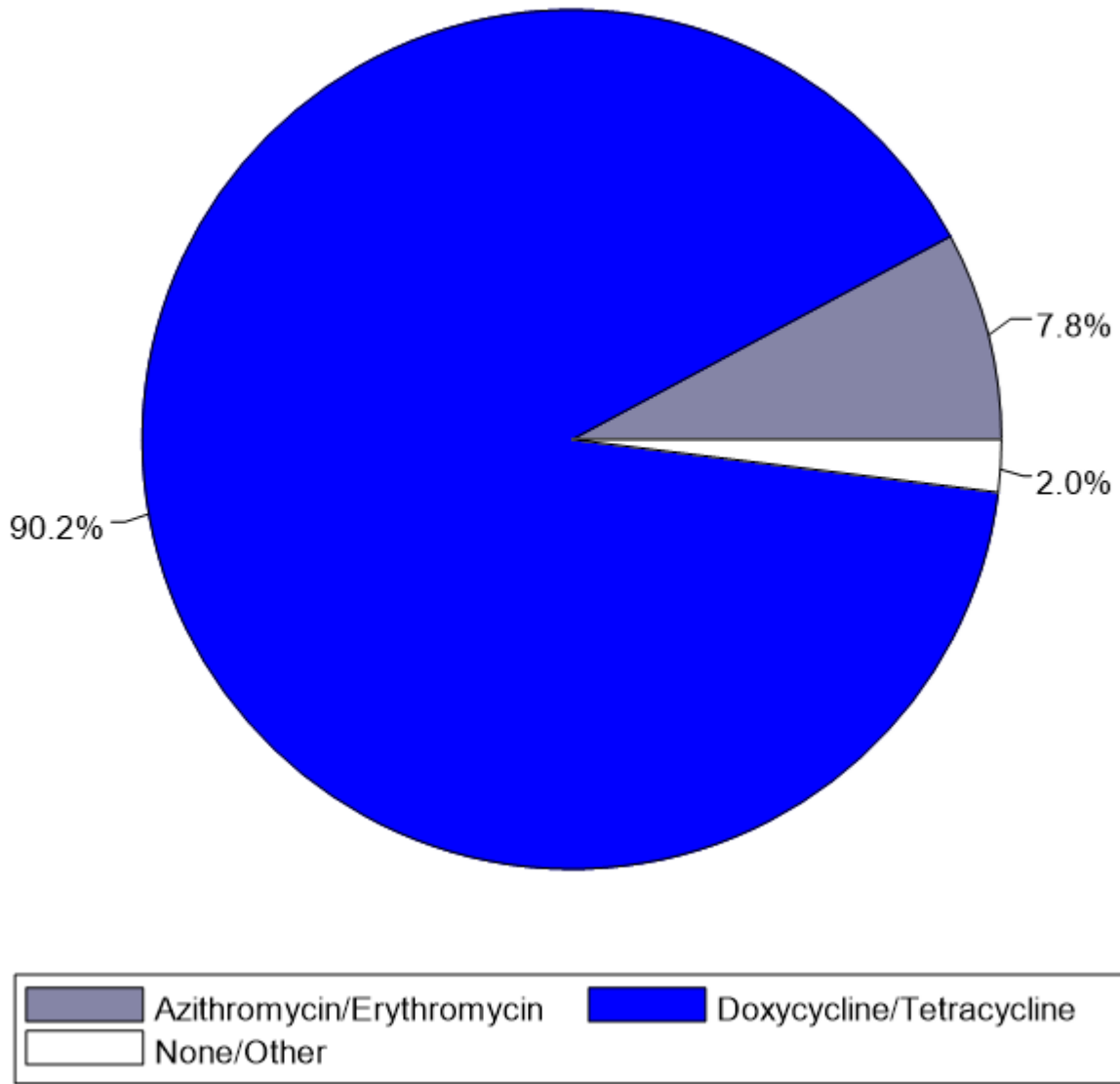
Men who have sex with men = men who self-identified as gay or bisexual or reported recent male sex partners.

Figure D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Philadelphia, Pennsylvania, 2022



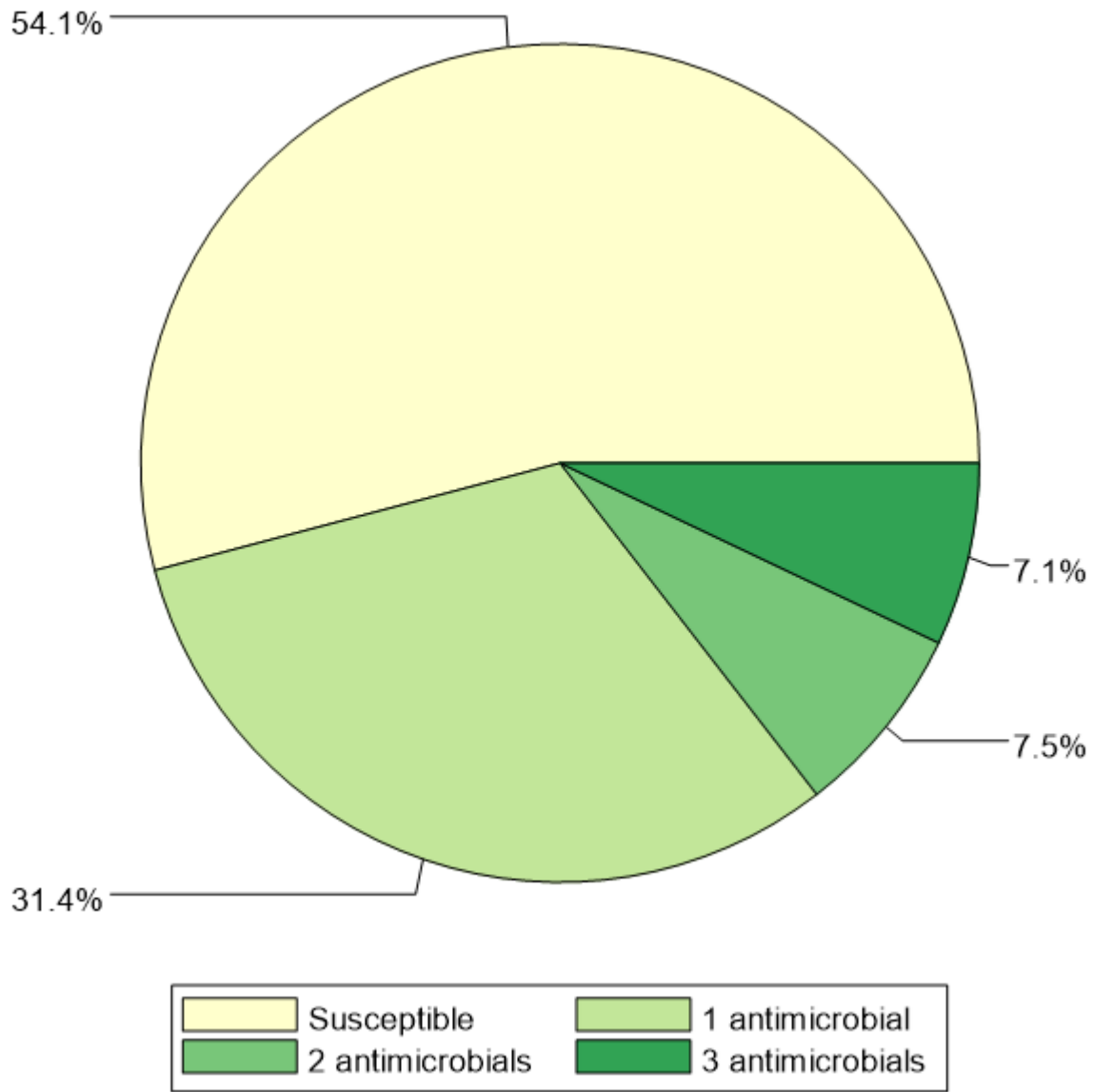
Primary Treatment	Count	Percentage
None	5	2.0
Ceftriaxone 500 mg	248	97.3
Ciprofloxacin/Levofloxacin	1	0.4
Gentamicin 240 mg	1	0.4

Figure E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Philadelphia, Pennsylvania, 2022



Secondary Treatment	Count	Percentage
Azithromycin/Erythromycin	20	7.8
Doxycycline/Tetracycline	230	90.2
None/Other	5	2.0

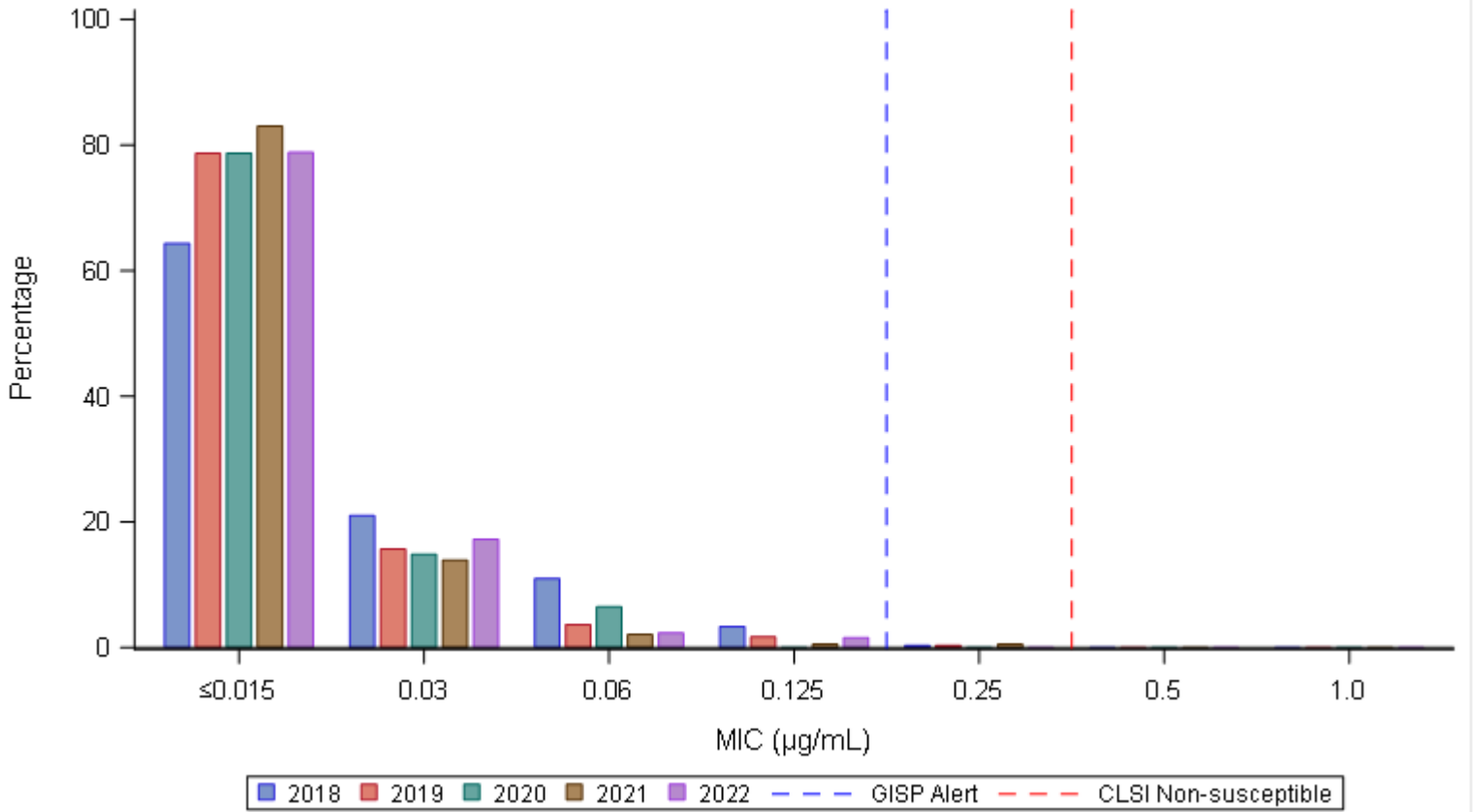
Figure F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Philadelphia, Pennsylvania, 2022



Number of Antimicrobials	Count	Percentage
Susceptible	138	54.1
1 antimicrobial	80	31.4
2 antimicrobials	19	7.5
3 antimicrobials	18	7.1
4+ antimicrobials	0	0.0

Elevated MICs = ceftriaxone MIC ≥ 0.125 $\mu\text{g/mL}$; cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; Resistance = tetracycline MIC ≥ 2.0 $\mu\text{g/mL}$; ciprofloxacin MIC ≥ 1.0 $\mu\text{g/mL}$; penicillin MIC ≥ 2.0 $\mu\text{g/mL}$ or β -lactamase positive.

Figure G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Philadelphia, Pennsylvania, 2018-2022



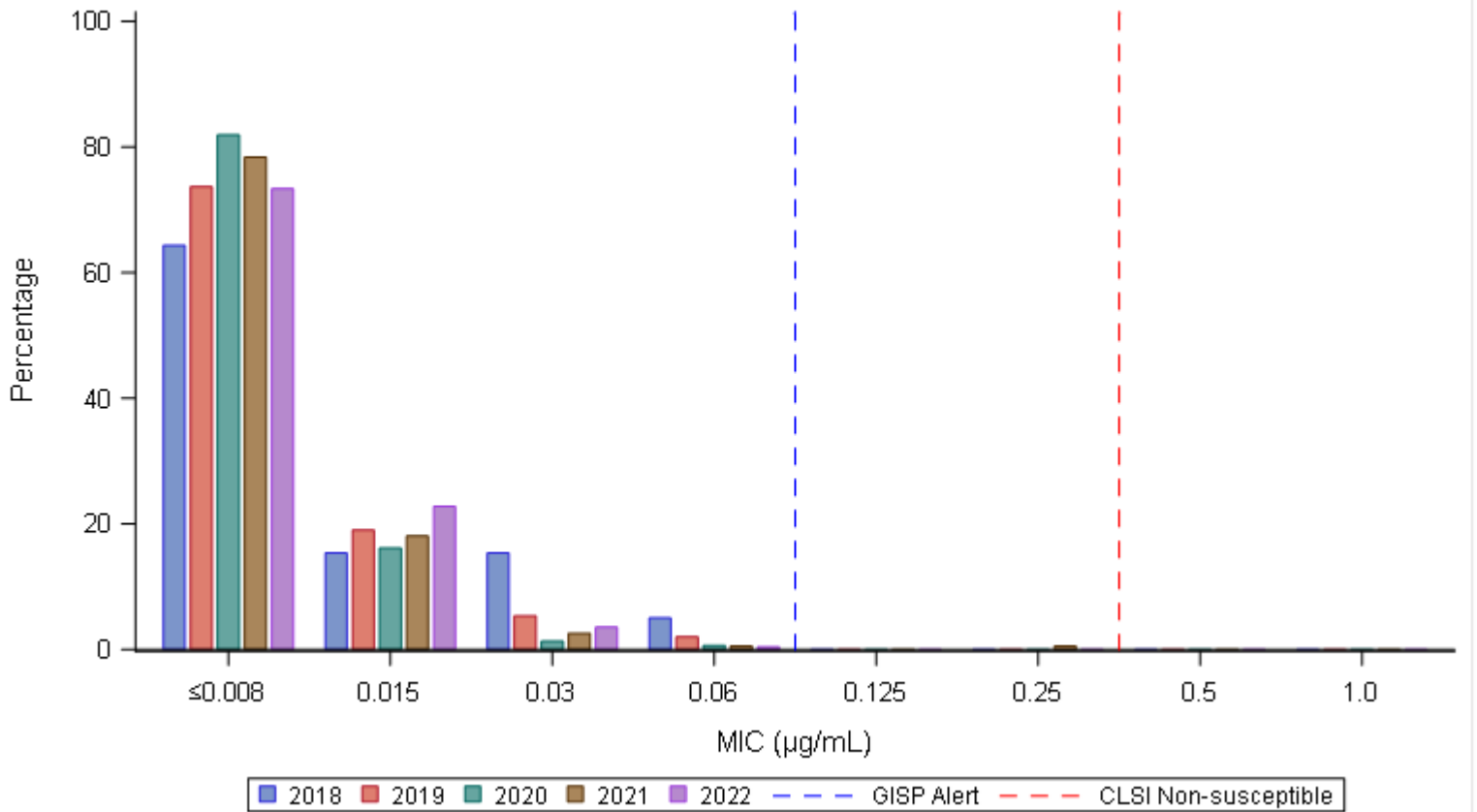
Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	193 (64.3)	63 (21.0)	33 (11.0)	10 (3.3)	1 (0.3)	0 (0.0)	0 (0.0)	300
2019	236 (78.7)	47 (15.7)	11 (3.7)	5 (1.7)	1 (0.3)	0 (0.0)	0 (0.0)	300
2020	122 (78.7)	23 (14.8)	10 (6.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	155
2021	161 (83.0)	27 (13.9)	4 (2.1)	1 (0.5)	1 (0.5)	0 (0.0)	0 (0.0)	194
2022	201 (78.8)	44 (17.3)	6 (2.4)	4 (1.6)	0 (0.0)	0 (0.0)	0 (0.0)	255

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

CLSI = Clinical & Laboratory Standards Institute.

Non-susceptible = Category used for isolates when only a susceptible breakpoint has been designated and the MIC is above the susceptible breakpoint. As of the end of 2022, the CLSI has not established a cefixime resistance breakpoint for *N. gonorrhoeae*.

Figure H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Philadelphia, Pennsylvania, 2018-2022



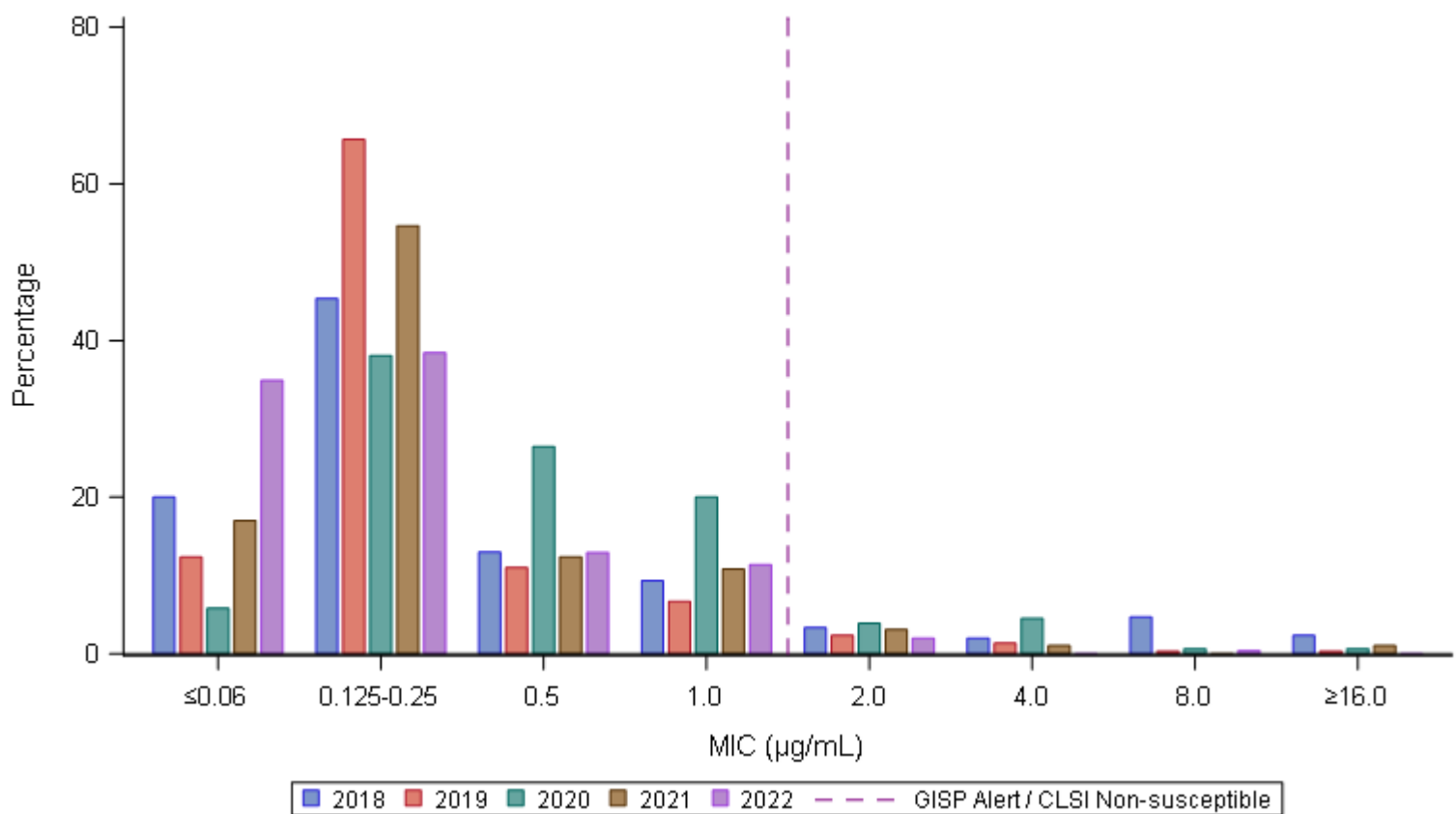
Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	193 (64.3)	46 (15.3)	46 (15.3)	15 (5.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	300
2019	221 (73.7)	57 (19.0)	16 (5.3)	6 (2.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	300
2020	127 (81.9)	25 (16.1)	2 (1.3)	1 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	155
2021	152 (78.4)	35 (18.0)	5 (2.6)	1 (0.5)	0 (0.0)	1 (0.5)	0 (0.0)	0 (0.0)	194
2022	187 (73.3)	58 (22.7)	9 (3.5)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	255

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 the end of 2022, the CLSI has not established a ceftriaxone resistance breakpoint for *N. gonorrhoeae*.

Figure I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Philadelphia, Pennsylvania, 2018-2022



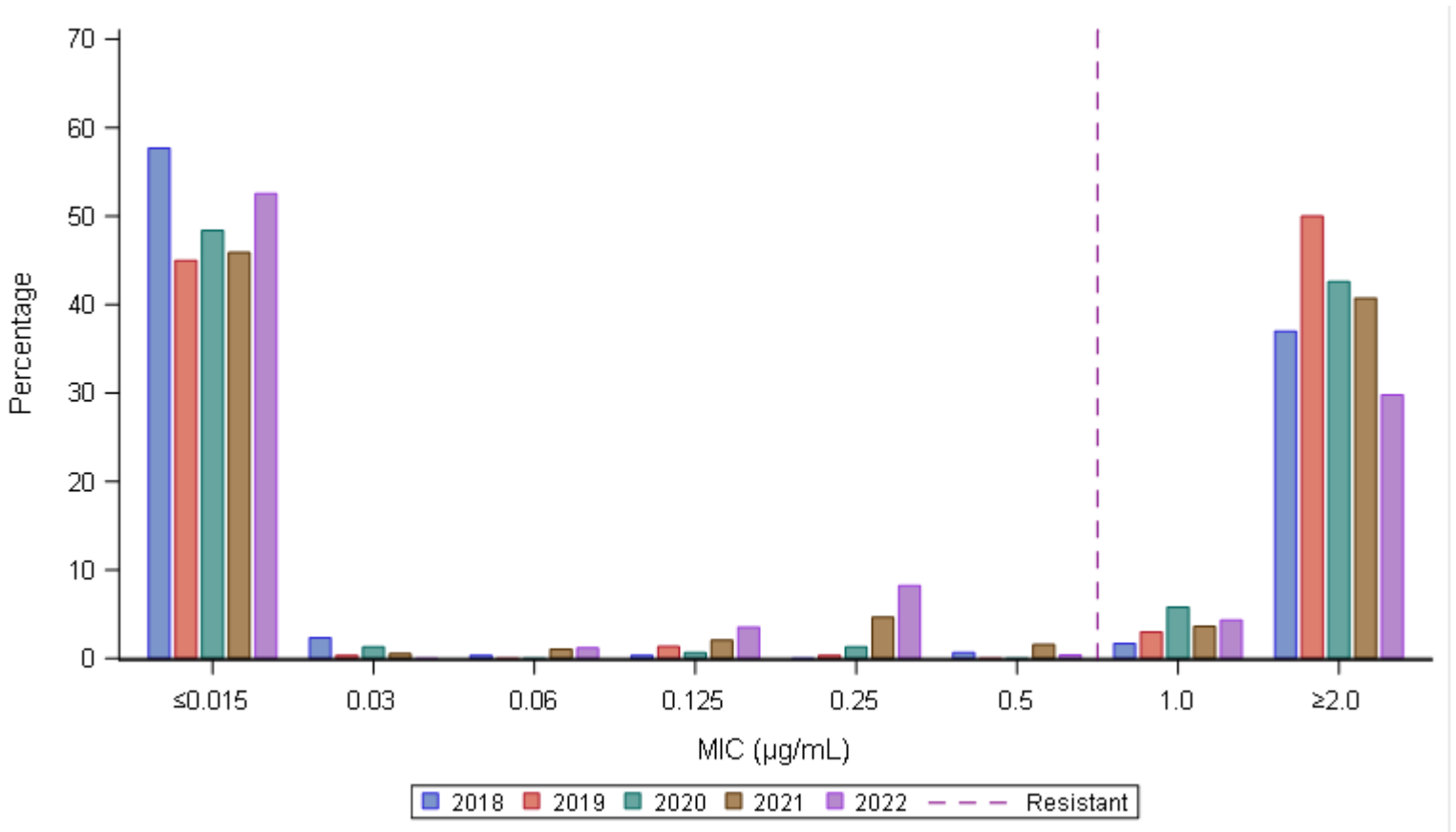
Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2018	60 (20.0)	136 (45.3)	39 (13.0)	28 (9.3)	10 (3.3)	6 (2.0)	14 (4.7)	7 (2.3)	300
2019	37 (12.3)	197 (65.7)	33 (11.0)	20 (6.7)	7 (2.3)	4 (1.3)	1 (0.3)	1 (0.3)	300
2020	9 (5.8)	59 (38.1)	41 (26.5)	31 (20.0)	6 (3.9)	7 (4.5)	1 (0.6)	1 (0.6)	155
2021	33 (17.0)	106 (54.6)	24 (12.4)	21 (10.8)	6 (3.1)	2 (1.0)	0 (0.0)	2 (1.0)	194
2022	89 (34.9)	98 (38.4)	33 (12.9)	29 (11.4)	5 (2.0)	0 (0.0)	1 (0.4)	0 (0.0)	255

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; CLSI Non-susceptible = azithromycin MIC ≥2.0 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 the end of 2022, the CLSI has not established an azithromycin resistance breakpoint for *N. gonorrhoeae*.

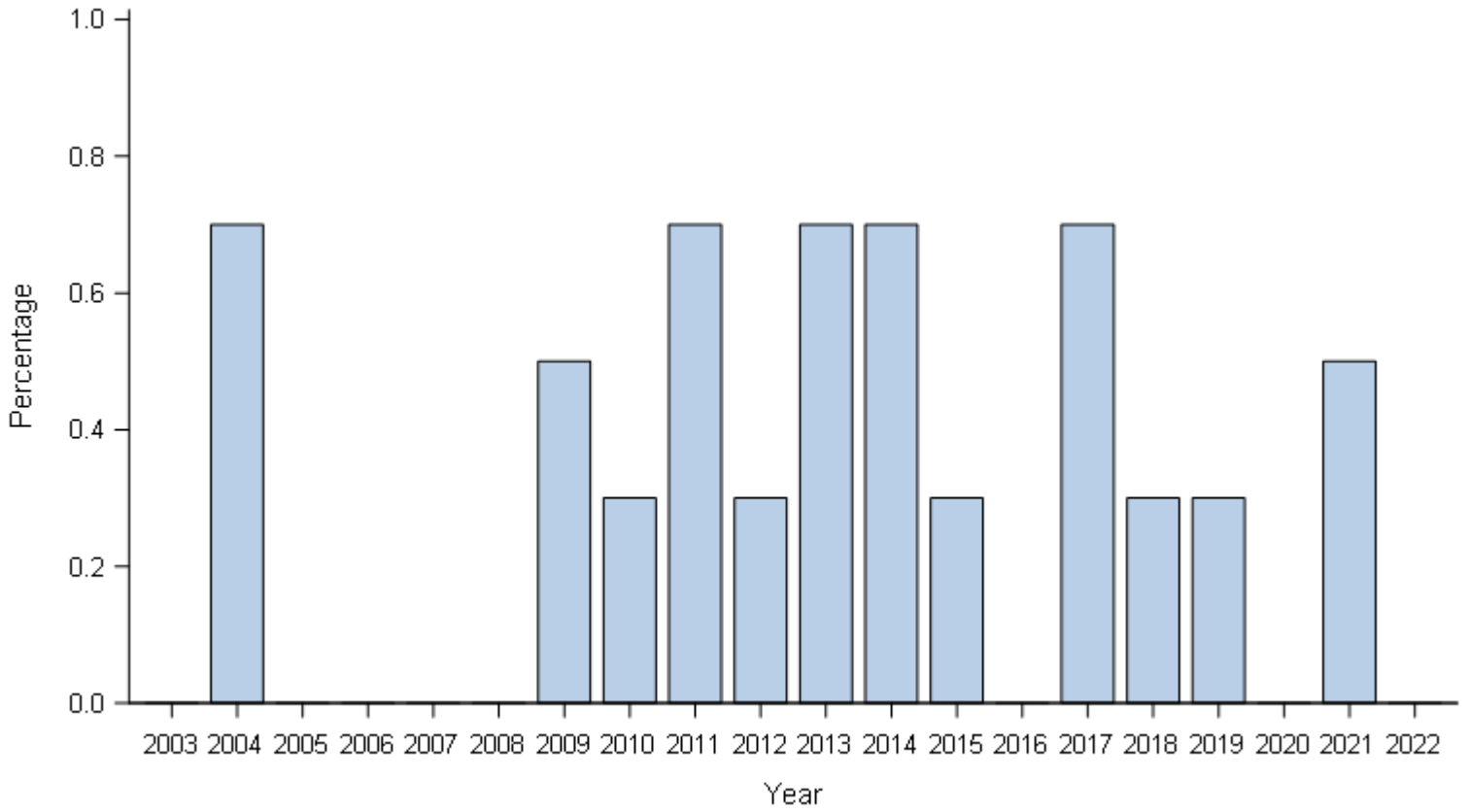
Figure J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Philadelphia, Pennsylvania, 2018-2022



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
2018	173 (57.7)	7 (2.3)	1 (0.3)	1 (0.3)	0 (0.0)	2 (0.7)	5 (1.7)	111 (37.0)	300
2019	135 (45.0)	1 (0.3)	0 (0.0)	4 (1.3)	1 (0.3)	0 (0.0)	9 (3.0)	150 (50.0)	300
2020	75 (48.4)	2 (1.3)	0 (0.0)	1 (0.6)	2 (1.3)	0 (0.0)	9 (5.8)	66 (42.6)	155
2021	89 (45.9)	1 (0.5)	2 (1.0)	4 (2.1)	9 (4.6)	3 (1.5)	7 (3.6)	79 (40.7)	194
2022	134 (52.5)	0 (0.0)	3 (1.2)	9 (3.5)	21 (8.2)	1 (0.4)	11 (4.3)	76 (29.8)	255

Ciprofloxacin resistance MIC ≥1.0 µg/mL.

Figure K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Philadelphia, Pennsylvania, 2003-2022

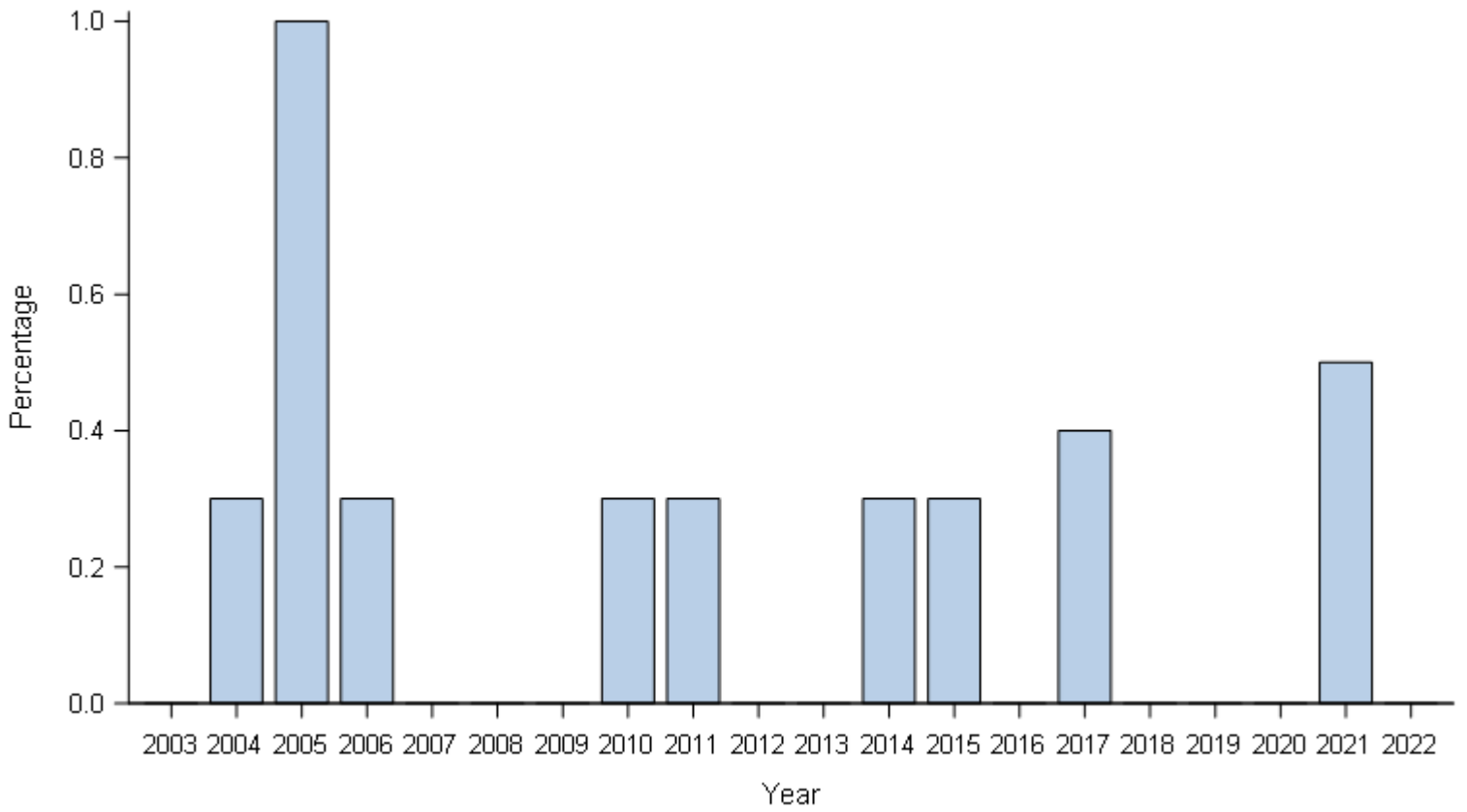


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	2 (0.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.5)	1 (0.3)	2 (0.7)	1 (0.3)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
2 (0.7)	2 (0.7)	1 (0.3)	0 (0.0)	2 (0.7)	1 (0.3)	1 (0.3)	0 (0.0)	1 (0.5)	0 (0.0)

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

Figure L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Philadelphia, Pennsylvania, 2003-2022

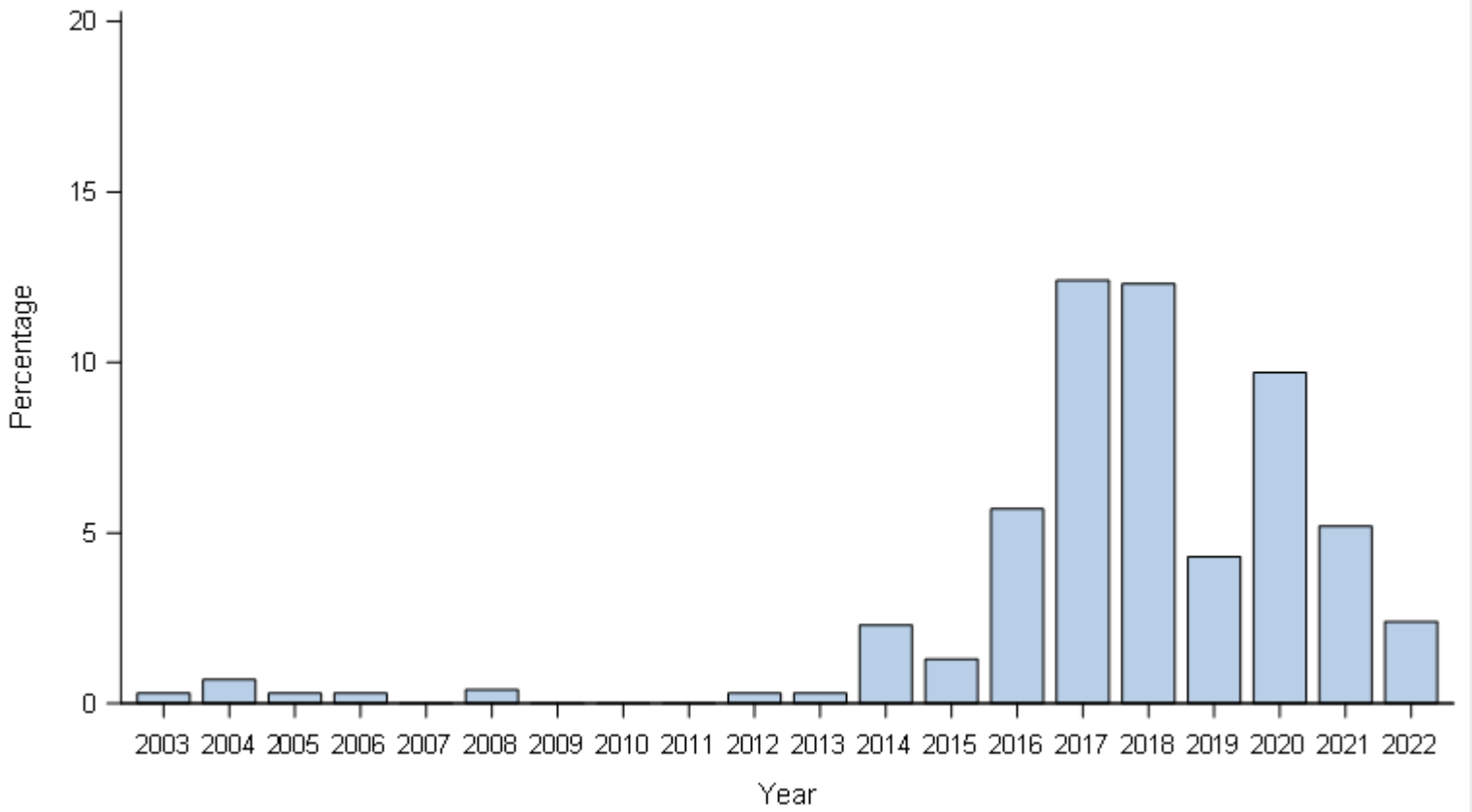


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	1 (0.3)	3 (1.0)	1 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.3)	1 (0.3)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	1 (0.3)	1 (0.3)	0 (0.0)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.5)	0 (0.0)

Ceftriaxone elevated MIC \geq 0.125 μ g/mL.

Figure M. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Philadelphia, Pennsylvania, 2003-2022

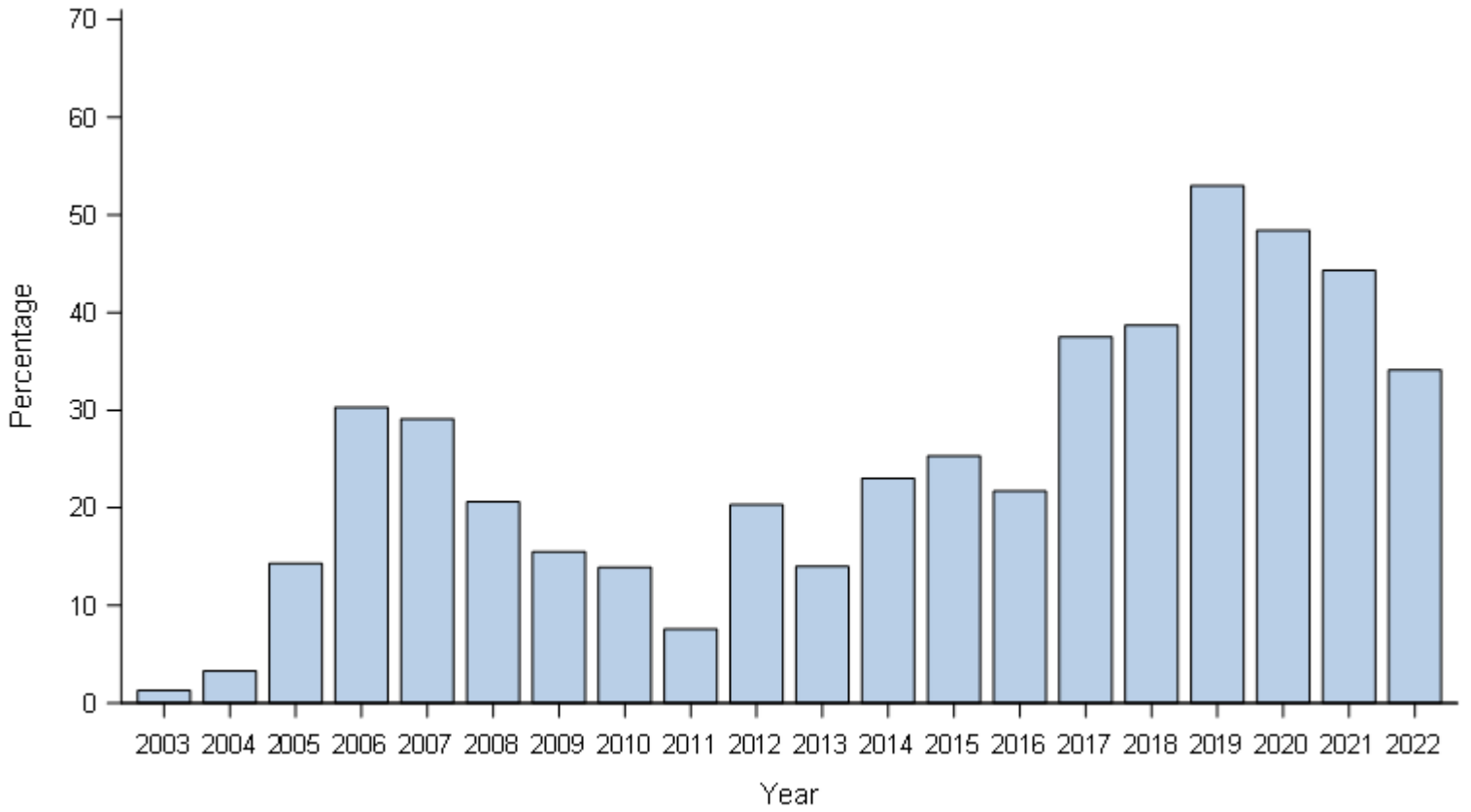


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
1 (0.3)	2 (0.7)	1 (0.3)	1 (0.3)	0 (0.0)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.3)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
1 (0.3)	7 (2.3)	4 (1.3)	17 (5.7)	35 (12.4)	37 (12.3)	13 (4.3)	15 (9.7)	10 (5.2)	6 (2.4)

Azithromycin elevated MIC ≥ 1.0 $\mu\text{g/mL}$ prior to 2005 and ≥ 2.0 $\mu\text{g/mL}$ during 2005-2022.

Figure N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Philadelphia, Pennsylvania, 2003-2022

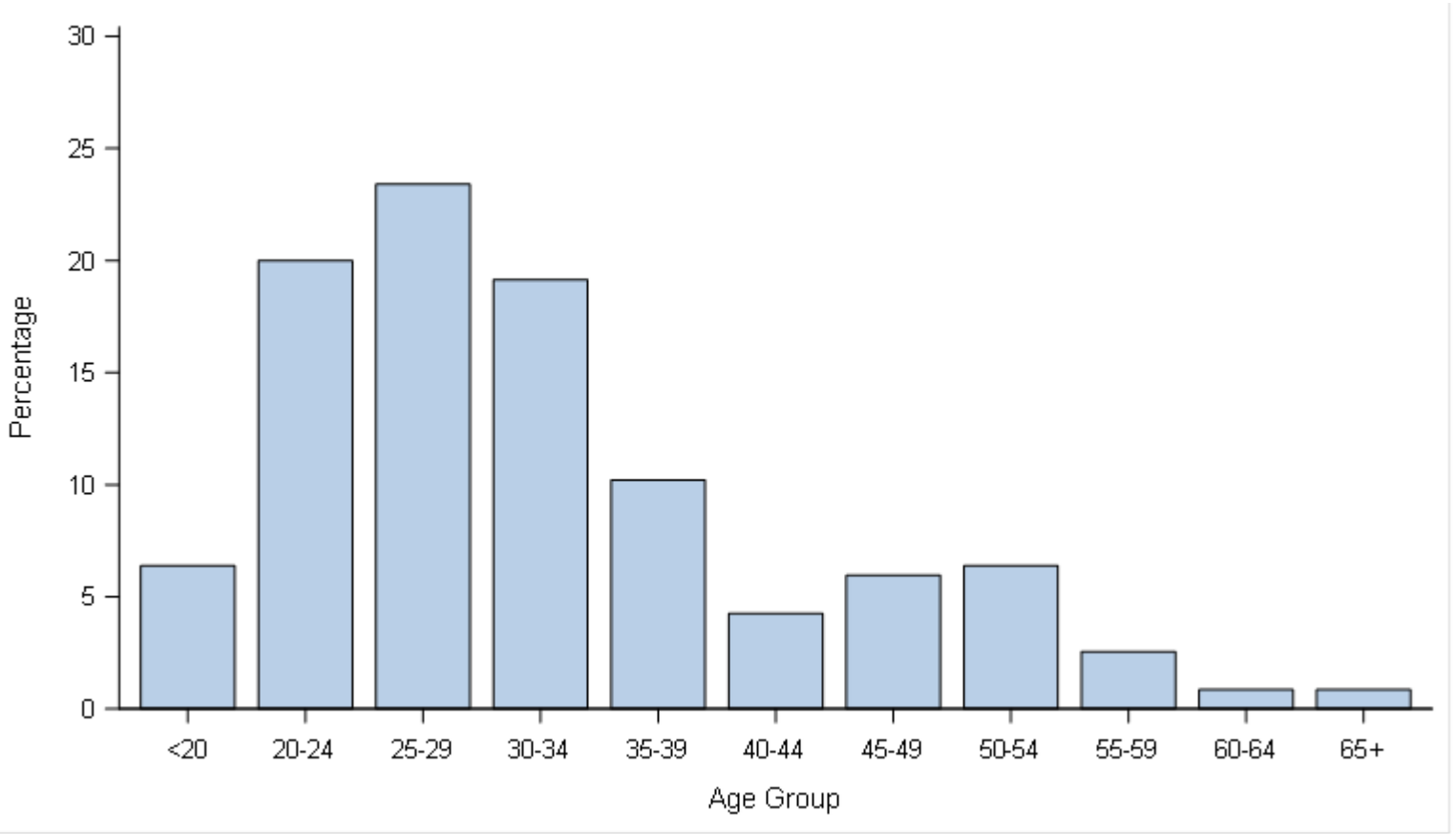


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
4 (1.3)	10 (3.3)	43 (14.3)	91 (30.3)	82 (29.1)	52 (20.6)	32 (15.5)	41 (13.9)	22 (7.6)	61 (20.3)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
42 (14.0)	69 (23.0)	76 (25.3)	65 (21.7)	106 (37.5)	116 (38.7)	159 (53.0)	75 (48.4)	86 (44.3)	87 (34.1)

Ciprofloxacin resistance MIC ≥1.0 µg/mL.

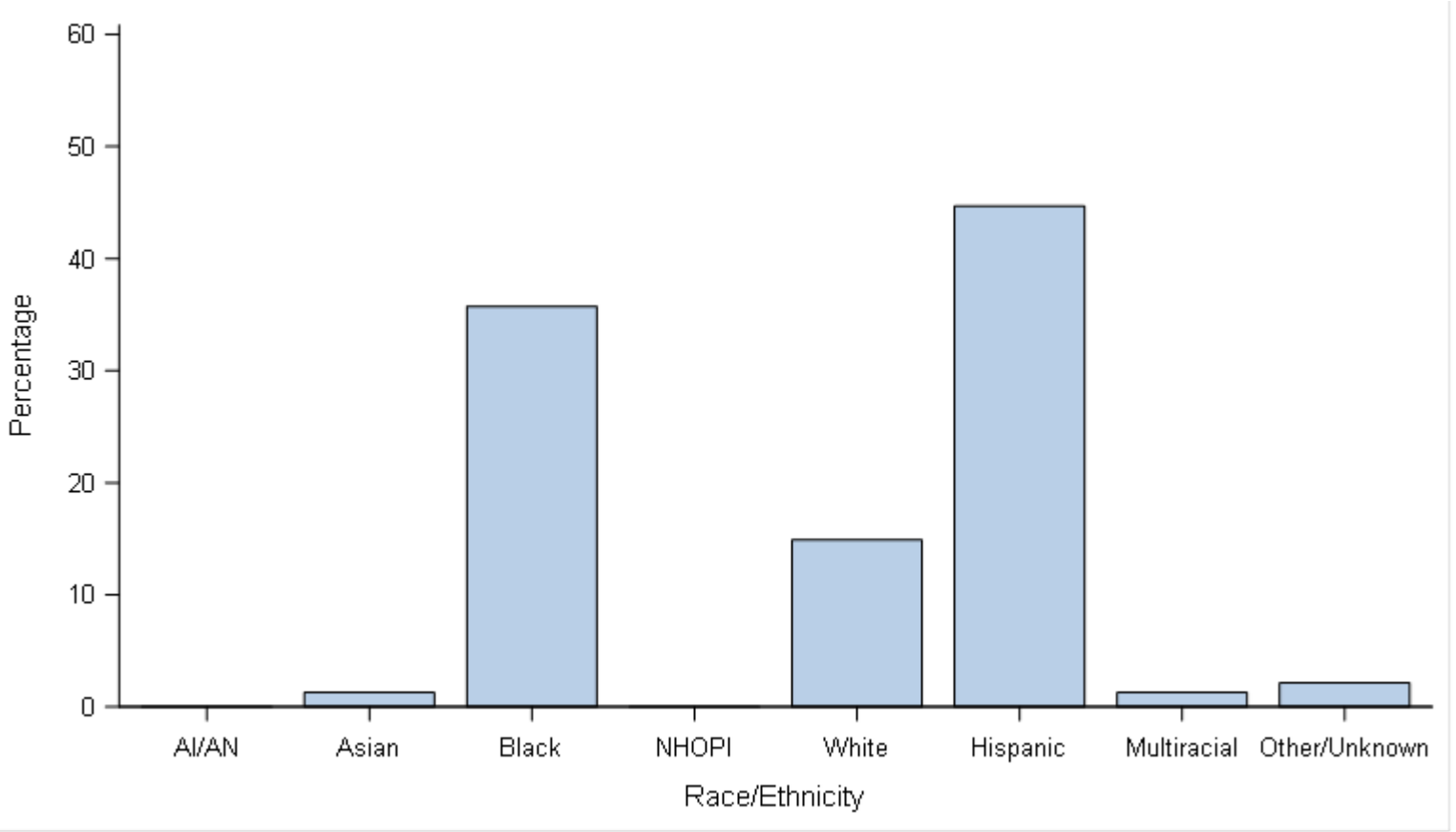
Figure A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Phoenix, Arizona, 2022



<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 (6.4)	47 (20.0)	55 (23.4)	45 (19.1)	24 (10.2)	10 (4.3)	14 (6.0)	15 (6.4)	6 (2.6)	2 (0.9)	2 (0.9)	235

Cases with unknown age were excluded.

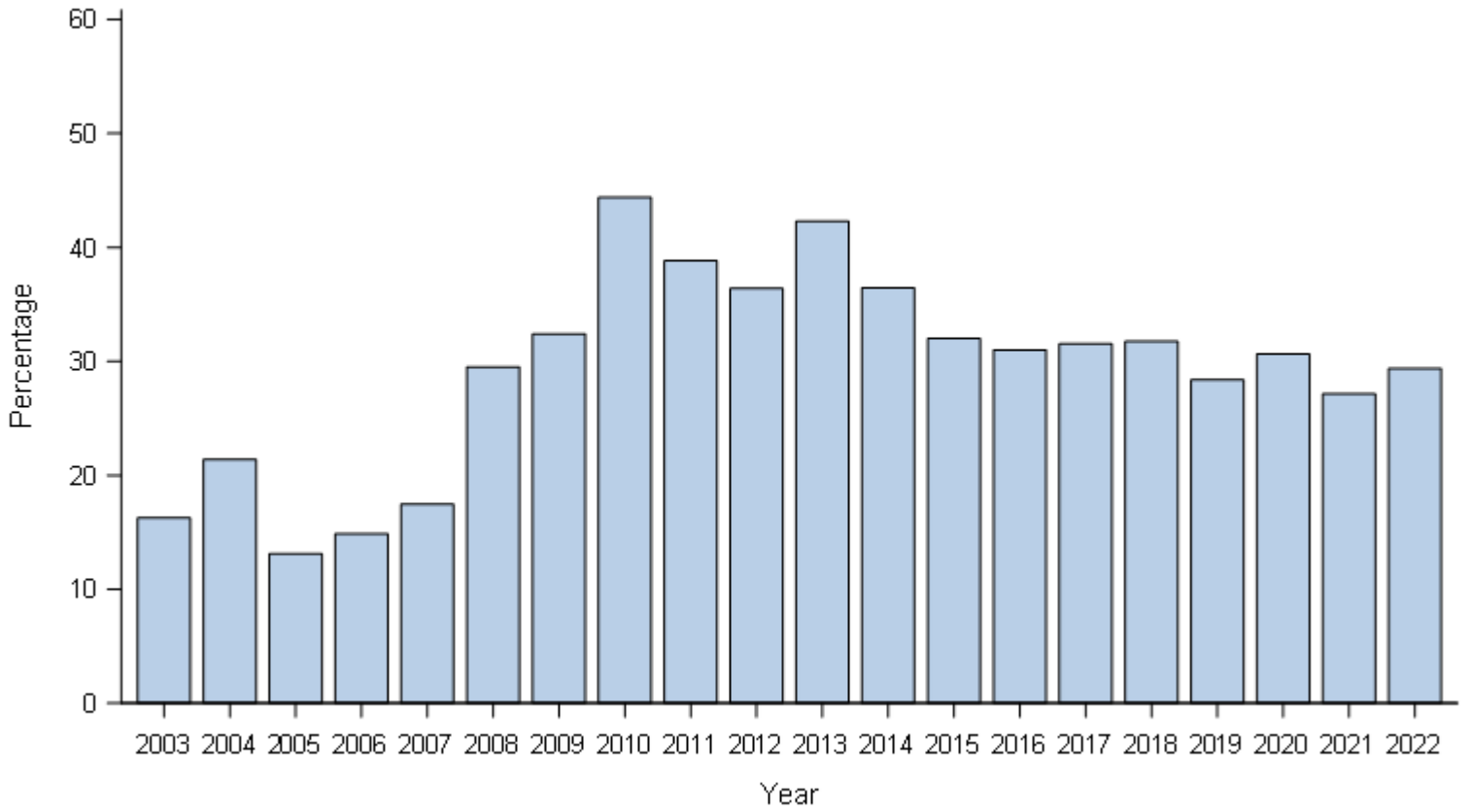
Figure B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Phoenix, Arizona, 2022



AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	3 (1.3)	84 (35.7)	0 (0.0)	35 (14.9)	105 (44.7)	3 (1.3)	5 (2.1)	235

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.

Figure C. Percentage of Participants Identifying as Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Phoenix, Arizona, 2003-2022

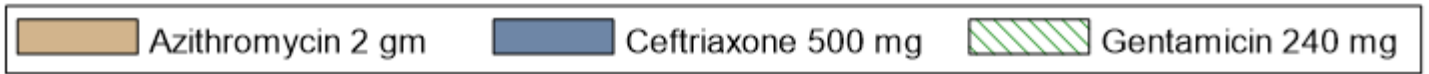
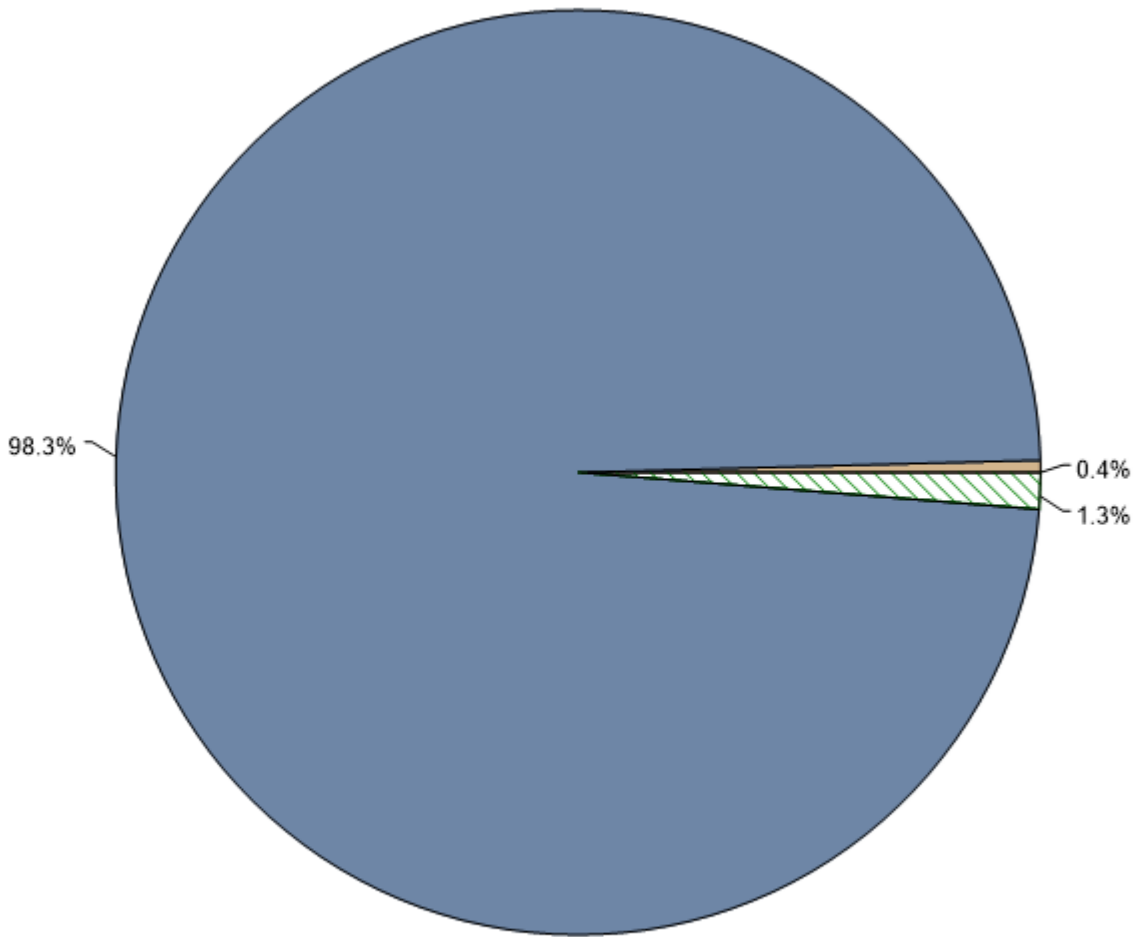


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
33 (16.3)	61 (21.4)	37 (13.1)	40 (14.9)	48 (17.5)	72 (29.5)	70 (32.4)	83 (44.4)	113 (38.8)	107 (36.4)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
126 (42.3)	109 (36.5)	96 (32.0)	93 (31.0)	93 (31.5)	93 (31.7)	82 (28.4)	91 (30.6)	76 (27.1)	69 (29.4)

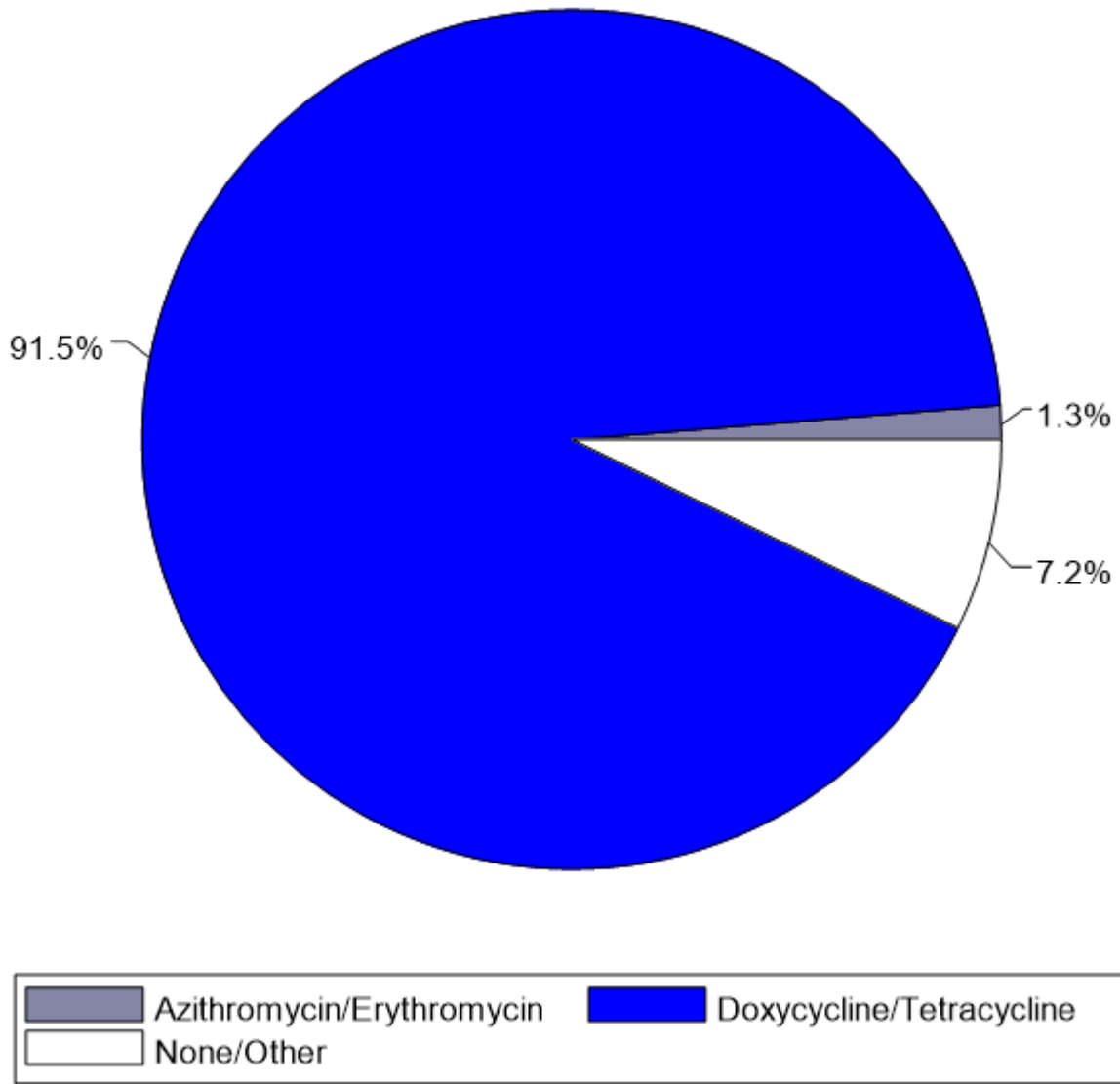
Men who have sex with men = men who self-identified as gay or bisexual or reported recent male sex partners.

Figure D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Phoenix, Arizona, 2022



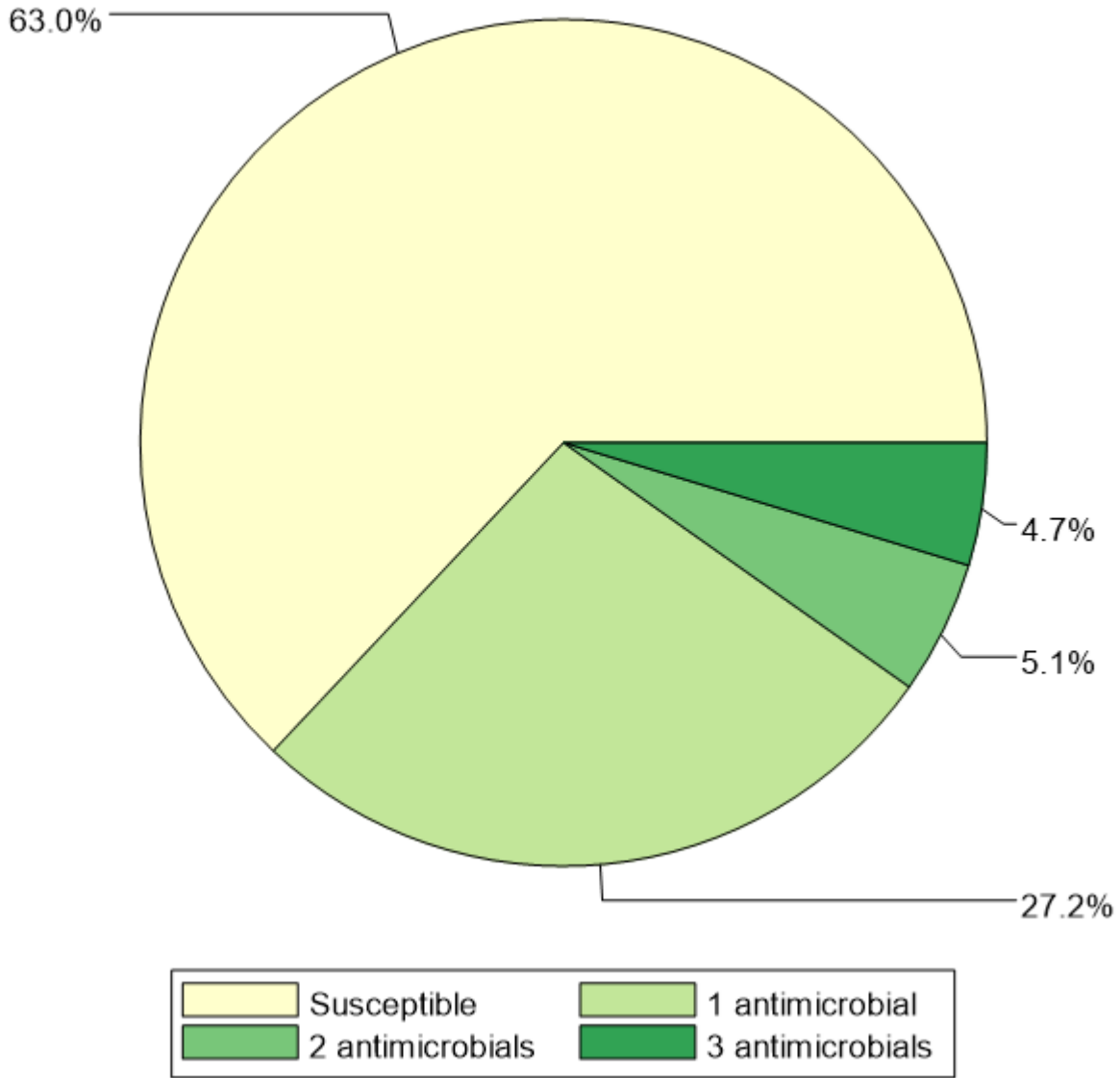
Primary Treatment	Count	Percentage
Azithromycin 2 gm	1	0.4
Ceftriaxone 500 mg	231	98.3
Gentamicin 240 mg	3	1.3

Figure E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Phoenix, Arizona, 2022



Secondary Treatment	Count	Percentage
Azithromycin/Erythromycin	3	1.3
Doxycycline/Tetracycline	215	91.5
None/Other	17	7.2

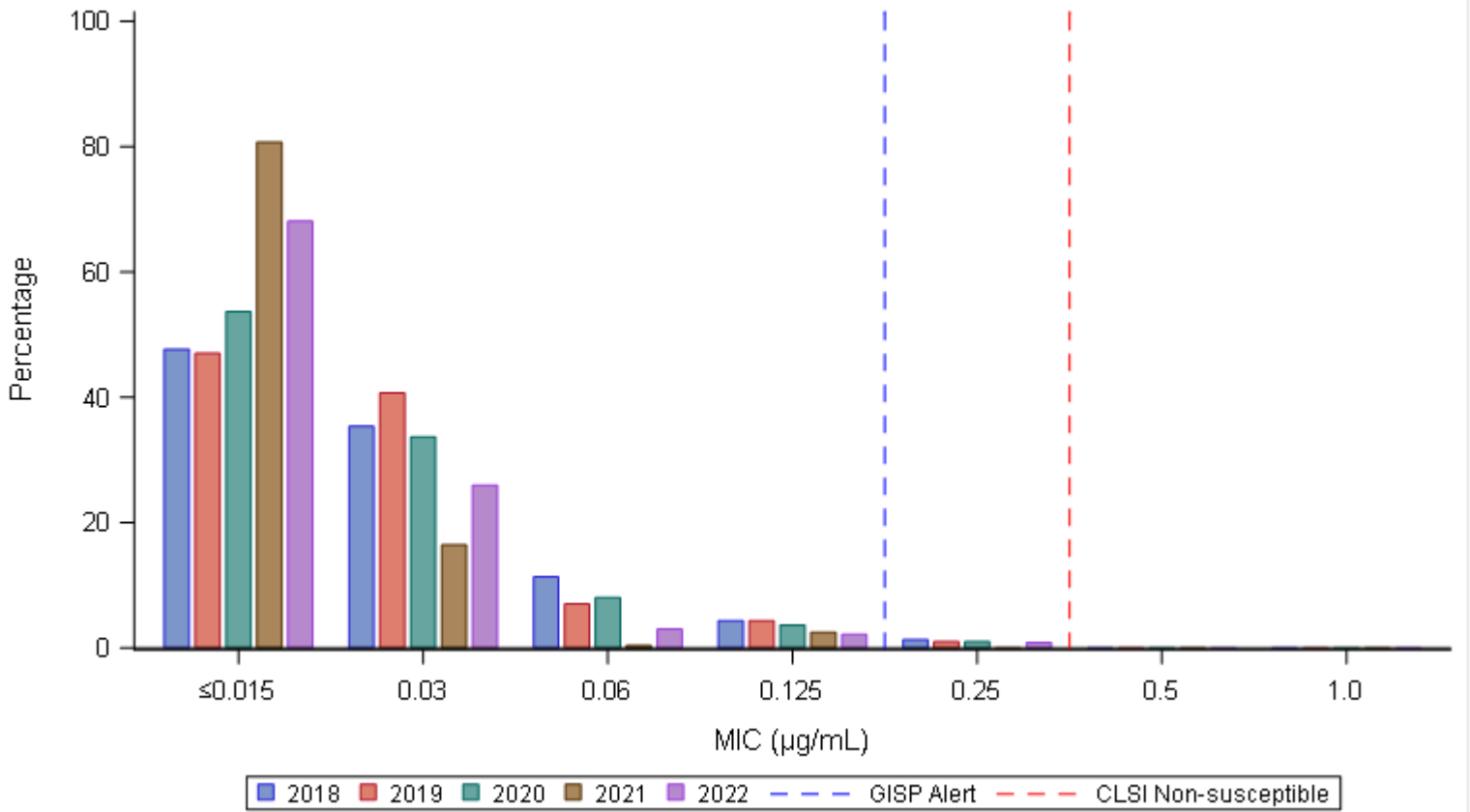
Figure F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Phoenix, Arizona, 2022



Number of Antimicrobials	Count	Percentage
Susceptible	148	63.0
1 antimicrobial	64	27.2
2 antimicrobials	12	5.1
3 antimicrobials	11	4.7
4+ antimicrobials	0	0.0

Elevated MICs = ceftriaxone MIC ≥ 0.125 $\mu\text{g/mL}$; cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; Resistance = tetracycline MIC ≥ 2.0 $\mu\text{g/mL}$; ciprofloxacin MIC ≥ 1.0 $\mu\text{g/mL}$; penicillin MIC ≥ 2.0 $\mu\text{g/mL}$ or β -lactamase positive.

Figure G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Phoenix, Arizona, 2018-2022



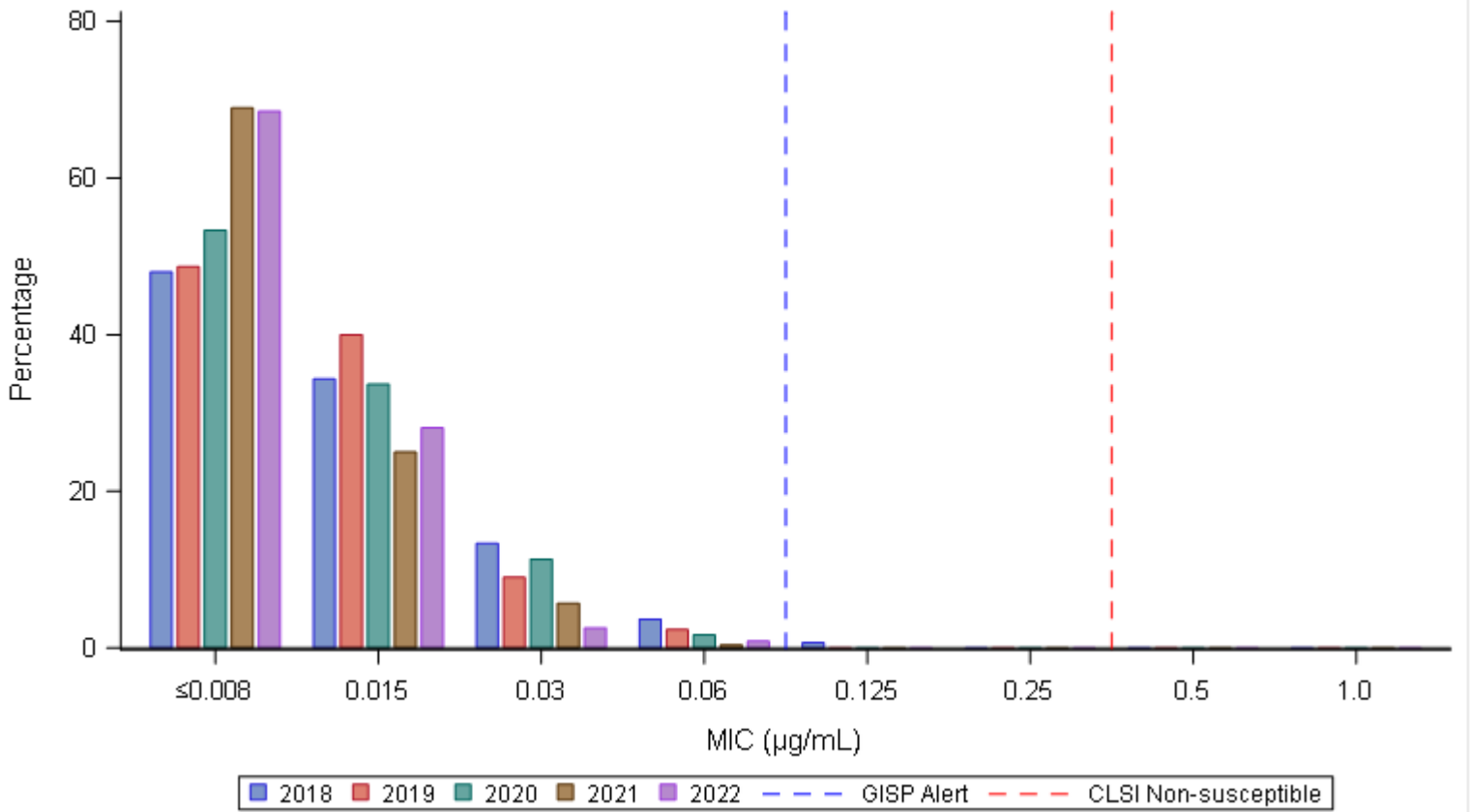
Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	143 (47.7)	106 (35.3)	34 (11.3)	13 (4.3)	4 (1.3)	0 (0.0)	0 (0.0)	300
2019	141 (47.0)	122 (40.7)	21 (7.0)	13 (4.3)	3 (1.0)	0 (0.0)	0 (0.0)	300
2020	161 (53.7)	101 (33.7)	24 (8.0)	11 (3.7)	3 (1.0)	0 (0.0)	0 (0.0)	300
2021	226 (80.7)	46 (16.4)	1 (0.4)	7 (2.5)	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)	235

GISP Alert Value = cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; CLSI Non-susceptible = cefixime MIC ≥ 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 the end of 2022, the CLSI has not established a cefixime resistance breakpoint for *N. gonorrhoeae*.

Figure H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Phoenix, Arizona, 2018-2022



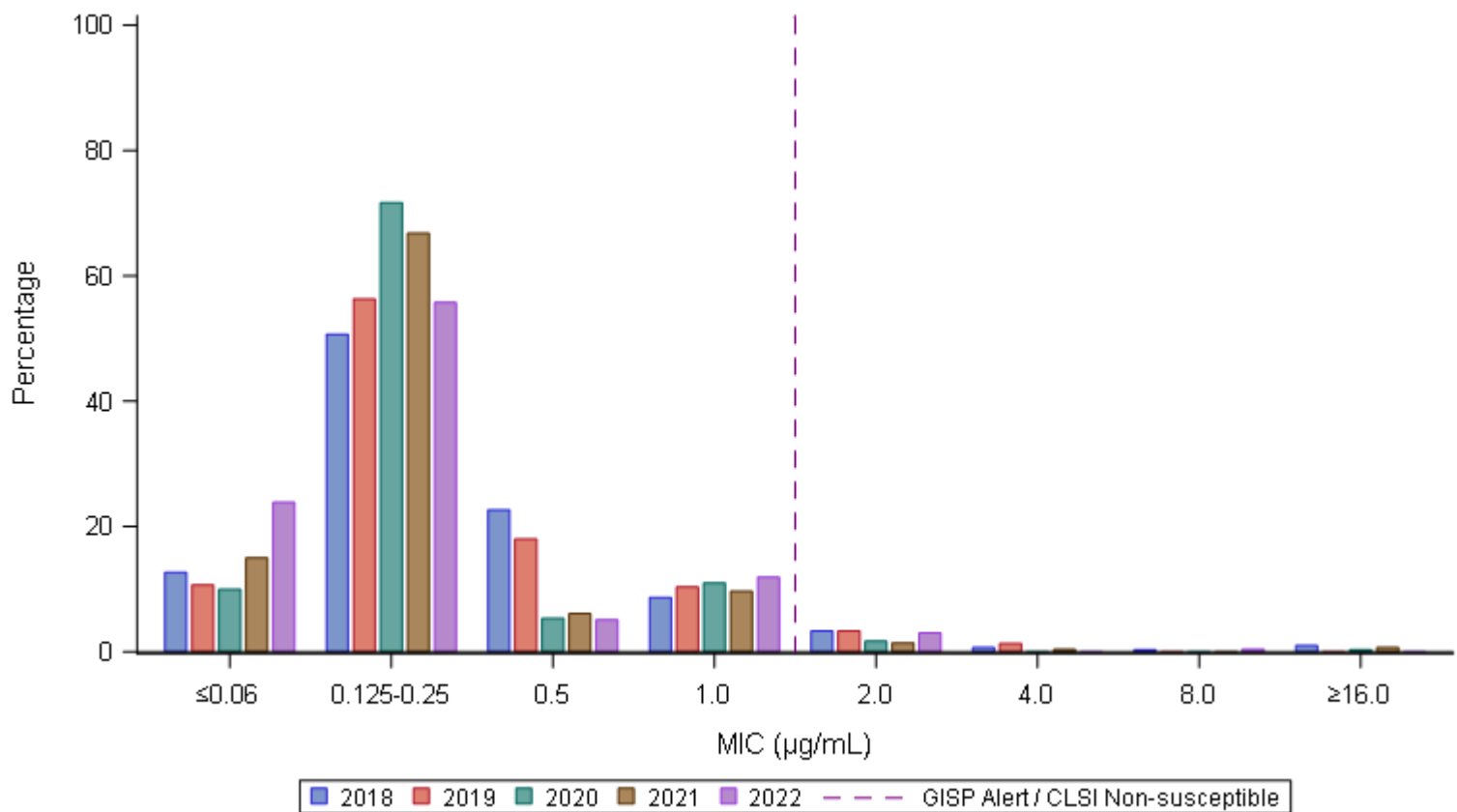
Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	144 (48.0)	103 (34.3)	40 (13.3)	11 (3.7)	2 (0.7)	0 (0.0)	0 (0.0)	0 (0.0)	300
2019	146 (48.7)	120 (40.0)	27 (9.0)	7 (2.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	300
2020	160 (53.3)	101 (33.7)	34 (11.3)	5 (1.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	300
2021	193 (68.9)	70 (25.0)	16 (5.7)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	280
2022	161 (68.5)	66 (28.1)	6 (2.6)	2 (0.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	235

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 the end of 2022, the CLSI has not established a ceftriaxone resistance breakpoint for *N. gonorrhoeae*.

Figure I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Phoenix, Arizona, 2018-2022



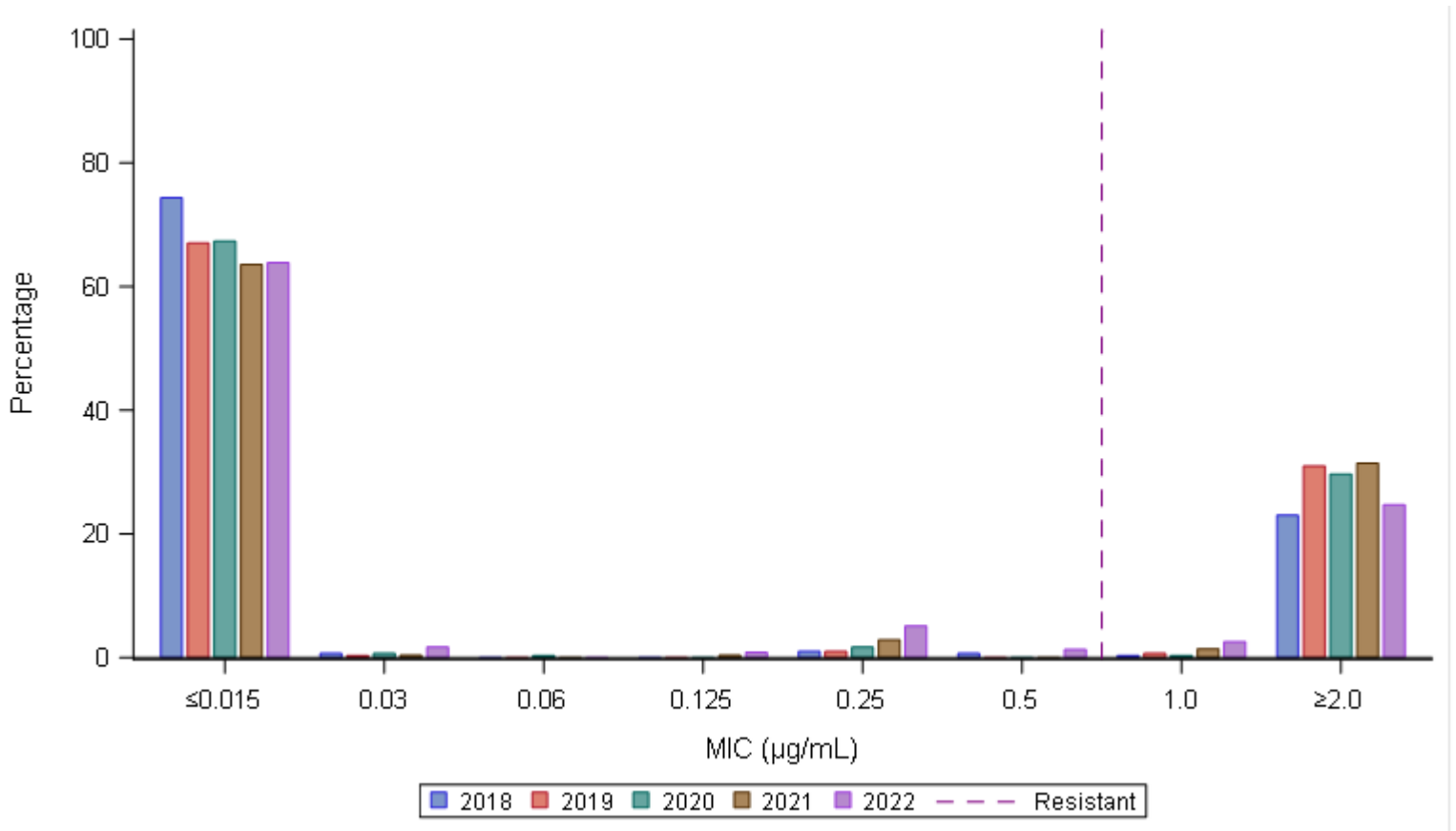
Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2018	38 (12.7)	152 (50.7)	68 (22.7)	26 (8.7)	10 (3.3)	2 (0.7)	1 (0.3)	3 (1.0)	300
2019	32 (10.7)	169 (56.3)	54 (18.0)	31 (10.3)	10 (3.3)	4 (1.3)	0 (0.0)	0 (0.0)	300
2020	30 (10.0)	215 (71.7)	16 (5.3)	33 (11.0)	5 (1.7)	0 (0.0)	0 (0.0)	1 (0.3)	300
2021	42 (15.0)	187 (66.8)	17 (6.1)	27 (9.6)	4 (1.4)	1 (0.4)	0 (0.0)	2 (0.7)	280
2022	56 (23.8)	131 (55.7)	12 (5.1)	28 (11.9)	7 (3.0)	0 (0.0)	1 (0.4)	0 (0.0)	235

GISP Alert Value: azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; CLSI Non-susceptible = azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$.

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 the end of 2022, the CLSI has not established an azithromycin resistance breakpoint for *N. gonorrhoeae*.

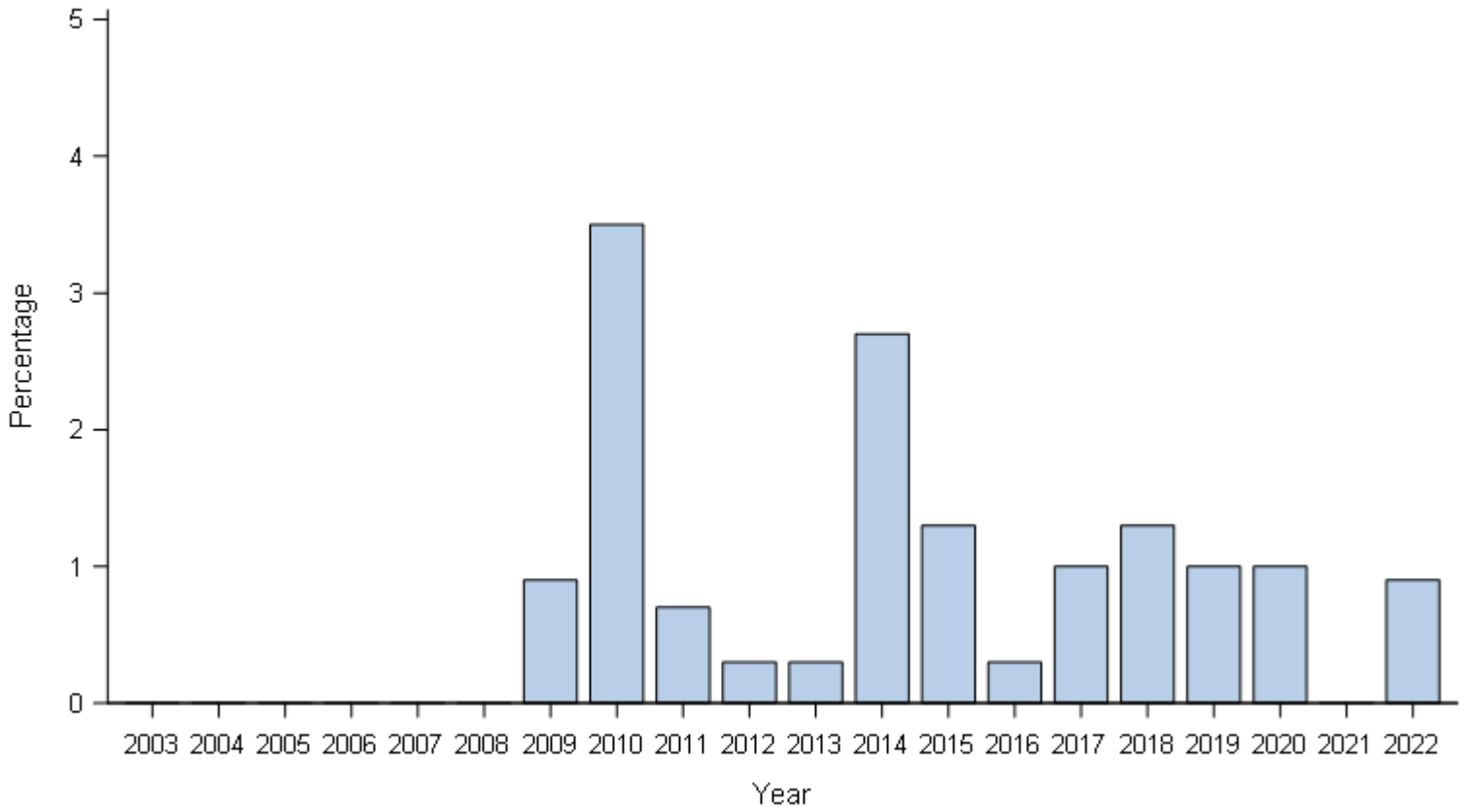
Figure J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Phoenix, Arizona, 2018-2022



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
2018	223 (74.3)	2 (0.7)	0 (0.0)	0 (0.0)	3 (1.0)	2 (0.7)	1 (0.3)	69 (23.0)	300
2019	201 (67.0)	1 (0.3)	0 (0.0)	0 (0.0)	3 (1.0)	0 (0.0)	2 (0.7)	93 (31.0)	300
2020	202 (67.3)	2 (0.7)	1 (0.3)	0 (0.0)	5 (1.7)	0 (0.0)	1 (0.3)	89 (29.7)	300
2021	178 (63.6)	1 (0.4)	0 (0.0)	1 (0.4)	8 (2.9)	0 (0.0)	4 (1.4)	88 (31.4)	280
2022	150 (63.8)	4 (1.7)	0 (0.0)	2 (0.9)	12 (5.1)	3 (1.3)	6 (2.6)	58 (24.7)	235

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

Figure K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Phoenix, Arizona, 2003-2022

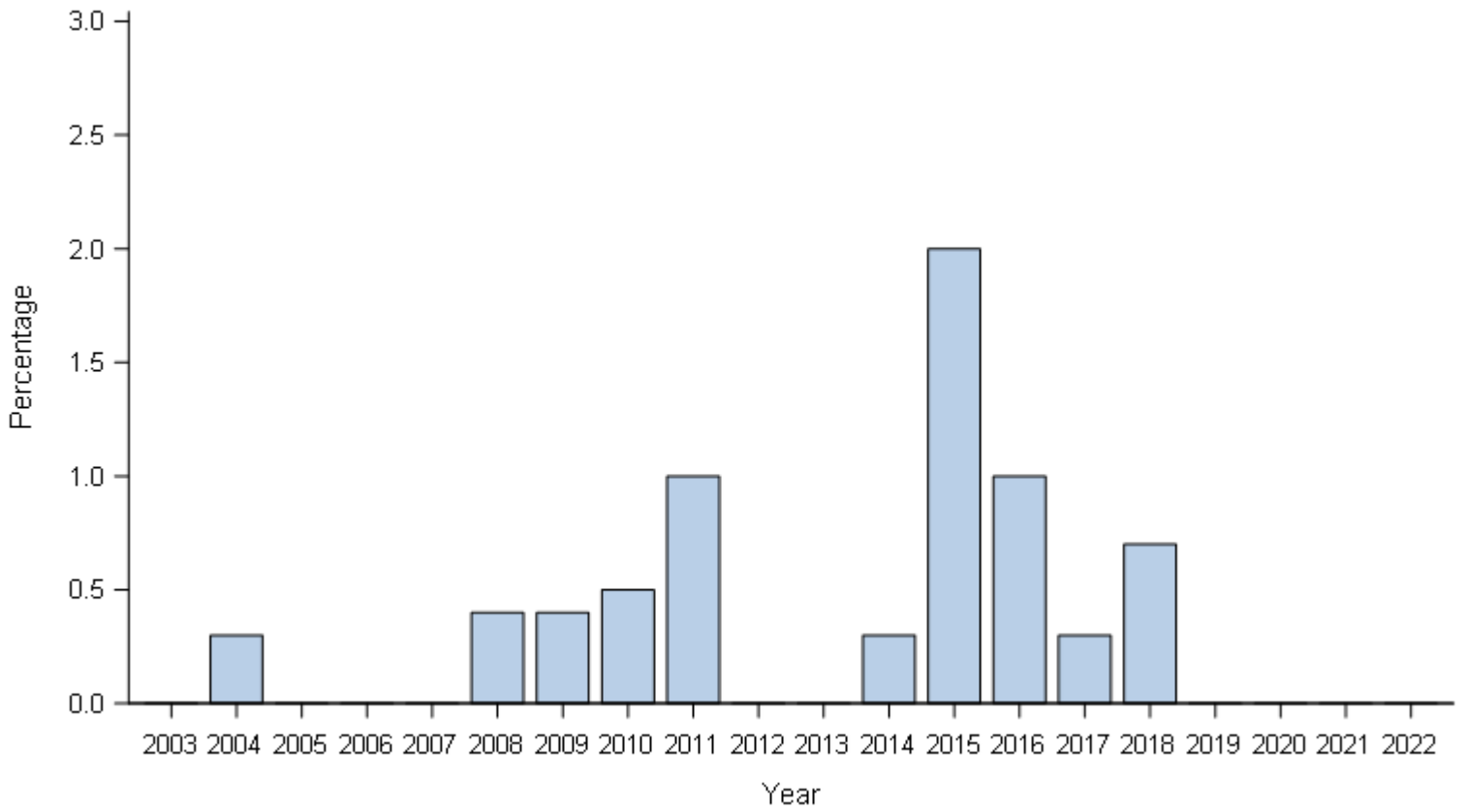


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (0.9)	7 (3.5)	2 (0.7)	1 (0.3)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
1 (0.3)	8 (2.7)	4 (1.3)	1 (0.3)	3 (1.0)	4 (1.3)	3 (1.0)	3 (1.0)	0 (0.0)	2 (0.9)

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

Figure L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Phoenix, Arizona, 2003-2022

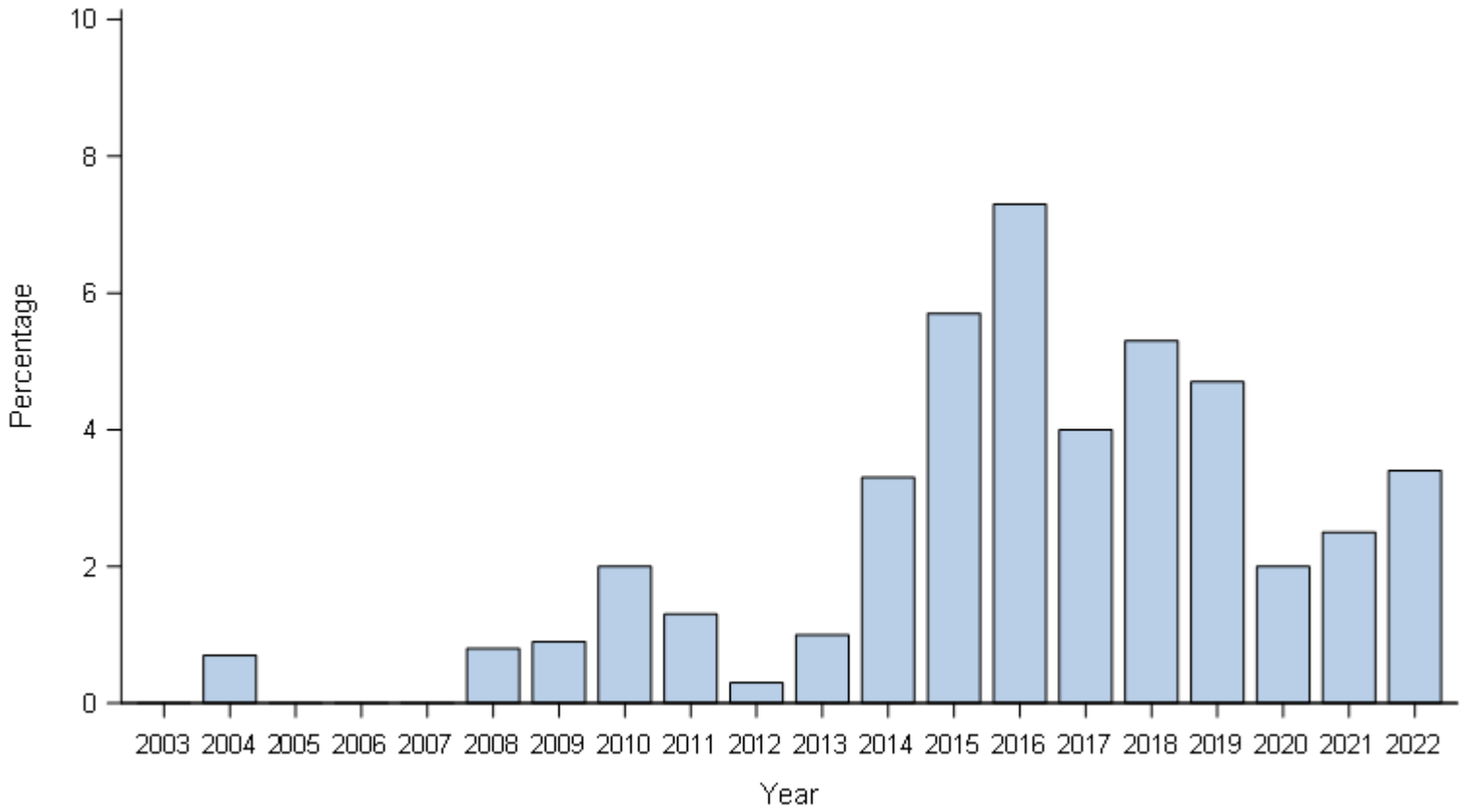


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	1 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.4)	1 (0.4)	1 (0.5)	3 (1.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	1 (0.3)	6 (2.0)	3 (1.0)	1 (0.3)	2 (0.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

Ceftriaxone elevated MIC \geq 0.125 μ g/mL.

Figure M. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Phoenix, Arizona, 2003-2022

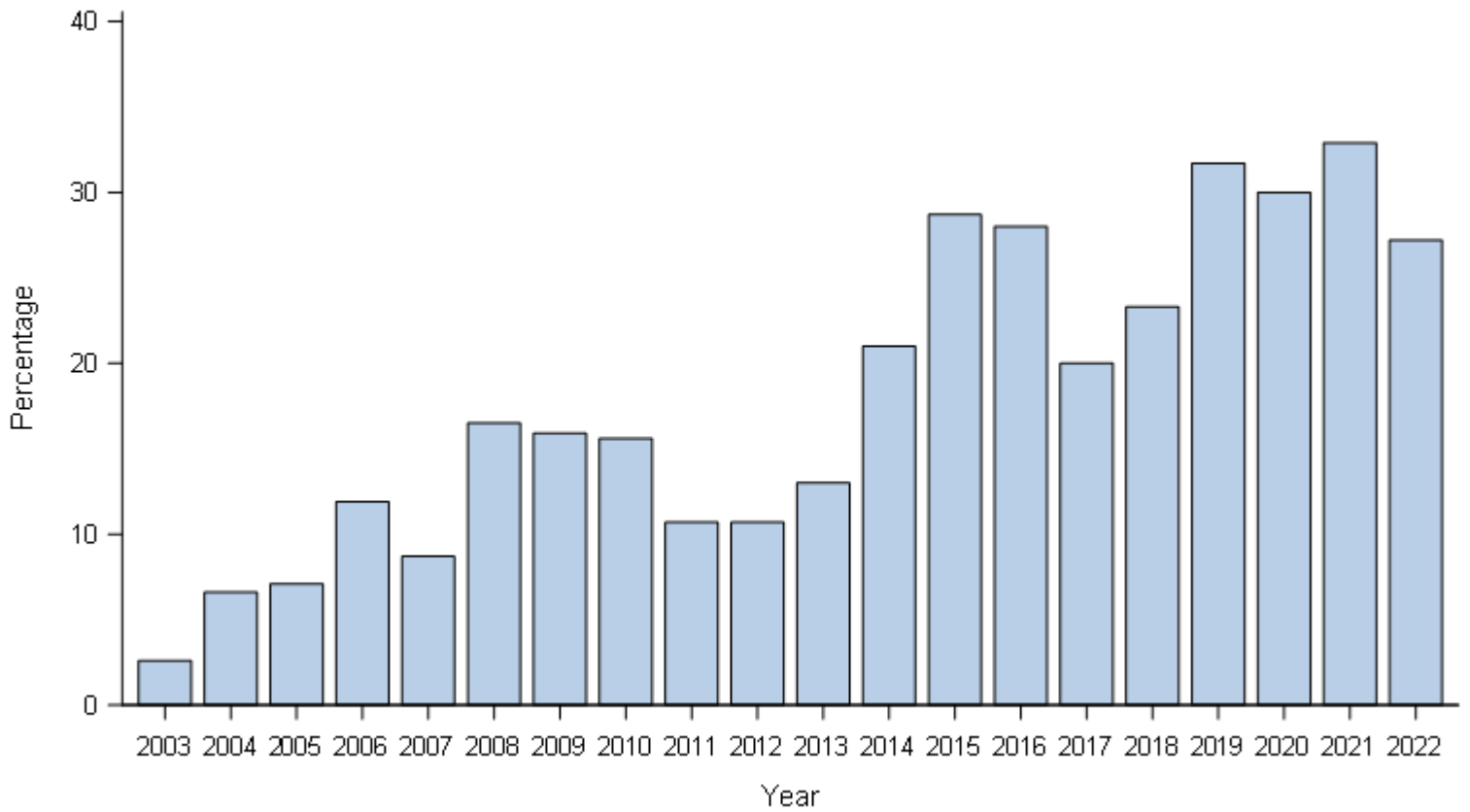


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	2 (0.7)	0 (0.0)	0 (0.0)	0 (0.0)	2 (0.8)	2 (0.9)	4 (2.0)	4 (1.3)	1 (0.3)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
3 (1.0)	10 (3.3)	17 (5.7)	22 (7.3)	12 (4.0)	16 (5.3)	14 (4.7)	6 (2.0)	7 (2.5)	8 (3.4)

Azithromycin elevated MIC ≥ 1.0 $\mu\text{g/mL}$ prior to 2005 and ≥ 2.0 $\mu\text{g/mL}$ during 2005-2022.

Figure N. Percentage of Isolates with Resistance to Ciprofloxacin,
Gonococcal Isolate Surveillance Project (GISP),
Phoenix, Arizona, 2003-2022



2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
6 (2.6)	19 (6.6)	20 (7.1)	32 (11.9)	24 (8.7)	41 (16.5)	36 (15.9)	31 (15.6)	32 (10.7)	32 (10.7)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
39 (13.0)	63 (21.0)	86 (28.7)	84 (28.0)	60 (20.0)	70 (23.3)	95 (31.7)	90 (30.0)	92 (32.9)	64 (27.2)

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

Figure A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Pittsburgh, Pennsylvania, 2022

Data not available

Figure B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Pittsburgh, Pennsylvania, 2022

Data not available

Figure C. Percentage of Participants Identifying as Men who Have Sex with Men,
Gonococcal Isolate Surveillance Project (GISP),
Pittsburgh, Pennsylvania, 2003-2022

Data not available

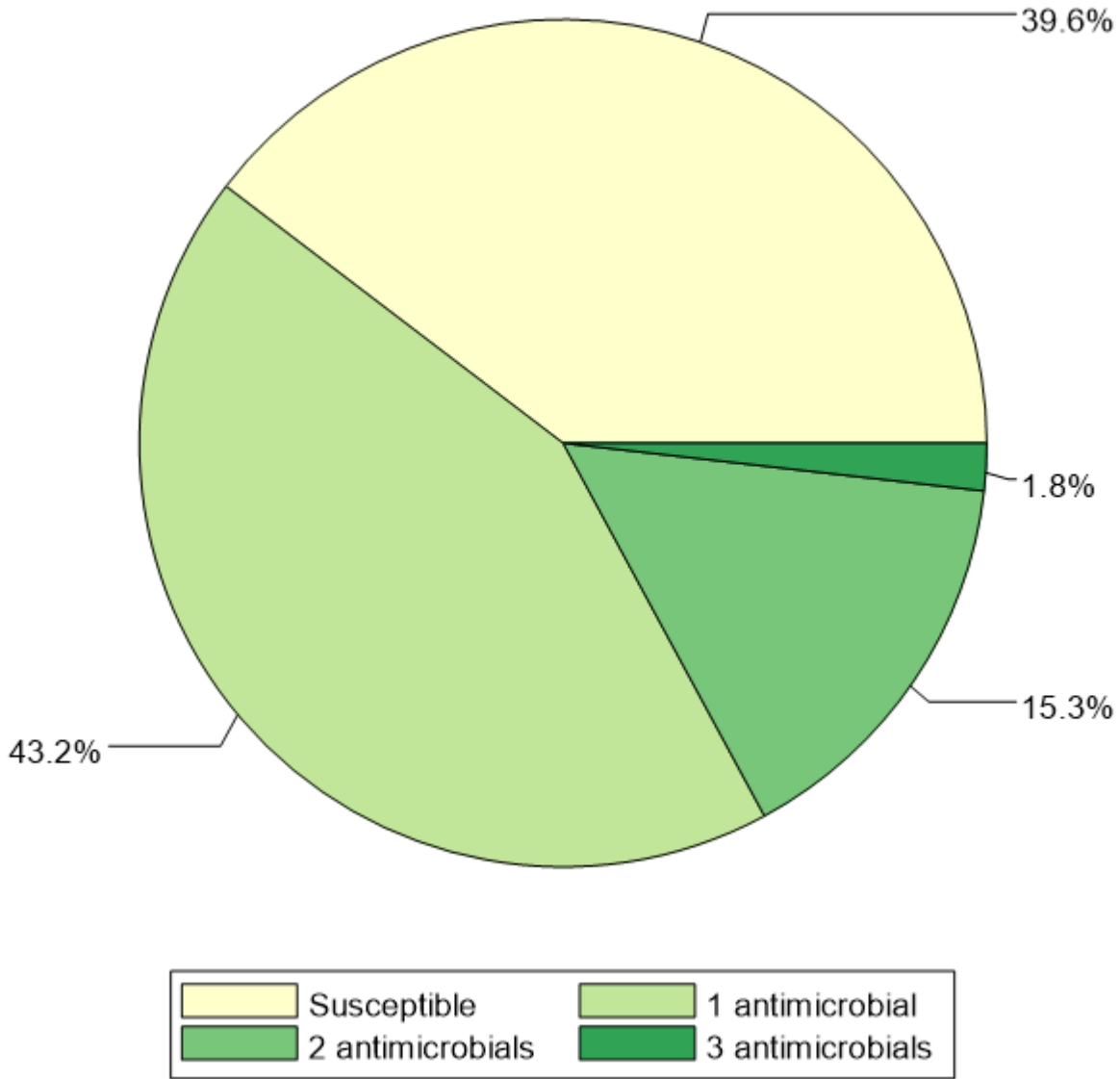
Figure D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants,
Gonococcal Isolate Surveillance Project (GISP),
Pittsburgh, Pennsylvania, 2022

Data not available

Figure E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants,
Gonococcal Isolate Surveillance Project (GISP),
Pittsburgh, Pennsylvania, 2022

Data not available

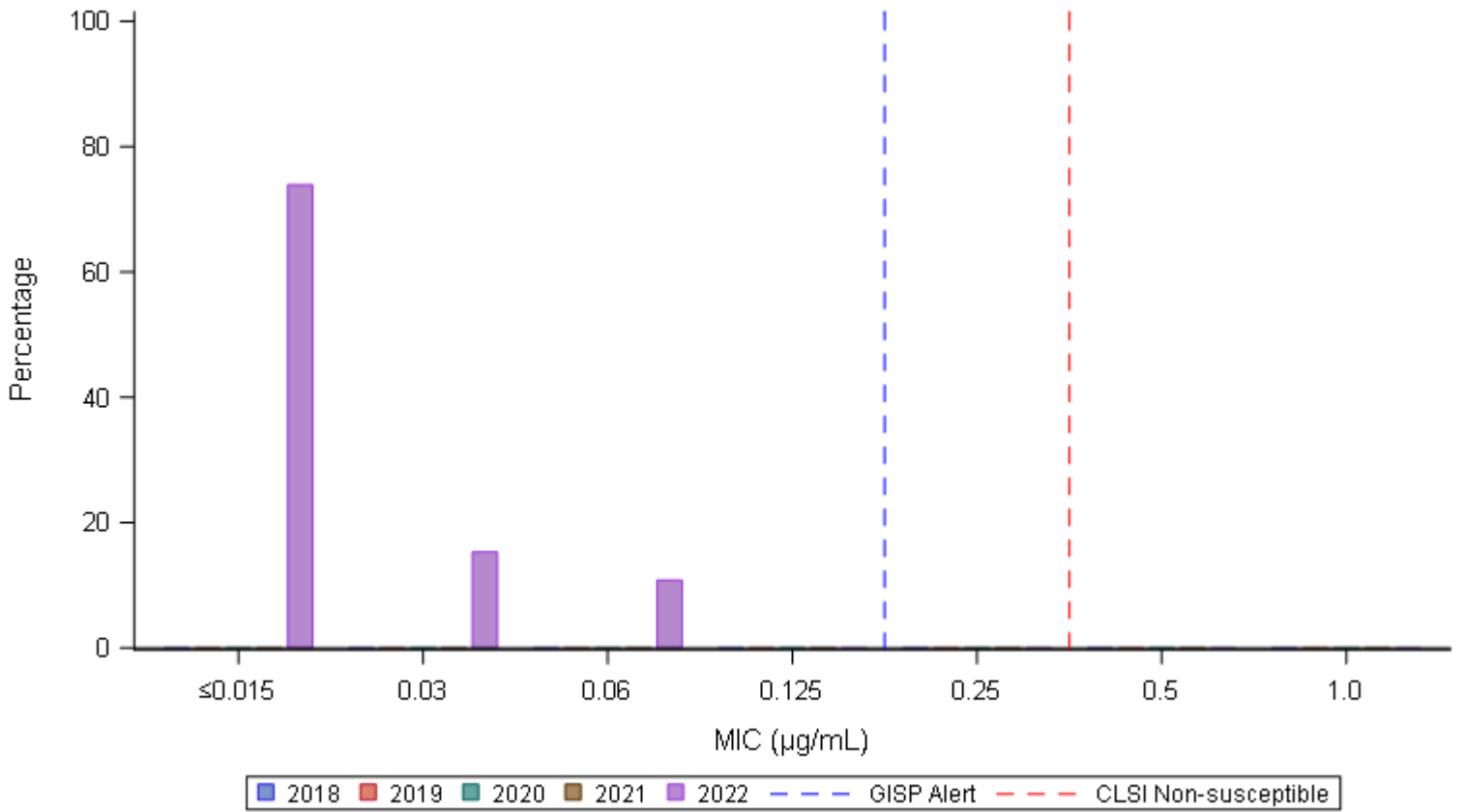
Figure F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Pittsburgh, Pennsylvania, 2022



Number of Antimicrobials	Count	Percentage
Susceptible	44	39.6
1 antimicrobial	48	43.2
2 antimicrobials	17	15.3
3 antimicrobials	2	1.8
4+ antimicrobials	0	0.0

Elevated MICs = ceftriaxone MIC ≥ 0.125 $\mu\text{g/mL}$; cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; Resistance = tetracycline MIC ≥ 2.0 $\mu\text{g/mL}$; ciprofloxacin MIC ≥ 1.0 $\mu\text{g/mL}$; penicillin MIC ≥ 2.0 $\mu\text{g/mL}$ or β -lactamase positive.

Figure G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Pittsburgh, Pennsylvania, 2018-2022



Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0
2019	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0
2020	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0
2021	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0
2022	82 (73.9)	17 (15.3)	12 (10.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	111

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

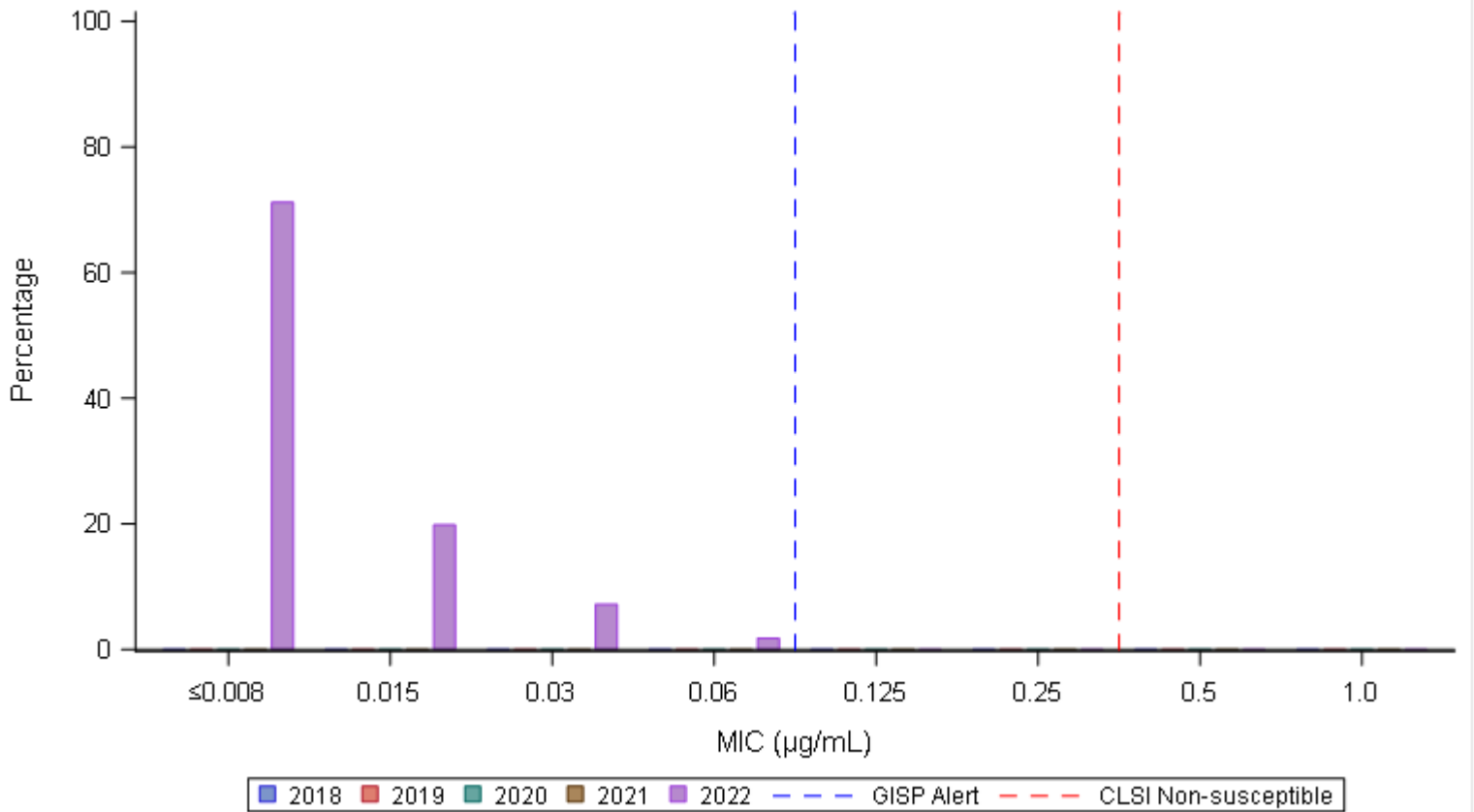
CLSI = Clinical & Laboratory Standards Institute.

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

As of the end of 2022, the CLSI has not established a cefixime resistance breakpoint for *N. gonorrhoeae*.

Site participated in GISP in 2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Pittsburgh, Pennsylvania, 2018-2022



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
2018	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0
2019	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0
2020	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0
2021	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0
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

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

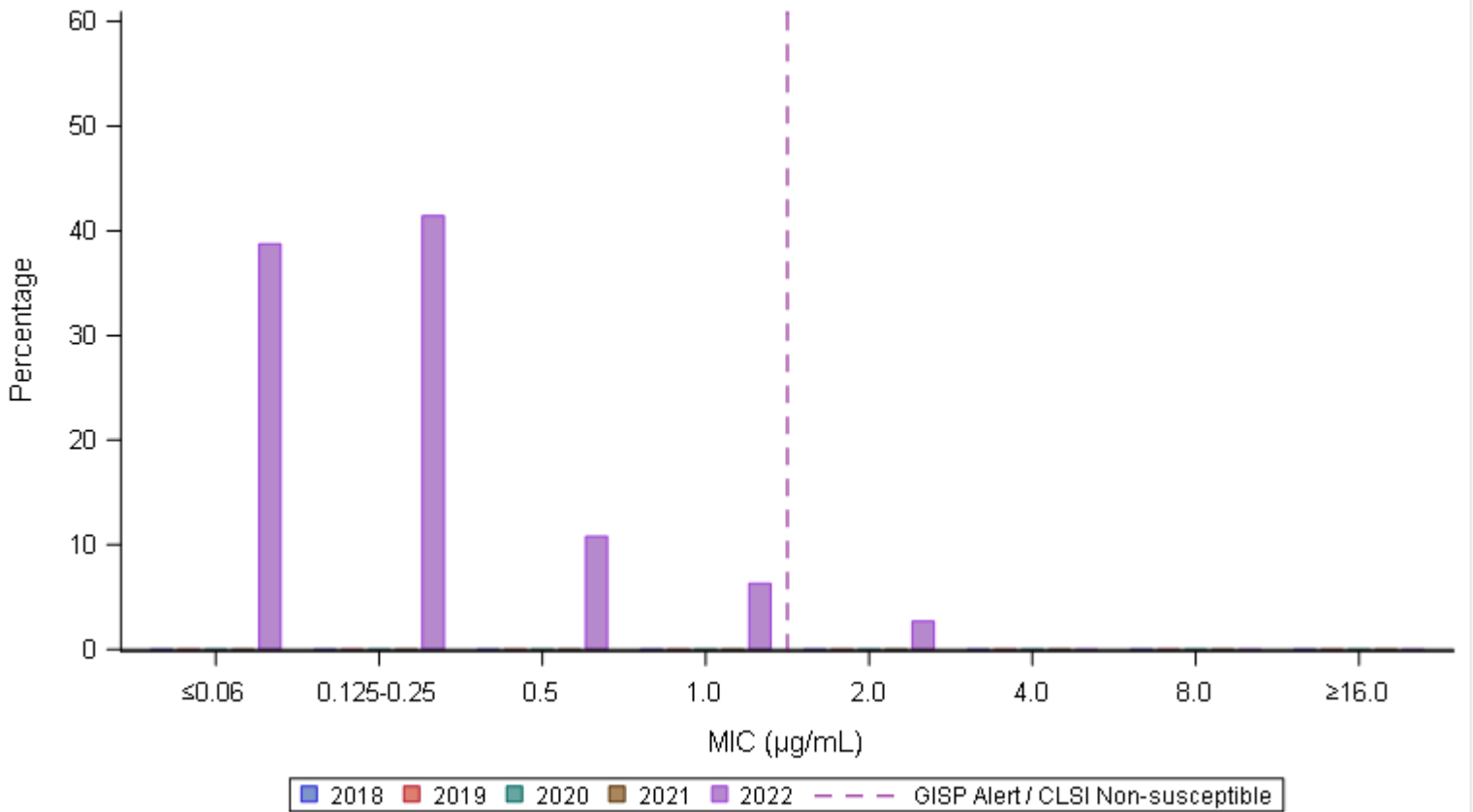
CLSI = Clinical & Laboratory Standards Institute.

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

As of the end of 2022, the CLSI has not established a ceftriaxone resistance breakpoint for *N. gonorrhoeae*.

Site participated in GISP in 2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Pittsburgh, Pennsylvania, 2018-2022



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
2018	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0
2019	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0
2020	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0
2021	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0
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

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; CLSI Non-susceptible = azithromycin MIC ≥2.0 µg/mL.

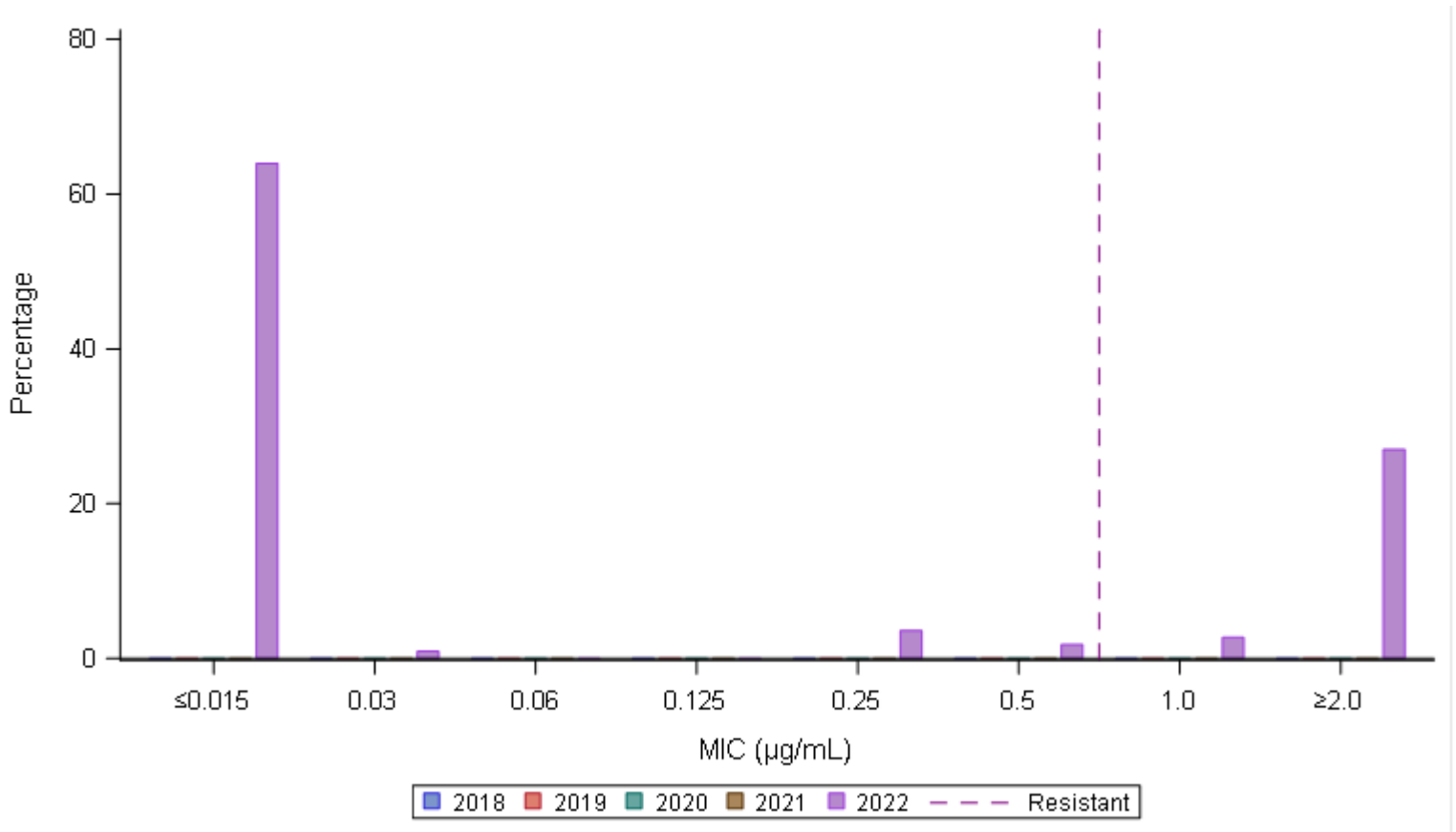
CLSI = Clinical & Laboratory Standards Institute.

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

As of the end of 2022, the CLSI has not established an azithromycin resistance breakpoint for *N. gonorrhoeae*.

Site participated in GISP in 2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Pittsburgh, Pennsylvania, 2018-2022

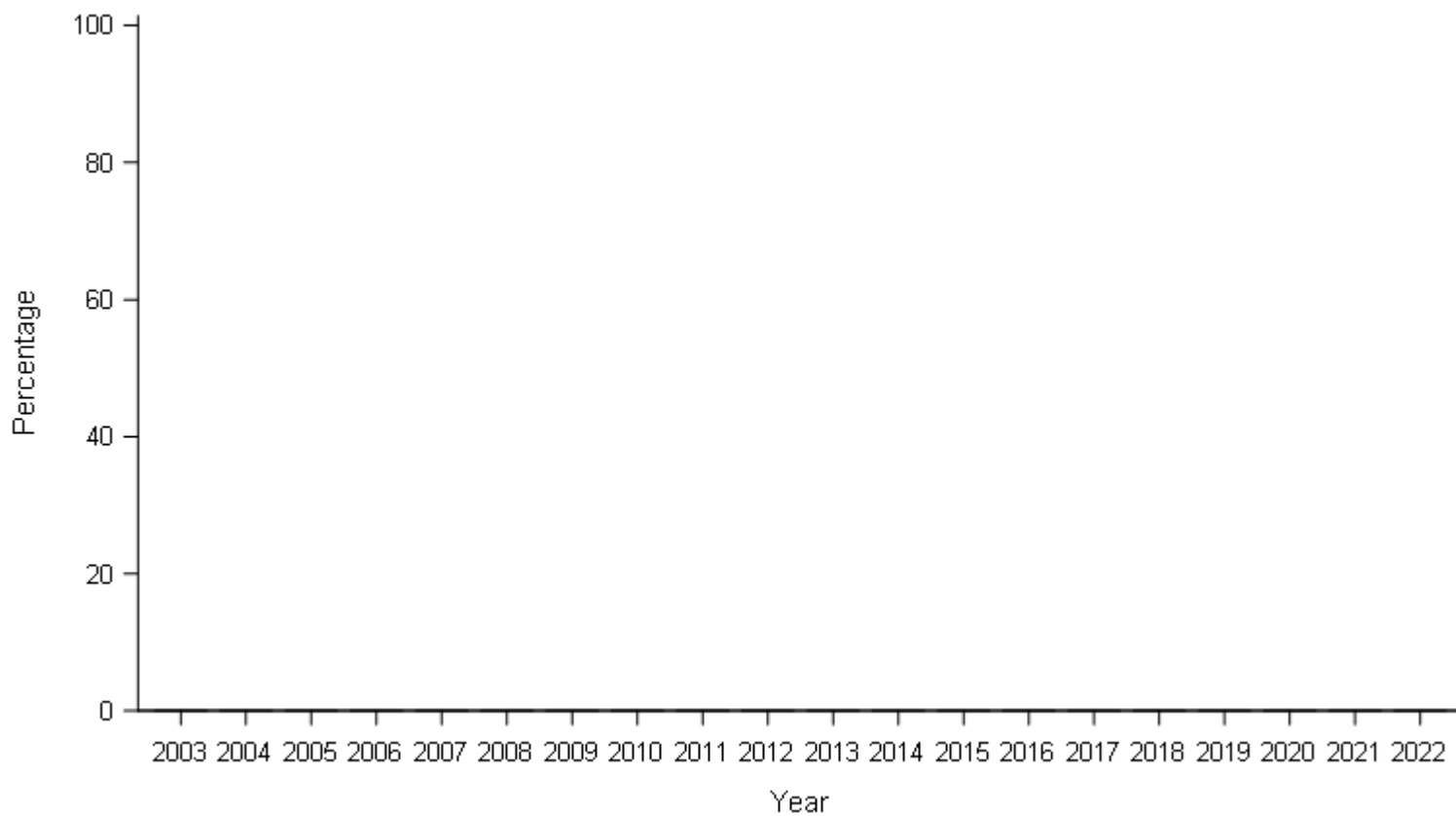


Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	≥2.0 n (%)	Total
2018	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0
2019	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0
2020	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0
2021	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0
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

Ciprofloxacin resistance MIC ≥1.0 µg/mL.

Site participated in GISP in 2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Pittsburgh, Pennsylvania, 2003-2022



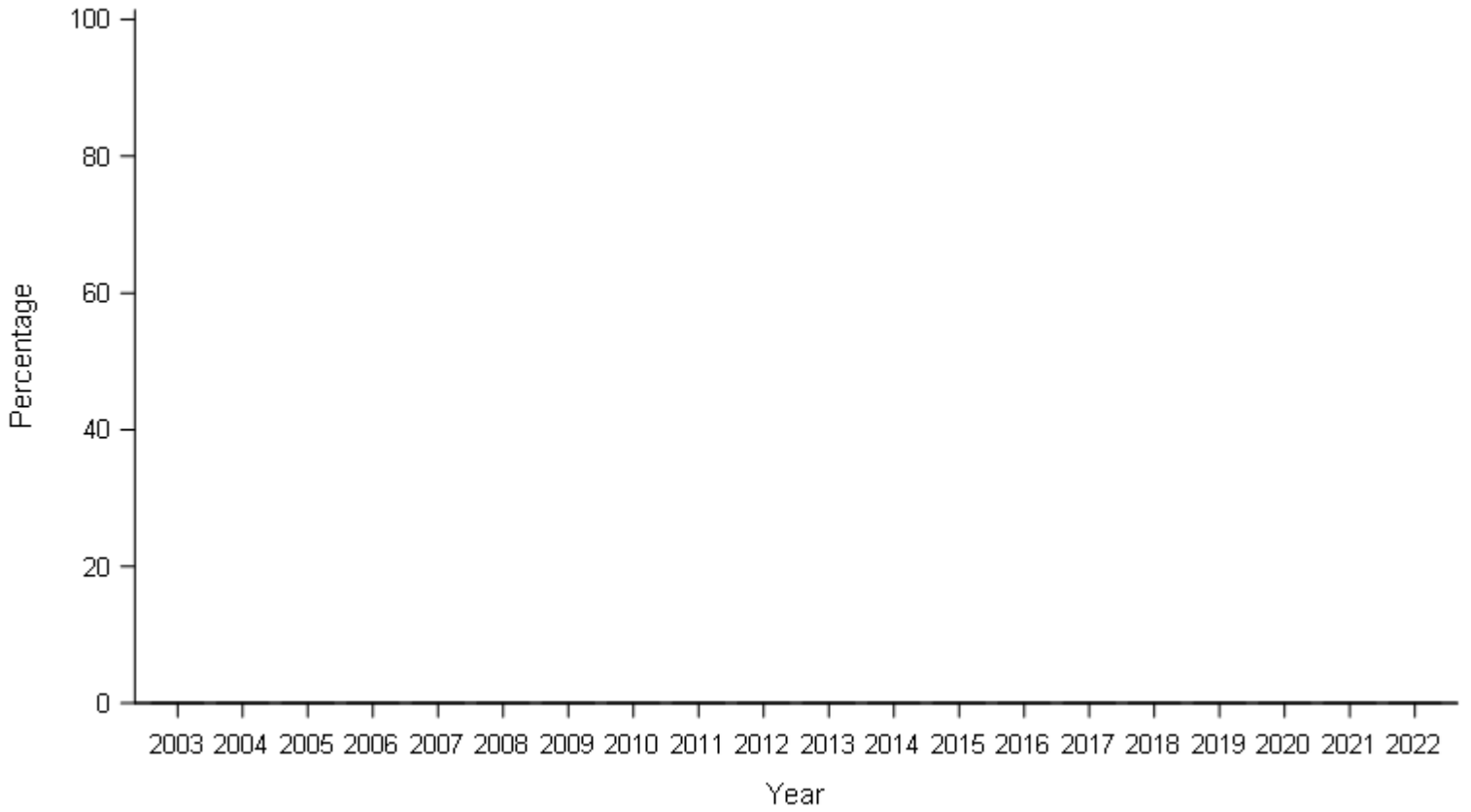
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

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

Site participated in GISP in 2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Pittsburgh, Pennsylvania, 2003-2022



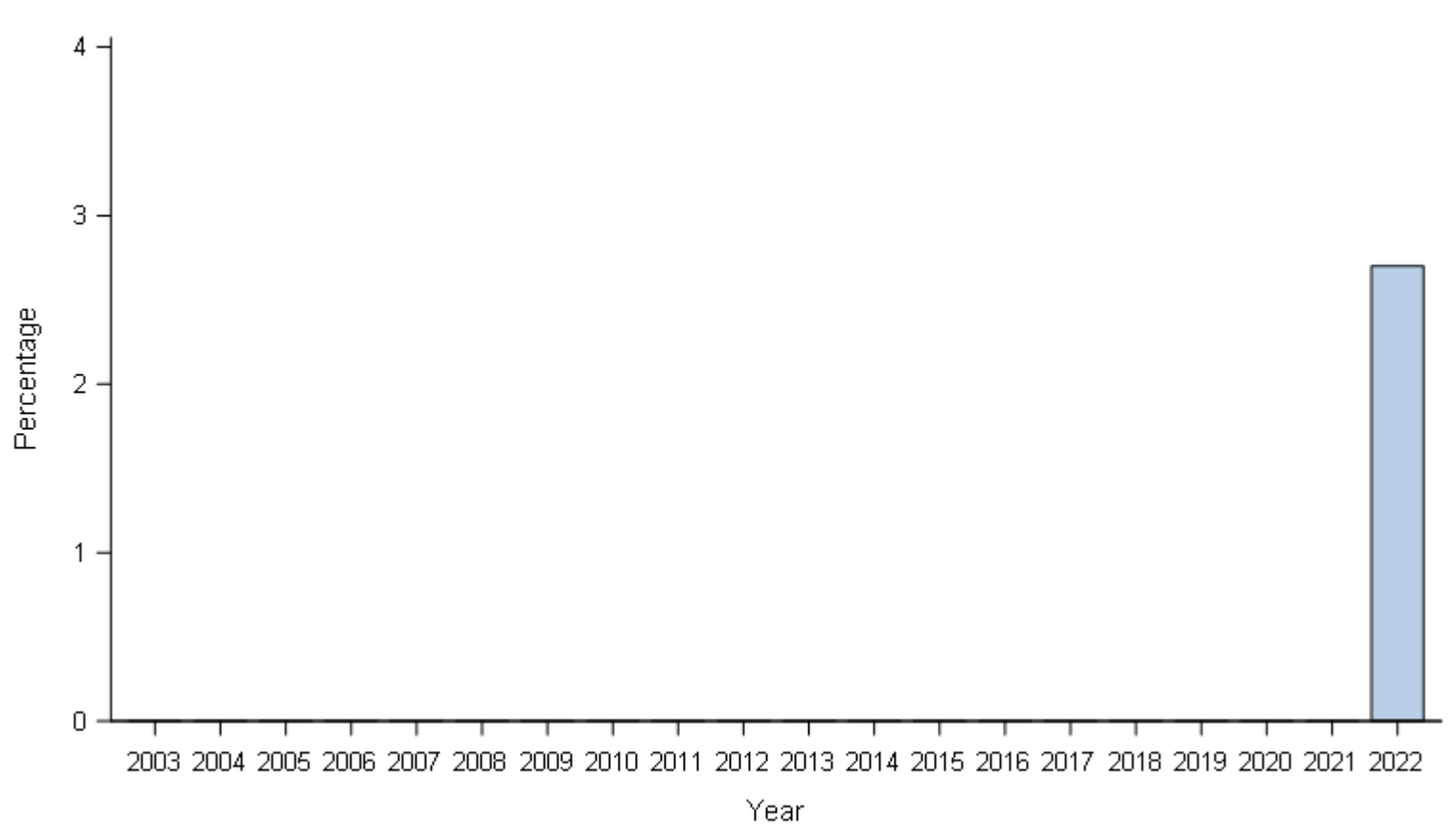
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

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

Site participated in GISP in 2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure M. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Pittsburgh, Pennsylvania, 2003-2022



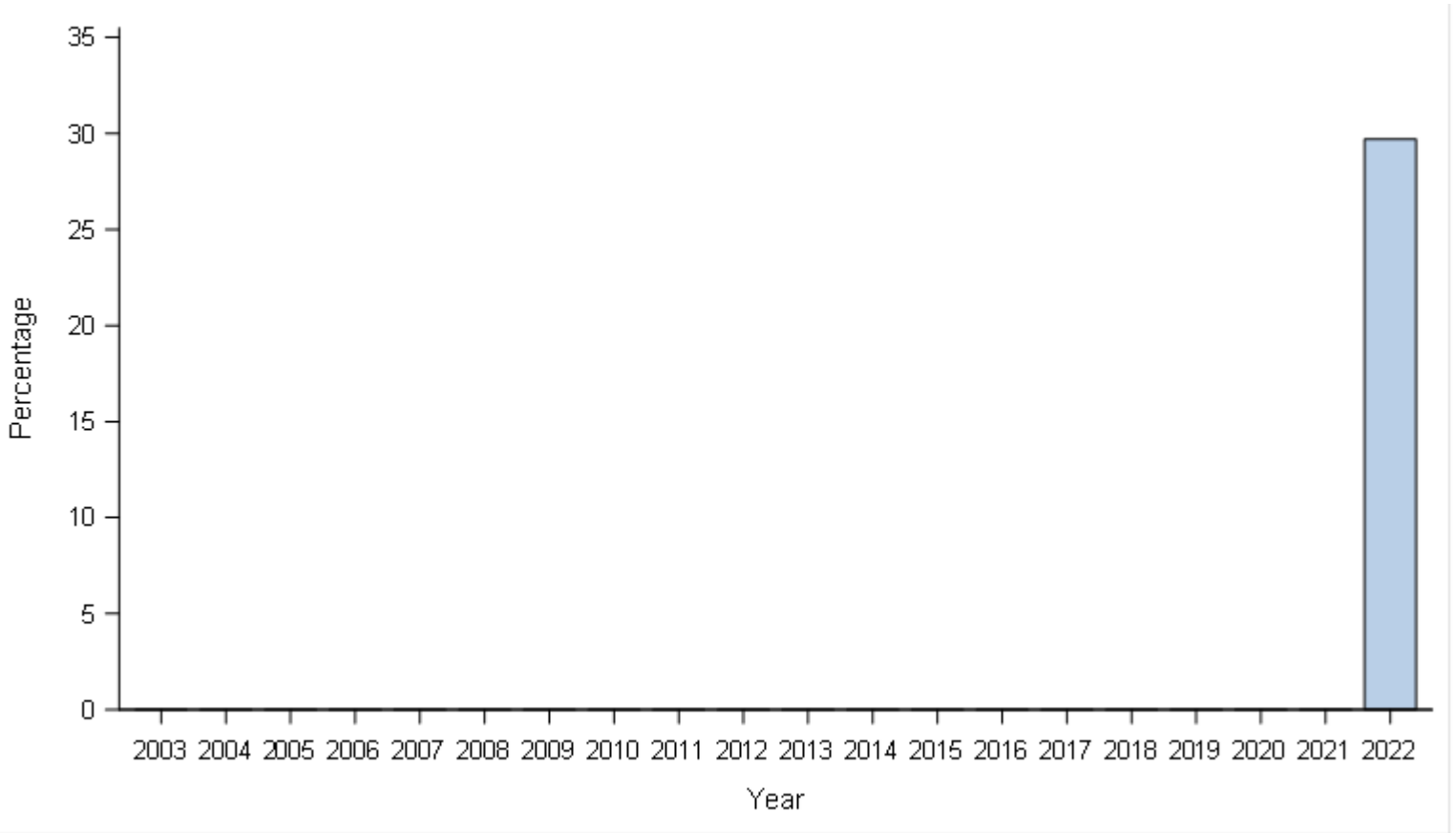
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	3 (2.7)

Azithromycin elevated MIC ≥ 1.0 $\mu\text{g/mL}$ prior to 2005 and ≥ 2.0 $\mu\text{g/mL}$ during 2005-2022.

Site participated in GISP in 2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Pittsburgh, Pennsylvania, 2003-2022



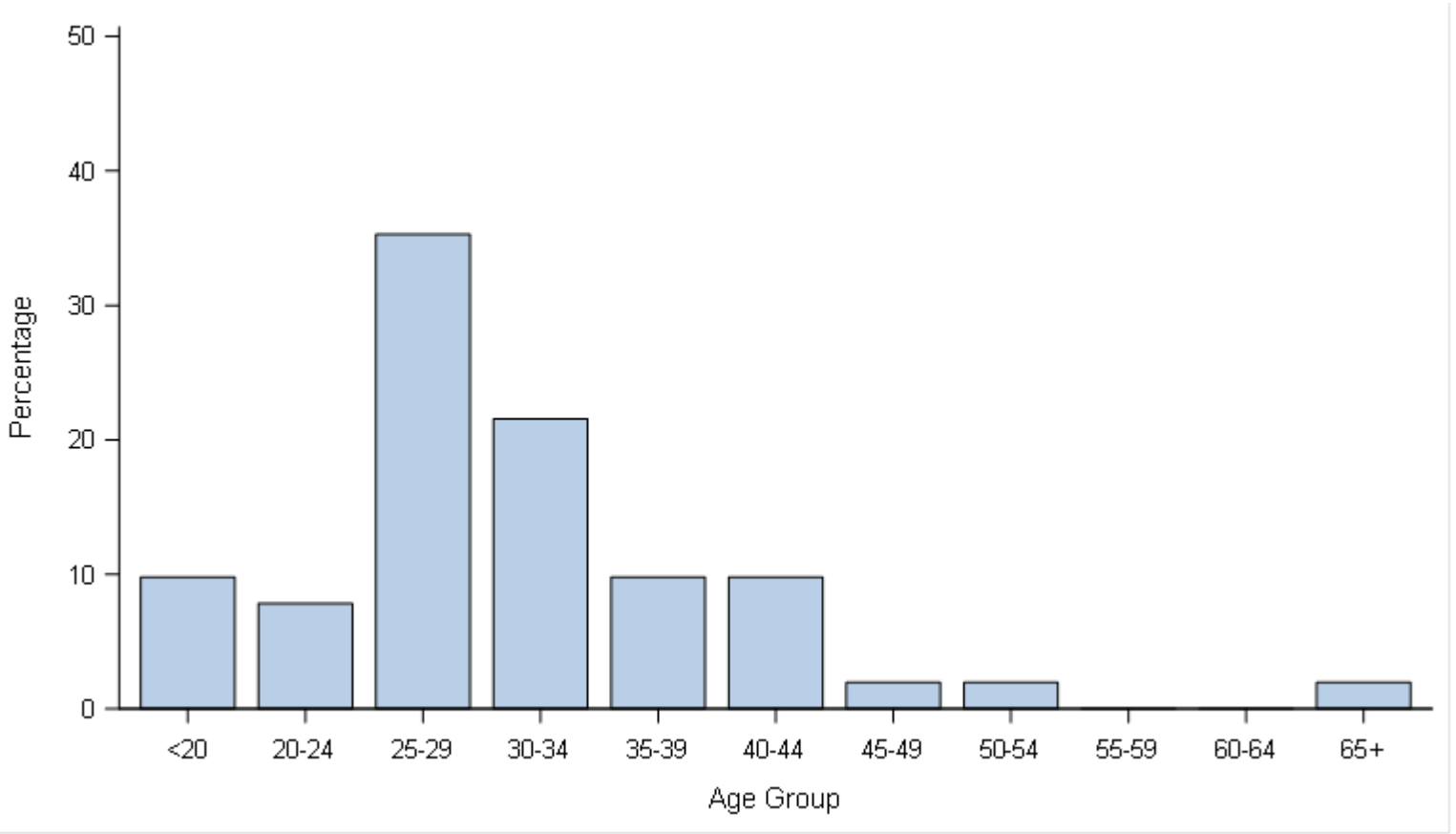
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	33 (29.7)

Ciprofloxacin resistance MIC \geq 1.0 μ g/mL.

Site participated in GISP in 2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

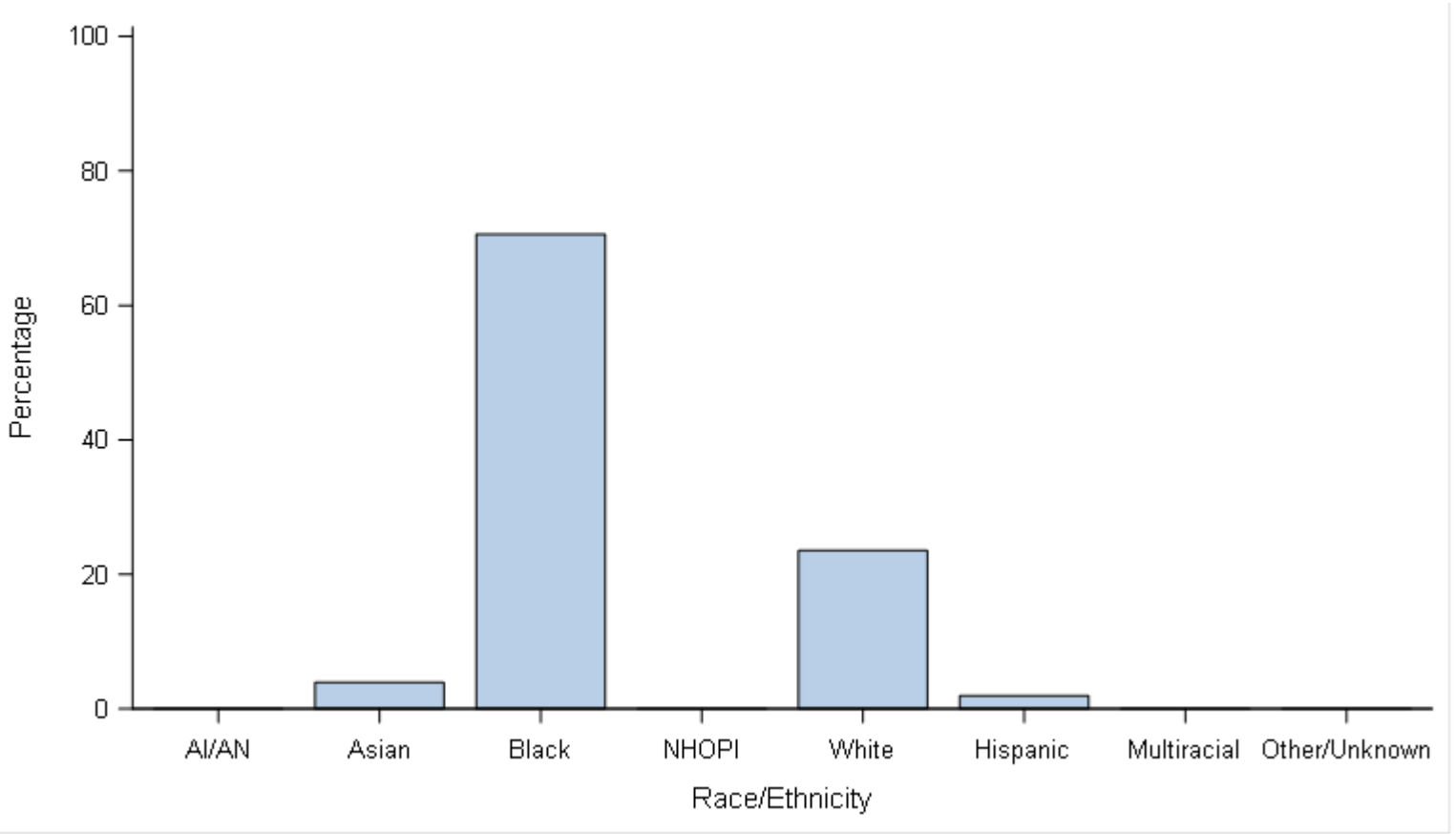
Figure A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Pontiac, Michigan, 2022



<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 (9.8)	4 (7.8)	18 (35.3)	11 (21.6)	5 (9.8)	5 (9.8)	1 (2.0)	1 (2.0)	0 (0.0)	0 (0.0)	1 (2.0)	51

Cases with unknown age were excluded.

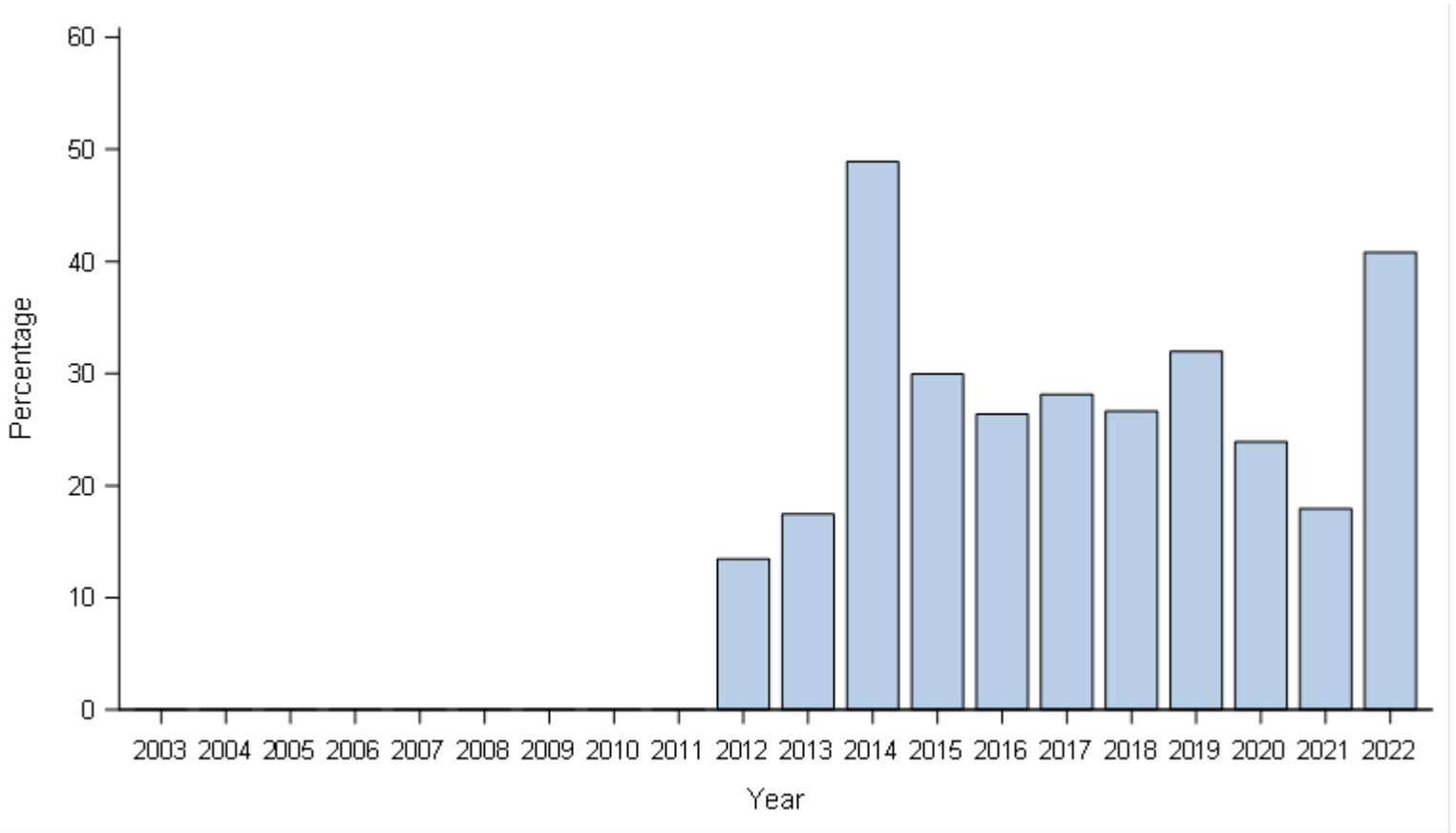
Figure B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Pontiac, Michigan, 2022



AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	2 (3.9)	36 (70.6)	0 (0.0)	12 (23.5)	1 (2.0)	0 (0.0)	0 (0.0)	51

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.

Figure C. Percentage of Participants Identifying as Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Pontiac, Michigan, 2003-2022

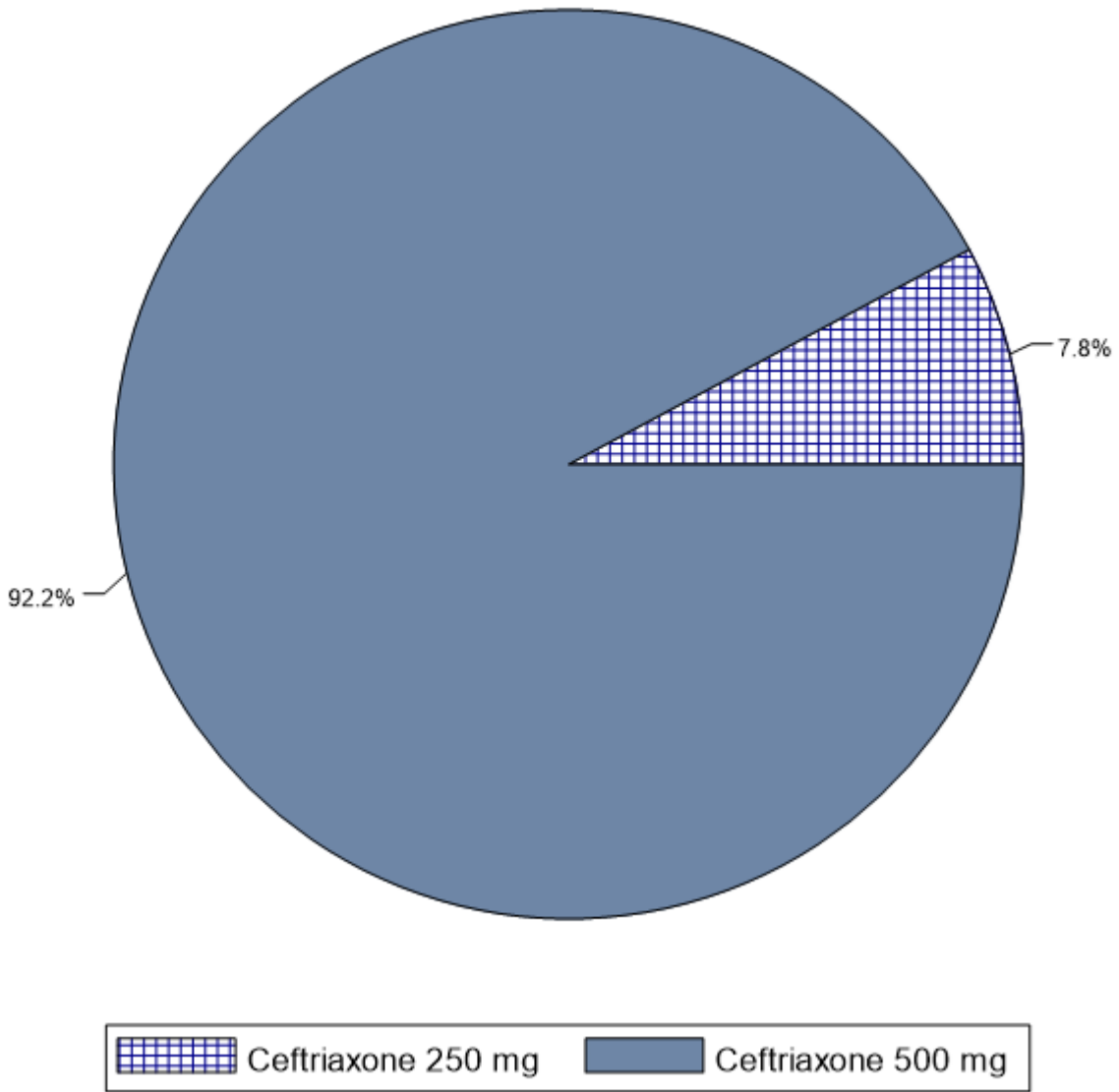


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	26 (13.5)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
33 (17.5)	66 (48.9)	59 (29.9)	62 (26.4)	65 (28.1)	65 (26.6)	63 (32.0)	11 (23.9)	7 (17.9)	20 (40.8)

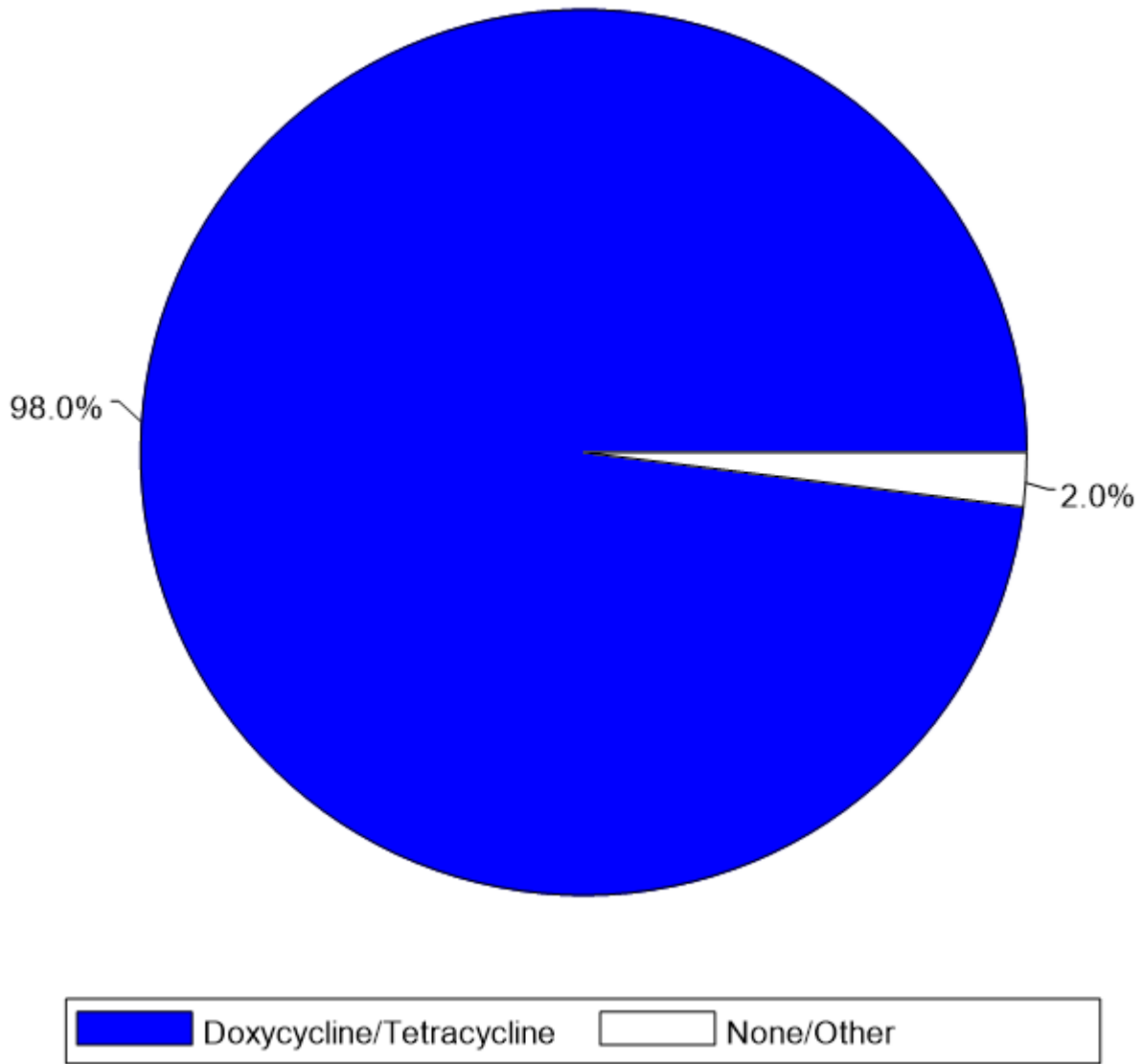
Men who have sex with men = men who self-identified as gay or bisexual or reported recent male sex partners.
 Site participated in GISP during 2012-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Pontiac, Michigan, 2022



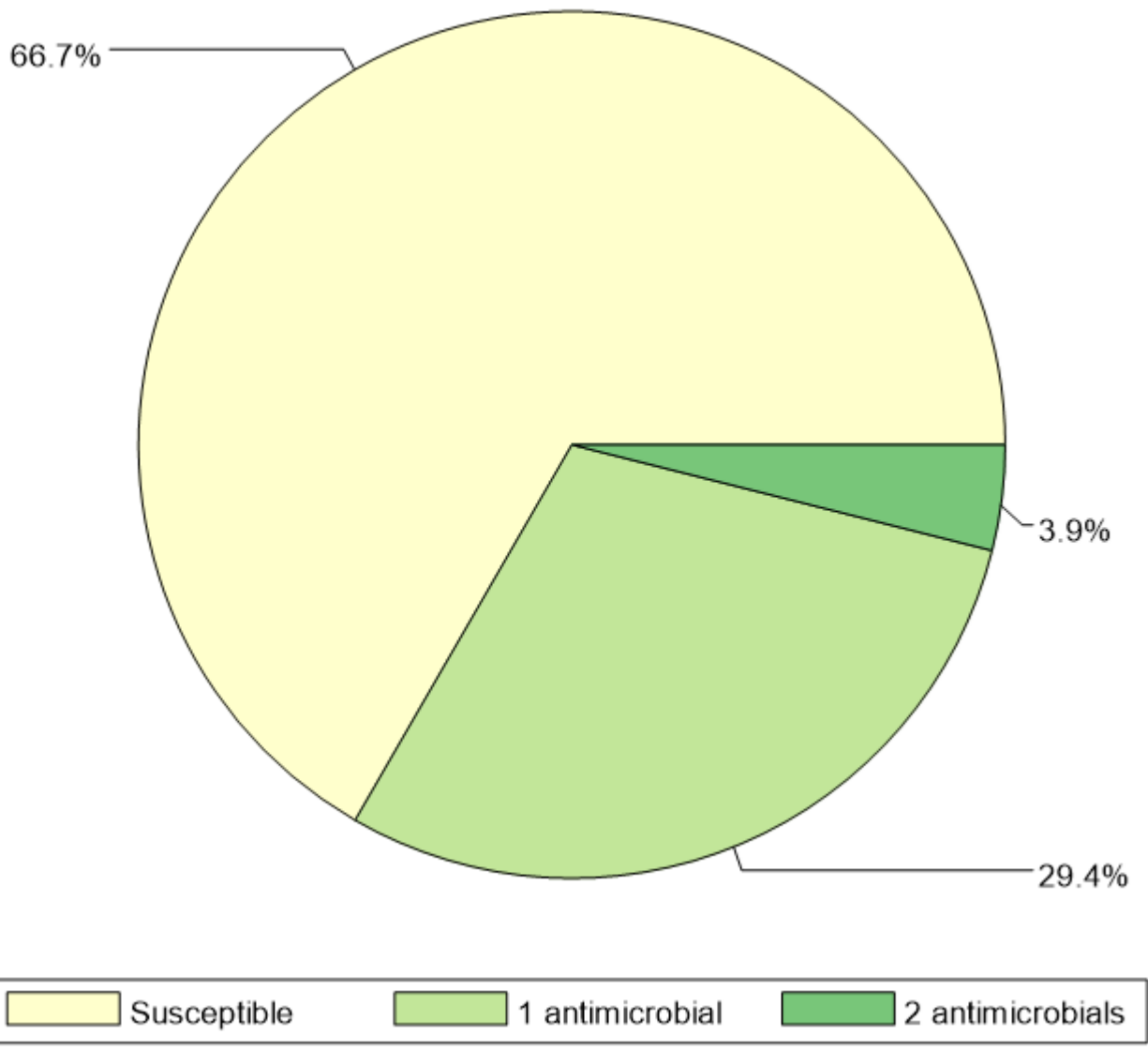
Primary Treatment	Count	Percentage
Ceftriaxone 250 mg	4	7.8
Ceftriaxone 500 mg	47	92.2

Figure E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Pontiac, Michigan, 2022



Secondary Treatment	Count	Percentage
Doxycycline/Tetracycline	50	98.0
None/Other	1	2.0

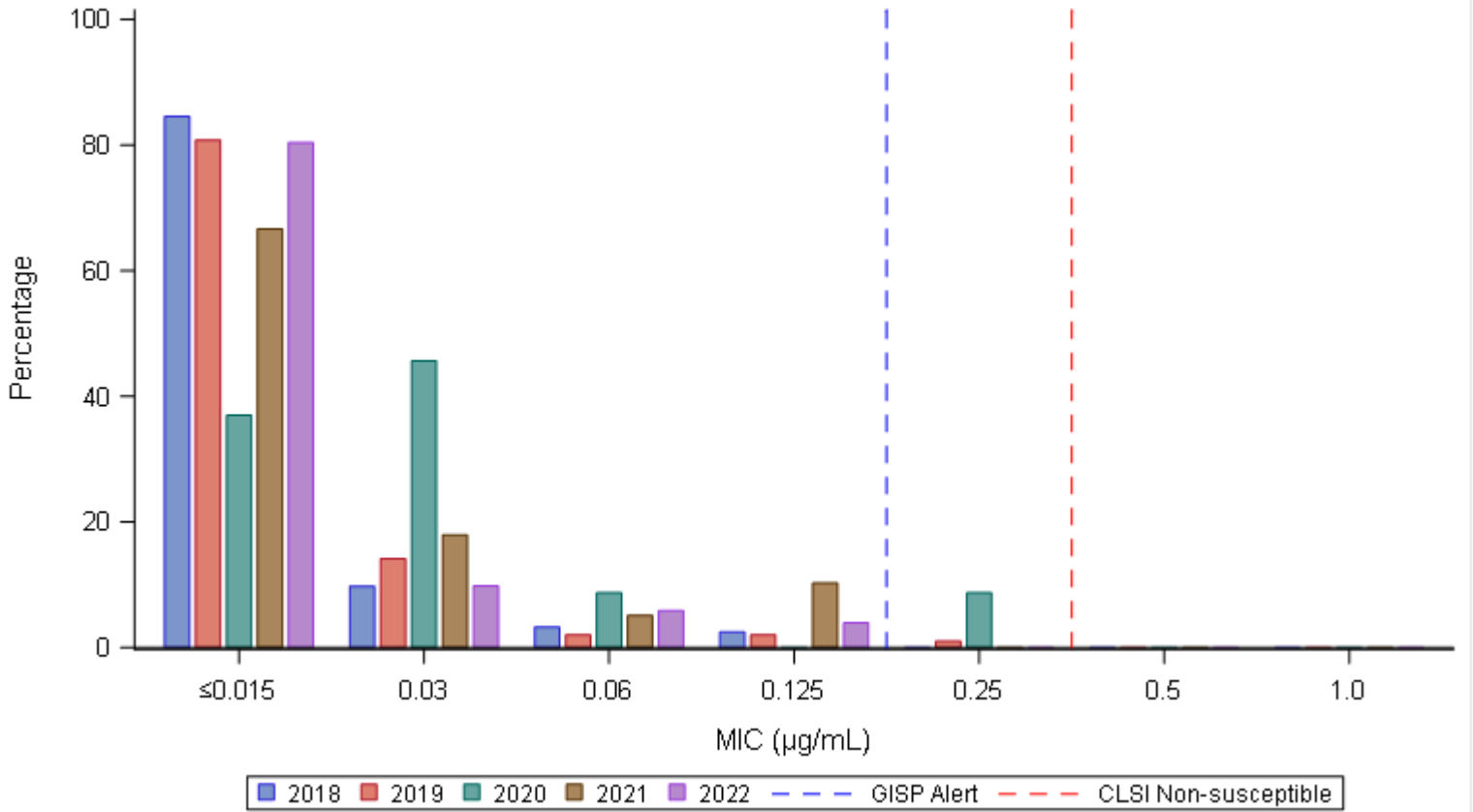
Figure F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Pontiac, Michigan, 2022



Number of Antimicrobials	Count	Percentage
Susceptible	34	66.7
1 antimicrobial	15	29.4
2 antimicrobials	2	3.9
3 antimicrobials	0	0.0
4+ antimicrobials	0	0.0

Elevated MICs = ceftriaxone MIC ≥ 0.125 $\mu\text{g/mL}$; cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; Resistance = tetracycline MIC ≥ 2.0 $\mu\text{g/mL}$; ciprofloxacin MIC ≥ 1.0 $\mu\text{g/mL}$; penicillin MIC ≥ 2.0 $\mu\text{g/mL}$ or β -lactamase positive.

Figure G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Pontiac, Michigan, 2018-2022



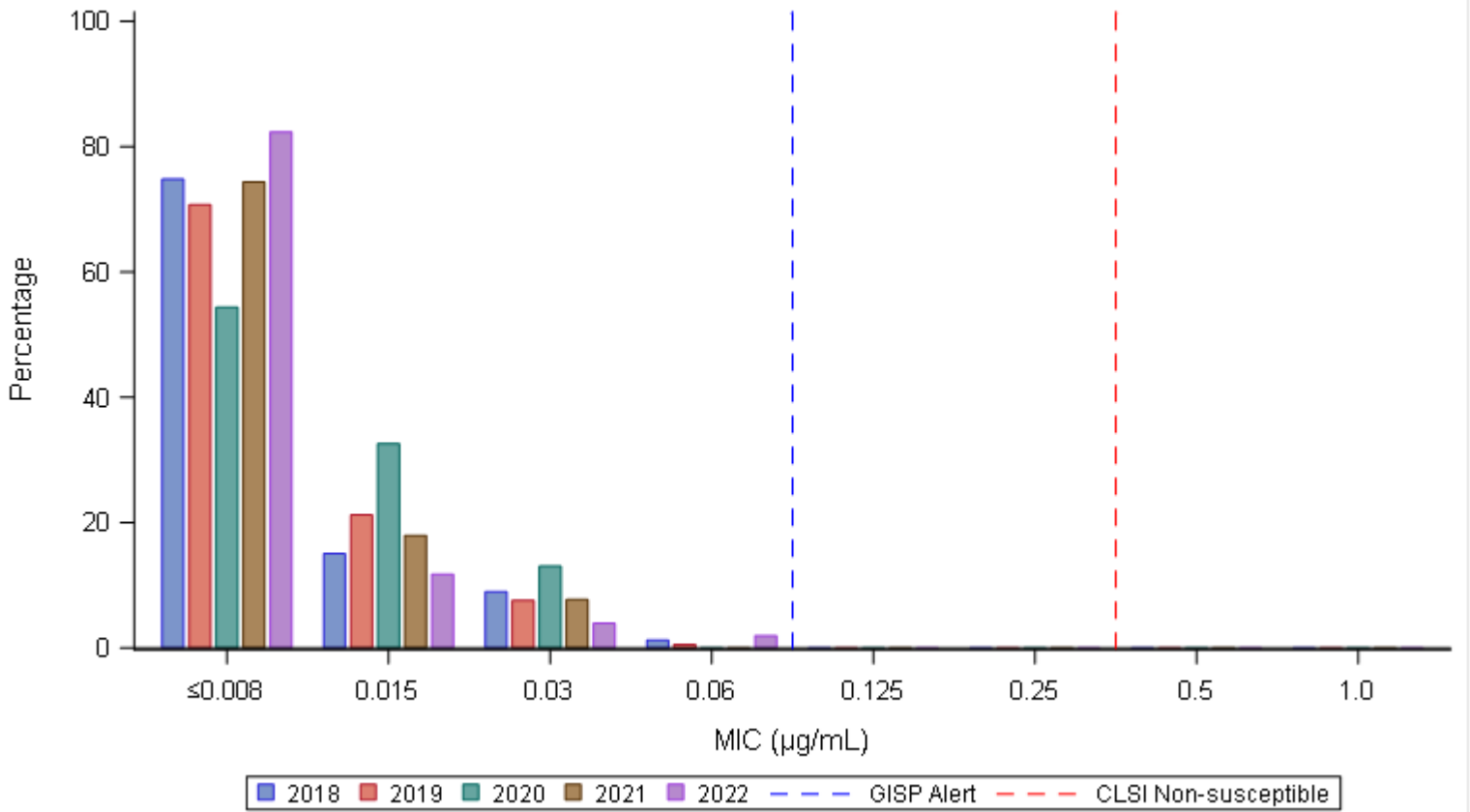
Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	208 (84.6)	24 (9.8)	8 (3.3)	6 (2.4)	0 (0.0)	0 (0.0)	0 (0.0)	246
2019	160 (80.8)	28 (14.1)	4 (2.0)	4 (2.0)	2 (1.0)	0 (0.0)	0 (0.0)	198
2020	17 (37.0)	21 (45.7)	4 (8.7)	0 (0.0)	4 (8.7)	0 (0.0)	0 (0.0)	46
2021	26 (66.7)	7 (17.9)	2 (5.1)	4 (10.3)	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)	51

GISP Alert Value = cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; CLSI Non-susceptible = cefixime MIC ≥ 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 the end of 2022, the CLSI has not established a cefixime resistance breakpoint for *N. gonorrhoeae*.

Figure H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Pontiac, Michigan, 2018-2022



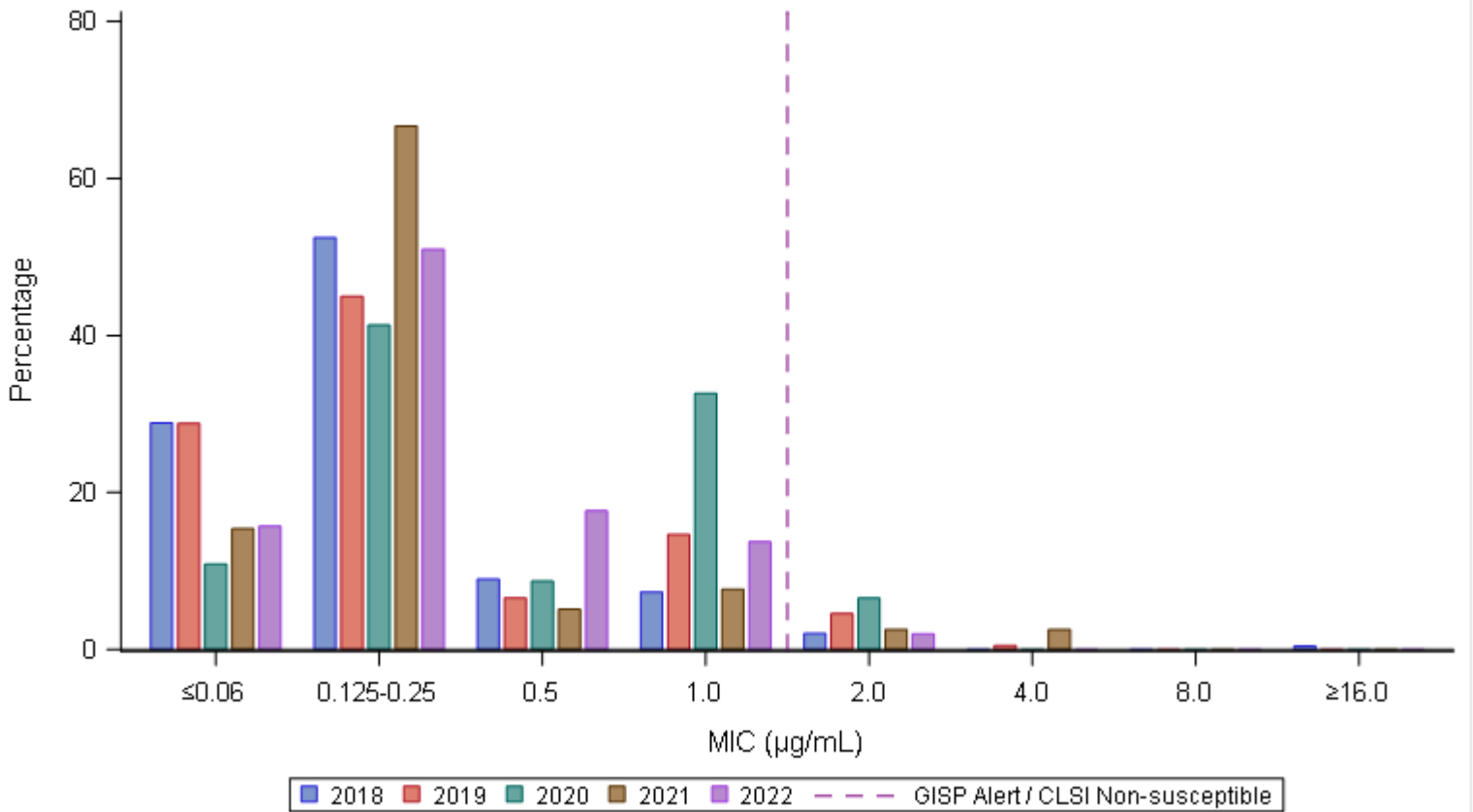
Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	184 (74.8)	37 (15.0)	22 (8.9)	3 (1.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	246
2019	140 (70.7)	42 (21.2)	15 (7.6)	1 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	198
2020	25 (54.3)	15 (32.6)	6 (13.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	46
2021	29 (74.4)	7 (17.9)	3 (7.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	39
2022	42 (82.4)	6 (11.8)	2 (3.9)	1 (2.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	51

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 the end of 2022, the CLSI has not established a ceftriaxone resistance breakpoint for *N. gonorrhoeae*.

Figure I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Pontiac, Michigan, 2018-2022



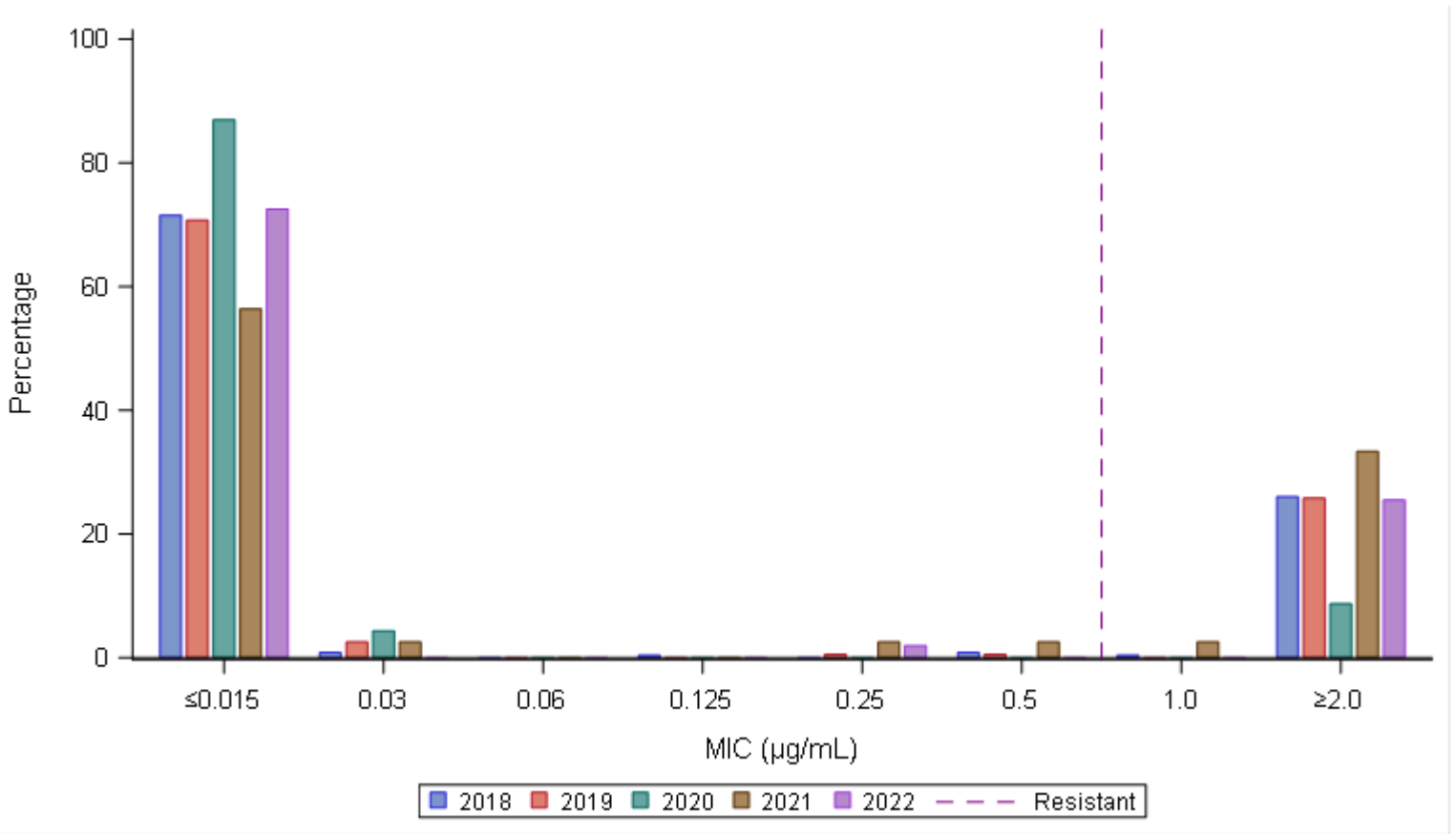
Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2018	71 (28.9)	129 (52.4)	22 (8.9)	18 (7.3)	5 (2.0)	0 (0.0)	0 (0.0)	1 (0.4)	246
2019	57 (28.8)	89 (44.9)	13 (6.6)	29 (14.6)	9 (4.5)	1 (0.5)	0 (0.0)	0 (0.0)	198
2020	5 (10.9)	19 (41.3)	4 (8.7)	15 (32.6)	3 (6.5)	0 (0.0)	0 (0.0)	0 (0.0)	46
2021	6 (15.4)	26 (66.7)	2 (5.1)	3 (7.7)	1 (2.6)	1 (2.6)	0 (0.0)	0 (0.0)	39
2022	8 (15.7)	26 (51.0)	9 (17.6)	7 (13.7)	1 (2.0)	0 (0.0)	0 (0.0)	0 (0.0)	51

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; CLSI Non-susceptible = azithromycin MIC ≥2.0 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 the end of 2022, the CLSI has not established an azithromycin resistance breakpoint for *N. gonorrhoeae*.

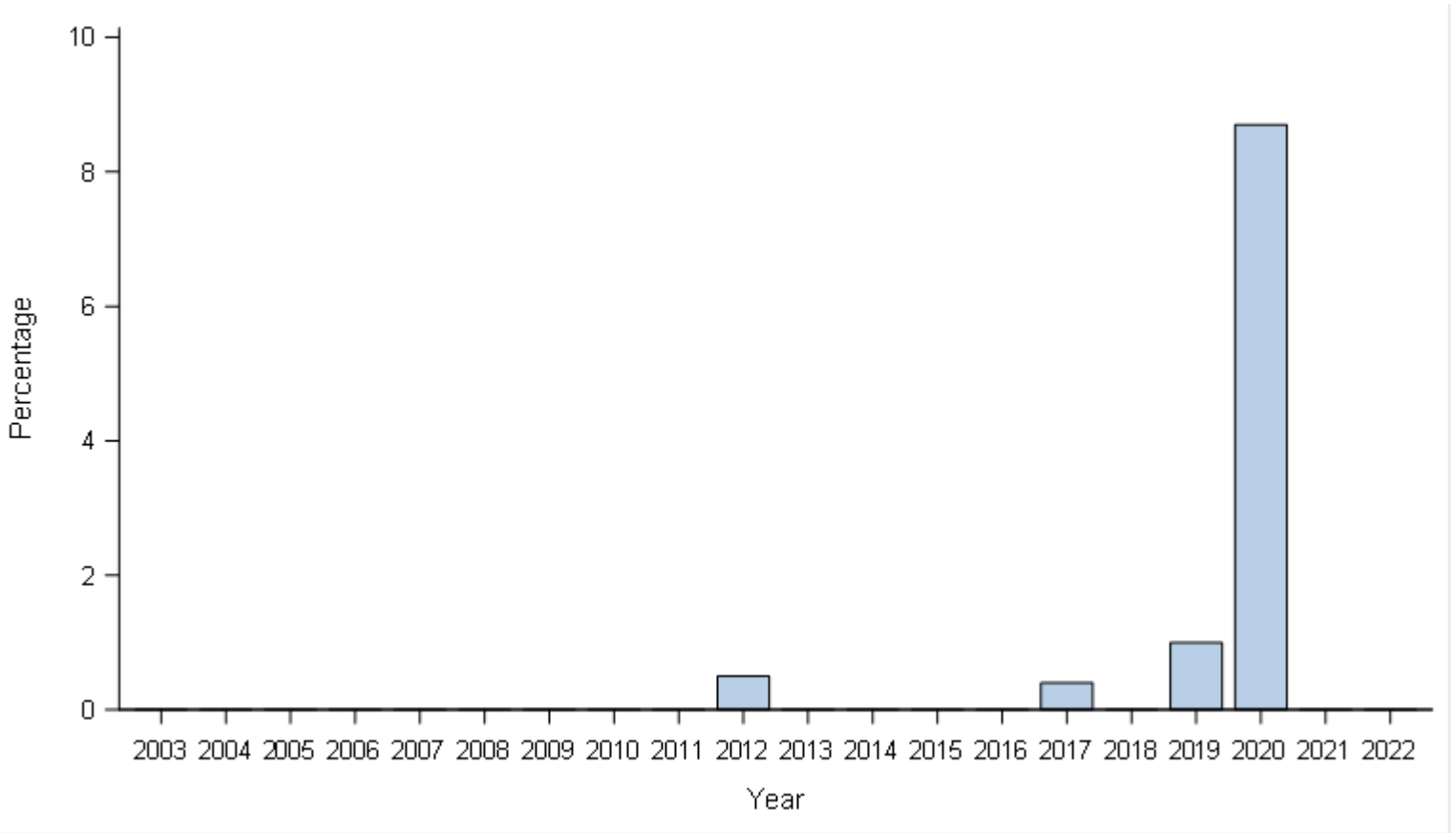
Figure J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Pontiac, Michigan, 2018-2022



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
2018	176 (71.5)	2 (0.8)	0 (0.0)	1 (0.4)	0 (0.0)	2 (0.8)	1 (0.4)	64 (26.0)	246
2019	140 (70.7)	5 (2.5)	0 (0.0)	0 (0.0)	1 (0.5)	1 (0.5)	0 (0.0)	51 (25.8)	198
2020	40 (87.0)	2 (4.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4 (8.7)	46
2021	22 (56.4)	1 (2.6)	0 (0.0)	0 (0.0)	1 (2.6)	1 (2.6)	1 (2.6)	13 (33.3)	39
2022	37 (72.5)	0 (0.0)	0 (0.0)	0 (0.0)	1 (2.0)	0 (0.0)	0 (0.0)	13 (25.5)	51

Ciprofloxacin resistance MIC ≥1.0 µg/mL.

Figure K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Pontiac, Michigan, 2003-2022



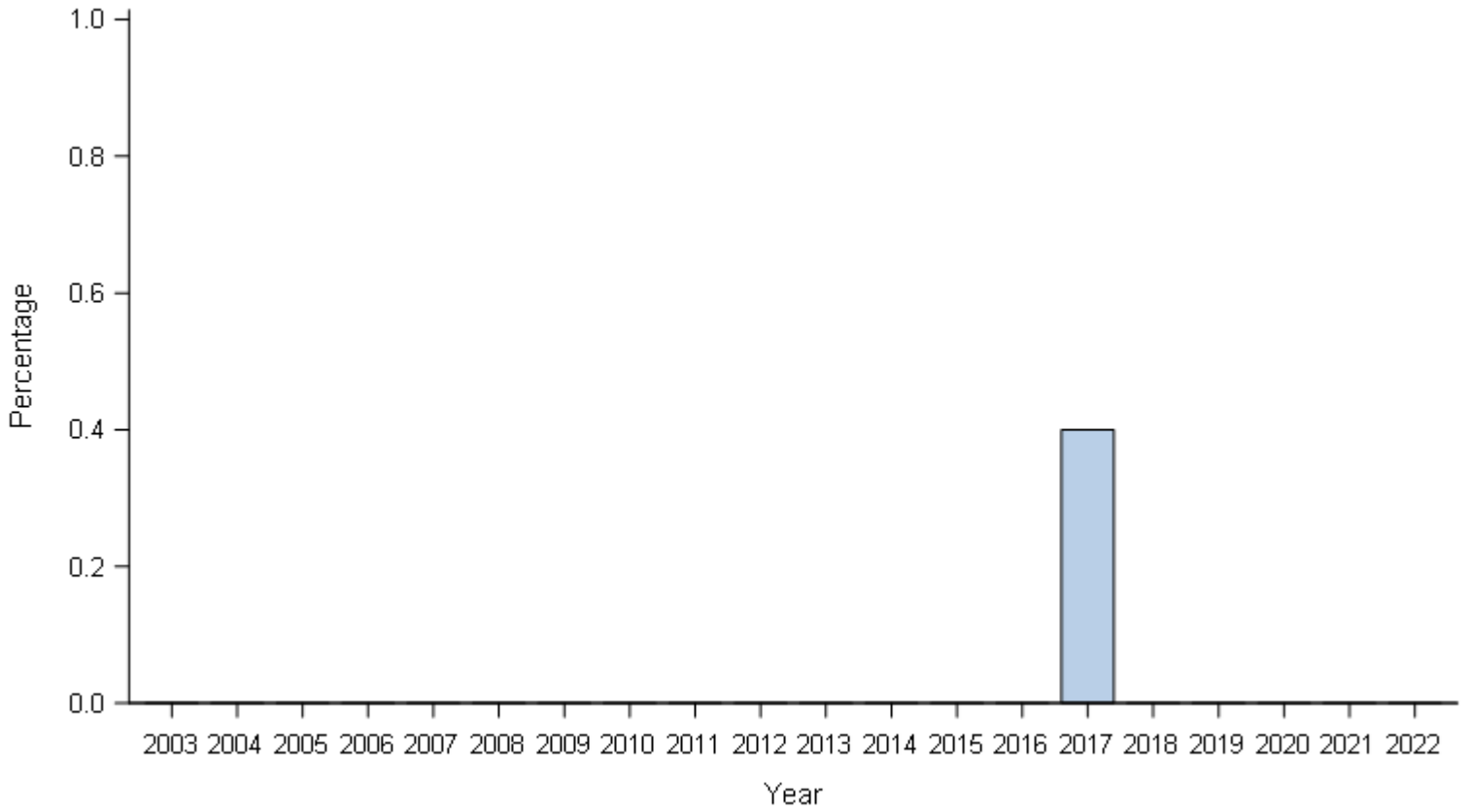
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.5)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.4)	0 (0.0)	2 (1.0)	4 (8.7)	0 (0.0)	0 (0.0)

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

Site participated in GISP during 2012-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Pontiac, Michigan, 2003-2022



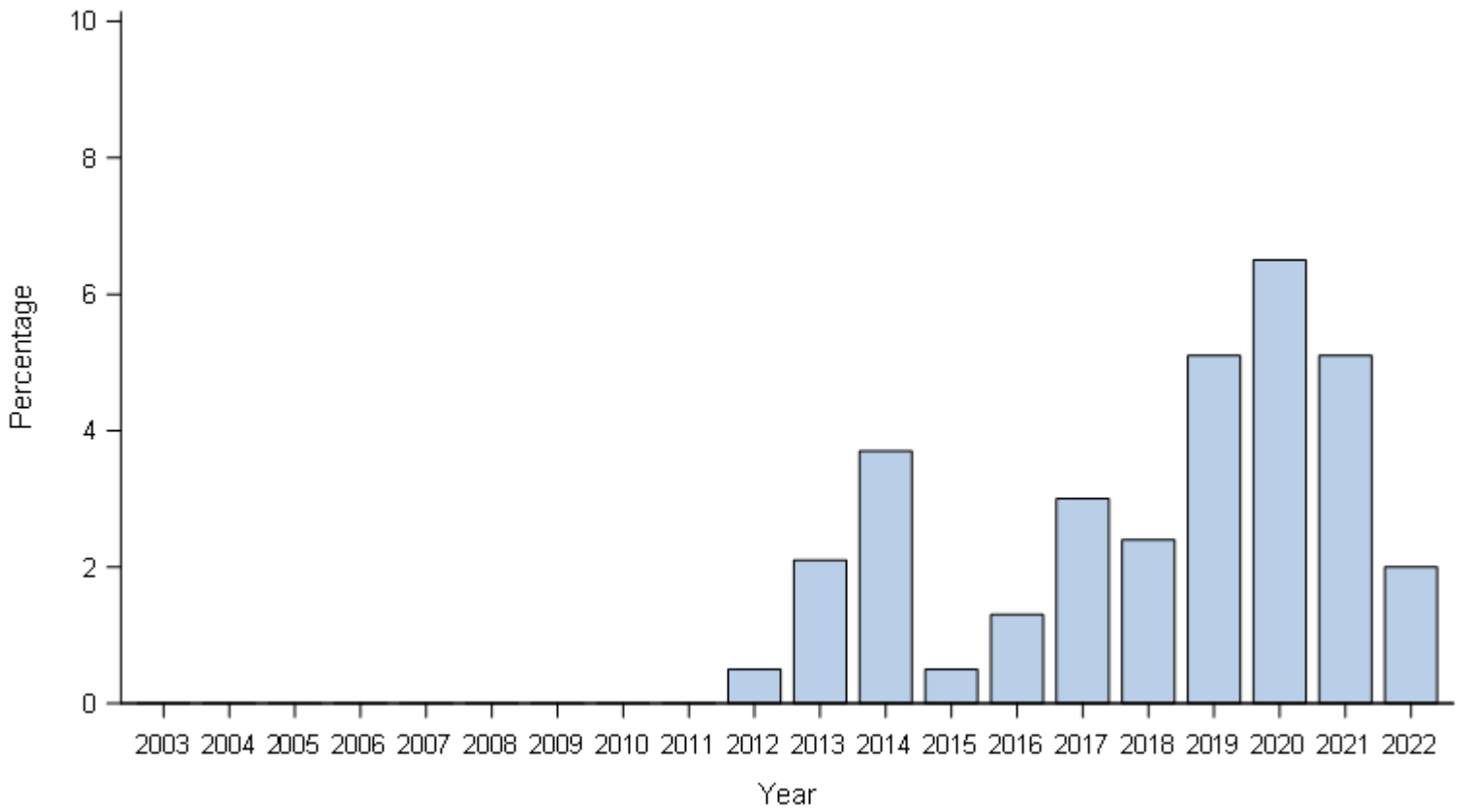
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

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

Site participated in GISP during 2012-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure M. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Pontiac, Michigan, 2003-2022

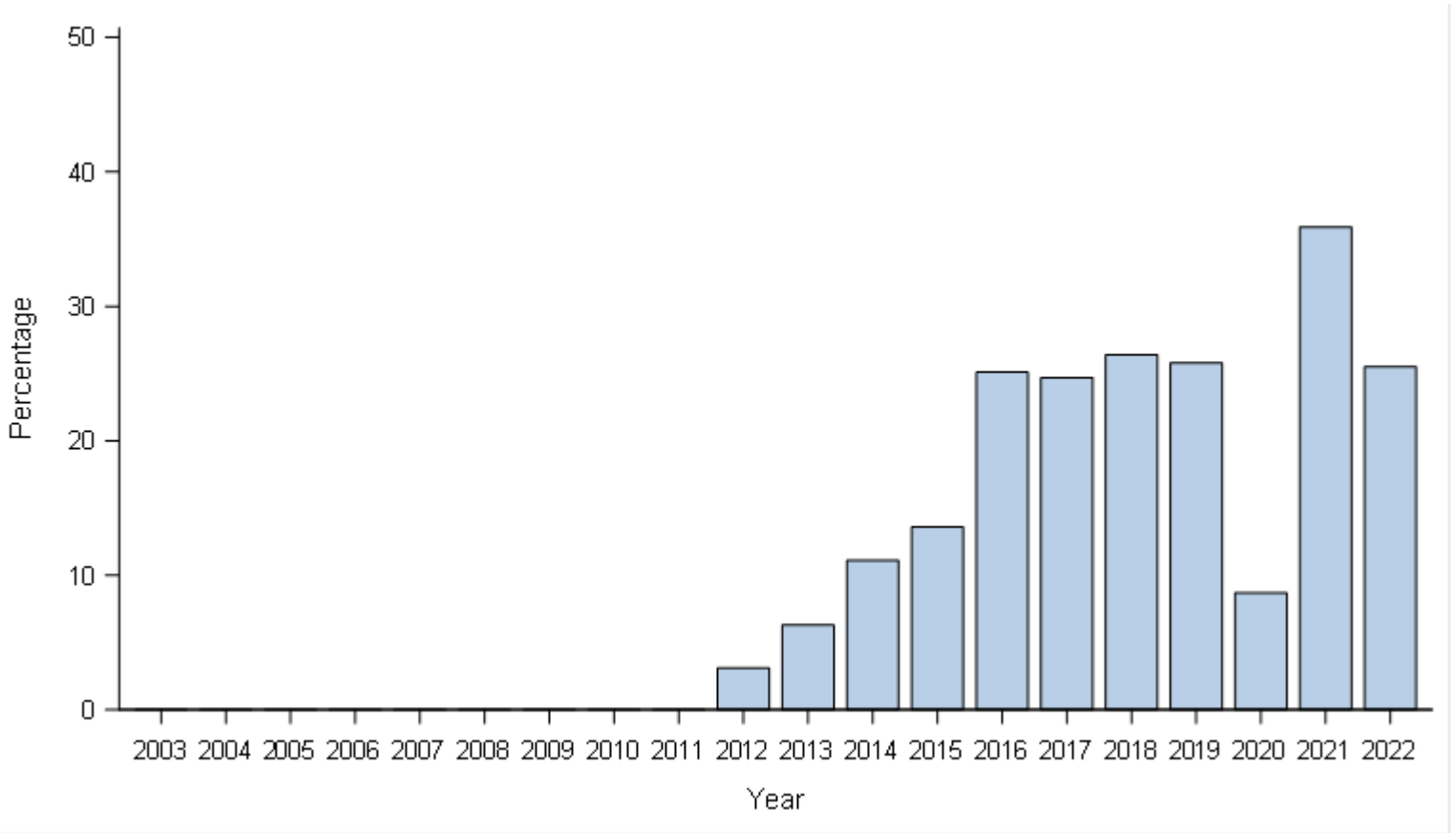


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.5)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
4 (2.1)	5 (3.7)	1 (0.5)	3 (1.3)	7 (3.0)	6 (2.4)	10 (5.1)	3 (6.5)	2 (5.1)	1 (2.0)

Azithromycin elevated MIC ≥ 1.0 $\mu\text{g/mL}$ prior to 2005 and ≥ 2.0 $\mu\text{g/mL}$ during 2005-2022. Site participated in GISP during 2012-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Pontiac, Michigan, 2003-2022



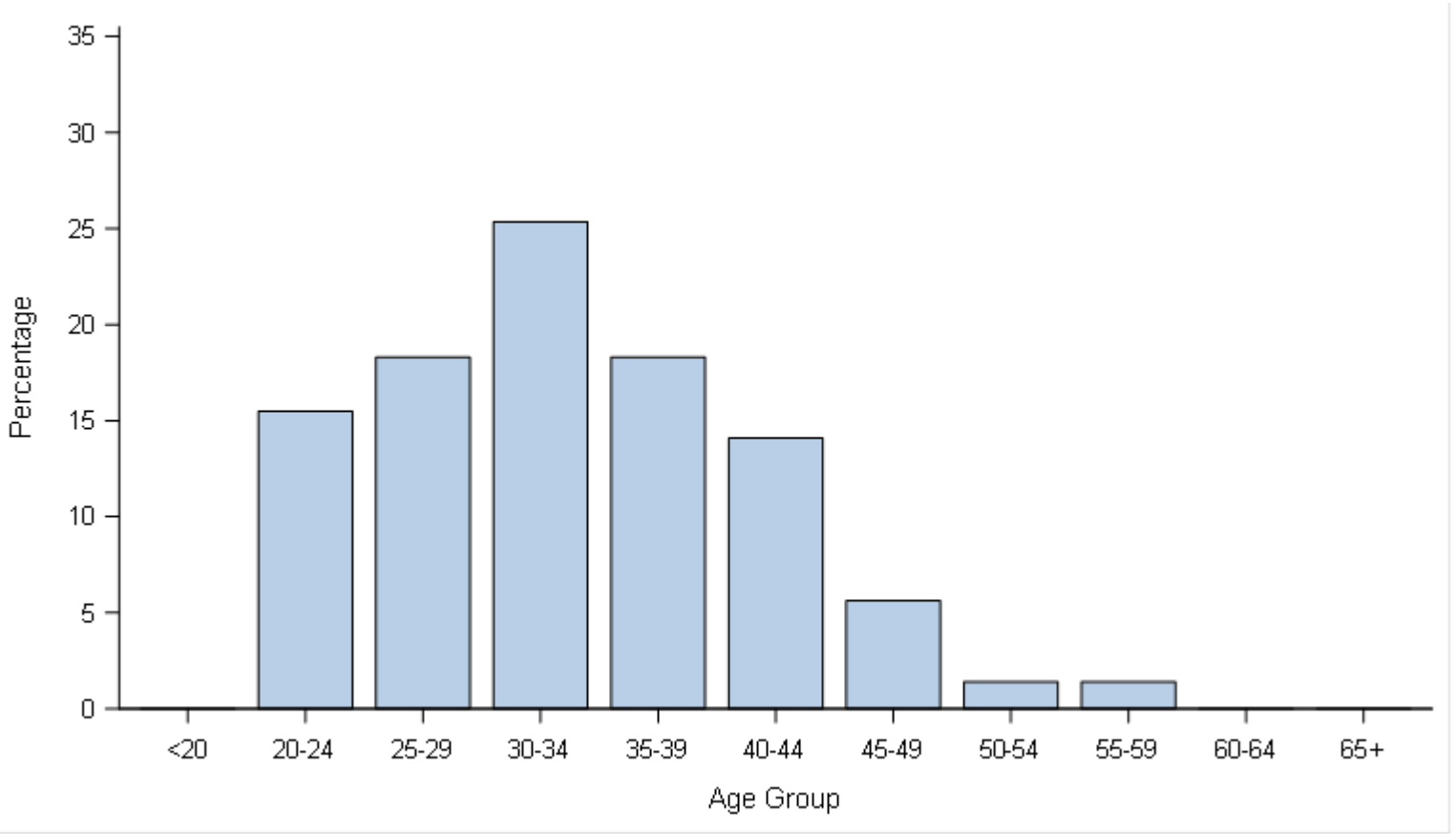
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	6 (3.1)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
12 (6.3)	15 (11.1)	27 (13.6)	59 (25.1)	57 (24.7)	65 (26.4)	51 (25.8)	4 (8.7)	14 (35.9)	13 (25.5)

Ciprofloxacin resistance MIC \geq 1.0 μ g/mL.

Site participated in GISP during 2012-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

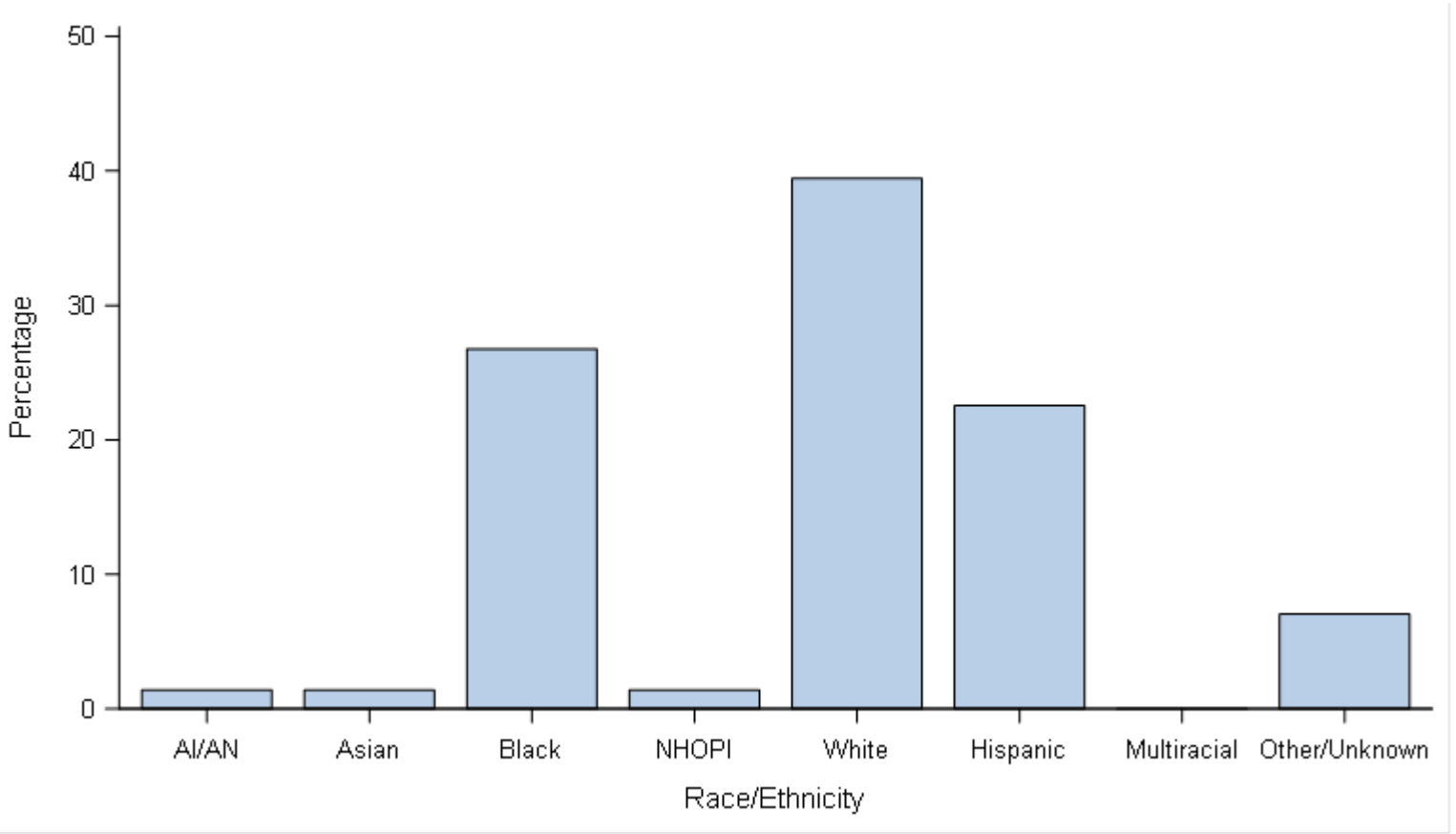
Figure A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Portland, Oregon, 2022



<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 (15.5)	13 (18.3)	18 (25.4)	13 (18.3)	10 (14.1)	4 (5.6)	1 (1.4)	1 (1.4)	0 (0.0)	0 (0.0)	71

Cases with unknown age were excluded.

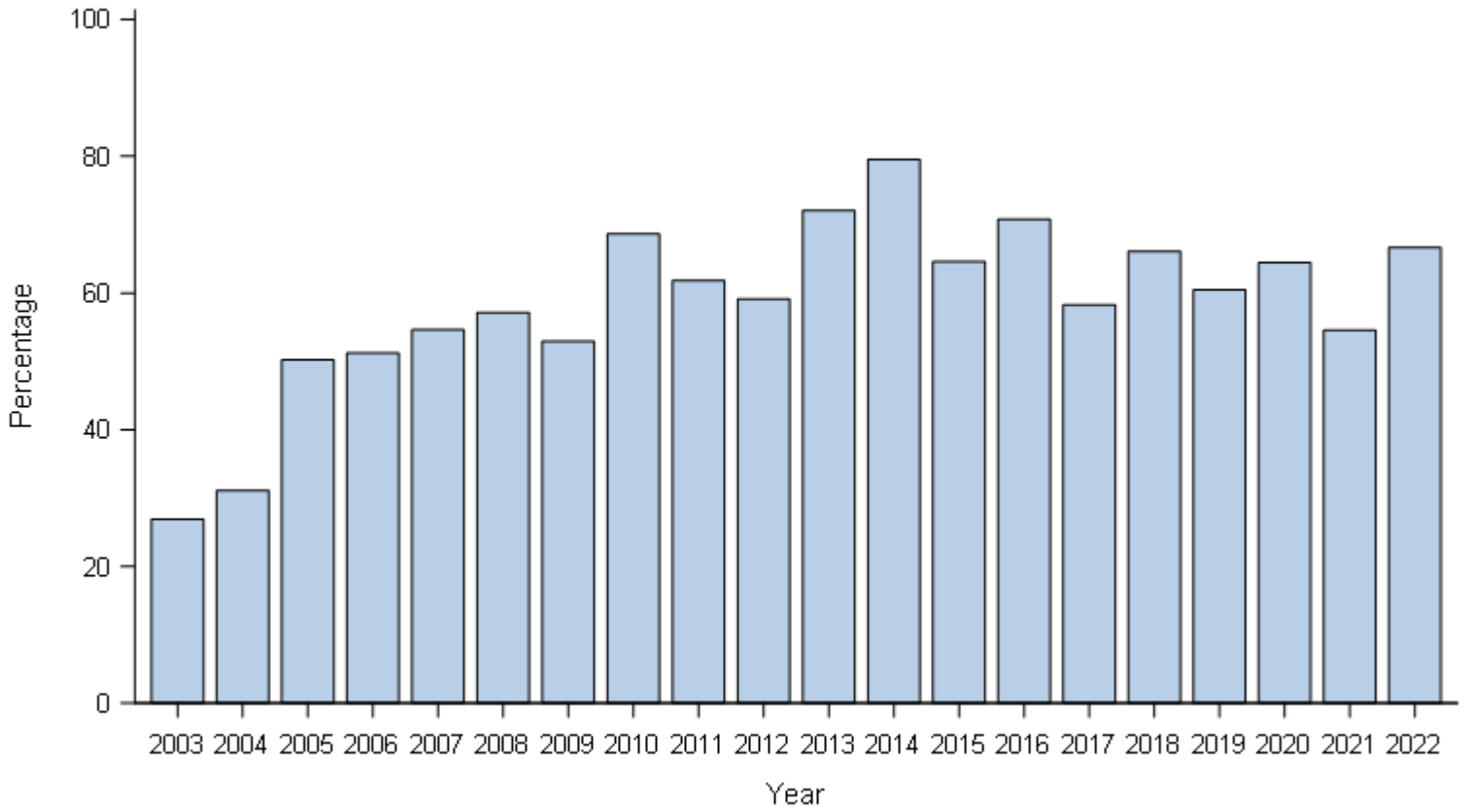
Figure B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Portland, Oregon, 2022



AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
1 (1.4)	1 (1.4)	19 (26.8)	1 (1.4)	28 (39.4)	16 (22.5)	0 (0.0)	5 (7.0)	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.

Figure C. Percentage of Participants Identifying as Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Portland, Oregon, 2003-2022

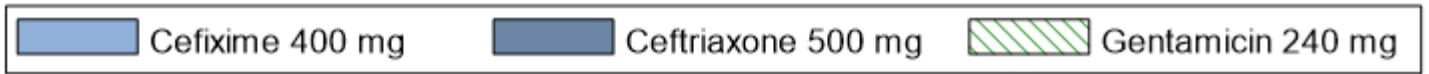
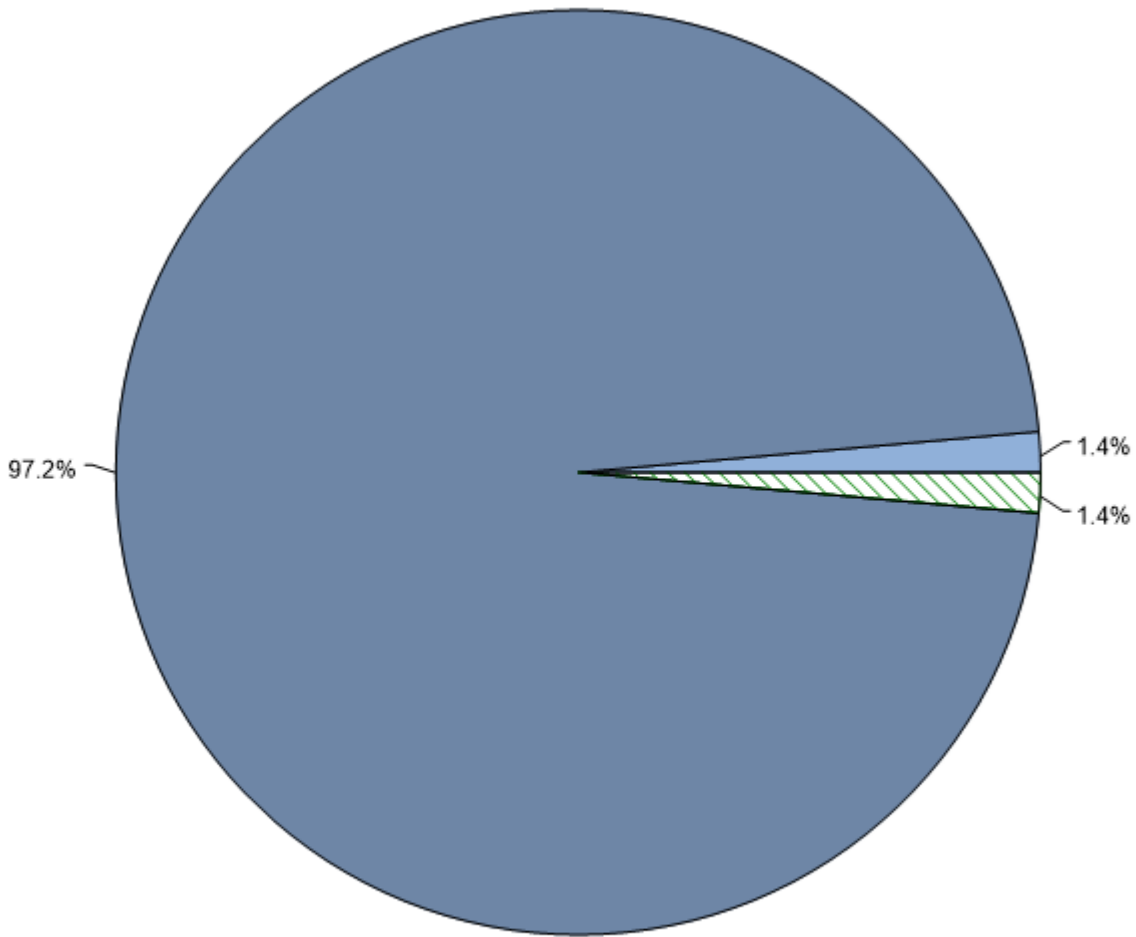


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
35 (26.9)	56 (31.1)	114 (50.2)	83 (51.2)	77 (54.6)	84 (57.1)	54 (52.9)	70 (68.6)	102 (61.8)	68 (59.1)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
93 (72.1)	101 (79.5)	95 (64.6)	104 (70.7)	67 (58.3)	80 (66.1)	49 (60.5)	58 (64.4)	36 (54.5)	46 (66.7)

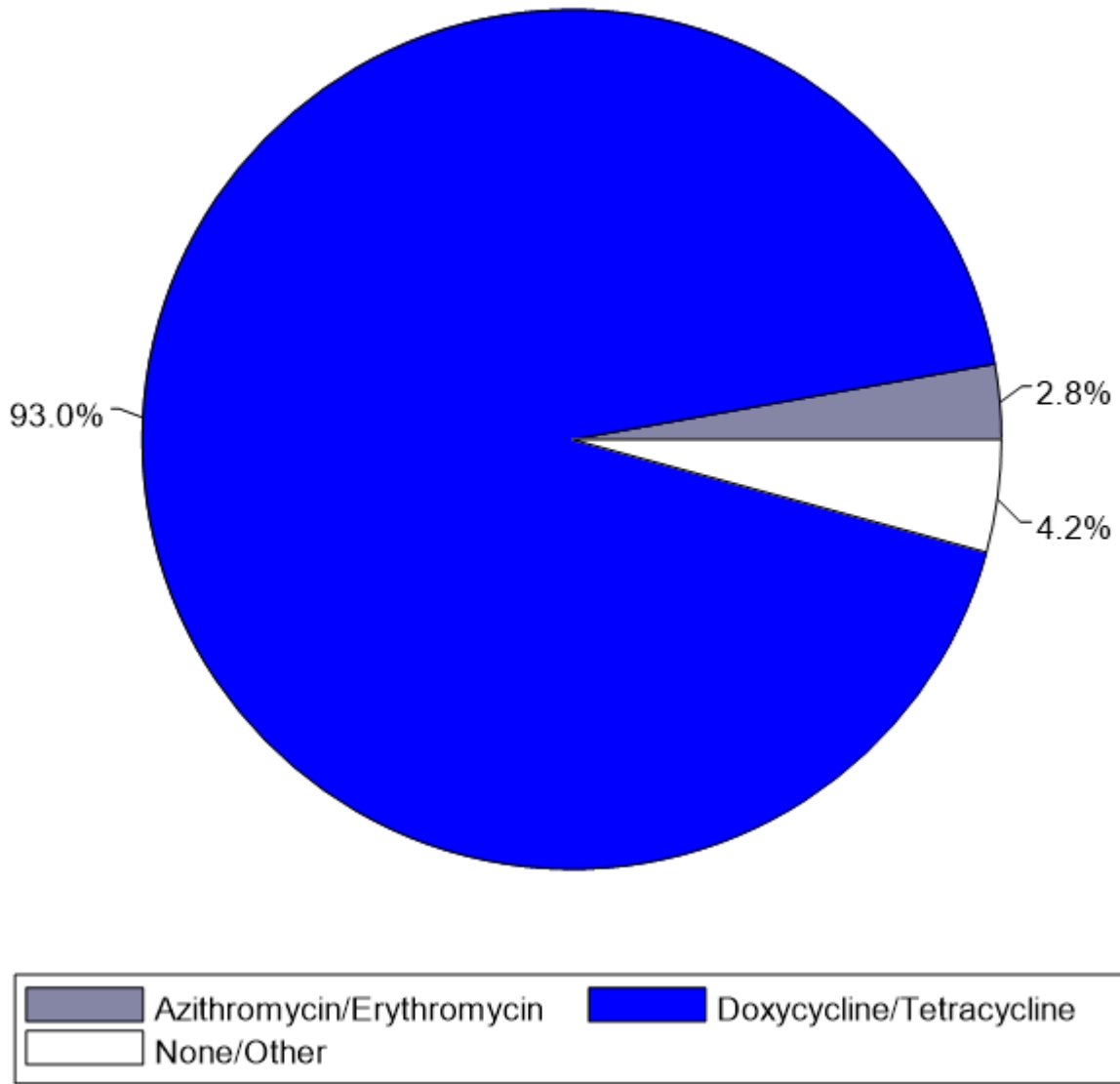
Men who have sex with men = men who self-identified as gay or bisexual or reported recent male sex partners.

Figure D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Portland, Oregon, 2022



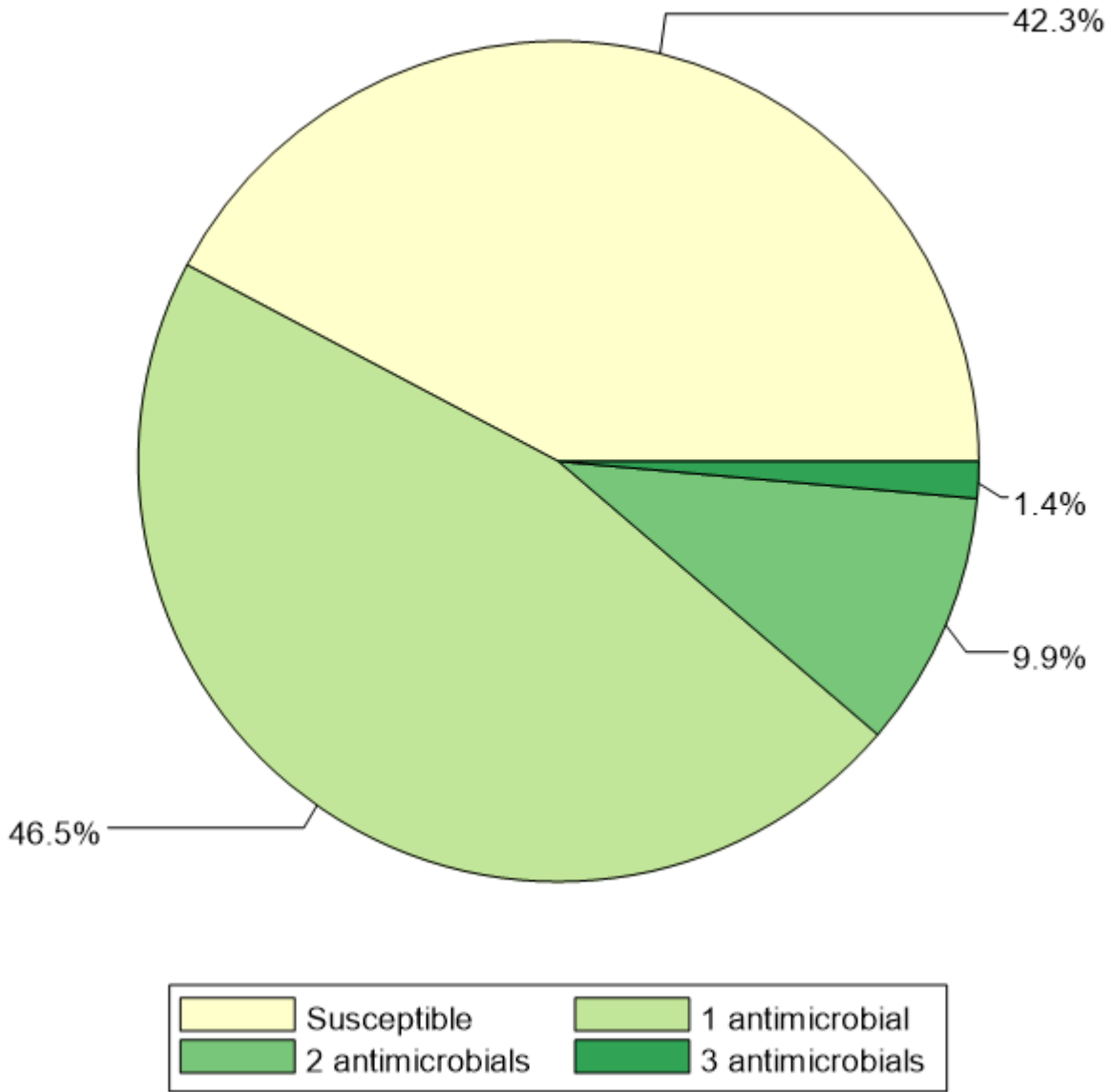
Primary Treatment	Count	Percentage
Cefixime 400 mg	1	1.4
Ceftriaxone 500 mg	69	97.2
Gentamicin 240 mg	1	1.4

Figure E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Portland, Oregon, 2022



Secondary Treatment	Count	Percentage
Azithromycin/Erythromycin	2	2.8
Doxycycline/Tetracycline	66	93.0
None/Other	3	4.2

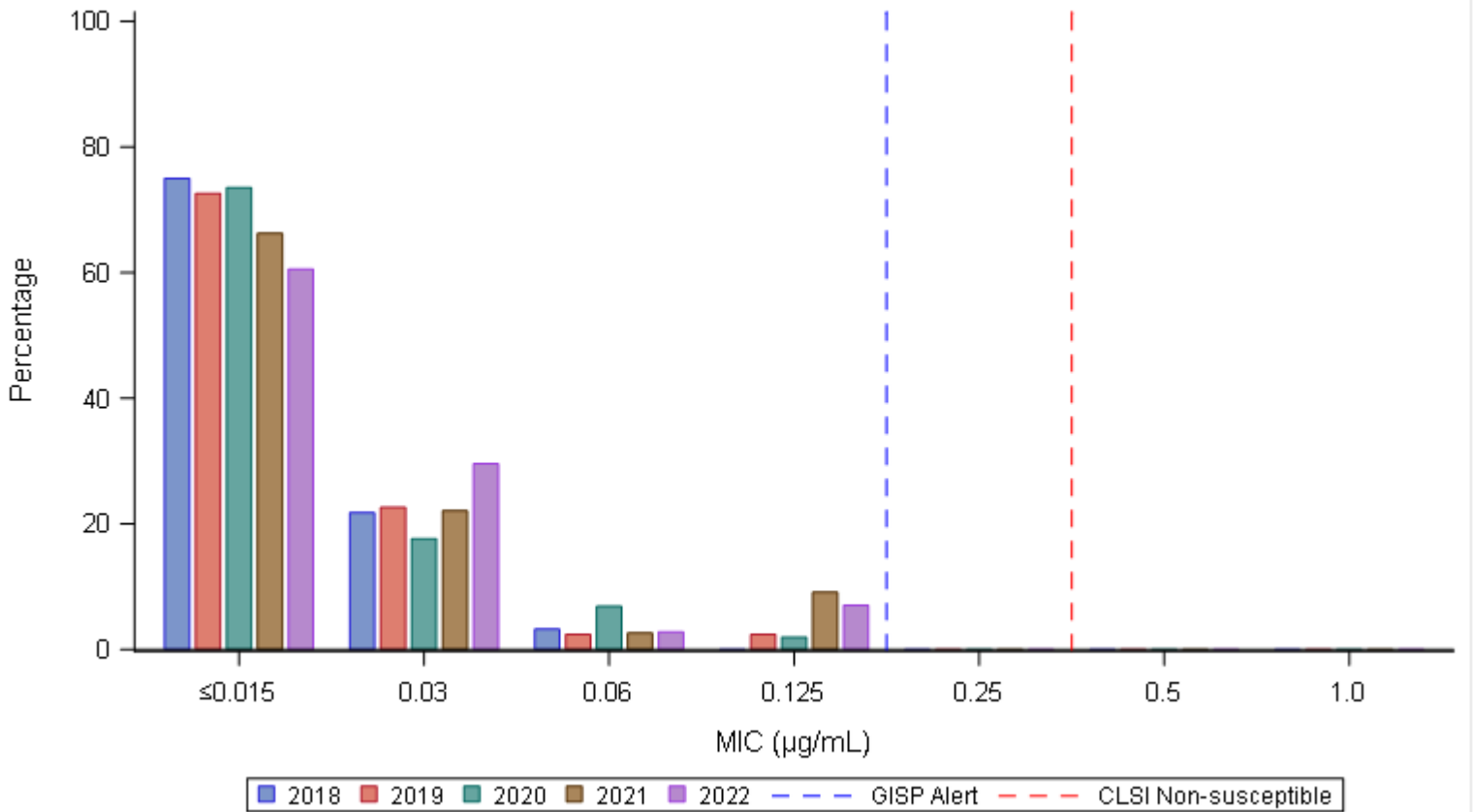
Figure F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Portland, Oregon, 2022



Number of Antimicrobials	Count	Percentage
Susceptible	30	42.3
1 antimicrobial	33	46.5
2 antimicrobials	7	9.9
3 antimicrobials	1	1.4
4+ antimicrobials	0	0.0

Elevated MICs = ceftriaxone MIC ≥ 0.125 $\mu\text{g}/\text{mL}$; cefixime MIC ≥ 0.25 $\mu\text{g}/\text{mL}$; azithromycin MIC ≥ 2.0 $\mu\text{g}/\text{mL}$; Resistance = tetracycline MIC ≥ 2.0 $\mu\text{g}/\text{mL}$; ciprofloxacin MIC ≥ 1.0 $\mu\text{g}/\text{mL}$; penicillin MIC ≥ 2.0 $\mu\text{g}/\text{mL}$ or β -lactamase positive.

Figure G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Portland, Oregon, 2018-2022



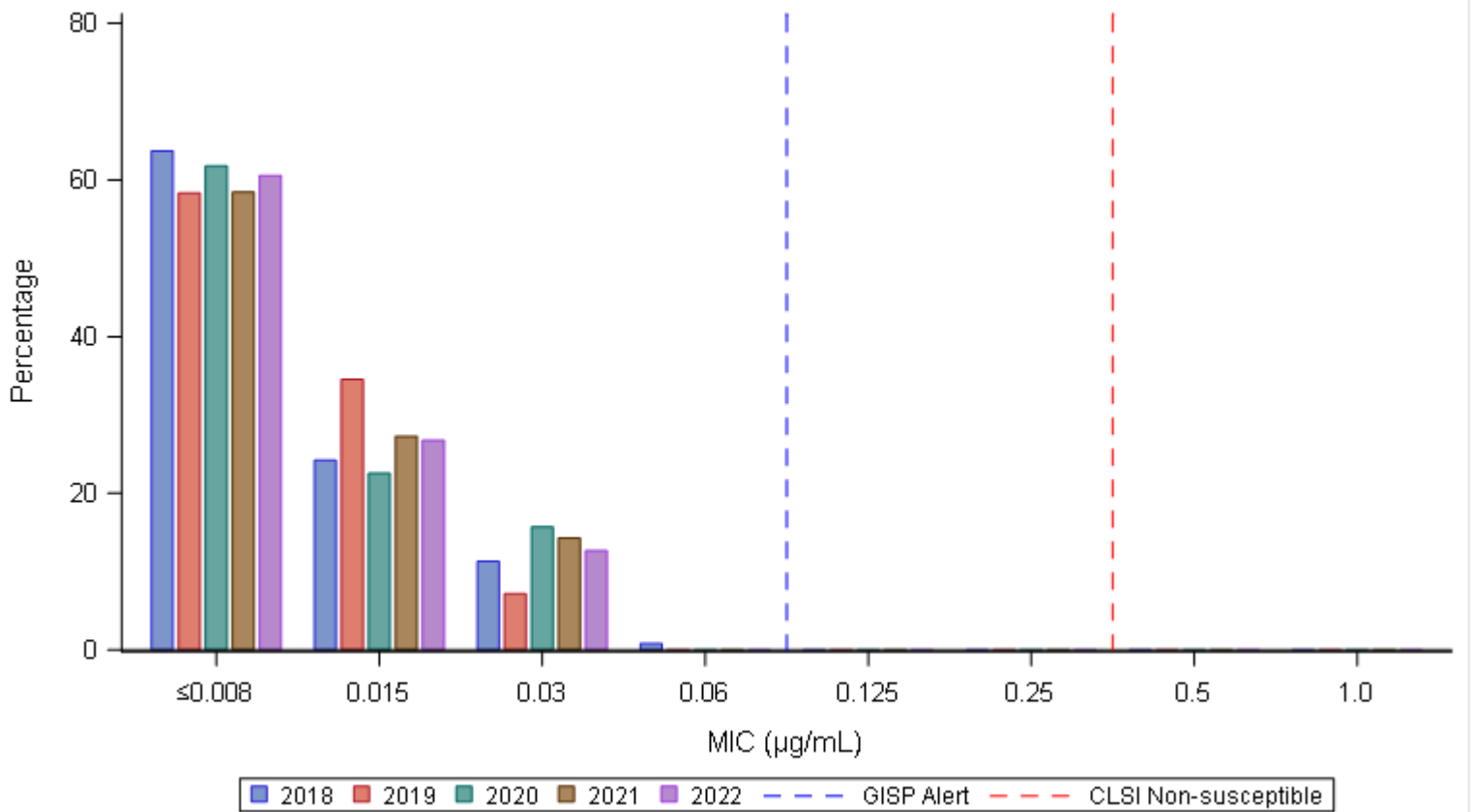
Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	93 (75.0)	27 (21.8)	4 (3.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	124
2019	61 (72.6)	19 (22.6)	2 (2.4)	2 (2.4)	0 (0.0)	0 (0.0)	0 (0.0)	84
2020	75 (73.5)	18 (17.6)	7 (6.9)	2 (2.0)	0 (0.0)	0 (0.0)	0 (0.0)	102
2021	51 (66.2)	17 (22.1)	2 (2.6)	7 (9.1)	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)	71

GISP Alert Value = cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; CLSI Non-susceptible = cefixime MIC ≥ 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 the end of 2022, the CLSI has not established a cefixime resistance breakpoint for *N. gonorrhoeae*.

Figure H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Portland, Oregon, 2018-2022



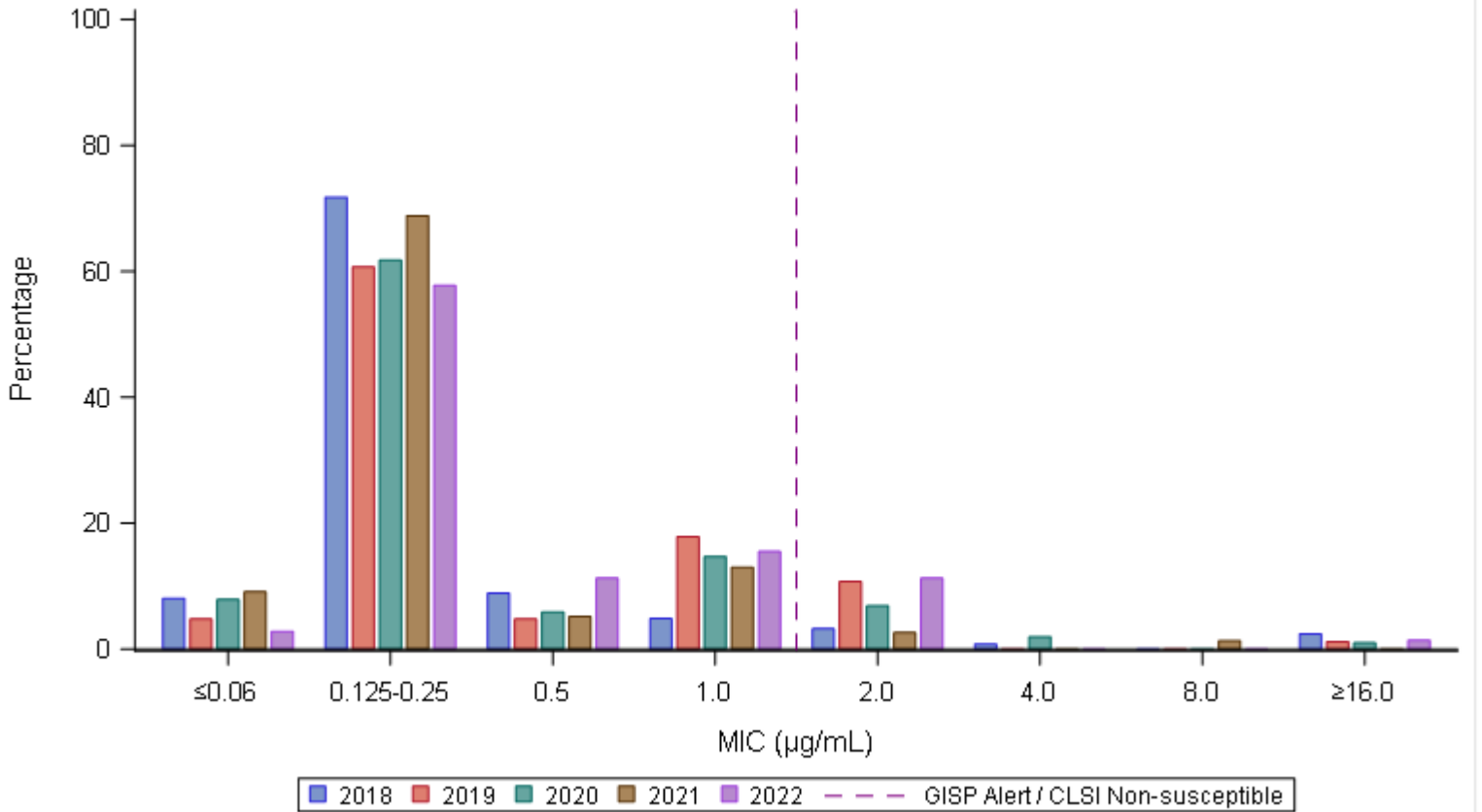
Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	79 (63.7)	30 (24.2)	14 (11.3)	1 (0.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	124
2019	49 (58.3)	29 (34.5)	6 (7.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	84
2020	63 (61.8)	23 (22.5)	16 (15.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	102
2021	45 (58.4)	21 (27.3)	11 (14.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	77
2022	43 (60.6)	19 (26.8)	9 (12.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	71

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 the end of 2022, the CLSI has not established a ceftriaxone resistance breakpoint for *N. gonorrhoeae*.

Figure I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Portland, Oregon, 2018-2022



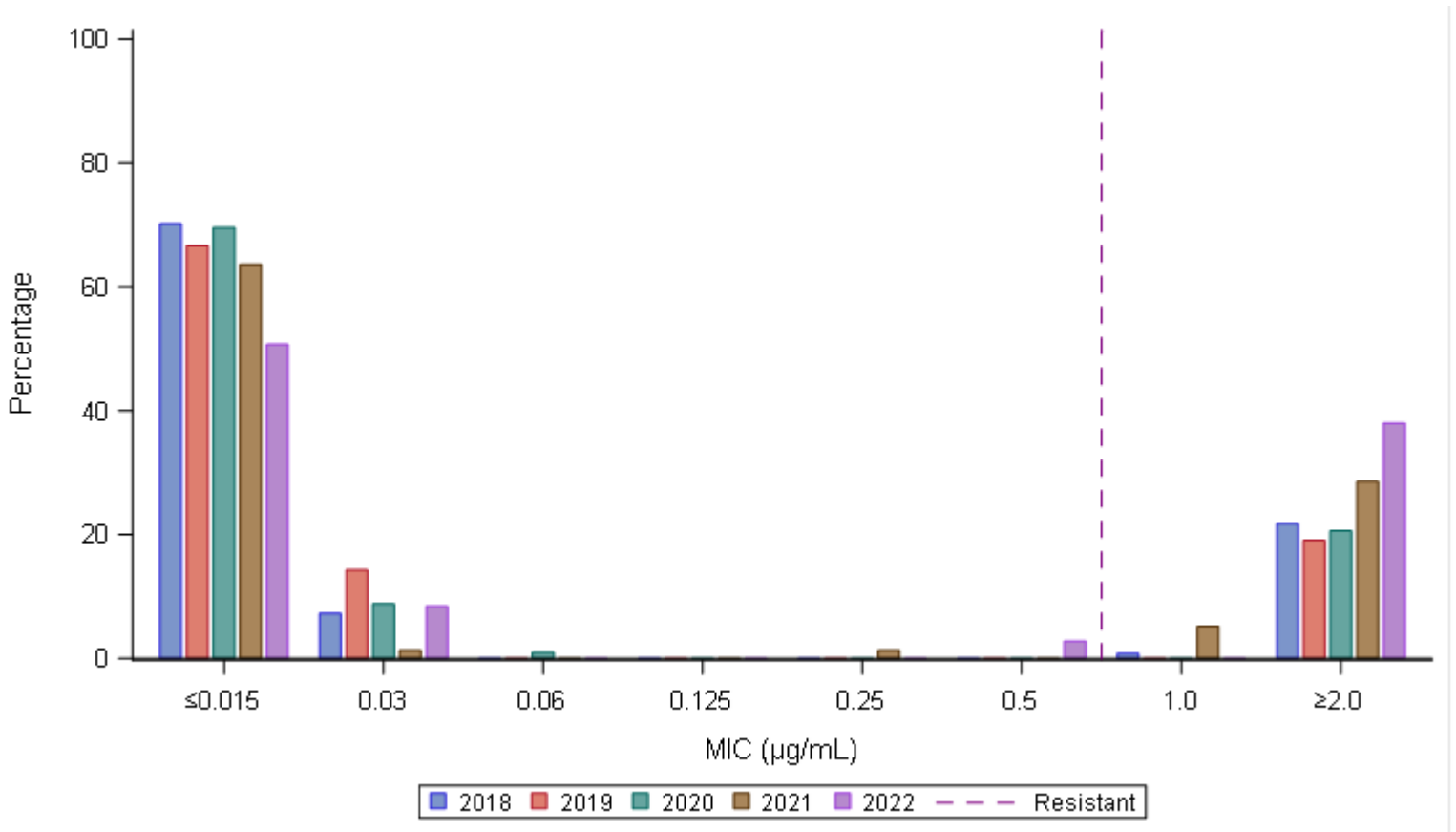
Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2018	10 (8.1)	89 (71.8)	11 (8.9)	6 (4.8)	4 (3.2)	1 (0.8)	0 (0.0)	3 (2.4)	124
2019	4 (4.8)	51 (60.7)	4 (4.8)	15 (17.9)	9 (10.7)	0 (0.0)	0 (0.0)	1 (1.2)	84
2020	8 (7.8)	63 (61.8)	6 (5.9)	15 (14.7)	7 (6.9)	2 (2.0)	0 (0.0)	1 (1.0)	102
2021	7 (9.1)	53 (68.8)	4 (5.2)	10 (13.0)	2 (2.6)	0 (0.0)	1 (1.3)	0 (0.0)	77
2022	2 (2.8)	41 (57.7)	8 (11.3)	11 (15.5)	8 (11.3)	0 (0.0)	0 (0.0)	1 (1.4)	71

GISP Alert Value: azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; CLSI Non-susceptible = azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$.

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 the end of 2022, the CLSI has not established an azithromycin resistance breakpoint for *N. gonorrhoeae*.

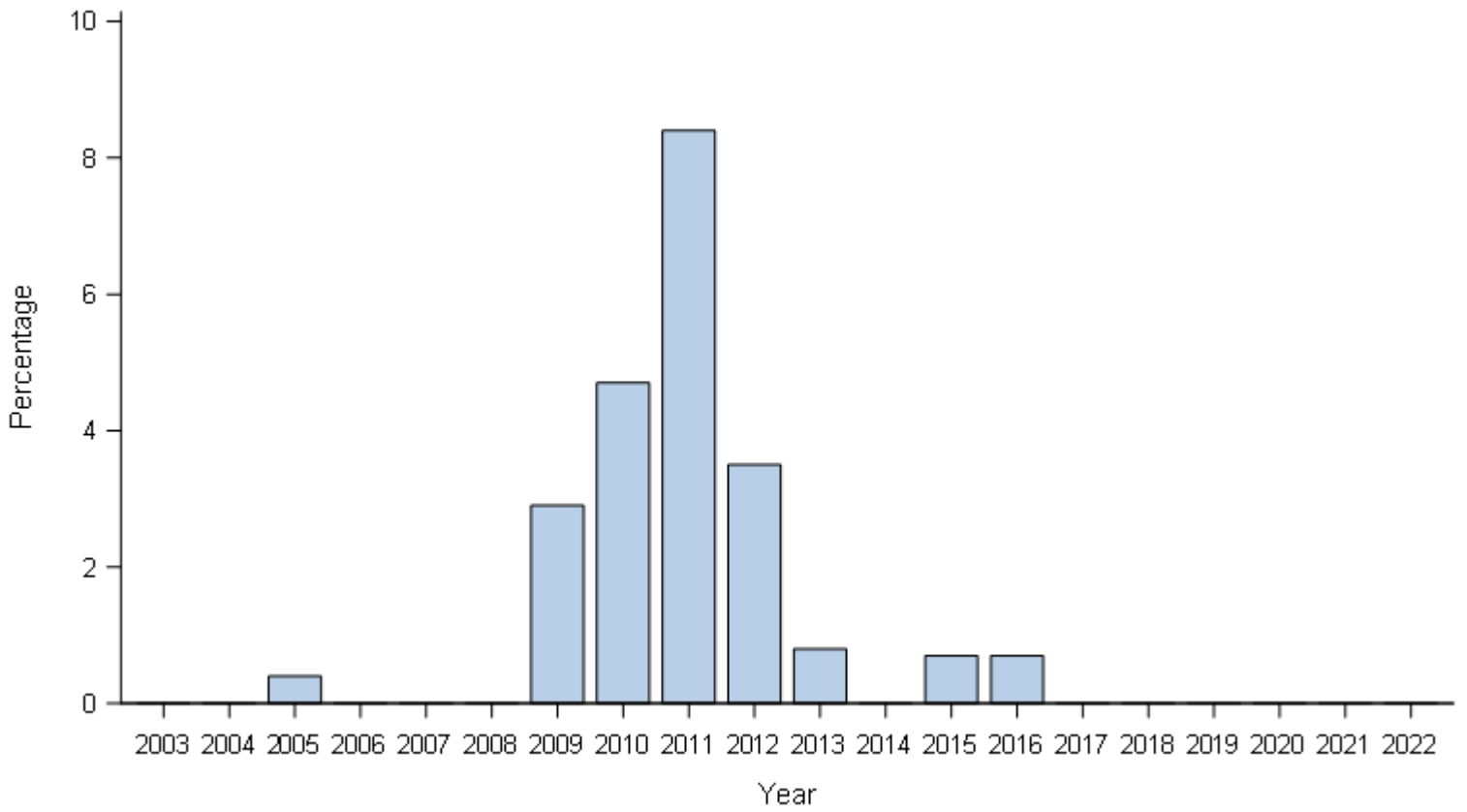
Figure J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Portland, Oregon, 2018-2022



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
2018	87 (70.2)	9 (7.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.8)	27 (21.8)	124
2019	56 (66.7)	12 (14.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	16 (19.0)	84
2020	71 (69.6)	9 (8.8)	1 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	21 (20.6)	102
2021	49 (63.6)	1 (1.3)	0 (0.0)	0 (0.0)	1 (1.3)	0 (0.0)	4 (5.2)	22 (28.6)	77
2022	36 (50.7)	6 (8.5)	0 (0.0)	0 (0.0)	0 (0.0)	2 (2.8)	0 (0.0)	27 (38.0)	71

Ciprofloxacin resistance MIC ≥1.0 µg/mL.

Figure K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Portland, Oregon, 2003-2022

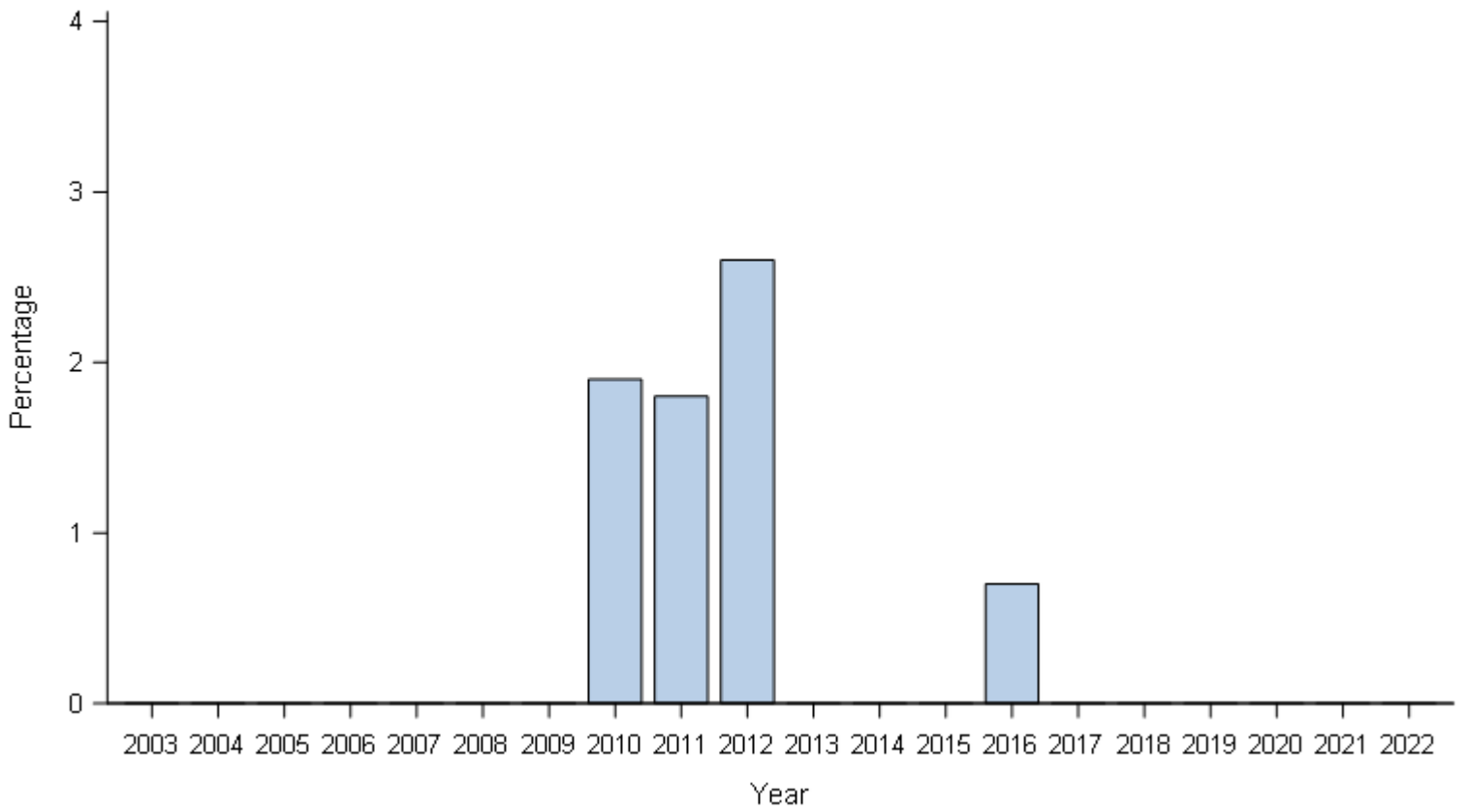


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	3 (2.9)	5 (4.7)	14 (8.4)	4 (3.5)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
1 (0.8)	0 (0.0)	1 (0.7)	1 (0.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

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

Figure L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Portland, Oregon, 2003-2022

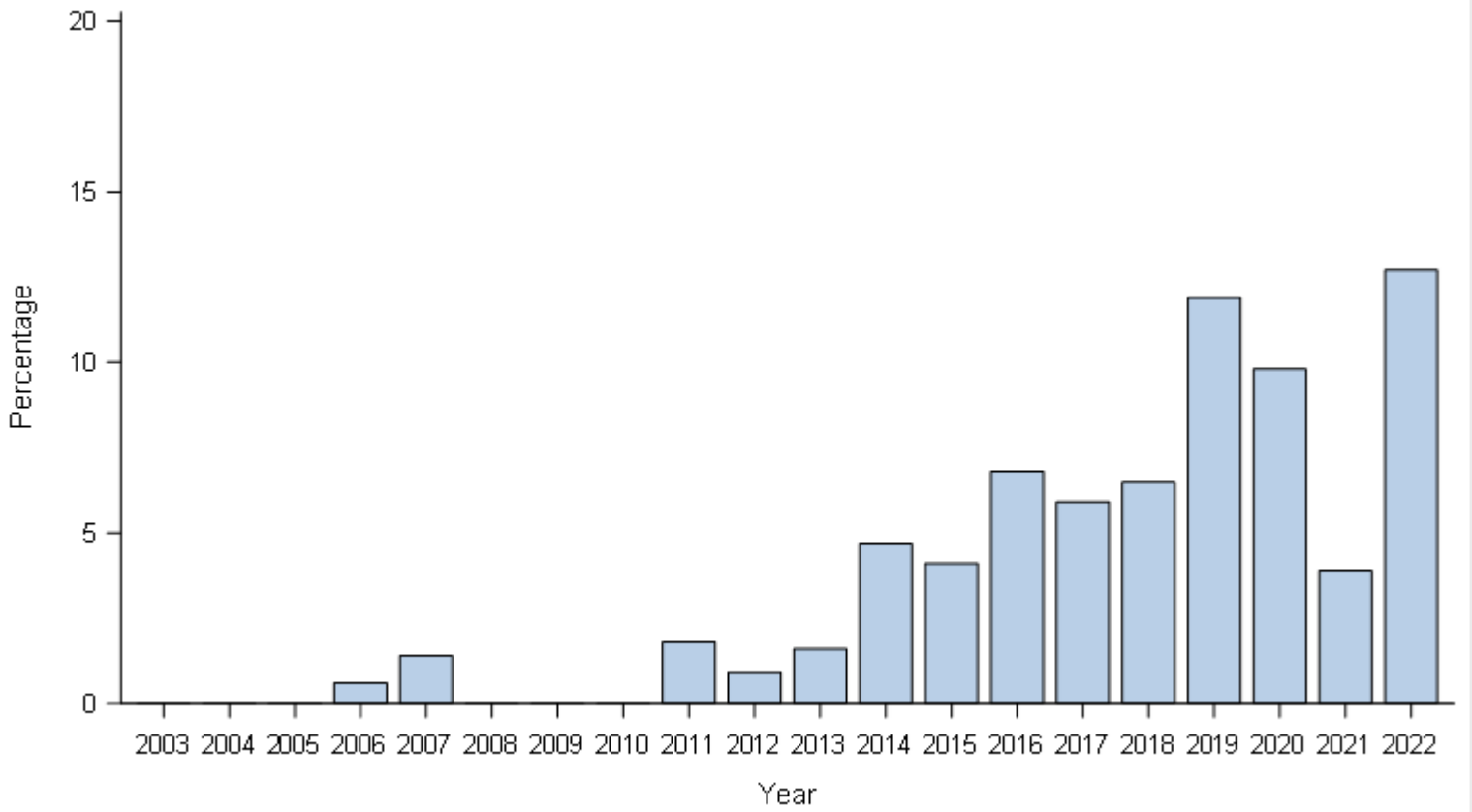


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (1.9)	3 (1.8)	3 (2.6)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	1 (0.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

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

Figure M. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Portland, Oregon, 2003-2022

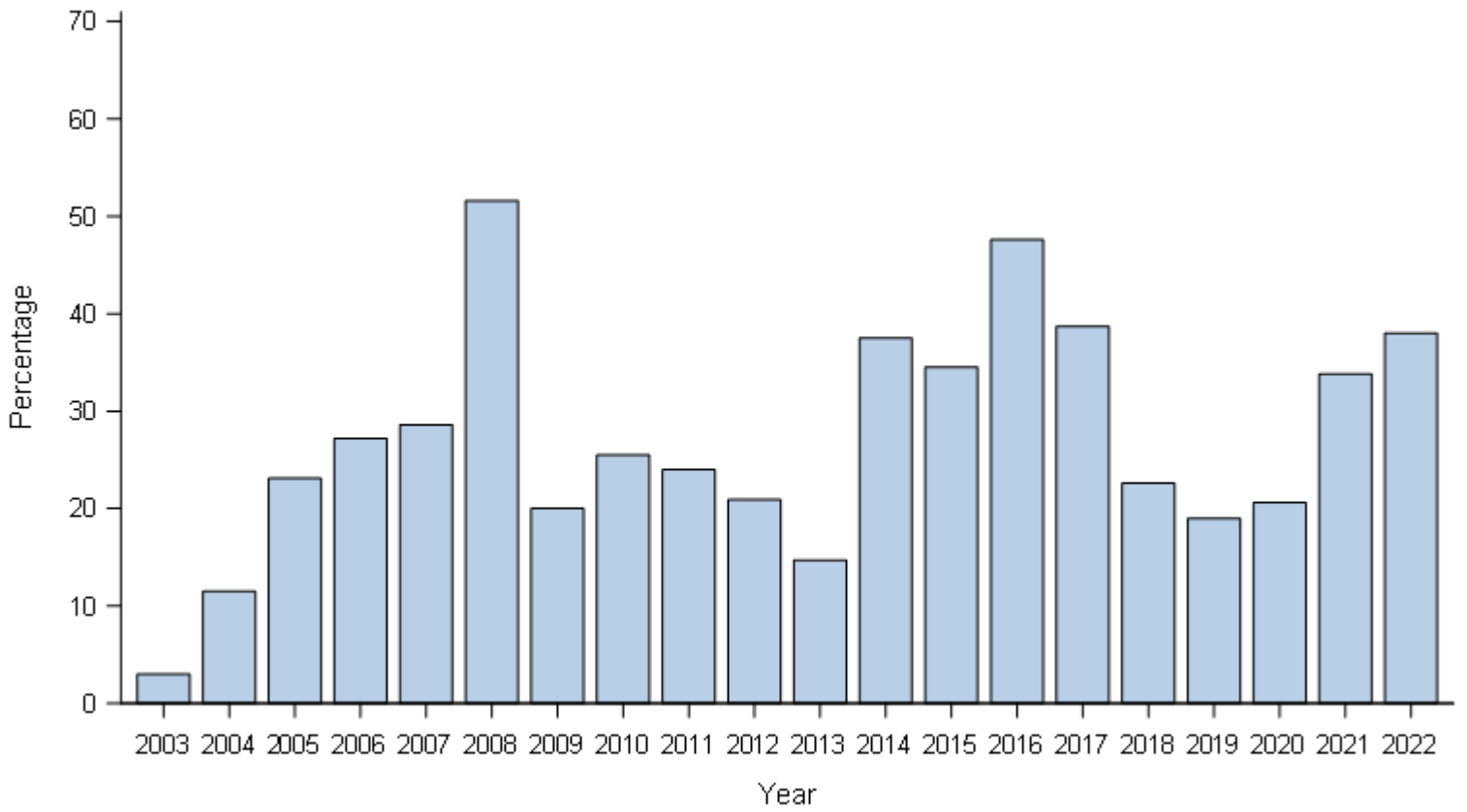


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	1 (0.6)	2 (1.4)	0 (0.0)	0 (0.0)	0 (0.0)	3 (1.8)	1 (0.9)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
2 (1.6)	6 (4.7)	6 (4.1)	10 (6.8)	7 (5.9)	8 (6.5)	10 (11.9)	10 (9.8)	3 (3.9)	9 (12.7)

Azithromycin elevated MIC ≥ 1.0 $\mu\text{g/mL}$ prior to 2005 and ≥ 2.0 $\mu\text{g/mL}$ during 2005-2022.

Figure N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Portland, Oregon, 2003-2022

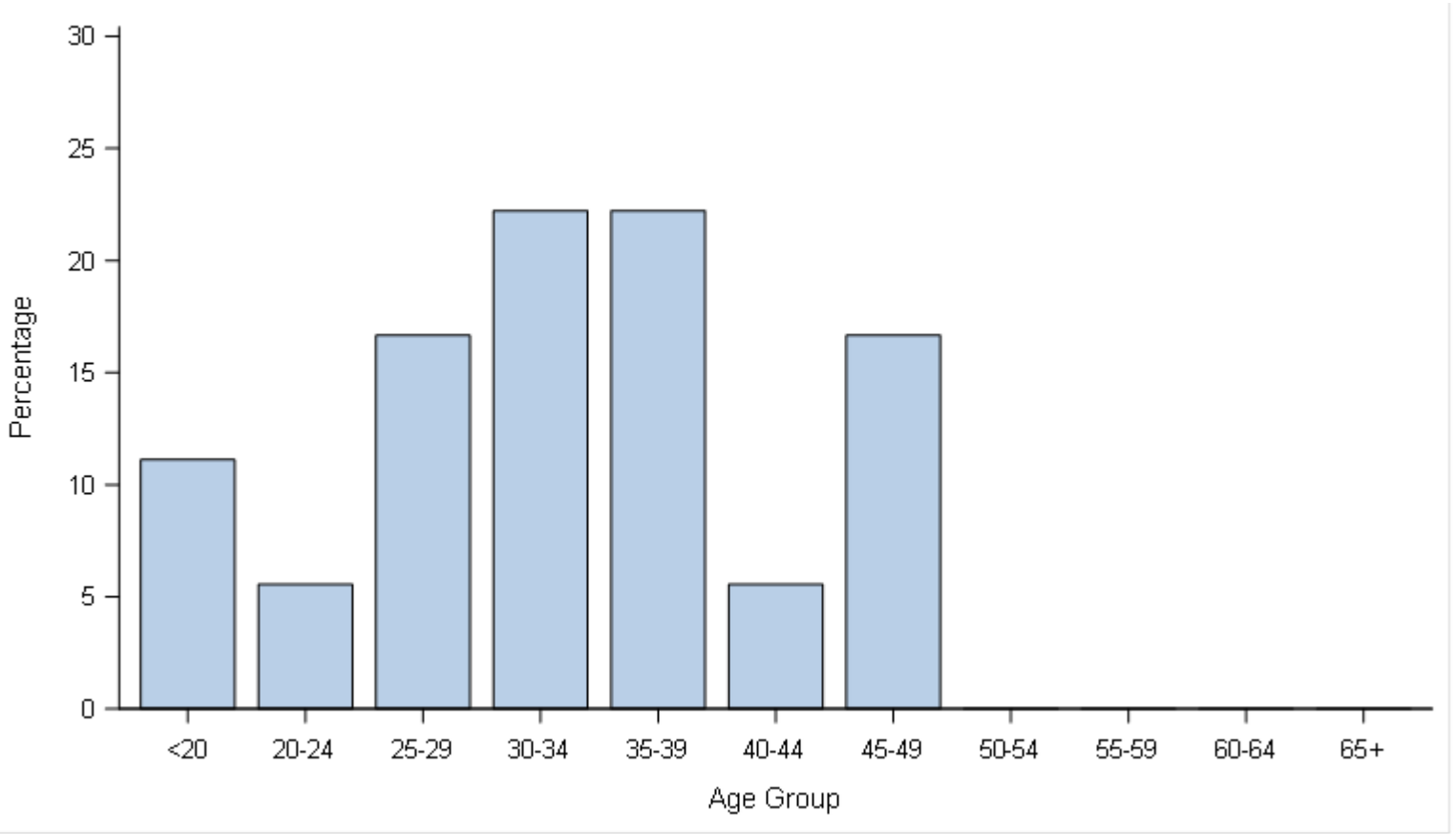


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
4 (3.0)	22 (11.5)	55 (23.1)	46 (27.2)	42 (28.6)	81 (51.6)	21 (20.0)	27 (25.5)	40 (24.0)	24 (20.9)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
19 (14.7)	48 (37.5)	51 (34.5)	70 (47.6)	46 (38.7)	28 (22.6)	16 (19.0)	21 (20.6)	26 (33.8)	27 (38.0)

Ciprofloxacin resistance MIC \geq 1.0 μ g/mL.

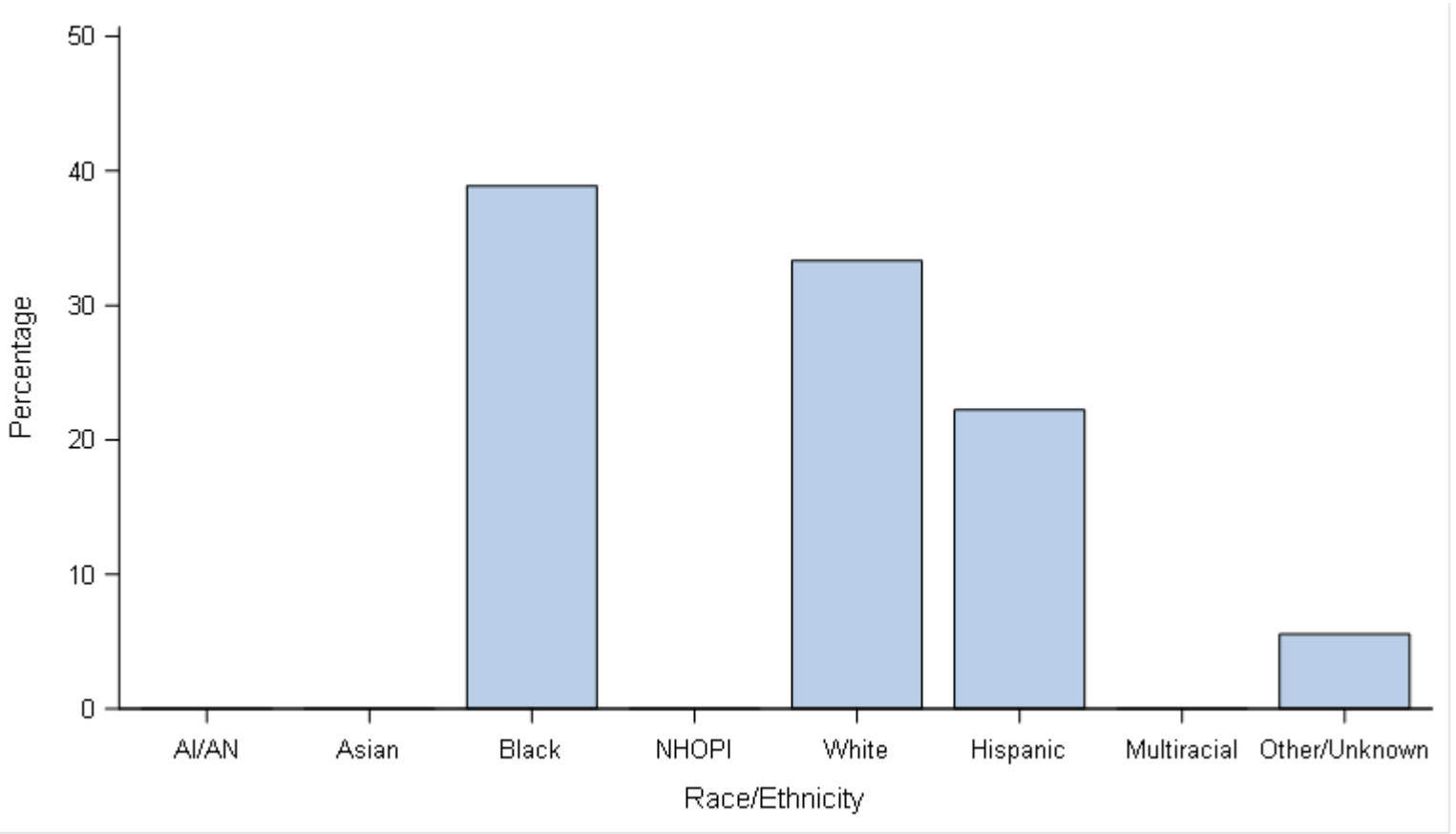
Figure A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), San Diego, California, 2022



<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 (11.1)	1 (5.6)	3 (16.7)	4 (22.2)	4 (22.2)	1 (5.6)	3 (16.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	18

Cases with unknown age were excluded.

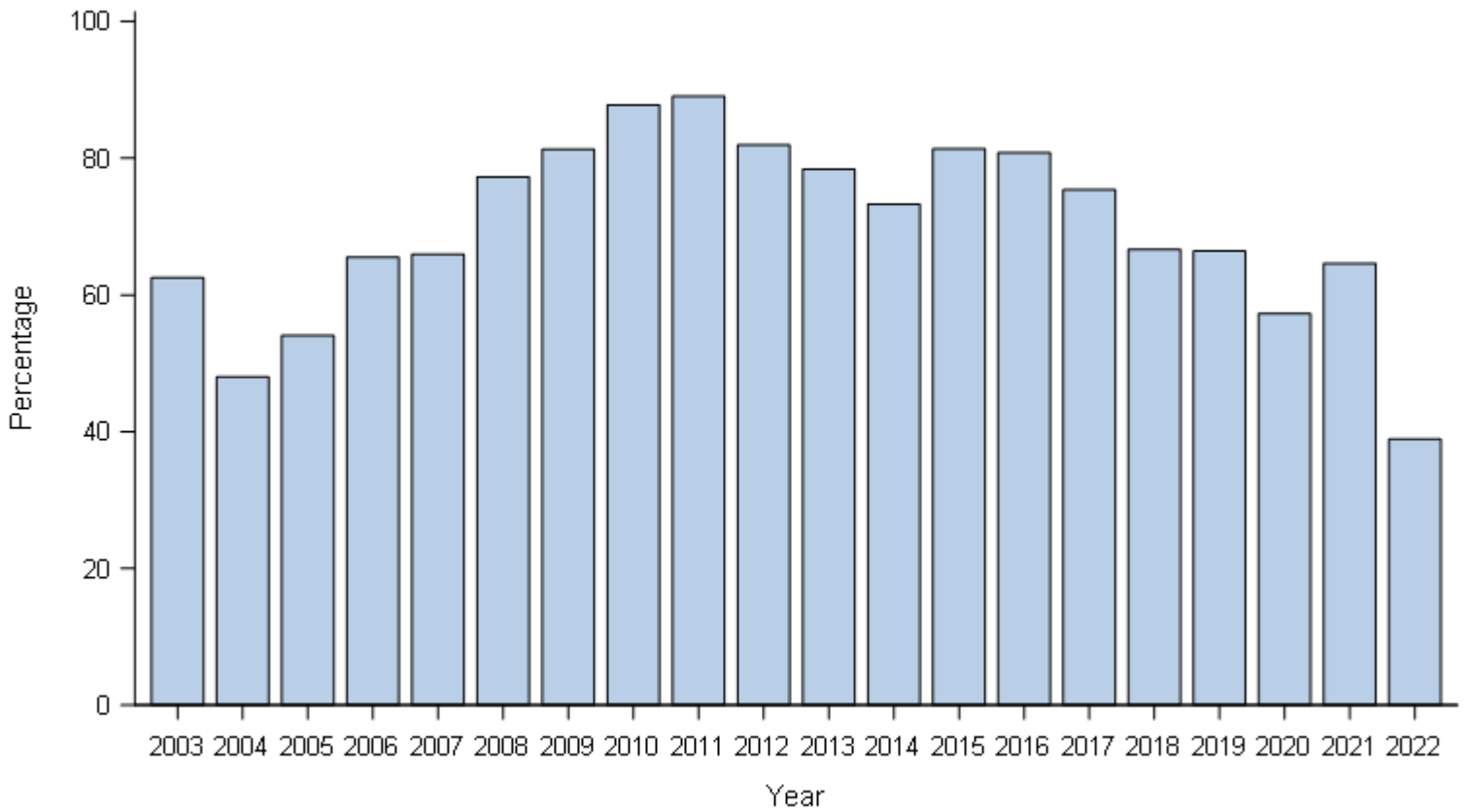
Figure B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), San Diego, California, 2022



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)	7 (38.9)	0 (0.0)	6 (33.3)	4 (22.2)	0 (0.0)	1 (5.6)	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.

Figure C. Percentage of Participants Identifying as Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), San Diego, California, 2003-2022

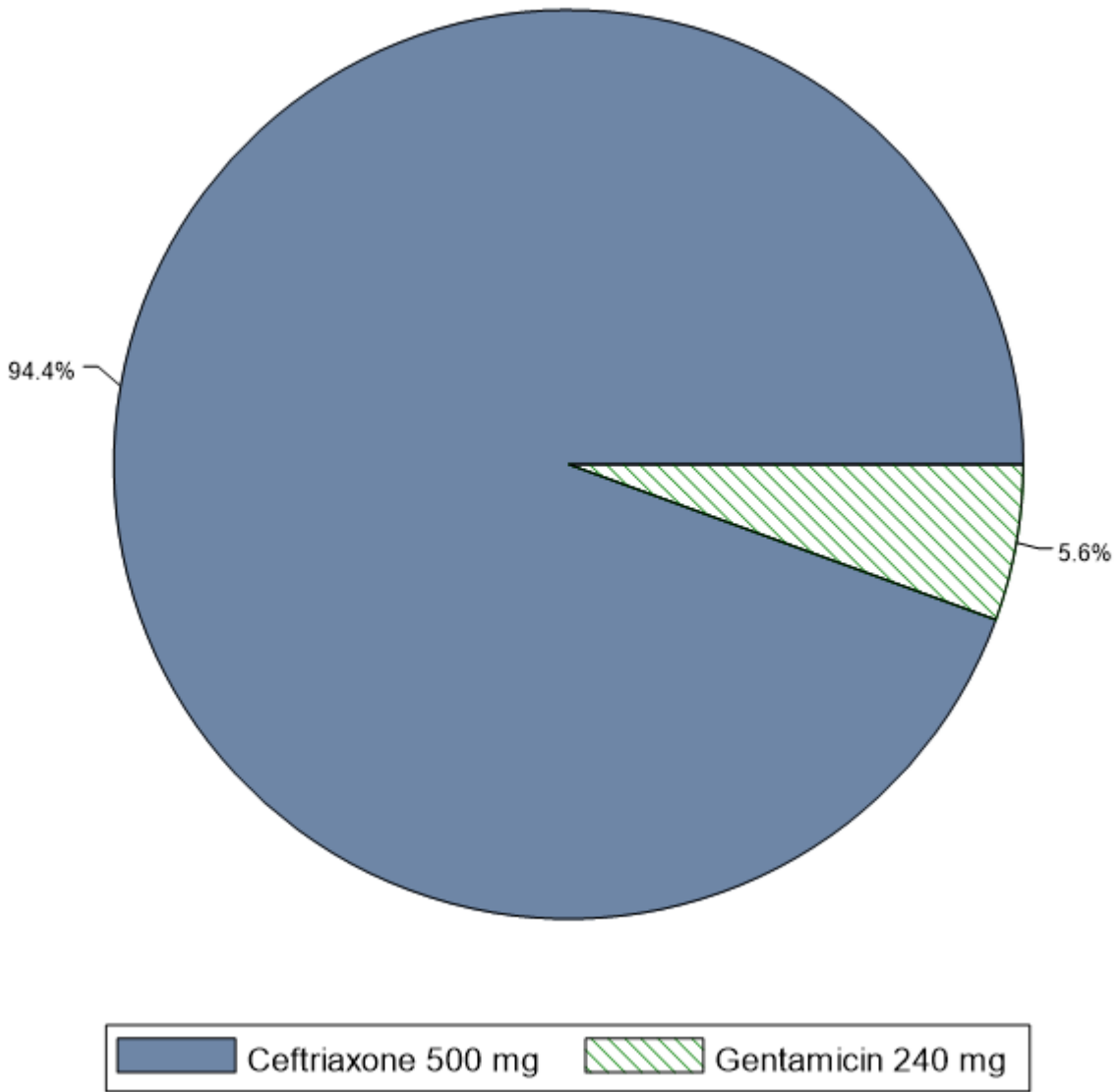


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
160 (62.5)	120 (48.0)	159 (54.1)	171 (65.5)	124 (66.0)	136 (77.3)	139 (81.3)	180 (87.8)	187 (89.0)	168 (82.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
138 (78.4)	151 (73.3)	153 (81.4)	156 (80.8)	147 (75.4)	98 (66.7)	87 (66.4)	59 (57.3)	84 (64.6)	7 (38.9)

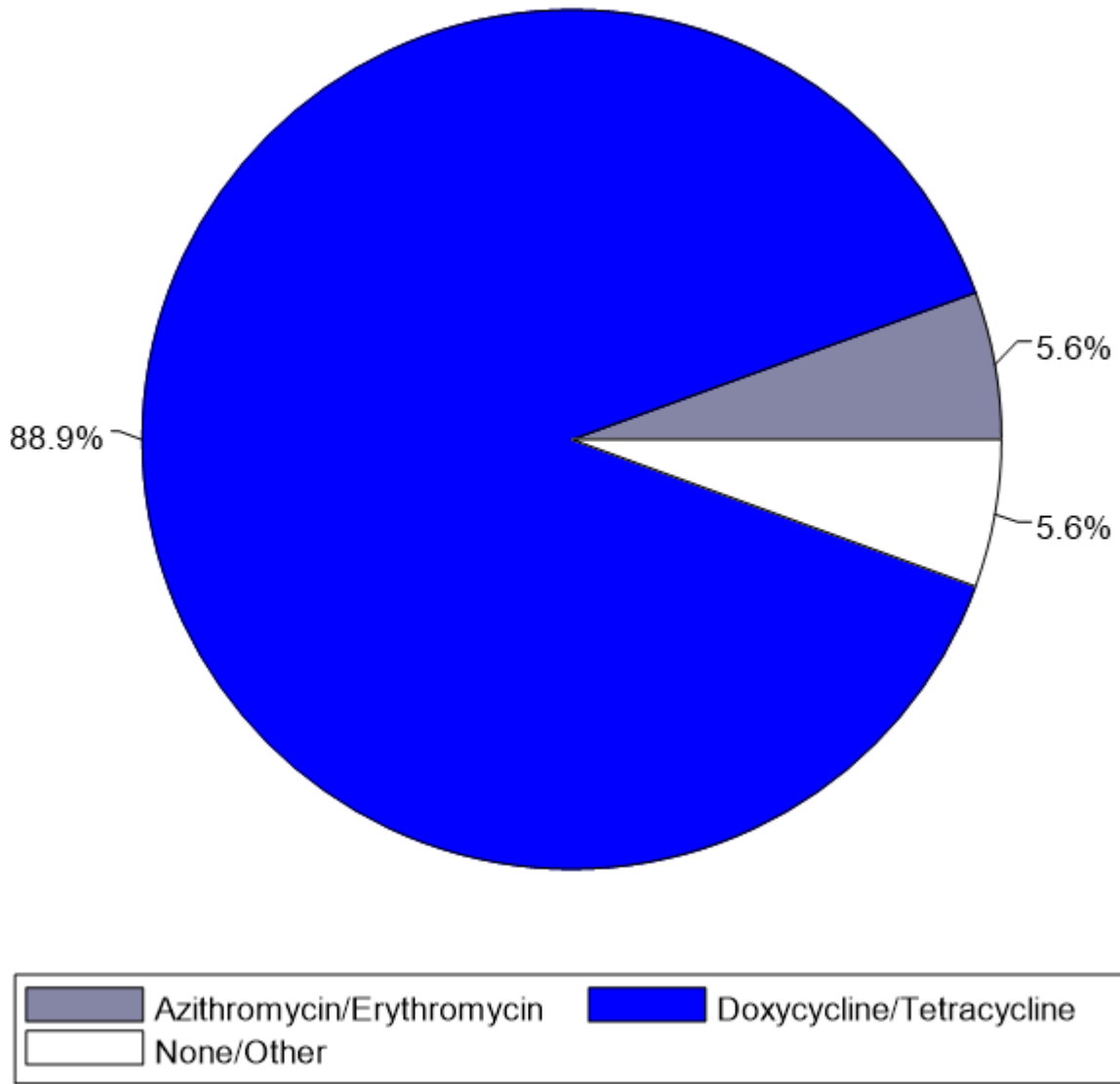
Men who have sex with men = men who self-identified as gay or bisexual or reported recent male sex partners.

Figure D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), San Diego, California, 2022



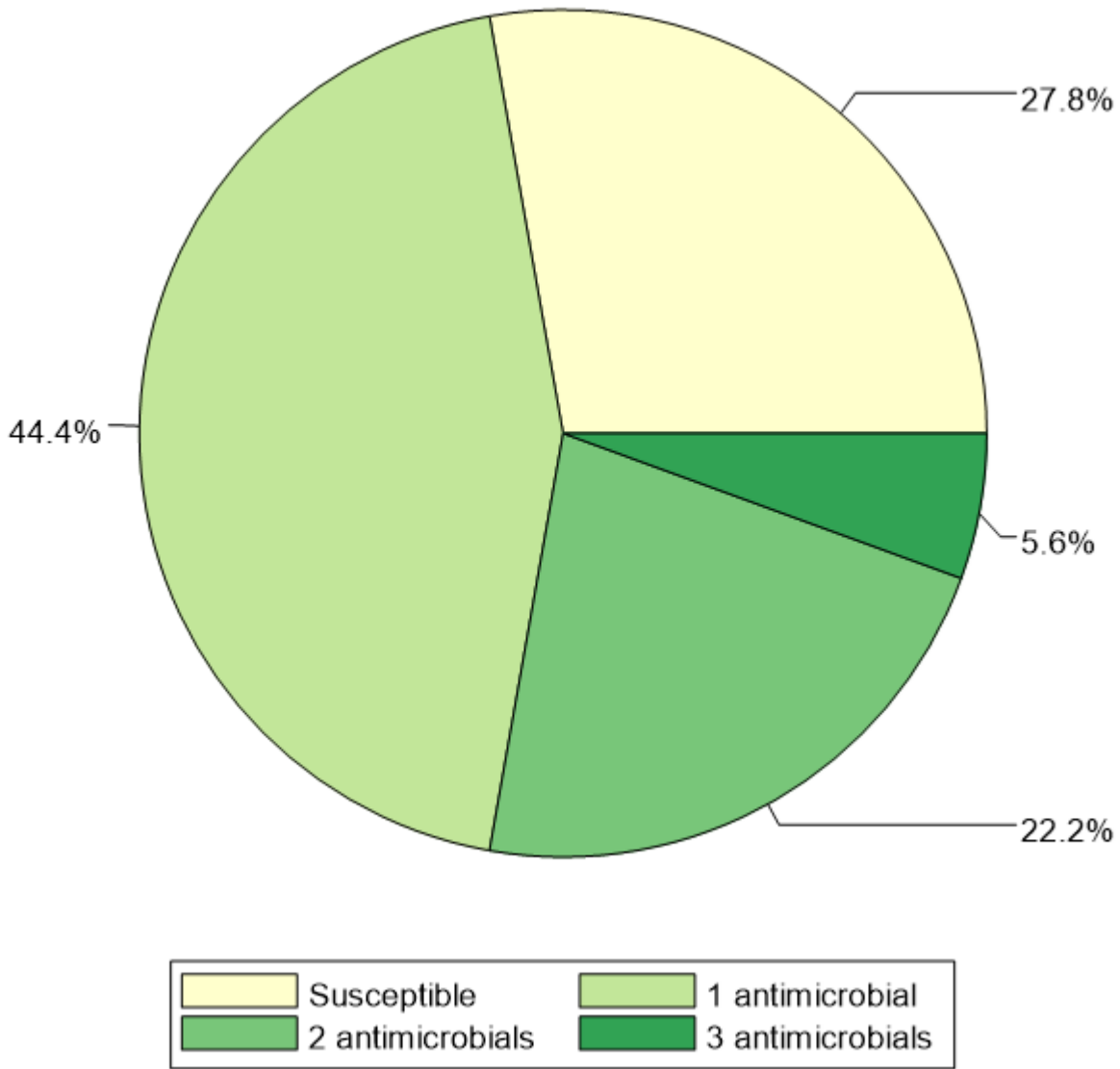
Primary Treatment	Count	Percentage
Ceftriaxone 500 mg	17	94.4
Gentamicin 240 mg	1	5.6

Figure E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), San Diego, California, 2022



Secondary Treatment	Count	Percentage
Azithromycin/Erythromycin	1	5.6
Doxycycline/Tetracycline	16	88.9
None/Other	1	5.6

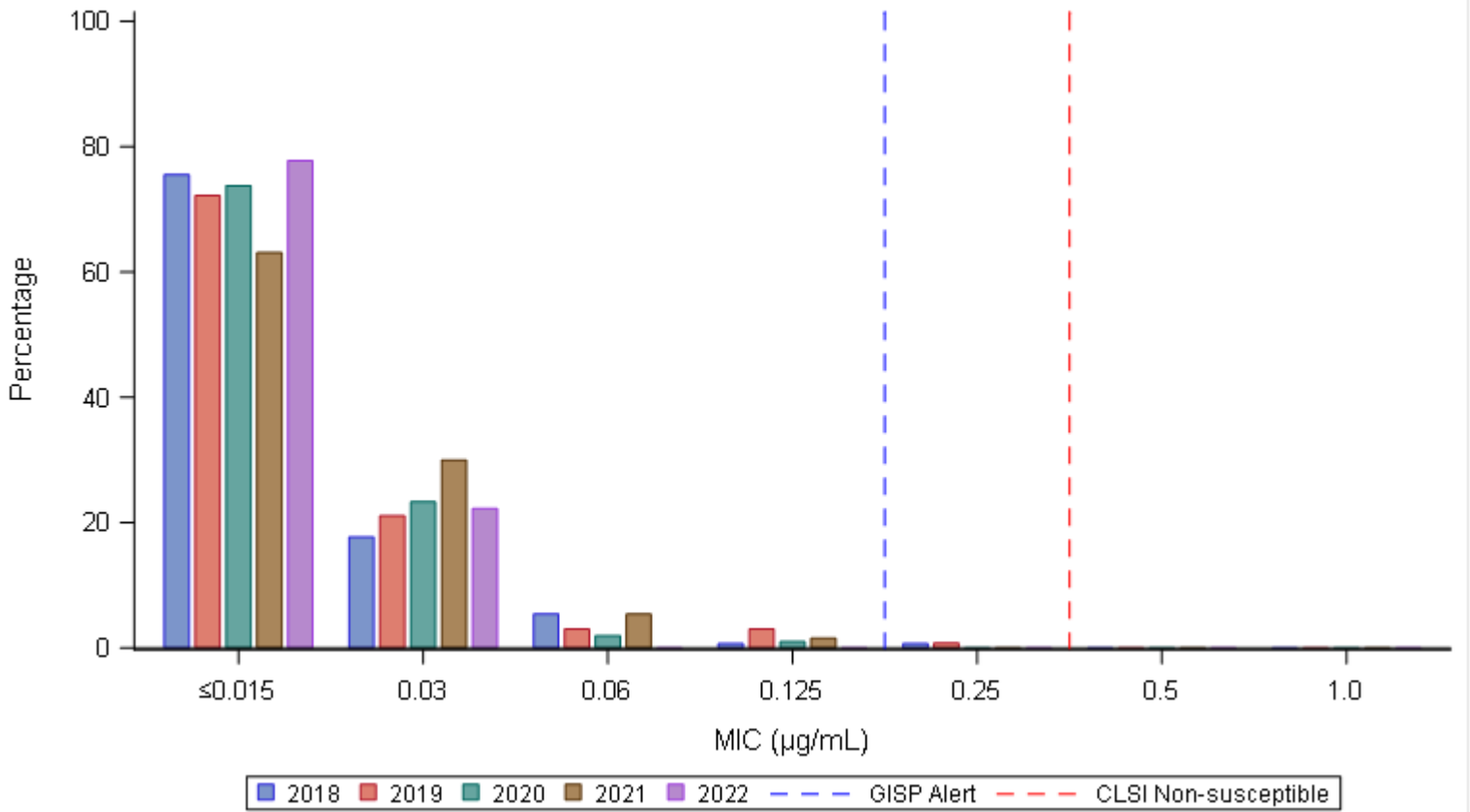
Figure F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), San Diego, California, 2022



Number of Antimicrobials	Count	Percentage
Susceptible	5	27.8
1 antimicrobial	8	44.4
2 antimicrobials	4	22.2
3 antimicrobials	1	5.6
4+ antimicrobials	0	0.0

Elevated MICs = ceftriaxone MIC ≥ 0.125 $\mu\text{g/mL}$; cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; Resistance = tetracycline MIC ≥ 2.0 $\mu\text{g/mL}$; ciprofloxacin MIC ≥ 1.0 $\mu\text{g/mL}$; penicillin MIC ≥ 2.0 $\mu\text{g/mL}$ or β -lactamase positive.

Figure G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), San Diego, California, 2018-2022



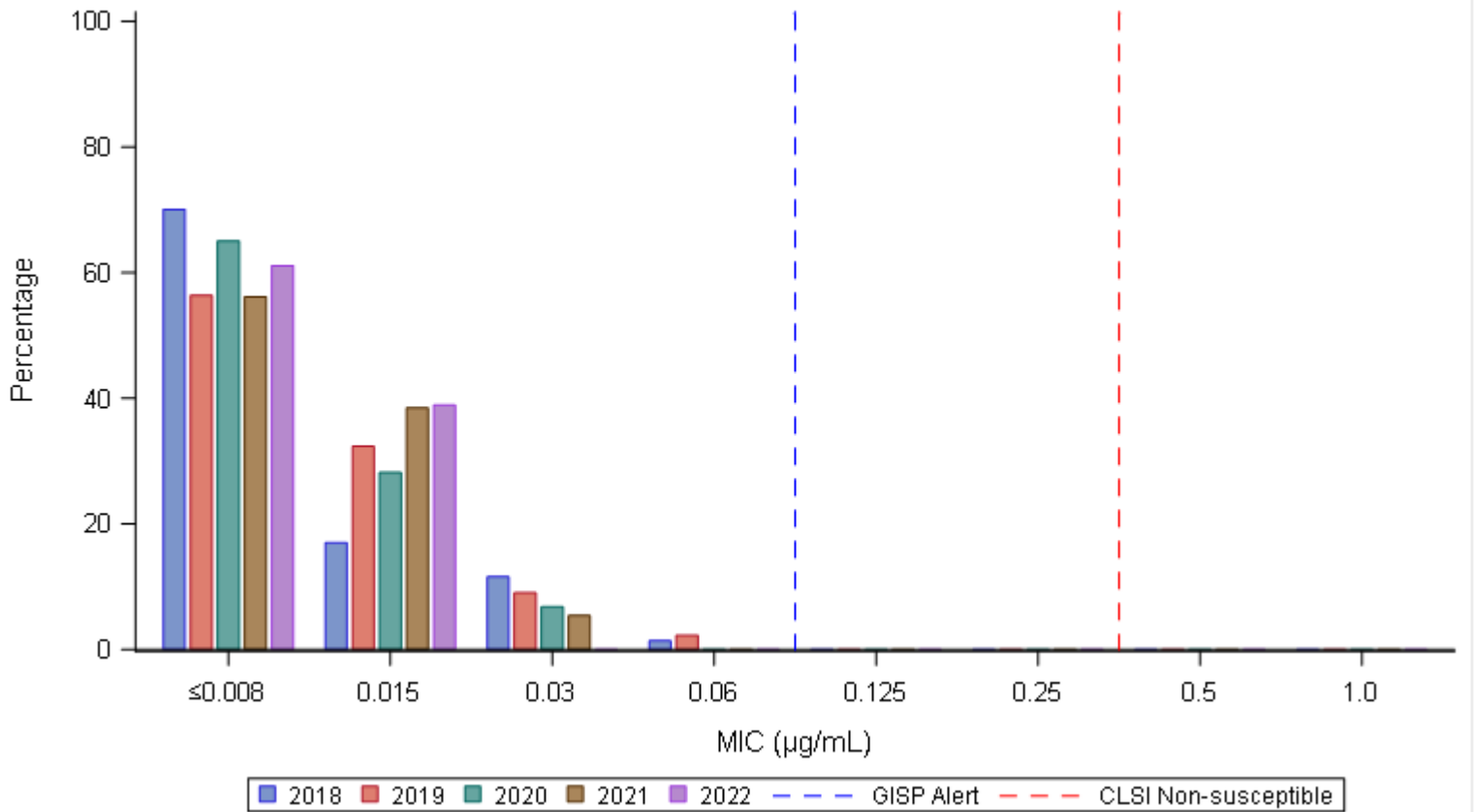
Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	111 (75.5)	26 (17.7)	8 (5.4)	1 (0.7)	1 (0.7)	0 (0.0)	0 (0.0)	147
2019	96 (72.2)	28 (21.1)	4 (3.0)	4 (3.0)	1 (0.8)	0 (0.0)	0 (0.0)	133
2020	76 (73.8)	24 (23.3)	2 (1.9)	1 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)	103
2021	82 (63.1)	39 (30.0)	7 (5.4)	2 (1.5)	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)	18

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

CLSI = Clinical & Laboratory Standards Institute.

Non-susceptible = Category used for isolates when only a susceptible breakpoint has been designated and the MIC is above the susceptible breakpoint. As of the end of 2022, the CLSI has not established a cefixime resistance breakpoint for *N. gonorrhoeae*.

Figure H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), San Diego, California, 2018-2022



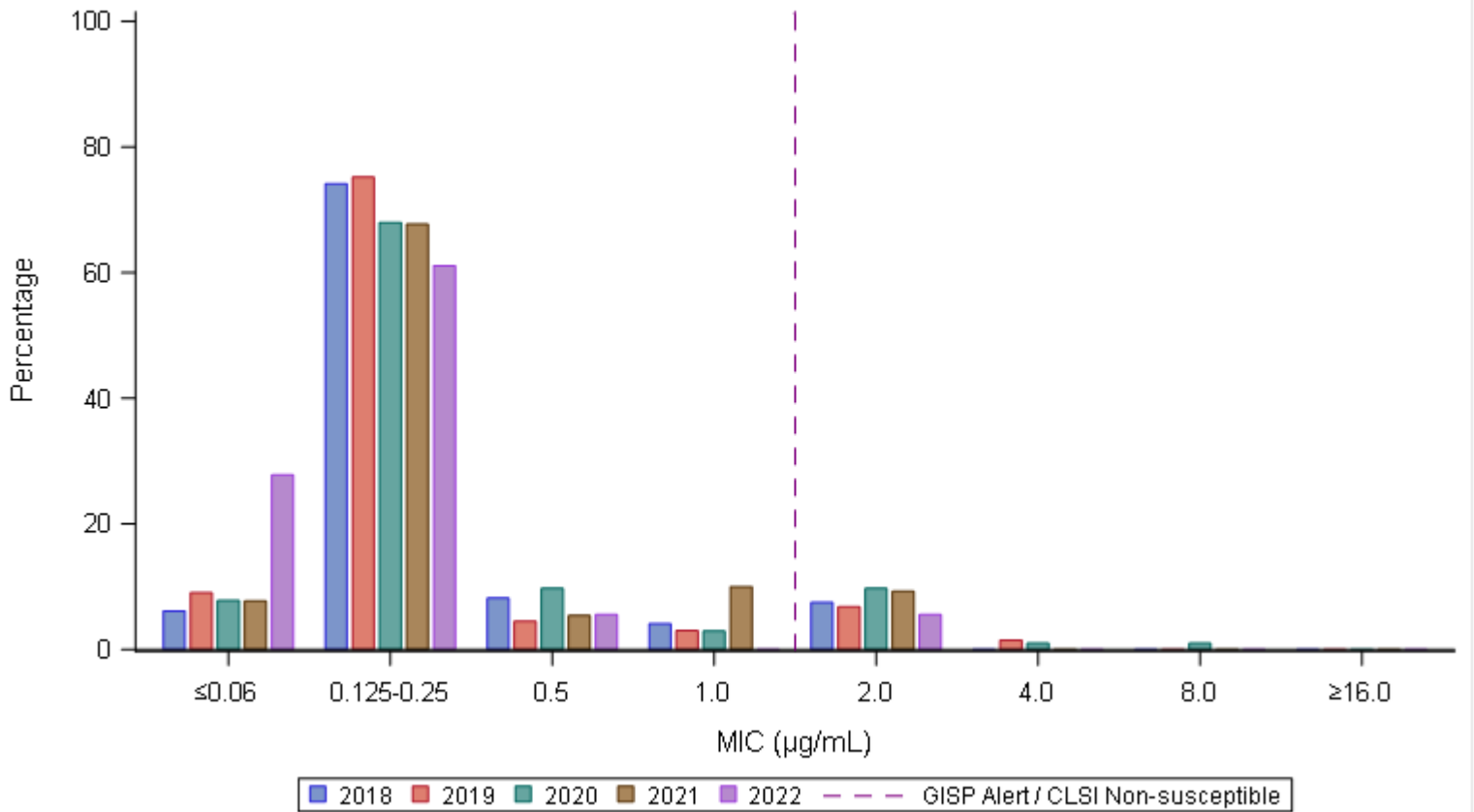
Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	103 (70.1)	25 (17.0)	17 (11.6)	2 (1.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	147
2019	75 (56.4)	43 (32.3)	12 (9.0)	3 (2.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	133
2020	67 (65.0)	29 (28.2)	7 (6.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	103
2021	73 (56.2)	50 (38.5)	7 (5.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	130
2022	11 (61.1)	7 (38.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	18

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 the end of 2022, the CLSI has not established a ceftriaxone resistance breakpoint for *N. gonorrhoeae*.

Figure I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), San Diego, California, 2018-2022



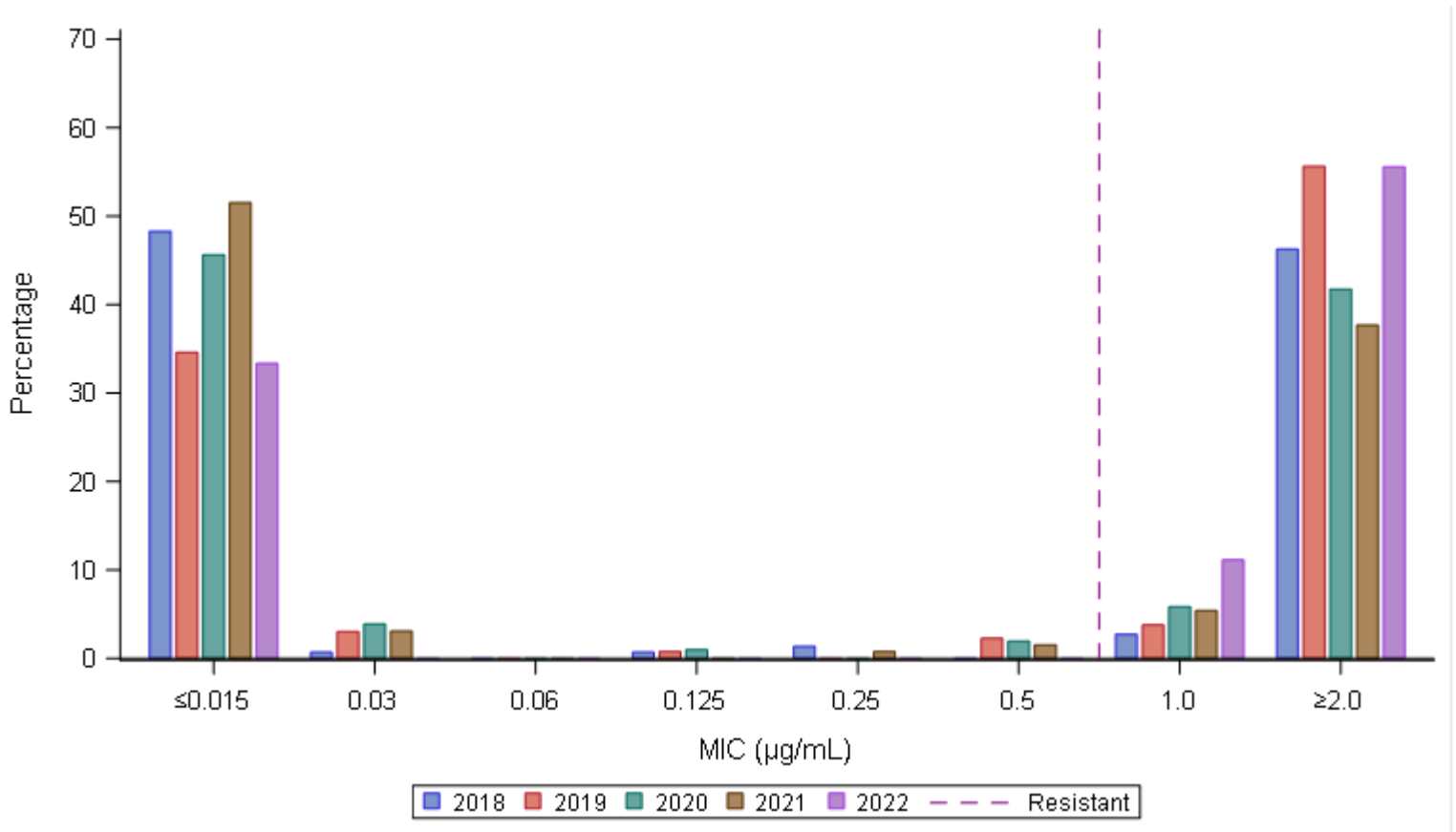
Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2018	9 (6.1)	109 (74.1)	12 (8.2)	6 (4.1)	11 (7.5)	0 (0.0)	0 (0.0)	0 (0.0)	147
2019	12 (9.0)	100 (75.2)	6 (4.5)	4 (3.0)	9 (6.8)	2 (1.5)	0 (0.0)	0 (0.0)	133
2020	8 (7.8)	70 (68.0)	10 (9.7)	3 (2.9)	10 (9.7)	1 (1.0)	1 (1.0)	0 (0.0)	103
2021	10 (7.7)	88 (67.7)	7 (5.4)	13 (10.0)	12 (9.2)	0 (0.0)	0 (0.0)	0 (0.0)	130
2022	5 (27.8)	11 (61.1)	1 (5.6)	0 (0.0)	1 (5.6)	0 (0.0)	0 (0.0)	0 (0.0)	18

GISP Alert Value: azithromycin MIC ≥2.0 µg/mL; CLSI Non-susceptible = azithromycin MIC ≥2.0 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 the end of 2022, the CLSI has not established an azithromycin resistance breakpoint for *N. gonorrhoeae*.

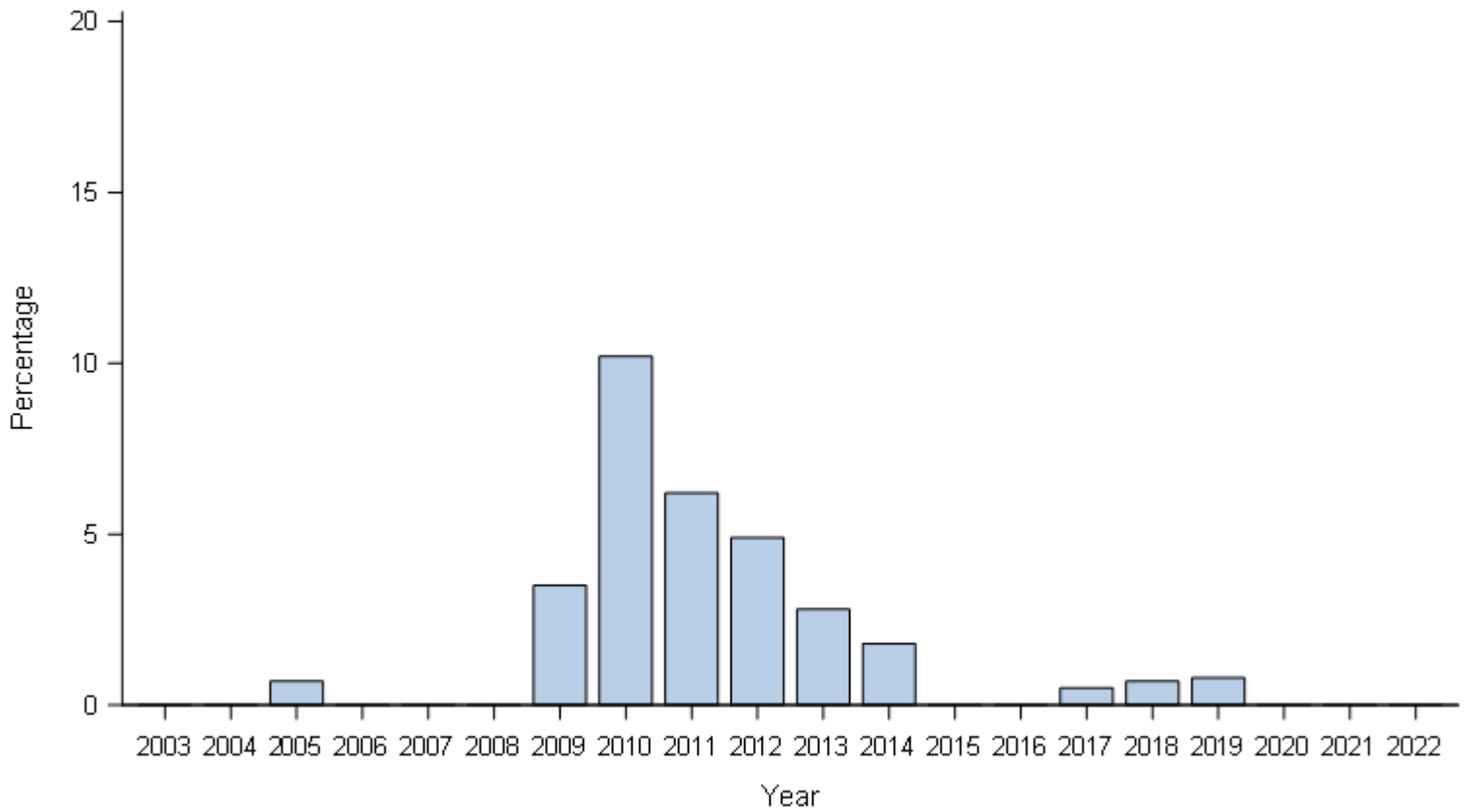
Figure J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), San Diego, California, 2018-2022



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
2018	71 (48.3)	1 (0.7)	0 (0.0)	1 (0.7)	2 (1.4)	0 (0.0)	4 (2.7)	68 (46.3)	147
2019	46 (34.6)	4 (3.0)	0 (0.0)	1 (0.8)	0 (0.0)	3 (2.3)	5 (3.8)	74 (55.6)	133
2020	47 (45.6)	4 (3.9)	0 (0.0)	1 (1.0)	0 (0.0)	2 (1.9)	6 (5.8)	43 (41.7)	103
2021	67 (51.5)	4 (3.1)	0 (0.0)	0 (0.0)	1 (0.8)	2 (1.5)	7 (5.4)	49 (37.7)	130
2022	6 (33.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (11.1)	10 (55.6)	18

Ciprofloxacin resistance MIC ≥1.0 µg/mL.

Figure K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), San Diego, California, 2003-2022

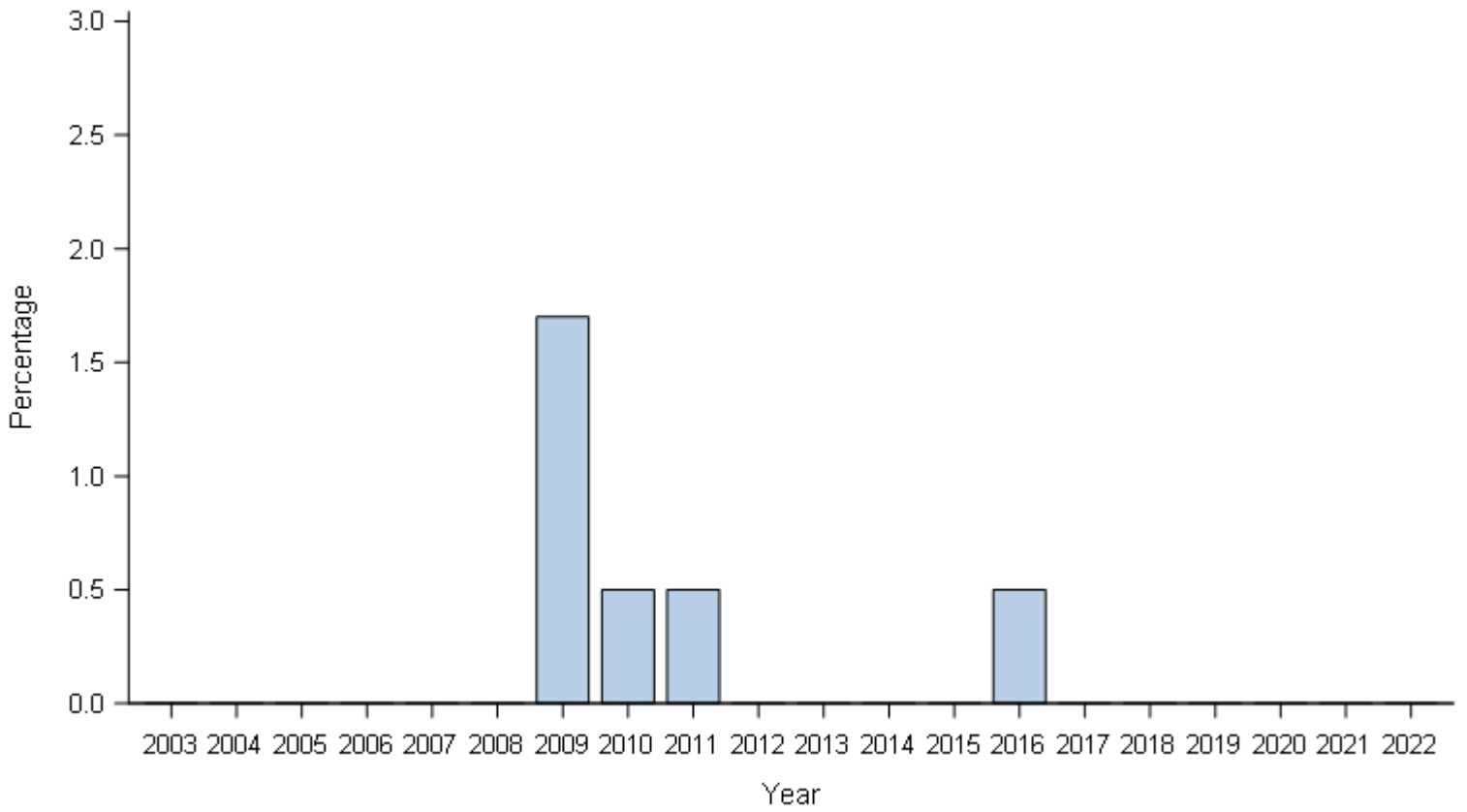


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	2 (0.7)	0 (0.0)	0 (0.0)	0 (0.0)	6 (3.5)	21 (10.2)	13 (6.2)	10 (4.9)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
5 (2.8)	4 (1.8)	0 (0.0)	0 (0.0)	1 (0.5)	1 (0.7)	1 (0.8)	0 (0.0)	0 (0.0)	0 (0.0)

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

Figure L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), San Diego, California, 2003-2022

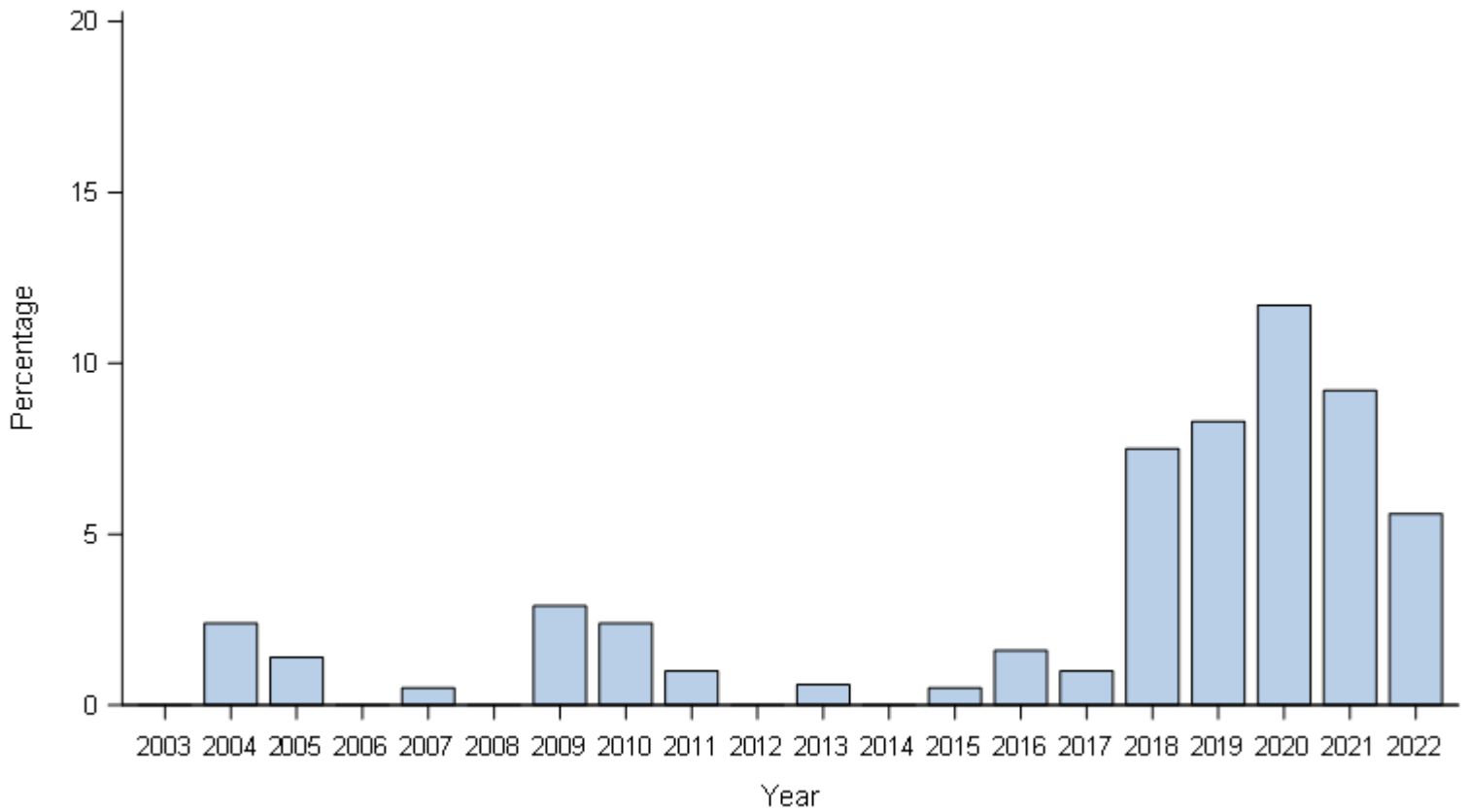


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	3 (1.7)	1 (0.5)	1 (0.5)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	1 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

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

Figure M. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), San Diego, California, 2003-2022

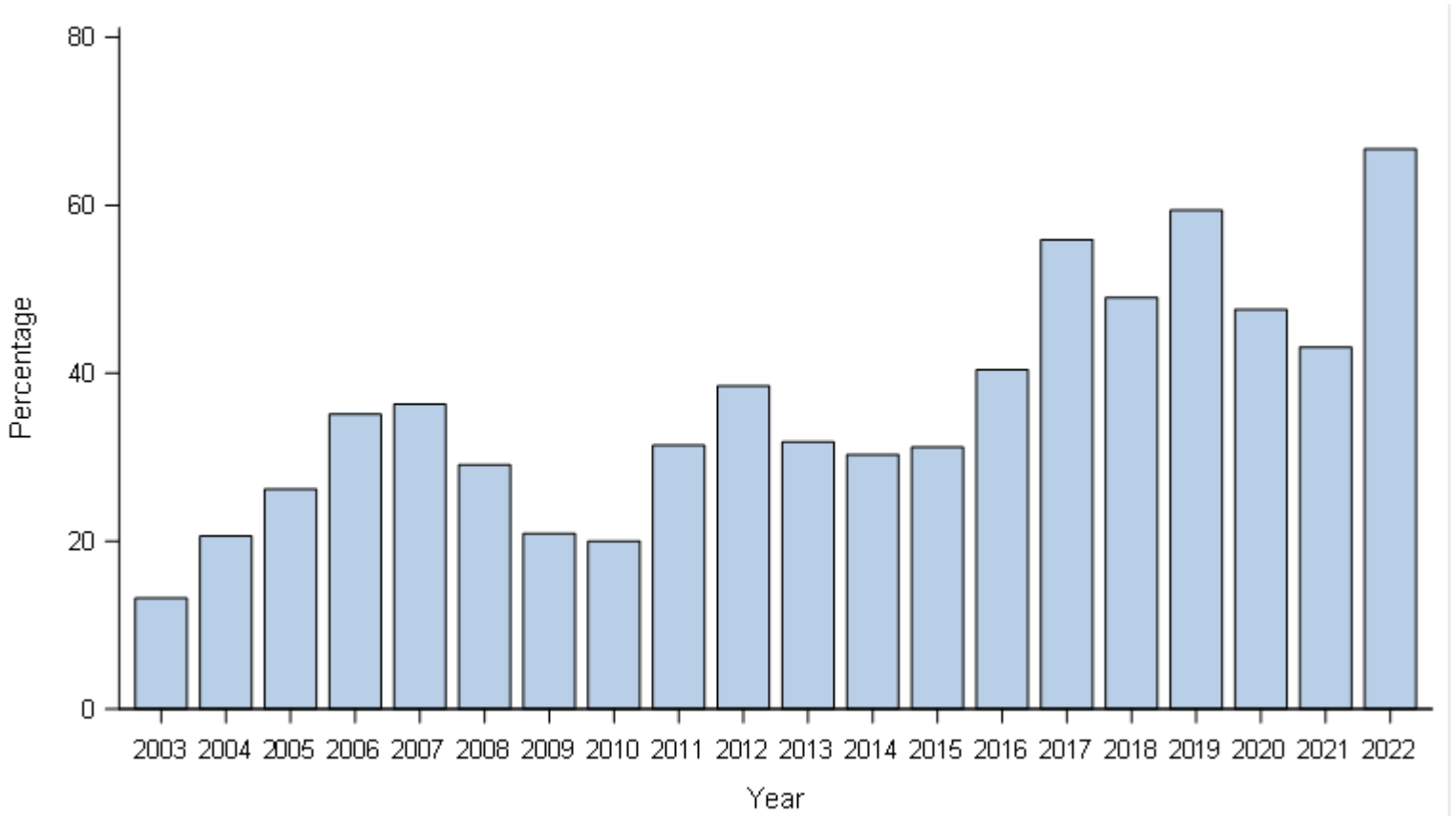


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	6 (2.4)	4 (1.4)	0 (0.0)	1 (0.5)	0 (0.0)	5 (2.9)	5 (2.4)	2 (1.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
1 (0.6)	0 (0.0)	1 (0.5)	3 (1.6)	2 (1.0)	11 (7.5)	11 (8.3)	12 (11.7)	12 (9.2)	1 (5.6)

Azithromycin elevated MIC ≥ 1.0 $\mu\text{g/mL}$ prior to 2005 and ≥ 2.0 $\mu\text{g/mL}$ during 2005-2022.

Figure N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), San Diego, California, 2003-2022

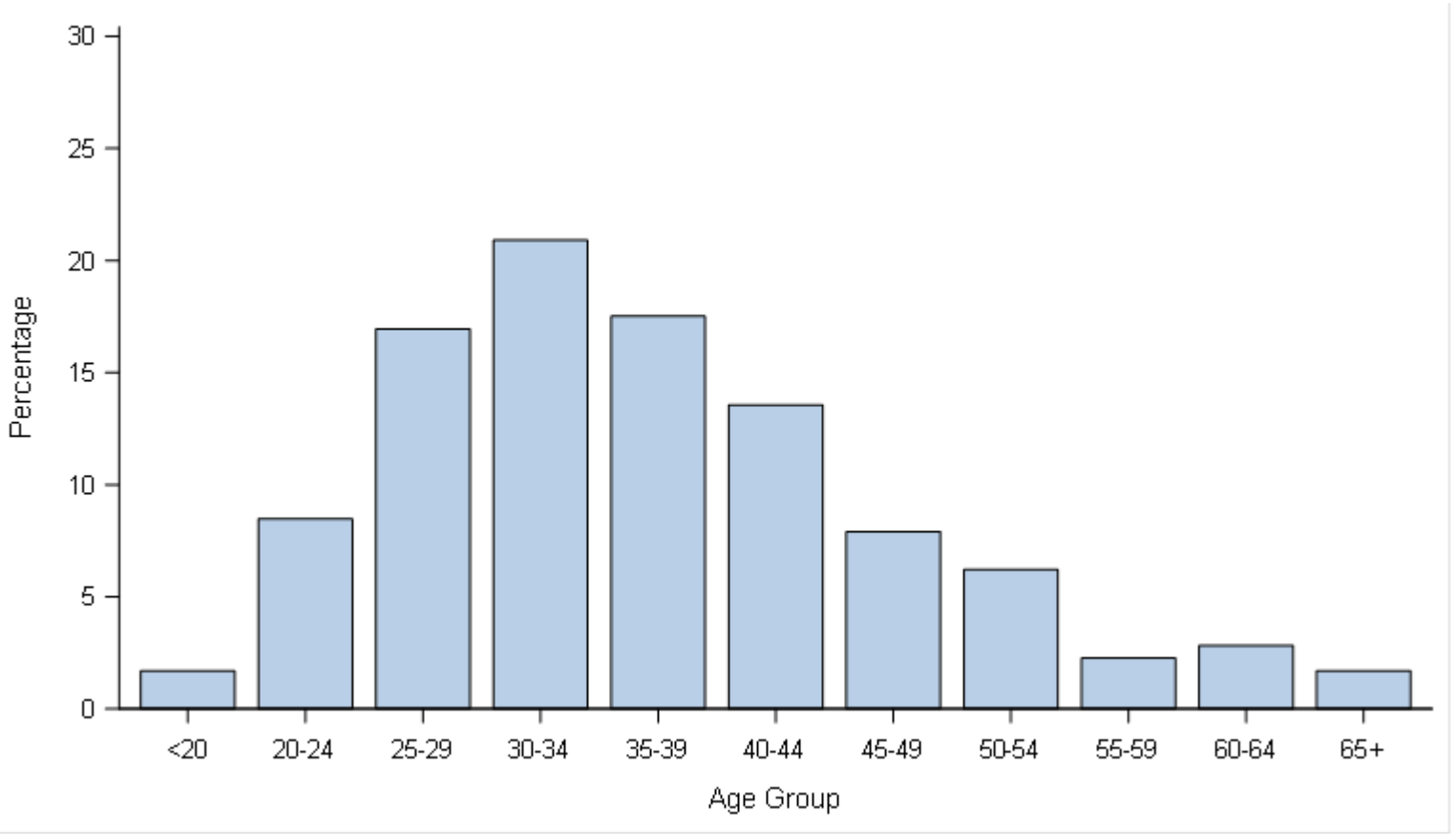


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
34 (13.2)	52 (20.6)	77 (26.2)	92 (35.1)	69 (36.3)	53 (29.1)	36 (20.9)	41 (20.0)	66 (31.4)	79 (38.5)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
56 (31.8)	66 (30.3)	59 (31.2)	78 (40.4)	109 (55.9)	72 (49.0)	79 (59.4)	49 (47.6)	56 (43.1)	12 (66.7)

Ciprofloxacin resistance MIC \geq 1.0 μ g/mL.

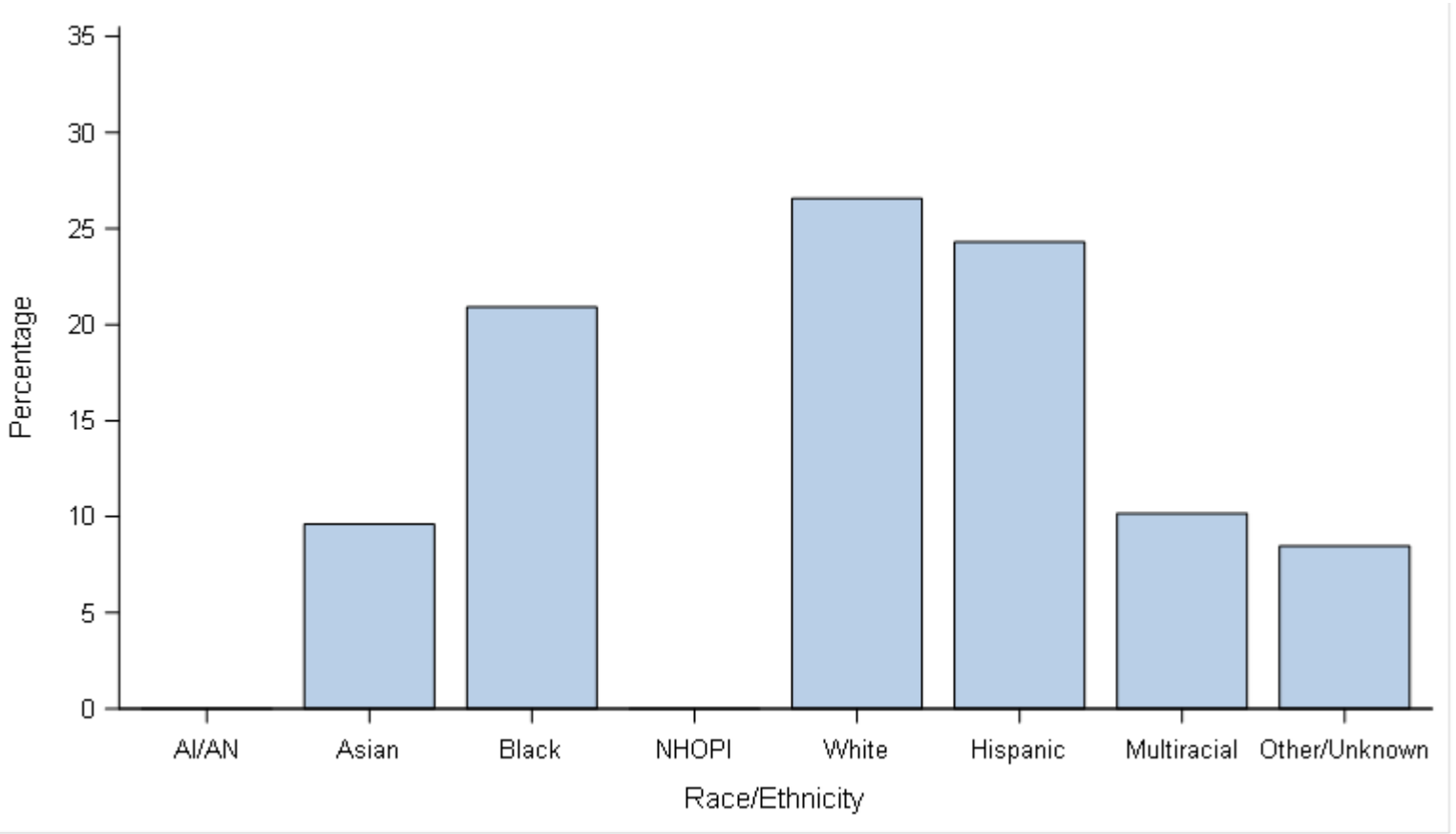
Figure A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), San Francisco, California, 2022



<20 n (%)	20-24 n (%)	25-29 n (%)	30-34 n (%)	35-39 n (%)	40-44 n (%)	45-49 n (%)	50-54 n (%)	55-59 n (%)	60-64 n (%)	65+ n (%)	Total
3 (1.7)	15 (8.5)	30 (16.9)	37 (20.9)	31 (17.5)	24 (13.6)	14 (7.9)	11 (6.2)	4 (2.3)	5 (2.8)	3 (1.7)	177

Cases with unknown age were excluded.

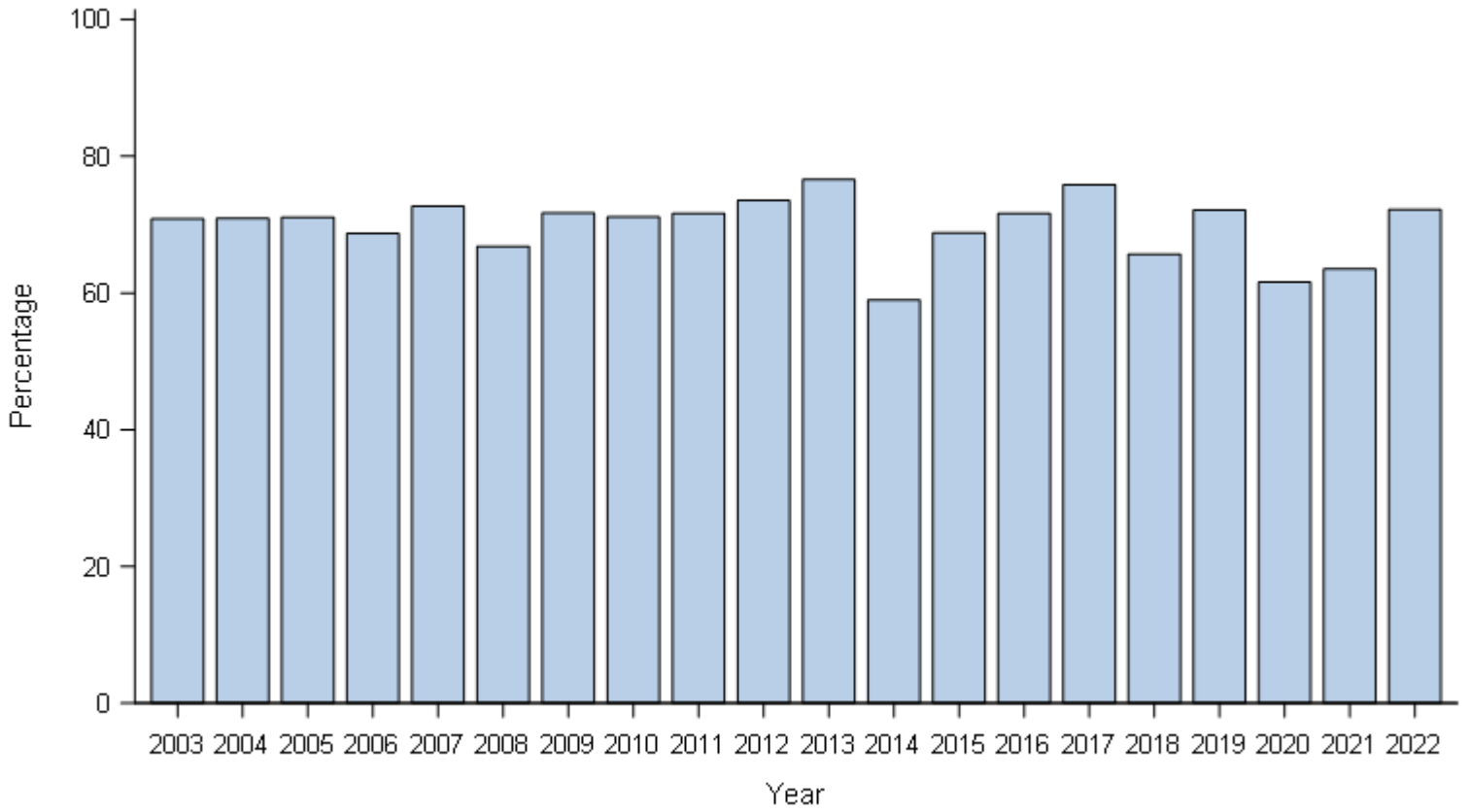
Figure B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), San Francisco, California, 2022



AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	17 (9.6)	37 (20.9)	0 (0.0)	47 (26.6)	43 (24.3)	18 (10.2)	15 (8.5)	177

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

Figure C. Percentage of Participants Identifying as Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), San Francisco, California, 2003-2022

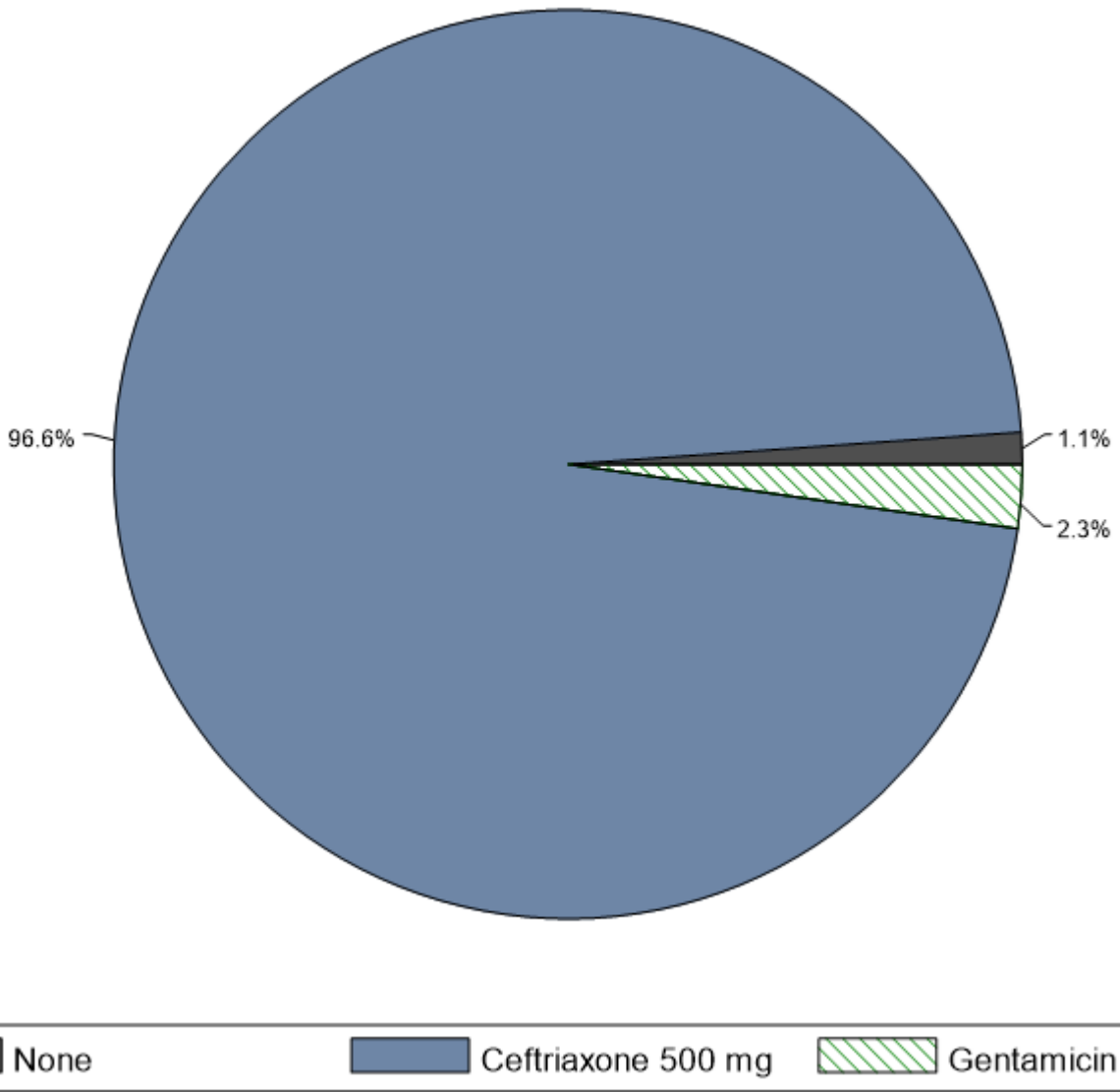


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
192 (70.8)	212 (70.9)	209 (71.1)	204 (68.7)	210 (72.7)	139 (66.8)	185 (71.7)	160 (71.1)	149 (71.6)	189 (73.5)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
203 (76.6)	174 (59.0)	203 (68.8)	212 (71.6)	226 (75.8)	155 (65.7)	176 (72.1)	125 (61.6)	160 (63.5)	122 (72.2)

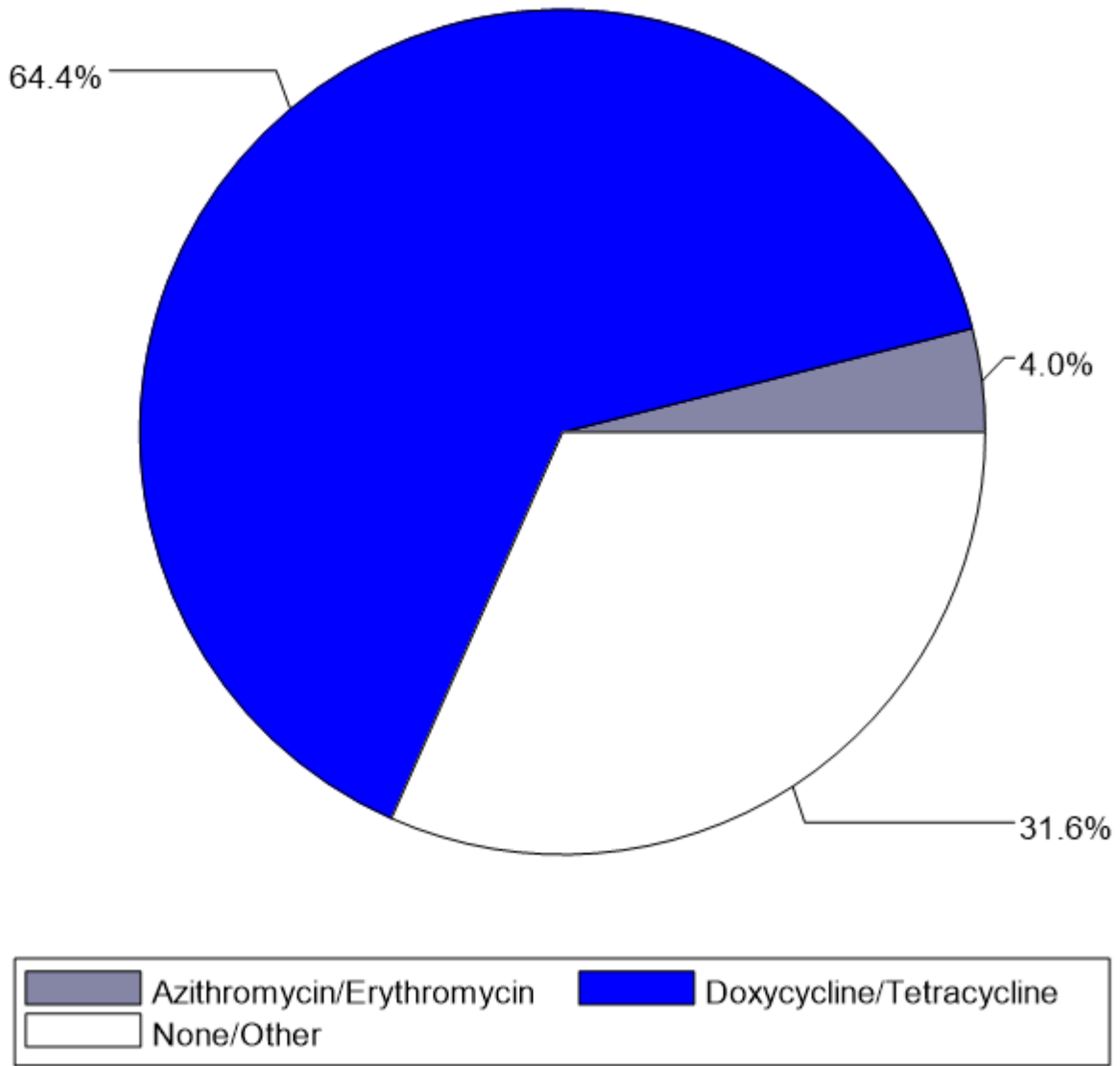
Men who have sex with men = men who self-identified as gay or bisexual or reported recent male sex partners.

Figure D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), San Francisco, California, 2022



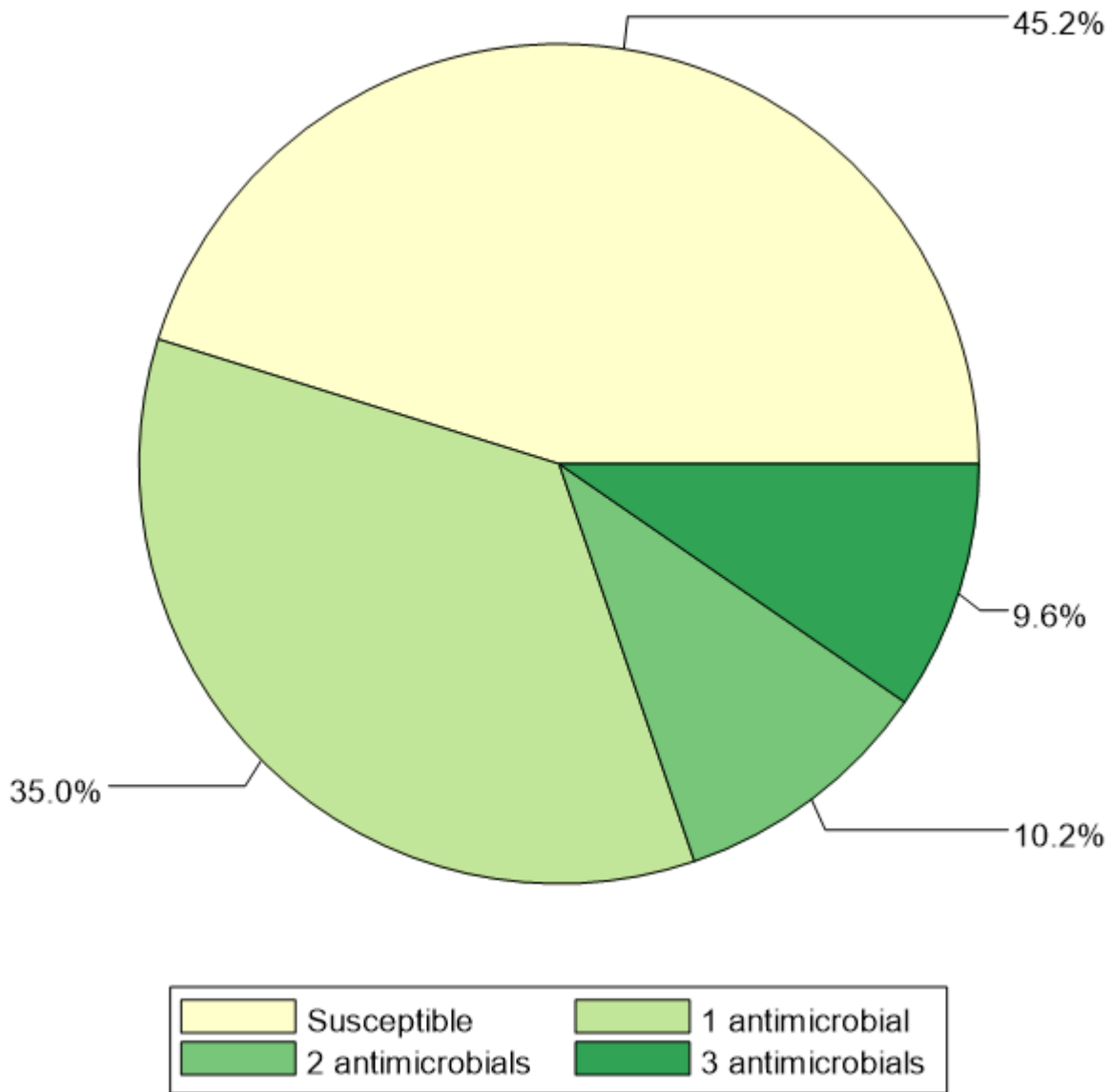
Primary Treatment	Count	Percentage
None	2	1.1
Ceftriaxone 500 mg	171	96.6
Gentamicin 240 mg	4	2.3

Figure E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), San Francisco, California, 2022



Secondary Treatment	Count	Percentage
Azithromycin/Erythromycin	7	4.0
Doxycycline/Tetracycline	114	64.4
None/Other	56	31.6

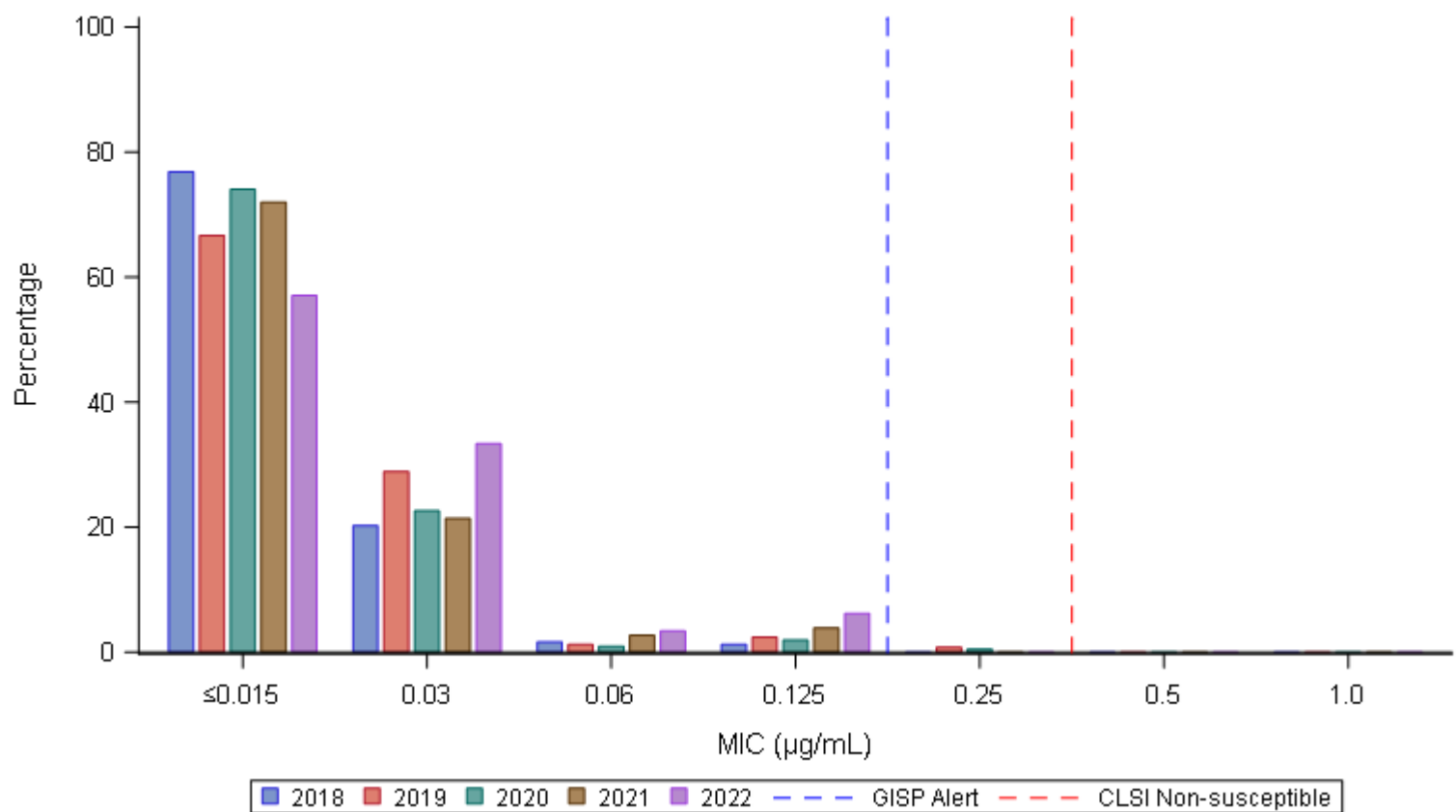
Figure F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), San Francisco, California, 2022



Number of Antimicrobials	Count	Percentage
Susceptible	80	45.2
1 antimicrobial	62	35.0
2 antimicrobials	18	10.2
3 antimicrobials	17	9.6
4+ antimicrobials	0	0.0

Elevated MICs = ceftriaxone MIC ≥ 0.125 $\mu\text{g/mL}$; cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; Resistance = tetracycline MIC ≥ 2.0 $\mu\text{g/mL}$; ciprofloxacin MIC ≥ 1.0 $\mu\text{g/mL}$; penicillin MIC ≥ 2.0 $\mu\text{g/mL}$ or β -lactamase positive.

Figure G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), San Francisco, California, 2018-2022



Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	186 (76.9)	49 (20.2)	4 (1.7)	3 (1.2)	0 (0.0)	0 (0.0)	0 (0.0)	242
2019	166 (66.7)	72 (28.9)	3 (1.2)	6 (2.4)	2 (0.8)	0 (0.0)	0 (0.0)	249
2020	154 (74.0)	47 (22.6)	2 (1.0)	4 (1.9)	1 (0.5)	0 (0.0)	0 (0.0)	208
2021	185 (72.0)	55 (21.4)	7 (2.7)	10 (3.9)	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)	177

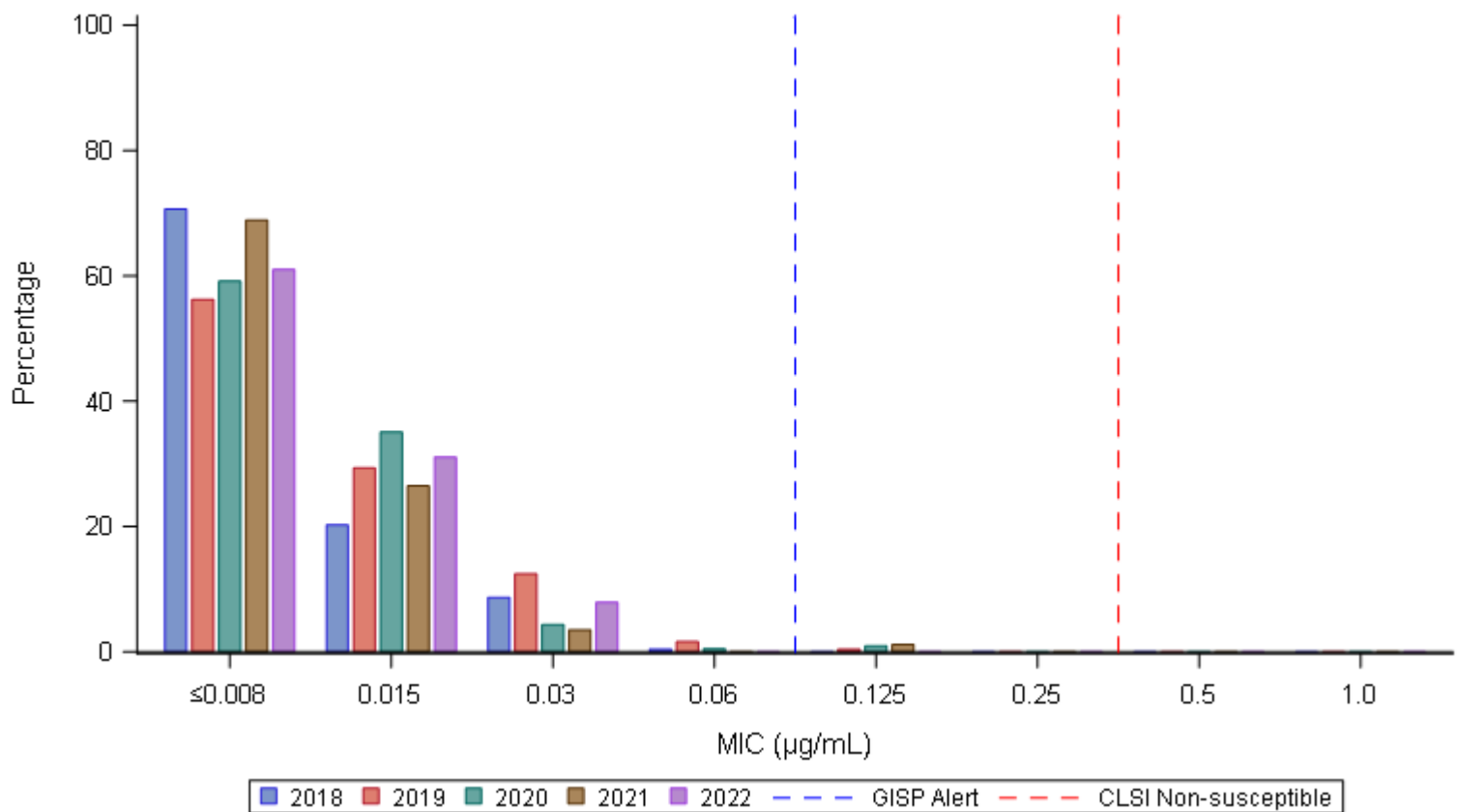
GISP Alert Value = cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; CLSI Non-susceptible = cefixime MIC ≥ 0.5 $\mu\text{g/mL}$.

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 the end of 2022, the CLSI has not established a cefixime resistance breakpoint for *N. gonorrhoeae*.

Figure H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), San Francisco, California, 2018-2022



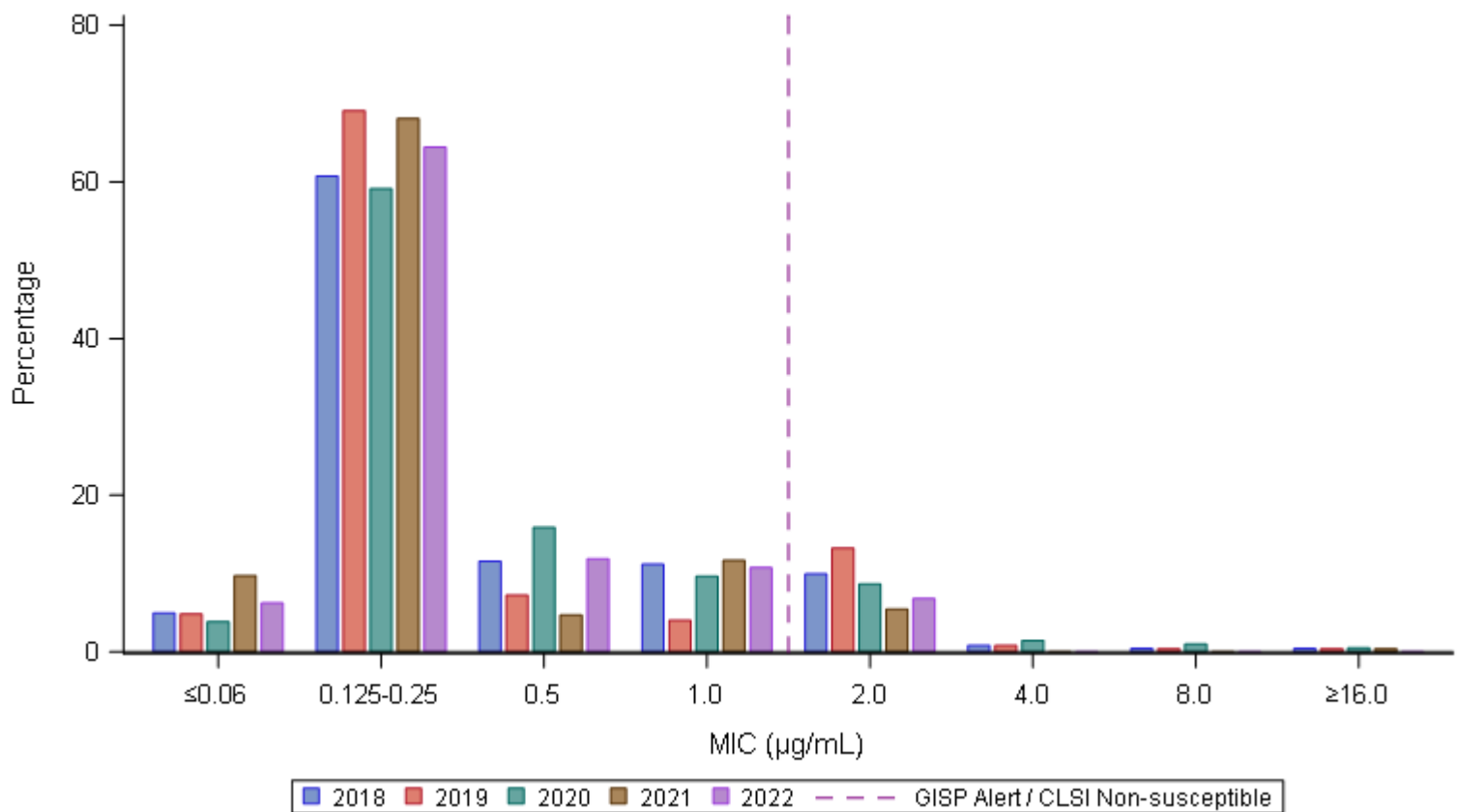
Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	171 (70.7)	49 (20.2)	21 (8.7)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	242
2019	140 (56.2)	73 (29.3)	31 (12.4)	4 (1.6)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	249
2020	123 (59.1)	73 (35.1)	9 (4.3)	1 (0.5)	2 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)	208
2021	177 (68.9)	68 (26.5)	9 (3.5)	0 (0.0)	3 (1.2)	0 (0.0)	0 (0.0)	0 (0.0)	257
2022	108 (61.0)	55 (31.1)	14 (7.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	177

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 the end of 2022, the CLSI has not established a ceftriaxone resistance breakpoint for *N. gonorrhoeae*.

Figure I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), San Francisco, California, 2018-2022



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
2018	12 (5.0)	147 (60.7)	28 (11.6)	27 (11.2)	24 (9.9)	2 (0.8)	1 (0.4)	1 (0.4)	242
2019	12 (4.8)	172 (69.1)	18 (7.2)	10 (4.0)	33 (13.3)	2 (0.8)	1 (0.4)	1 (0.4)	249
2020	8 (3.8)	123 (59.1)	33 (15.9)	20 (9.6)	18 (8.7)	3 (1.4)	2 (1.0)	1 (0.5)	208
2021	25 (9.7)	175 (68.1)	12 (4.7)	30 (11.7)	14 (5.4)	0 (0.0)	0 (0.0)	1 (0.4)	257
2022	11 (6.2)	114 (64.4)	21 (11.9)	19 (10.7)	12 (6.8)	0 (0.0)	0 (0.0)	0 (0.0)	177

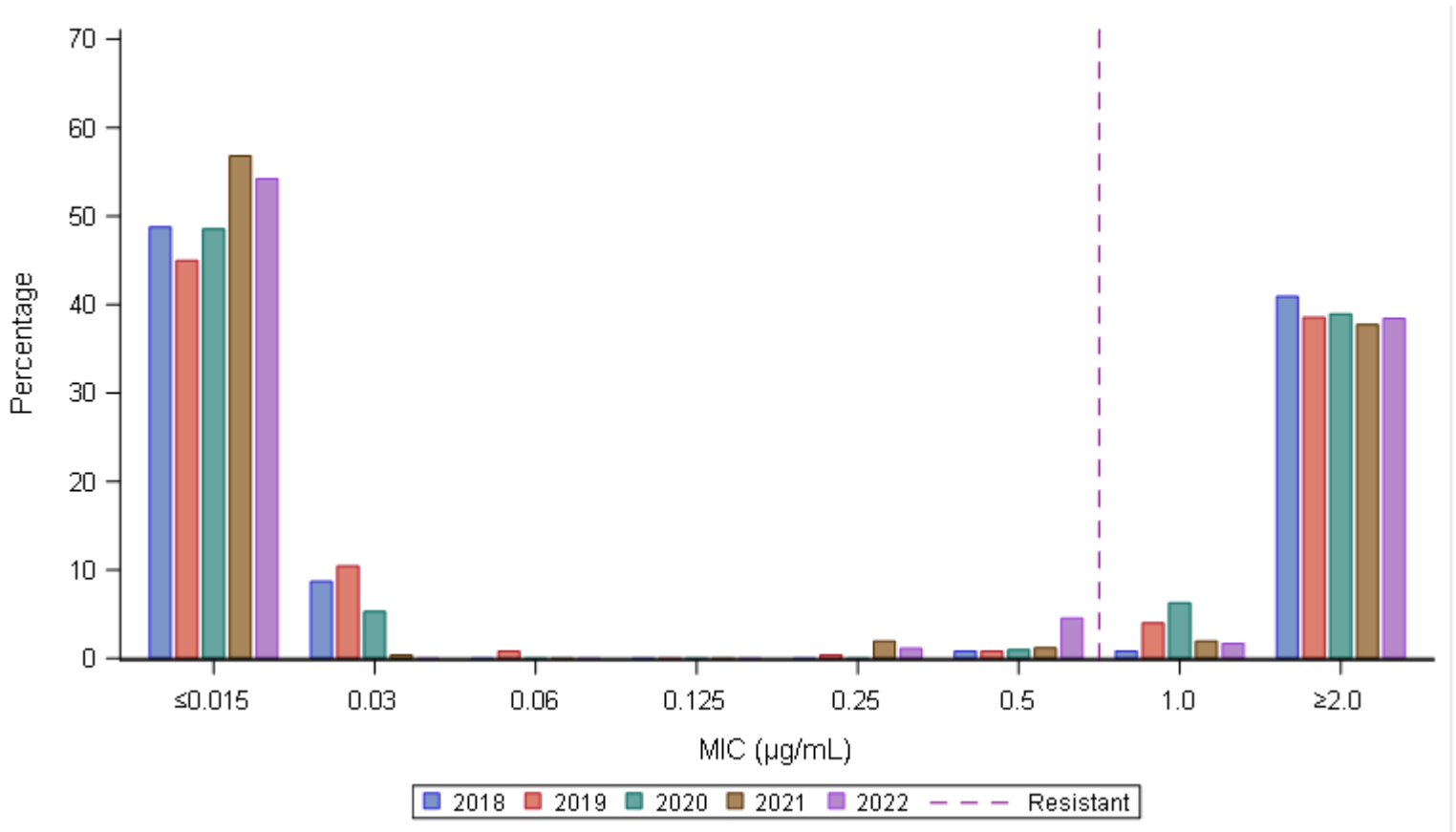
GISP Alert Value: azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; CLSI Non-susceptible = azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$.

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 the end of 2022, the CLSI has not established an azithromycin resistance breakpoint for *N. gonorrhoeae*.

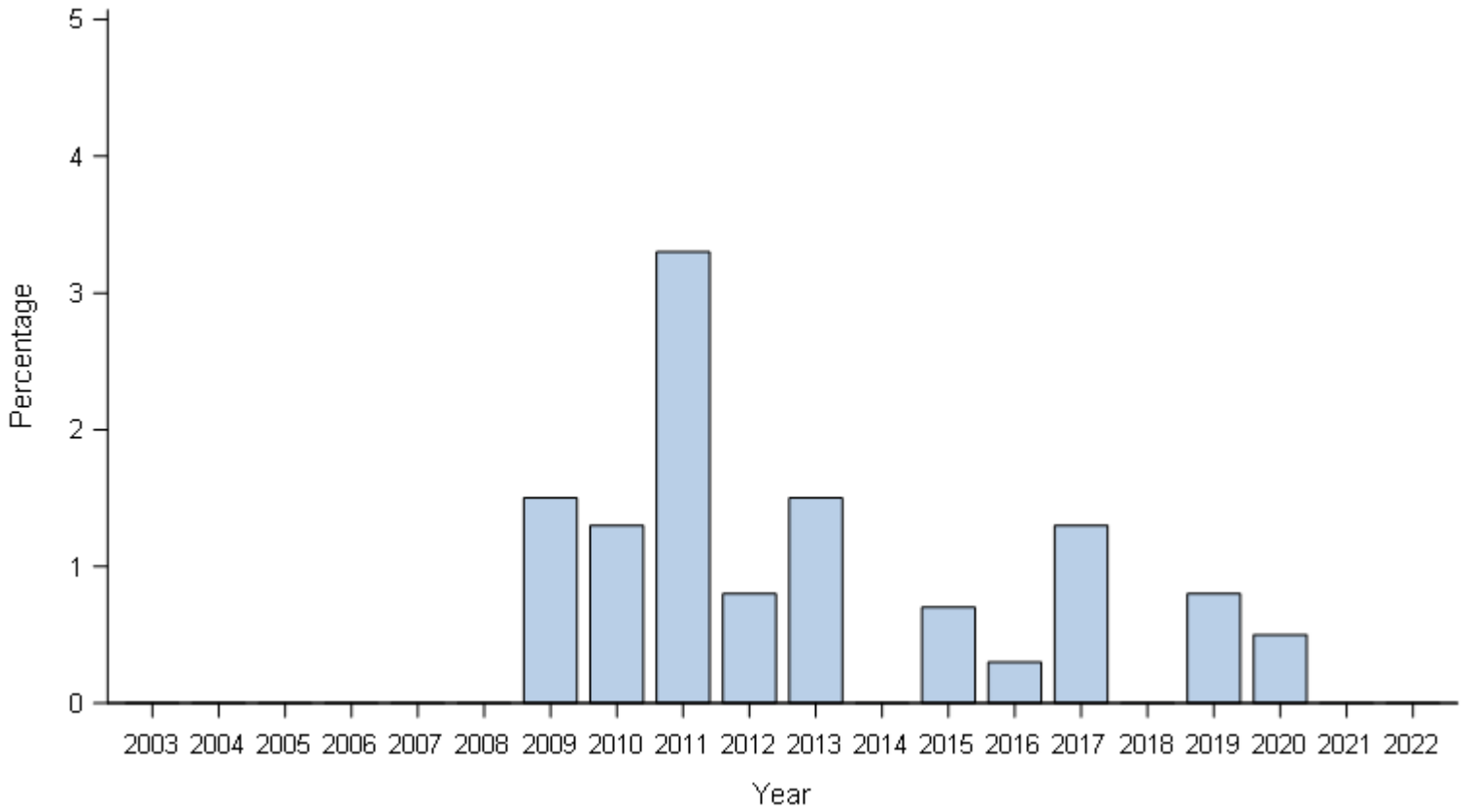
Figure J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), San Francisco, California, 2018-2022



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
2018	118 (48.8)	21 (8.7)	0 (0.0)	0 (0.0)	0 (0.0)	2 (0.8)	2 (0.8)	99 (40.9)	242
2019	112 (45.0)	26 (10.4)	2 (0.8)	0 (0.0)	1 (0.4)	2 (0.8)	10 (4.0)	96 (38.6)	249
2020	101 (48.6)	11 (5.3)	0 (0.0)	0 (0.0)	0 (0.0)	2 (1.0)	13 (6.3)	81 (38.9)	208
2021	146 (56.8)	1 (0.4)	0 (0.0)	0 (0.0)	5 (1.9)	3 (1.2)	5 (1.9)	97 (37.7)	257
2022	96 (54.2)	0 (0.0)	0 (0.0)	0 (0.0)	2 (1.1)	8 (4.5)	3 (1.7)	68 (38.4)	177

Ciprofloxacin resistance MIC ≥1.0 µg/mL.

Figure K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), San Francisco, California, 2003-2022

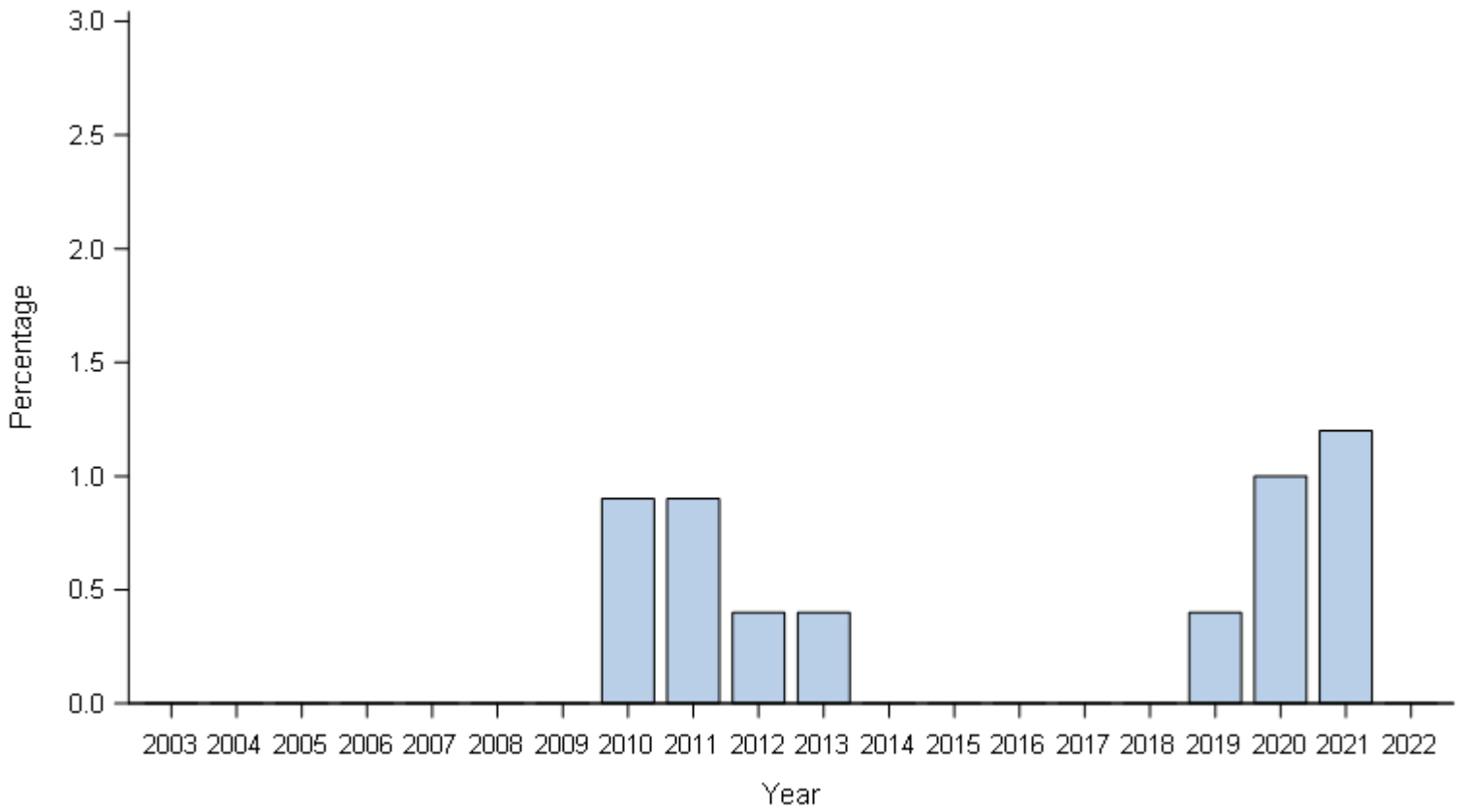


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4 (1.5)	3 (1.3)	7 (3.3)	2 (0.8)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
4 (1.5)	0 (0.0)	2 (0.7)	1 (0.3)	4 (1.3)	0 (0.0)	2 (0.8)	1 (0.5)	0 (0.0)	0 (0.0)

Cefixime elevated MIC \geq 0.25 μ g/mL.

Figure L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), San Francisco, California, 2003-2022

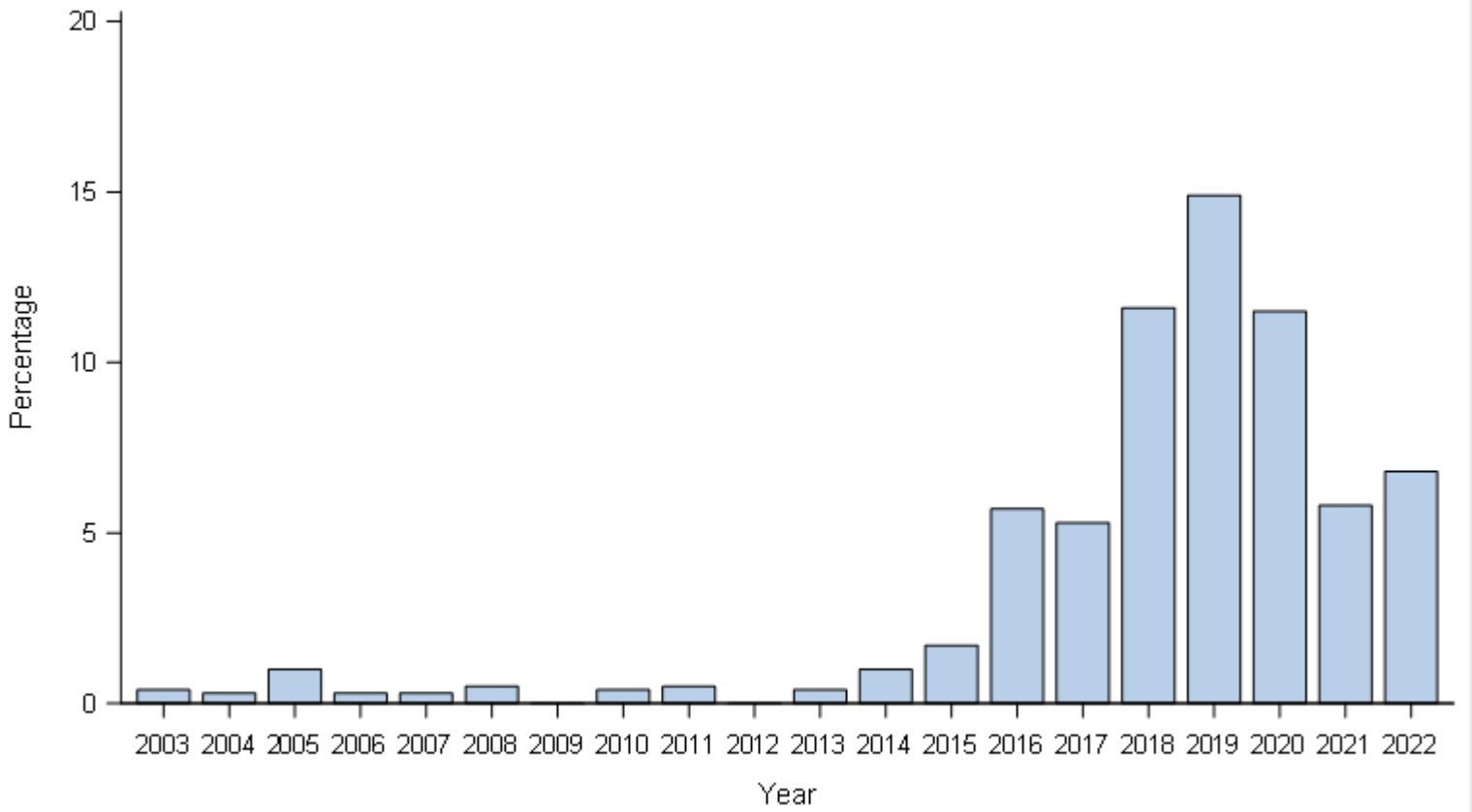


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (0.9)	2 (0.9)	1 (0.4)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.4)	2 (1.0)	3 (1.2)	0 (0.0)

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

Figure M. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), San Francisco, California, 2003-2022

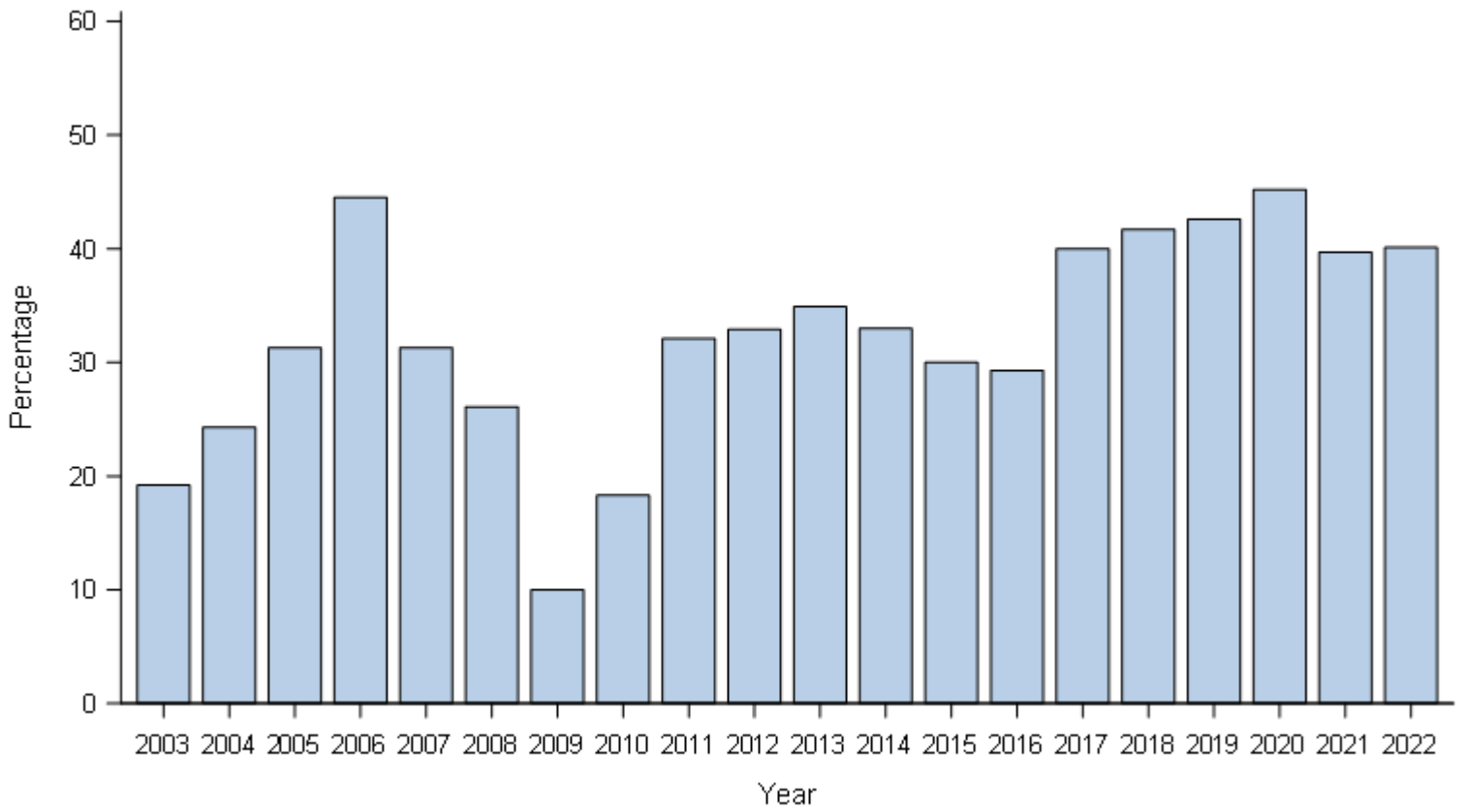


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
1 (0.4)	1 (0.3)	3 (1.0)	1 (0.3)	1 (0.3)	1 (0.5)	0 (0.0)	1 (0.4)	1 (0.5)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
1 (0.4)	3 (1.0)	5 (1.7)	17 (5.7)	16 (5.3)	28 (11.6)	37 (14.9)	24 (11.5)	15 (5.8)	12 (6.8)

Azithromycin elevated MIC ≥ 1.0 $\mu\text{g/mL}$ prior to 2005 and ≥ 2.0 $\mu\text{g/mL}$ during 2005-2022.

Figure N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), San Francisco, California, 2003-2022

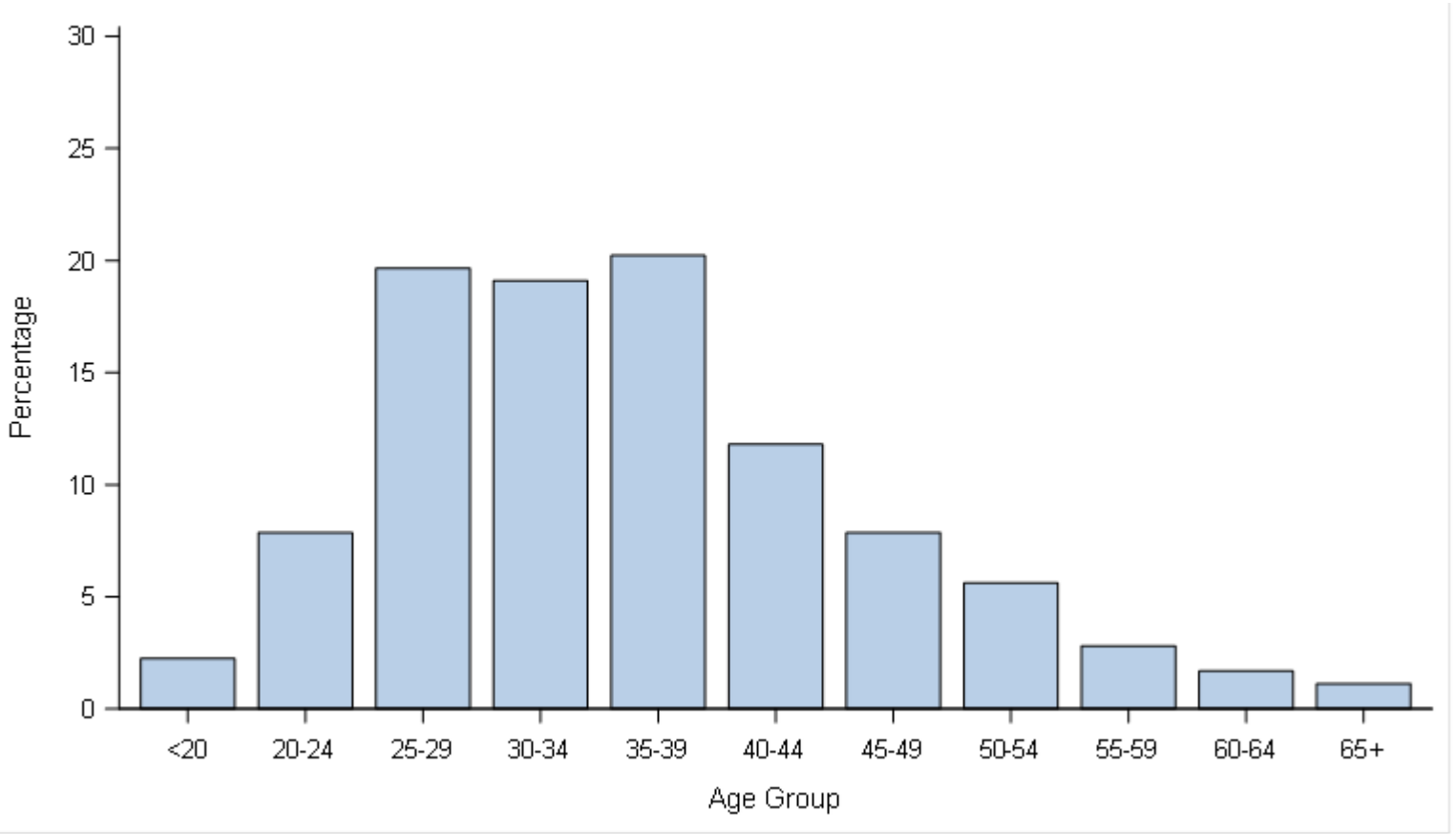


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
53 (19.2)	73 (24.3)	94 (31.3)	133 (44.5)	94 (31.3)	55 (26.1)	26 (10.0)	42 (18.3)	68 (32.1)	85 (32.9)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
94 (34.9)	99 (33.0)	90 (30.0)	88 (29.3)	120 (40.0)	101 (41.7)	106 (42.6)	94 (45.2)	102 (39.7)	71 (40.1)

Ciprofloxacin resistance MIC \geq 1.0 μ g/mL.

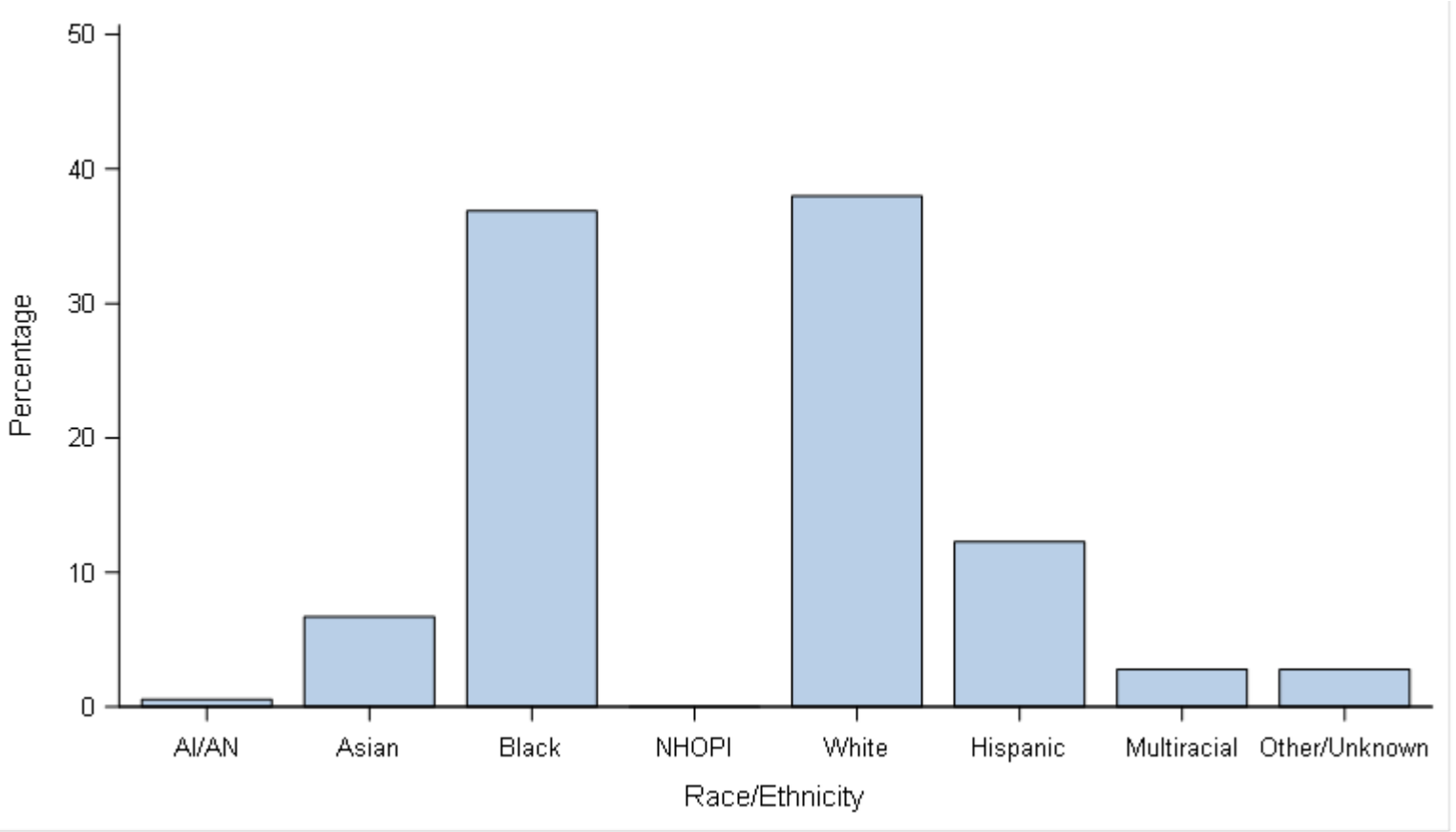
Figure A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Seattle, Washington, 2022



<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 (2.2)	14 (7.9)	35 (19.7)	34 (19.1)	36 (20.2)	21 (11.8)	14 (7.9)	10 (5.6)	5 (2.8)	3 (1.7)	2 (1.1)	178

Cases with unknown age were excluded.

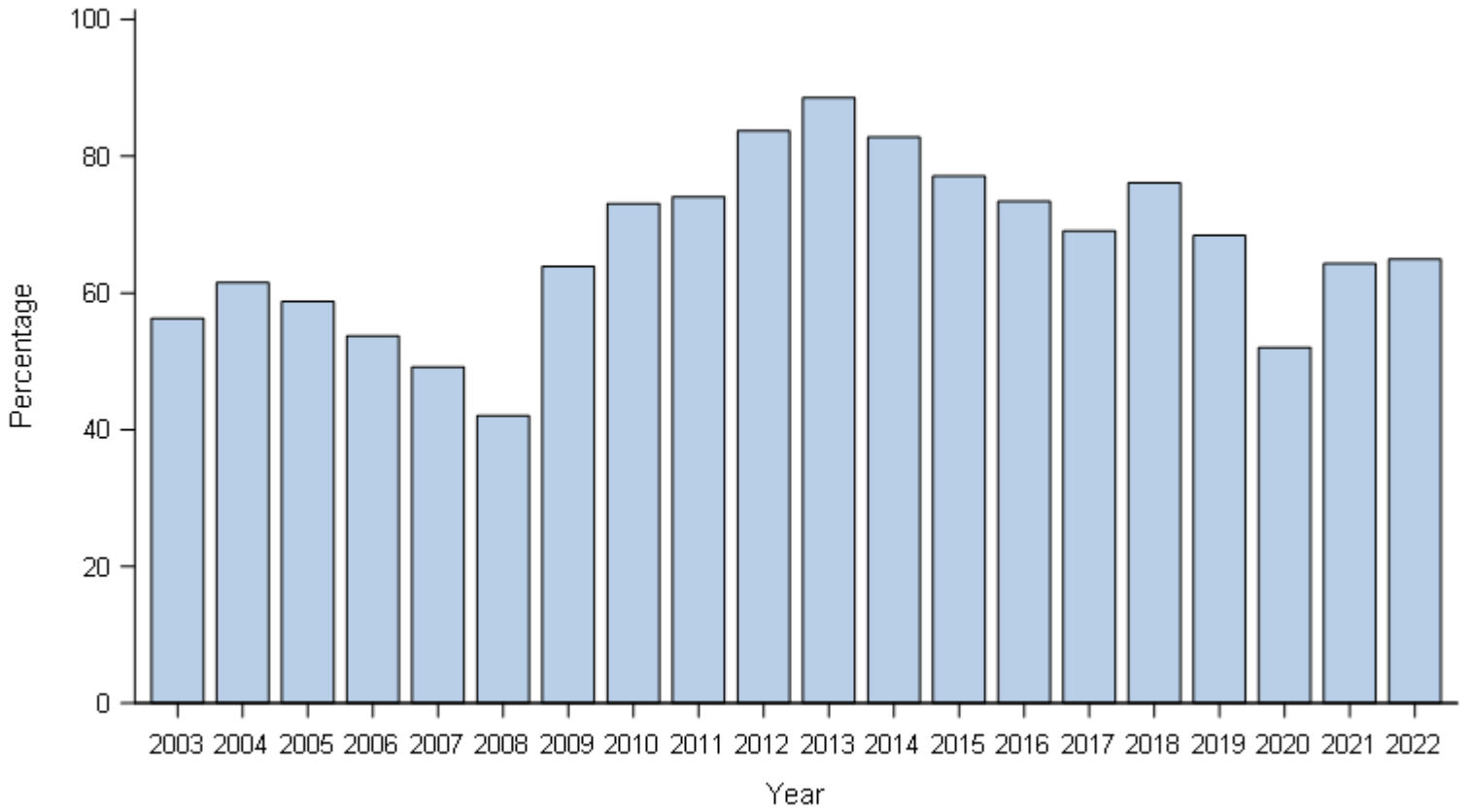
Figure B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Seattle, Washington, 2022



AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
1 (0.6)	12 (6.7)	66 (36.9)	0 (0.0)	68 (38.0)	22 (12.3)	5 (2.8)	5 (2.8)	179

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.

Figure C. Percentage of Participants Identifying as Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Seattle, Washington, 2003-2022

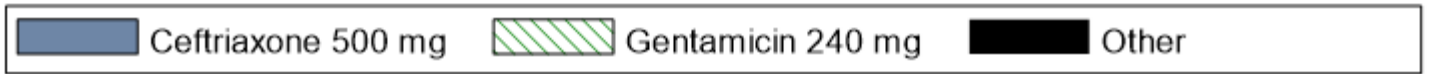
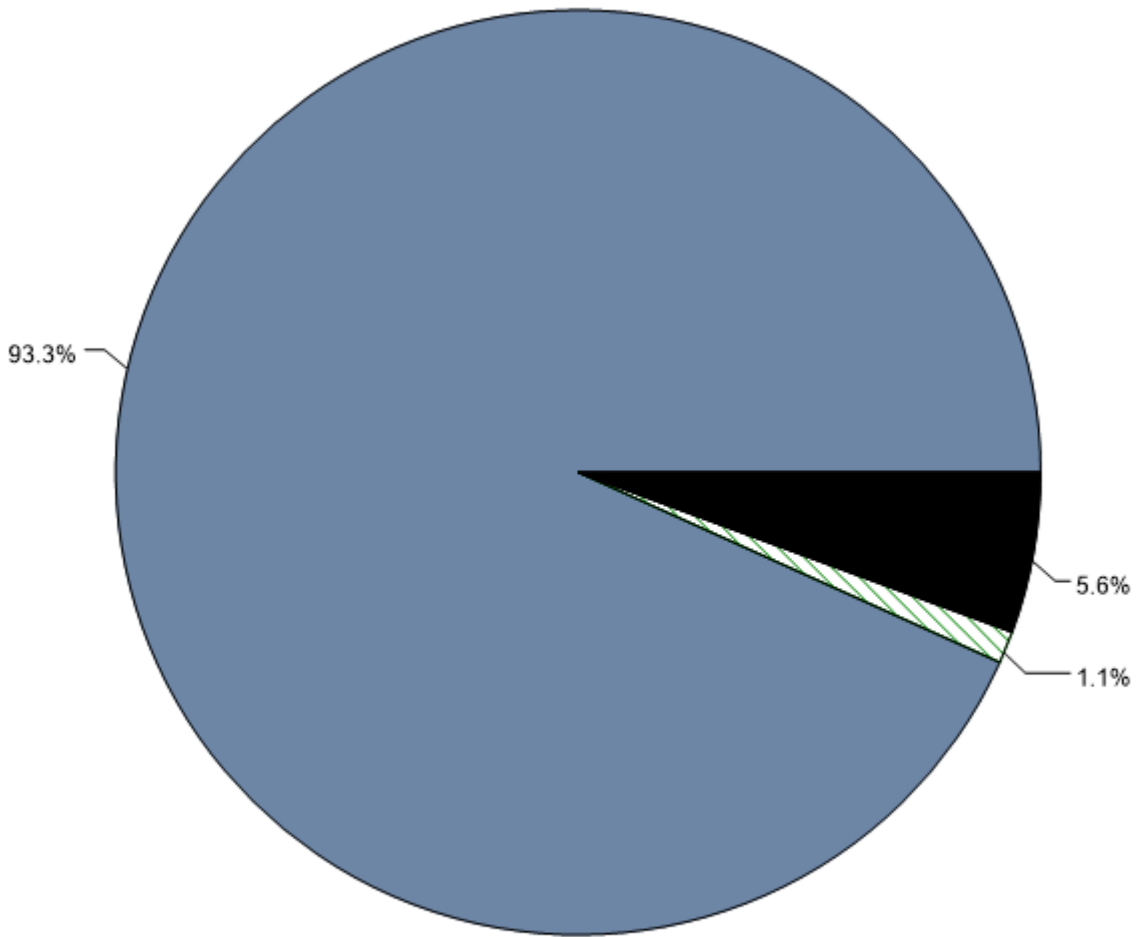


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
143 (56.3)	139 (61.5)	151 (58.8)	123 (53.7)	91 (49.2)	66 (42.0)	99 (63.9)	171 (73.1)	120 (74.1)	113 (83.7)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
124 (88.6)	154 (82.8)	138 (77.1)	138 (73.4)	165 (69.0)	159 (76.1)	145 (68.4)	77 (52.0)	90 (64.3)	113 (64.9)

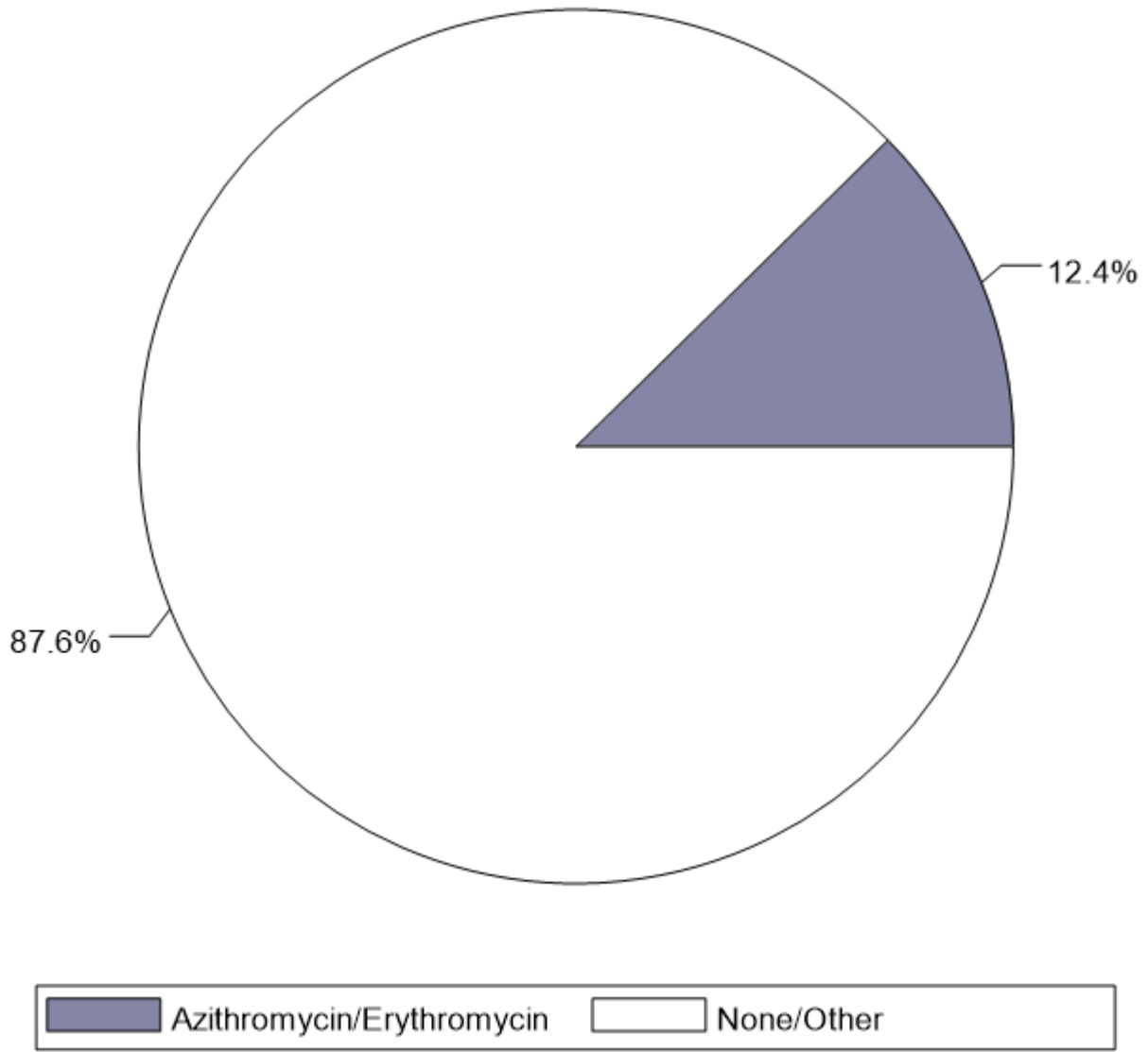
Men who have sex with men = men who self-identified as gay or bisexual or reported recent male sex partners.

Figure D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Seattle, Washington, 2022



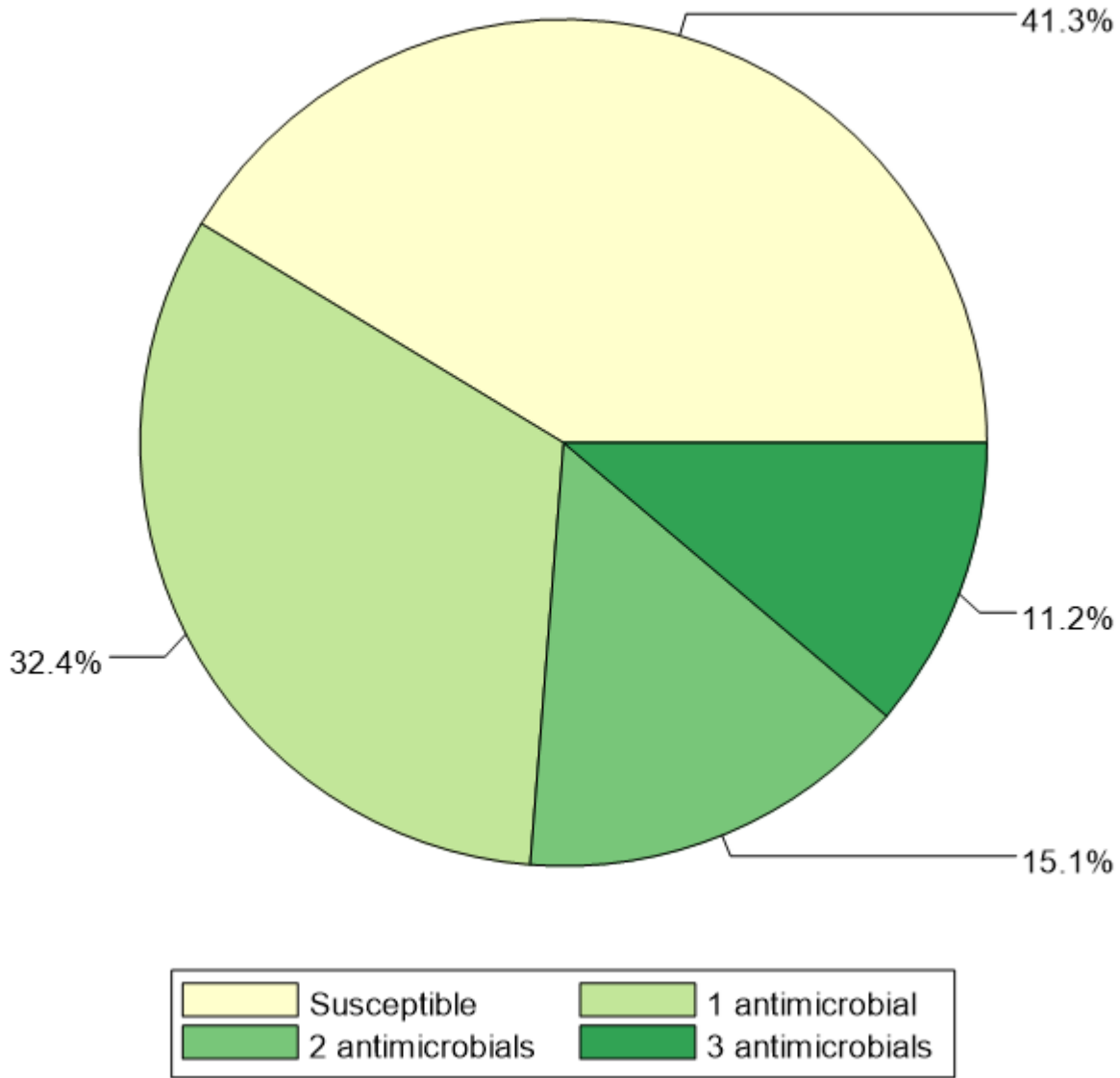
Primary Treatment	Count	Percentage
Ceftriaxone 500 mg	166	93.3
Gentamicin 240 mg	2	1.1
Other	10	5.6

Figure E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Seattle, Washington, 2022



Secondary Treatment	Count	Percentage
Azithromycin/Erythromycin	22	12.4
None/Other	156	87.6

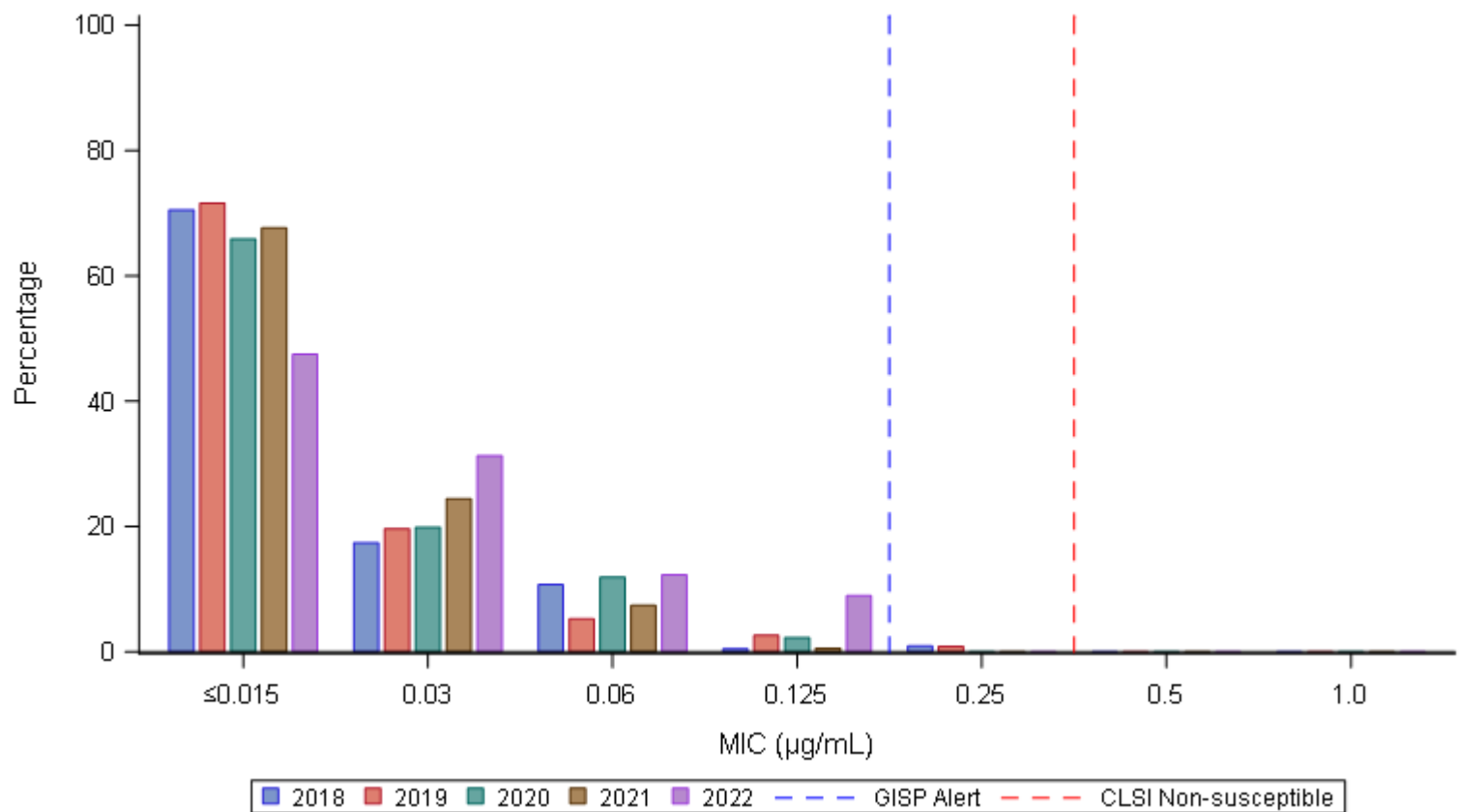
Figure F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Seattle, Washington, 2022



Number of Antimicrobials	Count	Percentage
Susceptible	74	41.3
1 antimicrobial	58	32.4
2 antimicrobials	27	15.1
3 antimicrobials	20	11.2
4+ antimicrobials	0	0.0

Elevated MICs = ceftriaxone MIC ≥ 0.125 $\mu\text{g/mL}$; cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; Resistance = tetracycline MIC ≥ 2.0 $\mu\text{g/mL}$; ciprofloxacin MIC ≥ 1.0 $\mu\text{g/mL}$; penicillin MIC ≥ 2.0 $\mu\text{g/mL}$ or β -lactamase positive.

Figure G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Seattle, Washington, 2018-2022



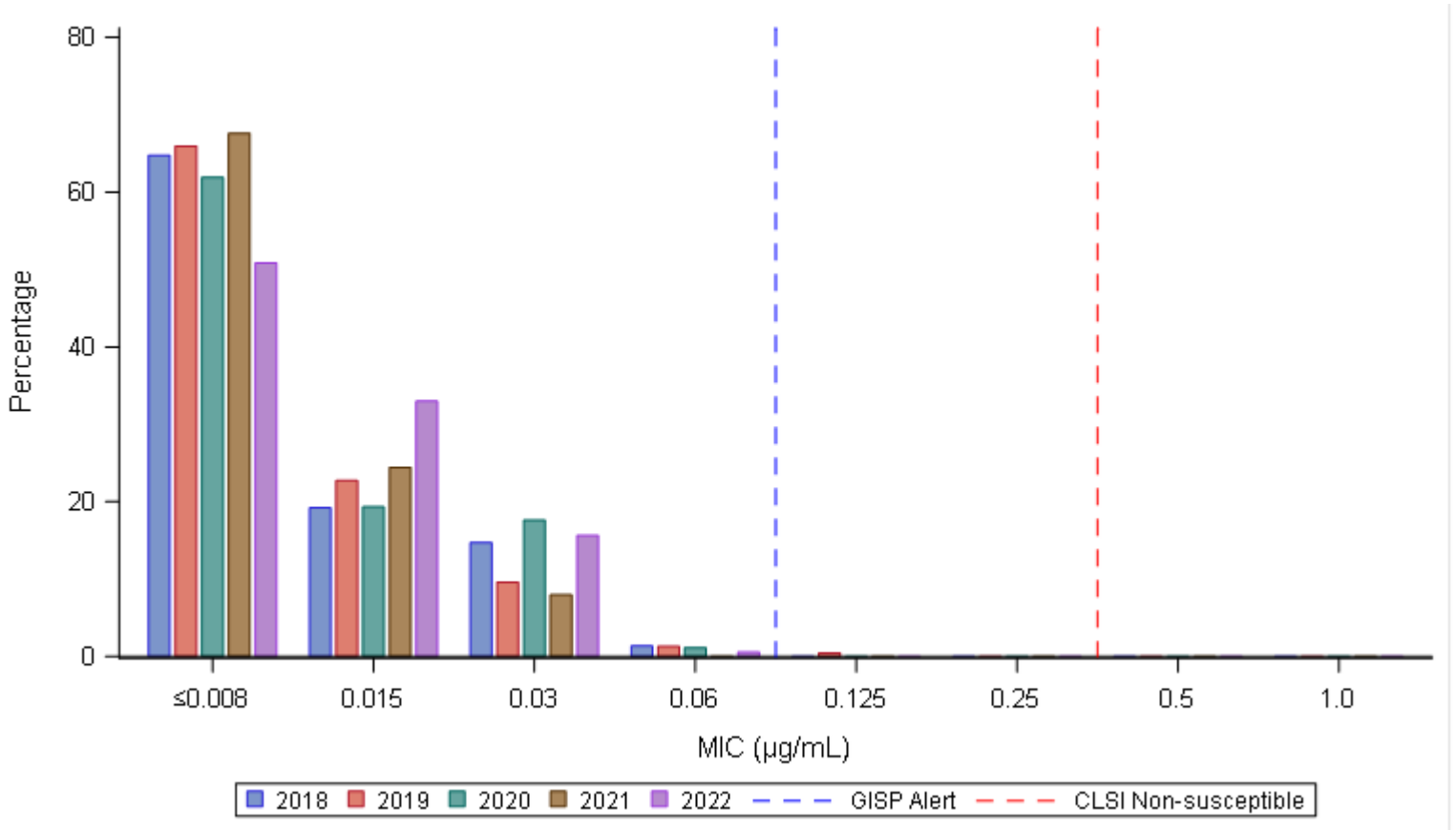
Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	158 (70.5)	39 (17.4)	24 (10.7)	1 (0.4)	2 (0.9)	0 (0.0)	0 (0.0)	224
2019	164 (71.6)	45 (19.7)	12 (5.2)	6 (2.6)	2 (0.9)	0 (0.0)	0 (0.0)	229
2020	116 (65.9)	35 (19.9)	21 (11.9)	4 (2.3)	0 (0.0)	0 (0.0)	0 (0.0)	176
2021	119 (67.6)	43 (24.4)	13 (7.4)	1 (0.6)	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)	179

GISP Alert Value = cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; CLSI Non-susceptible = cefixime MIC ≥ 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 the end of 2022, the CLSI has not established a cefixime resistance breakpoint for *N. gonorrhoeae*.

Figure H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Seattle, Washington, 2018-2022



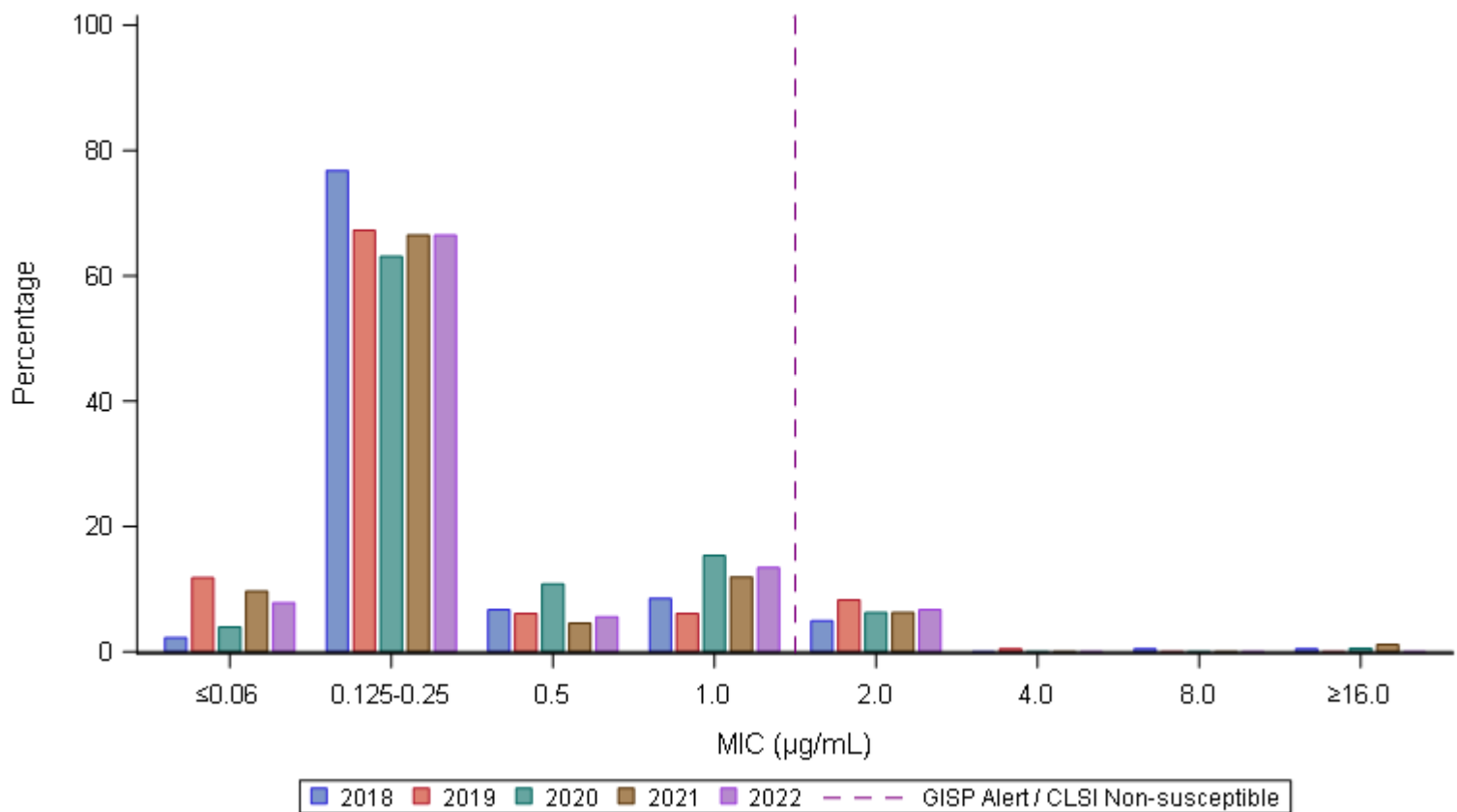
Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	145 (64.7)	43 (19.2)	33 (14.7)	3 (1.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	224
2019	151 (65.9)	52 (22.7)	22 (9.6)	3 (1.3)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	229
2020	109 (61.9)	34 (19.3)	31 (17.6)	2 (1.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	176
2021	119 (67.6)	43 (24.4)	14 (8.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	176
2022	91 (50.8)	59 (33.0)	28 (15.6)	1 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	179

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 the end of 2022, the CLSI has not established a ceftriaxone resistance breakpoint for *N. gonorrhoeae*.

Figure I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Seattle, Washington, 2018-2022



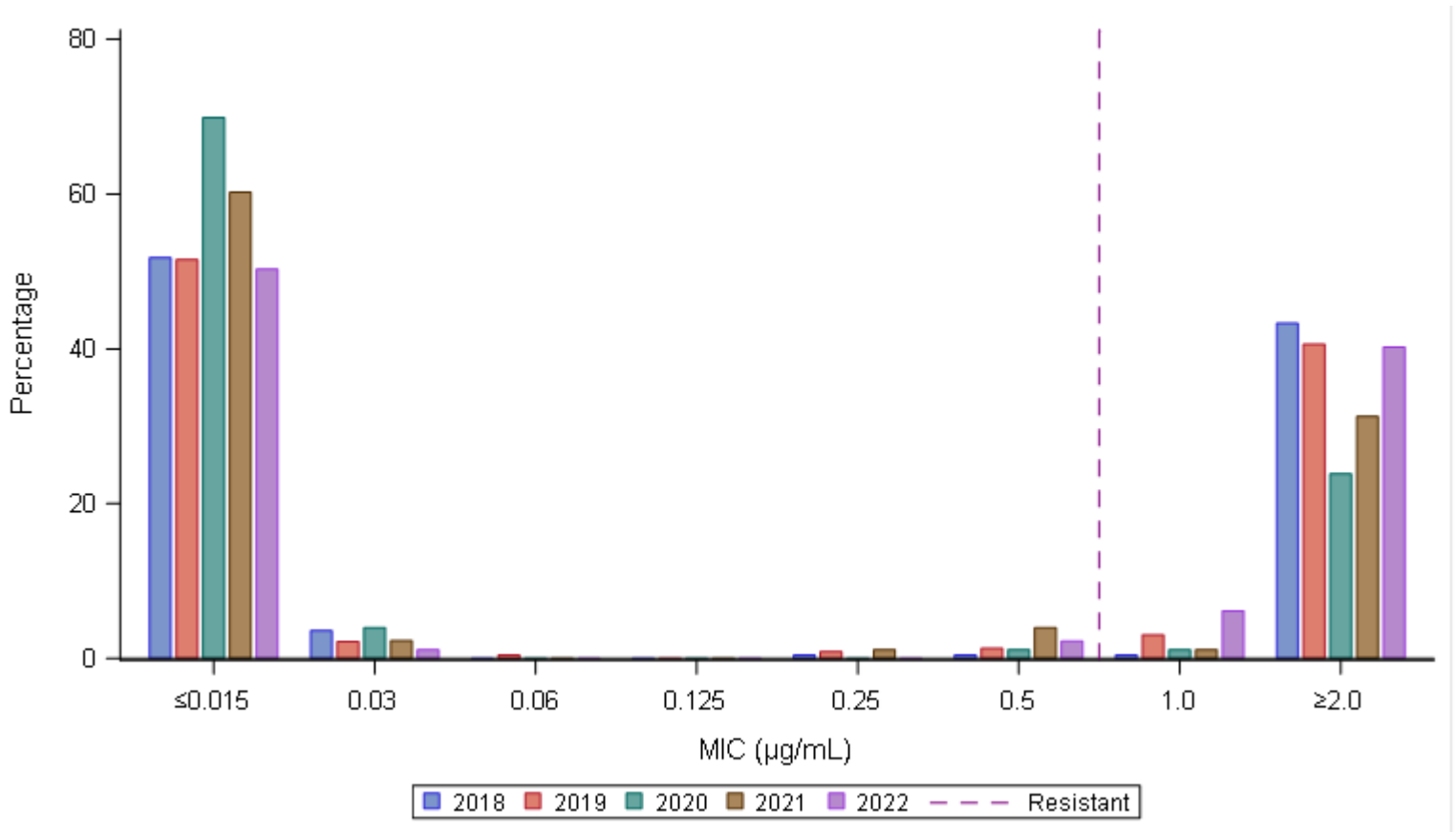
Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2018	5 (2.2)	172 (76.8)	15 (6.7)	19 (8.5)	11 (4.9)	0 (0.0)	1 (0.4)	1 (0.4)	224
2019	27 (11.8)	154 (67.2)	14 (6.1)	14 (6.1)	19 (8.3)	1 (0.4)	0 (0.0)	0 (0.0)	229
2020	7 (4.0)	111 (63.1)	19 (10.8)	27 (15.3)	11 (6.3)	0 (0.0)	0 (0.0)	1 (0.6)	176
2021	17 (9.7)	117 (66.5)	8 (4.5)	21 (11.9)	11 (6.3)	0 (0.0)	0 (0.0)	2 (1.1)	176
2022	14 (7.8)	119 (66.5)	10 (5.6)	24 (13.4)	12 (6.7)	0 (0.0)	0 (0.0)	0 (0.0)	179

GISP Alert Value: azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; CLSI Non-susceptible = azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$.

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 the end of 2022, the CLSI has not established an azithromycin resistance breakpoint for *N. gonorrhoeae*.

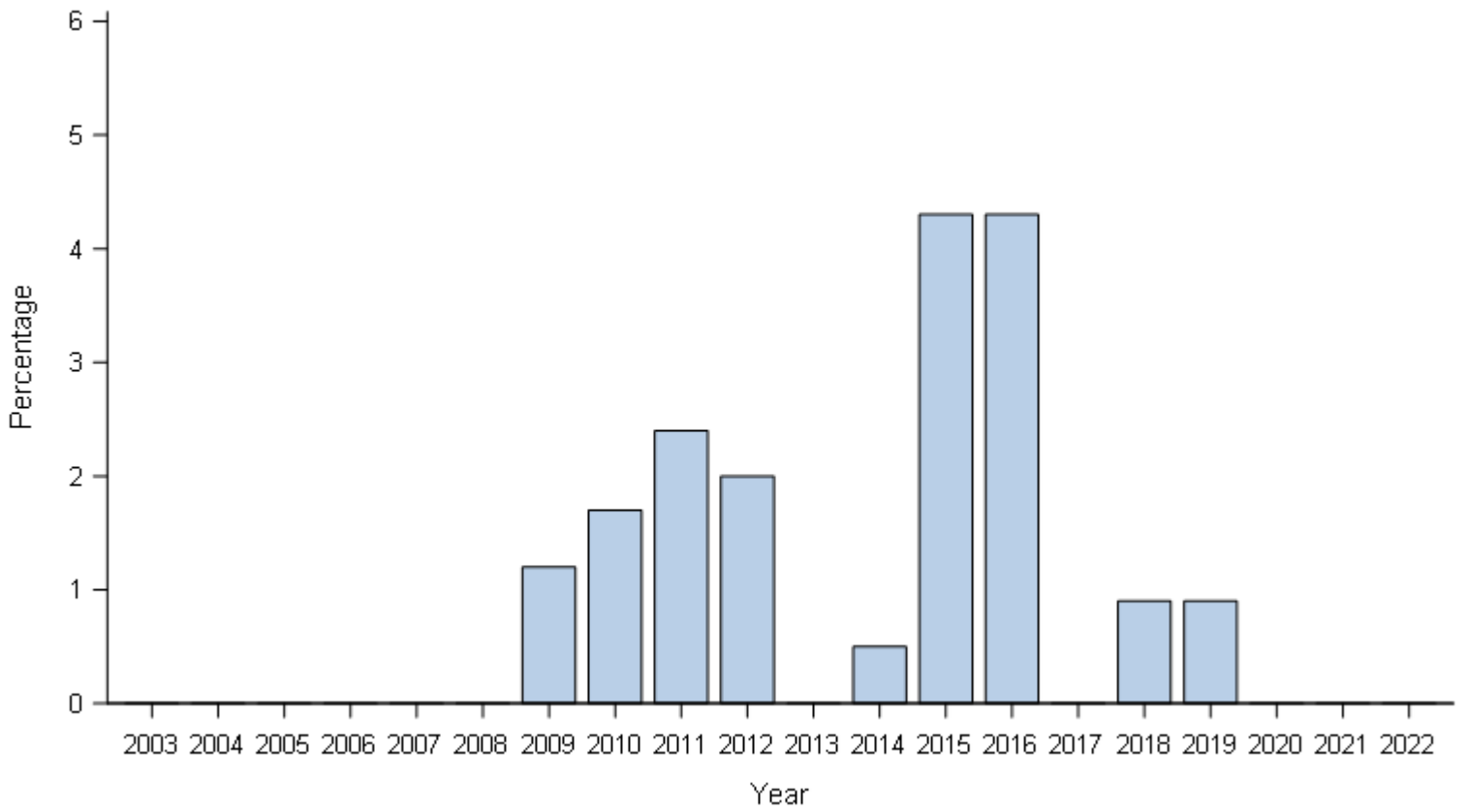
Figure J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Seattle, Washington, 2018-2022



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
2018	116 (51.8)	8 (3.6)	0 (0.0)	0 (0.0)	1 (0.4)	1 (0.4)	1 (0.4)	97 (43.3)	224
2019	118 (51.5)	5 (2.2)	1 (0.4)	0 (0.0)	2 (0.9)	3 (1.3)	7 (3.1)	93 (40.6)	229
2020	123 (69.9)	7 (4.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (1.1)	2 (1.1)	42 (23.9)	176
2021	106 (60.2)	4 (2.3)	0 (0.0)	0 (0.0)	2 (1.1)	7 (4.0)	2 (1.1)	55 (31.3)	176
2022	90 (50.3)	2 (1.1)	0 (0.0)	0 (0.0)	0 (0.0)	4 (2.2)	11 (6.1)	72 (40.2)	179

Ciprofloxacin resistance MIC ≥1.0 µg/mL.

Figure K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Seattle, Washington, 2003-2022

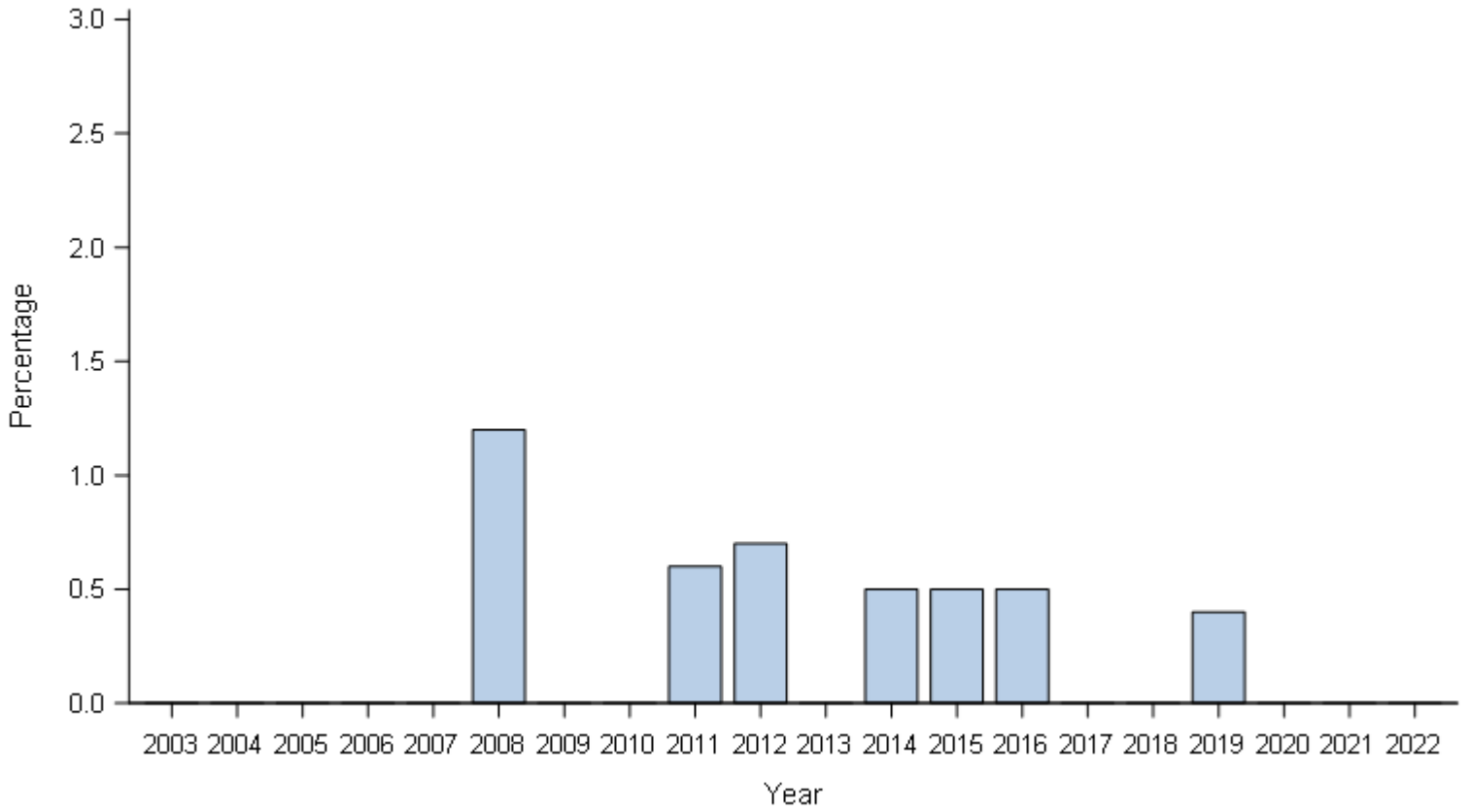


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (1.2)	4 (1.7)	4 (2.4)	3 (2.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	1 (0.5)	8 (4.3)	8 (4.3)	0 (0.0)	2 (0.9)	2 (0.9)	0 (0.0)	0 (0.0)	0 (0.0)

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

Figure L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Seattle, Washington, 2003-2022

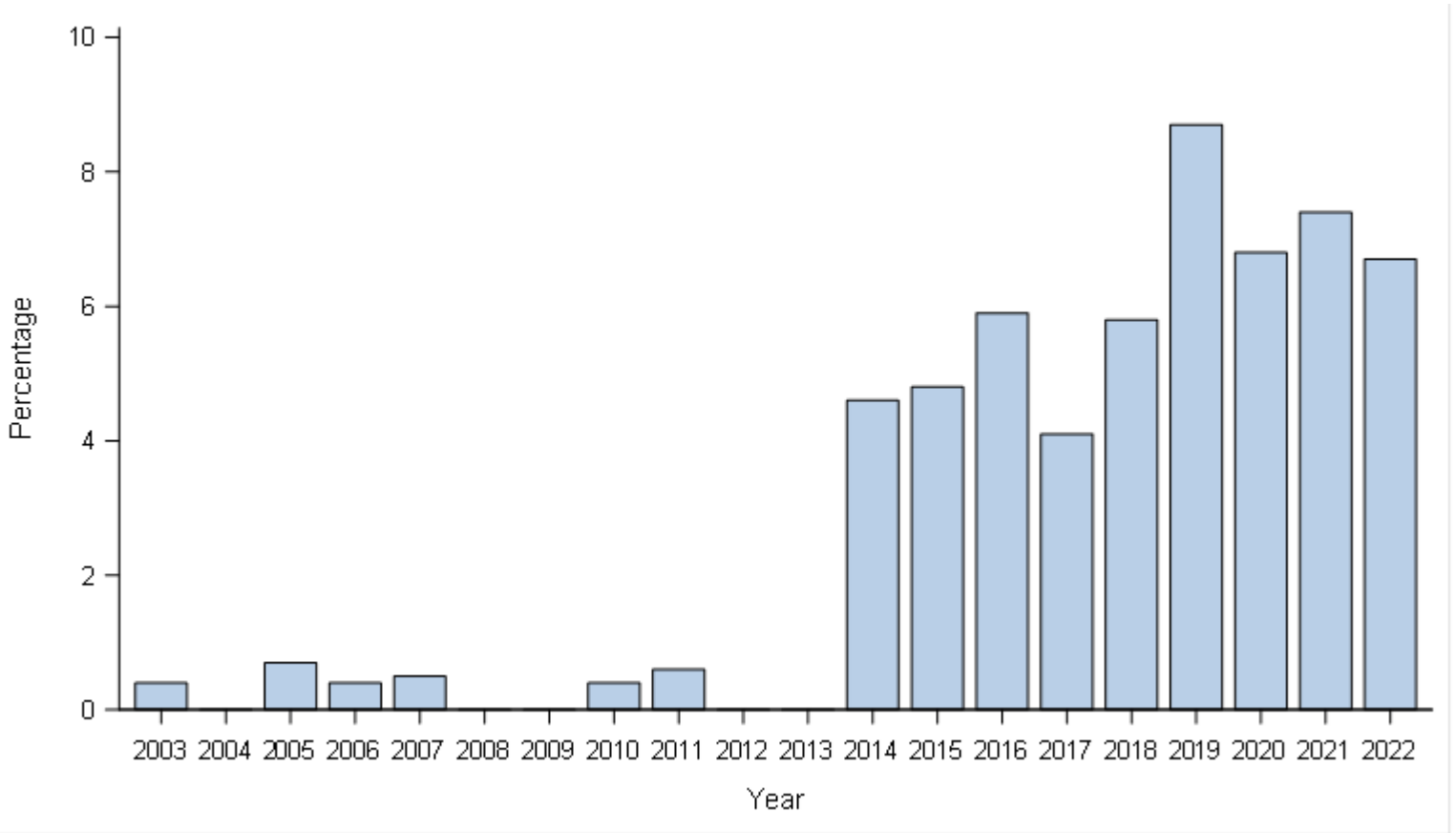


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (1.2)	0 (0.0)	0 (0.0)	1 (0.6)	1 (0.7)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	1 (0.5)	1 (0.5)	1 (0.5)	0 (0.0)	0 (0.0)	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)

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

Figure M. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Seattle, Washington, 2003-2022

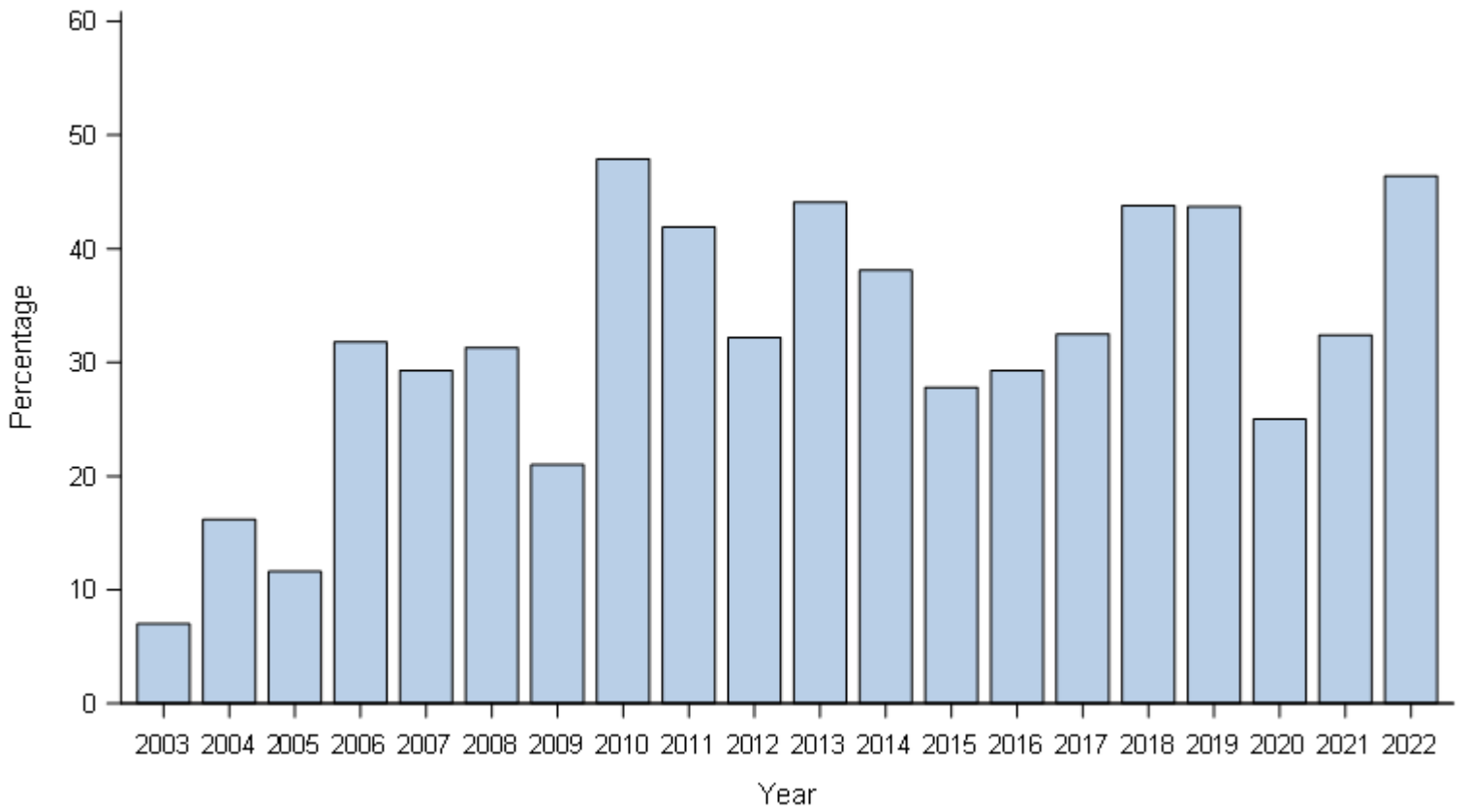


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
1 (0.4)	0 (0.0)	2 (0.7)	1 (0.4)	1 (0.5)	0 (0.0)	0 (0.0)	1 (0.4)	1 (0.6)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	9 (4.6)	9 (4.8)	11 (5.9)	10 (4.1)	13 (5.8)	20 (8.7)	12 (6.8)	13 (7.4)	12 (6.7)

Azithromycin elevated MIC ≥ 1.0 $\mu\text{g/mL}$ prior to 2005 and ≥ 2.0 $\mu\text{g/mL}$ during 2005-2022.

Figure N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Seattle, Washington, 2003-2022

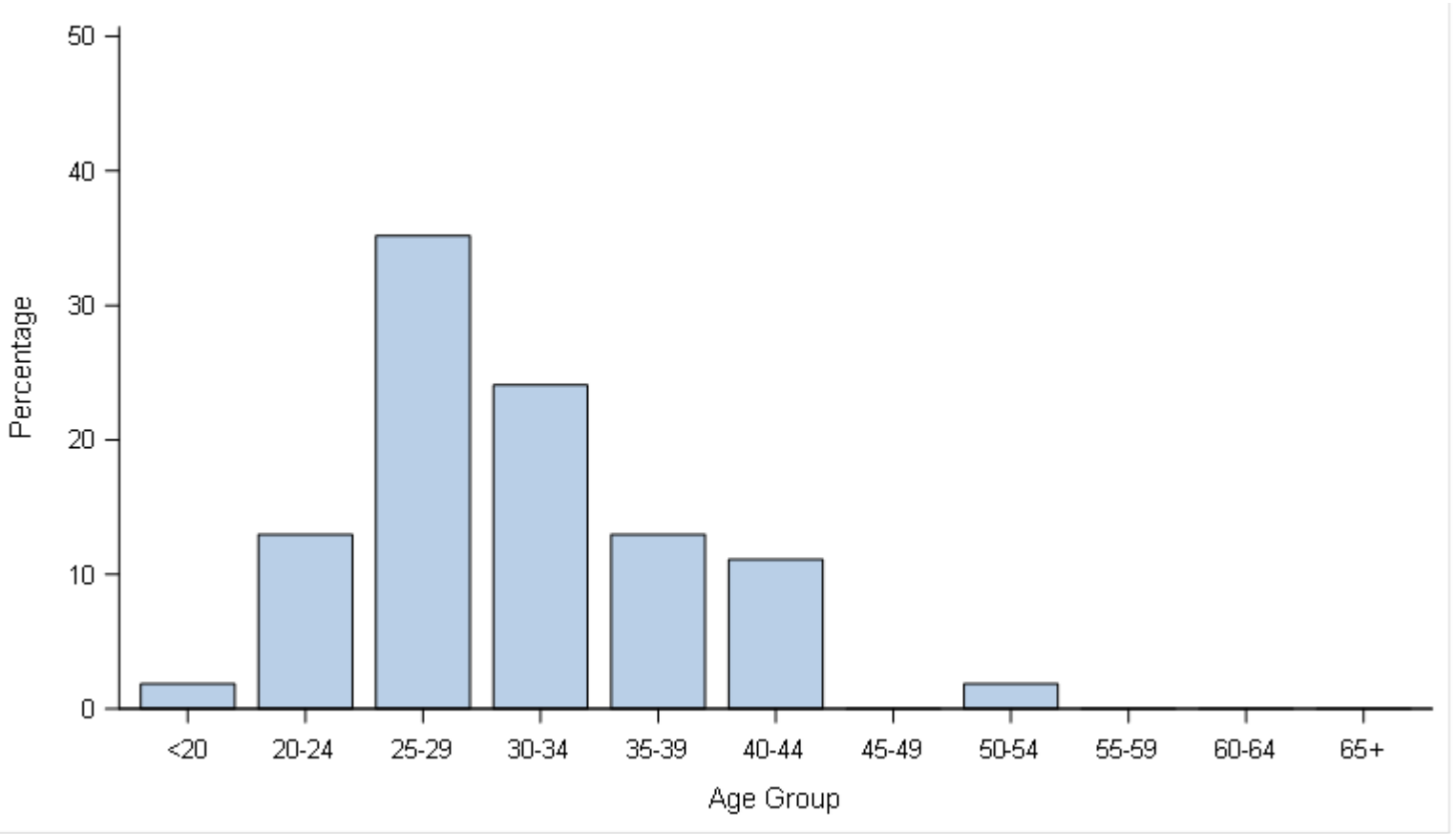


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
18 (7.0)	38 (16.2)	31 (11.6)	77 (31.8)	55 (29.3)	51 (31.3)	34 (21.0)	114 (47.9)	70 (41.9)	48 (32.2)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
63 (44.1)	74 (38.1)	52 (27.8)	55 (29.3)	80 (32.5)	98 (43.8)	100 (43.7)	44 (25.0)	57 (32.4)	83 (46.4)

Ciprofloxacin resistance MIC ≥1.0 µg/mL.

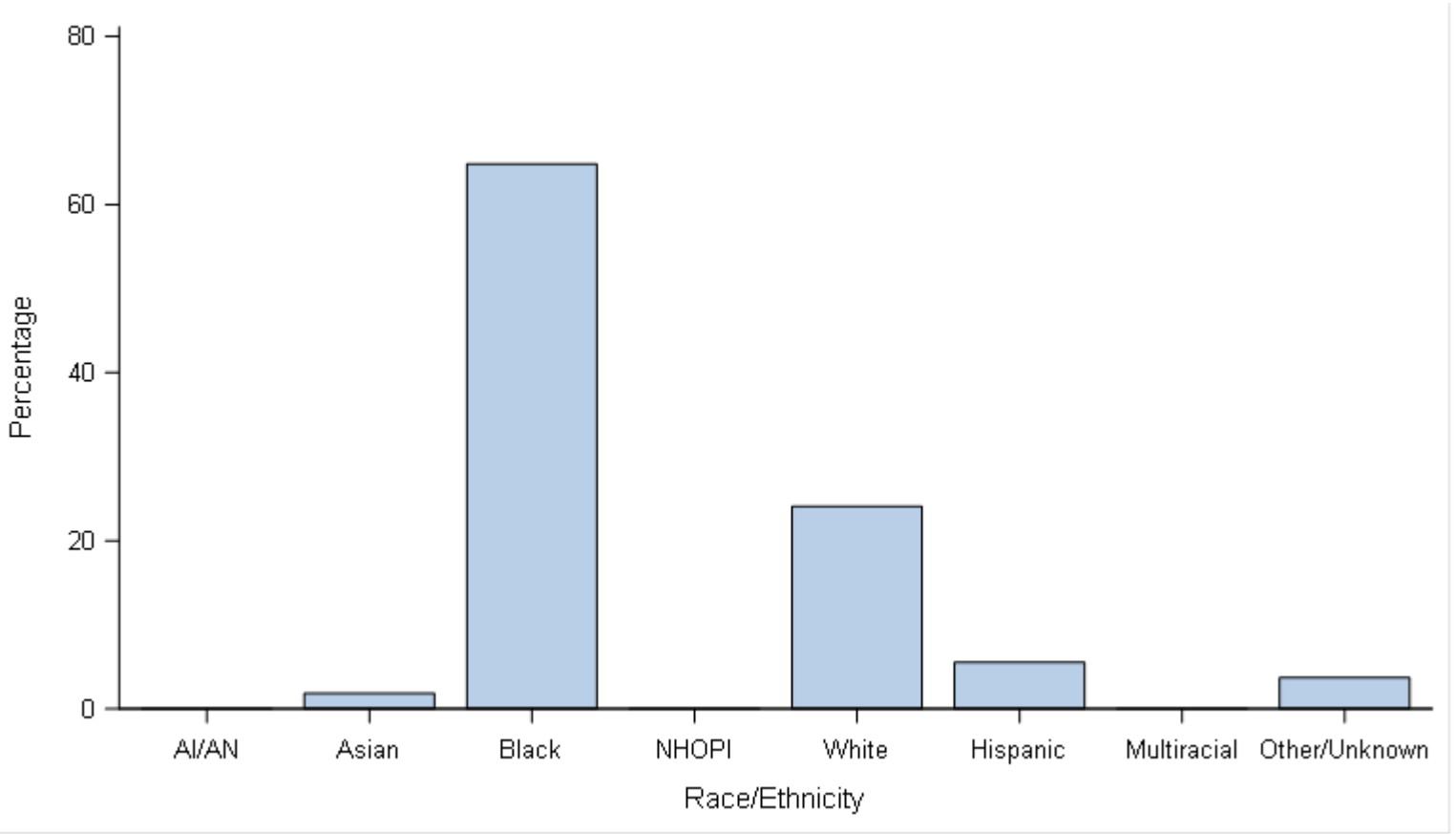
Figure A. Percentage of Participants by Age Group, Gonococcal Isolate Surveillance Project (GISP), Washington, DC, 2022



<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)	7 (13.0)	19 (35.2)	13 (24.1)	7 (13.0)	6 (11.1)	0 (0.0)	1 (1.9)	0 (0.0)	0 (0.0)	0 (0.0)	54

Cases with unknown age were excluded.

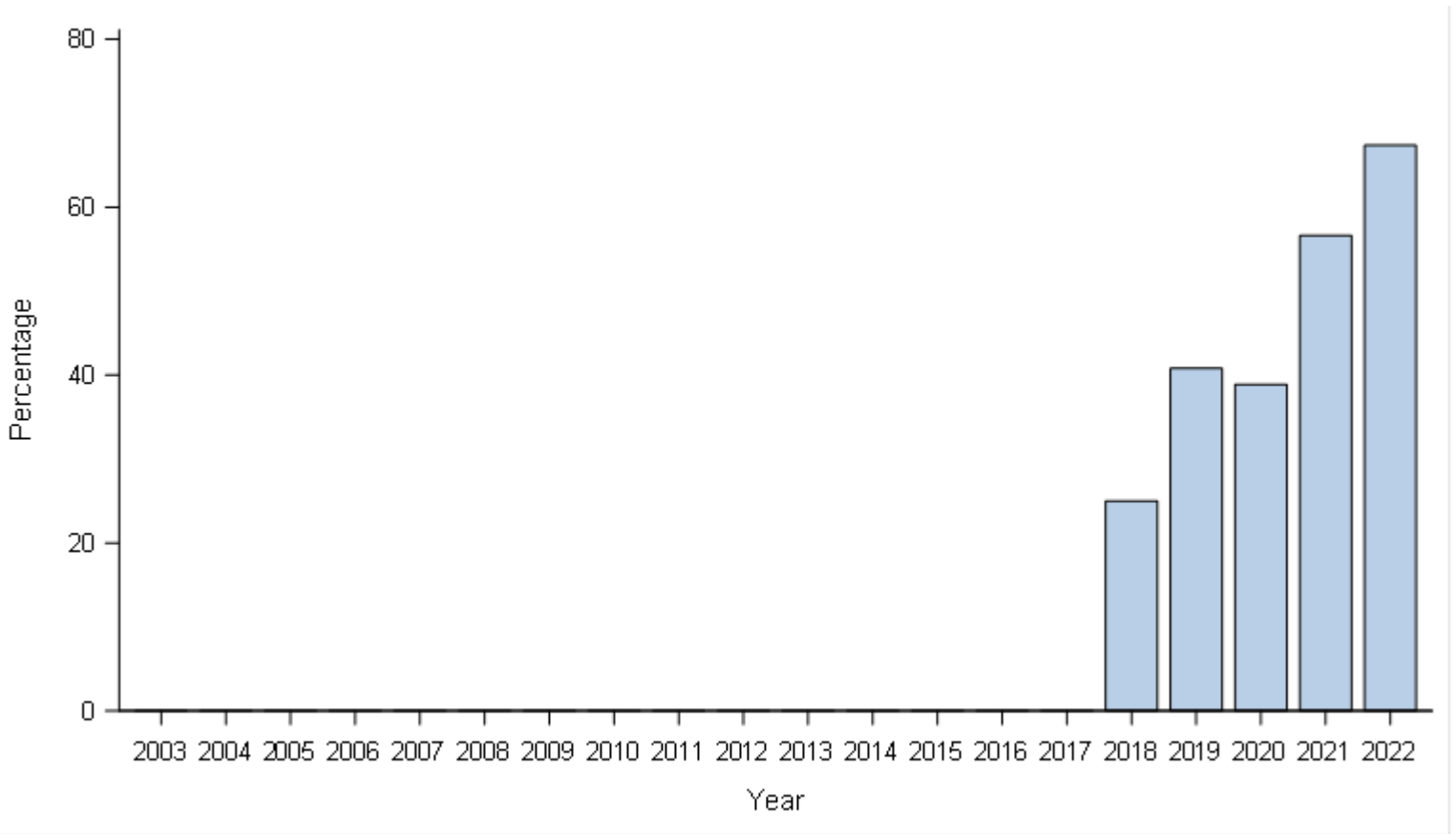
Figure B. Percentage of Participants by Race/Ethnicity, Gonococcal Isolate Surveillance Project (GISP), Washington, DC, 2022



AI/AN n (%)	Asian n (%)	Black n (%)	NHOPI n (%)	White n (%)	Hispanic n (%)	Multiracial n (%)	Other/Unknown n (%)	Total
0 (0.0)	1 (1.9)	35 (64.8)	0 (0.0)	13 (24.1)	3 (5.6)	0 (0.0)	2 (3.7)	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.

Figure C. Percentage of Participants Identifying as Men who Have Sex with Men, Gonococcal Isolate Surveillance Project (GISP), Washington, DC, 2003-2022

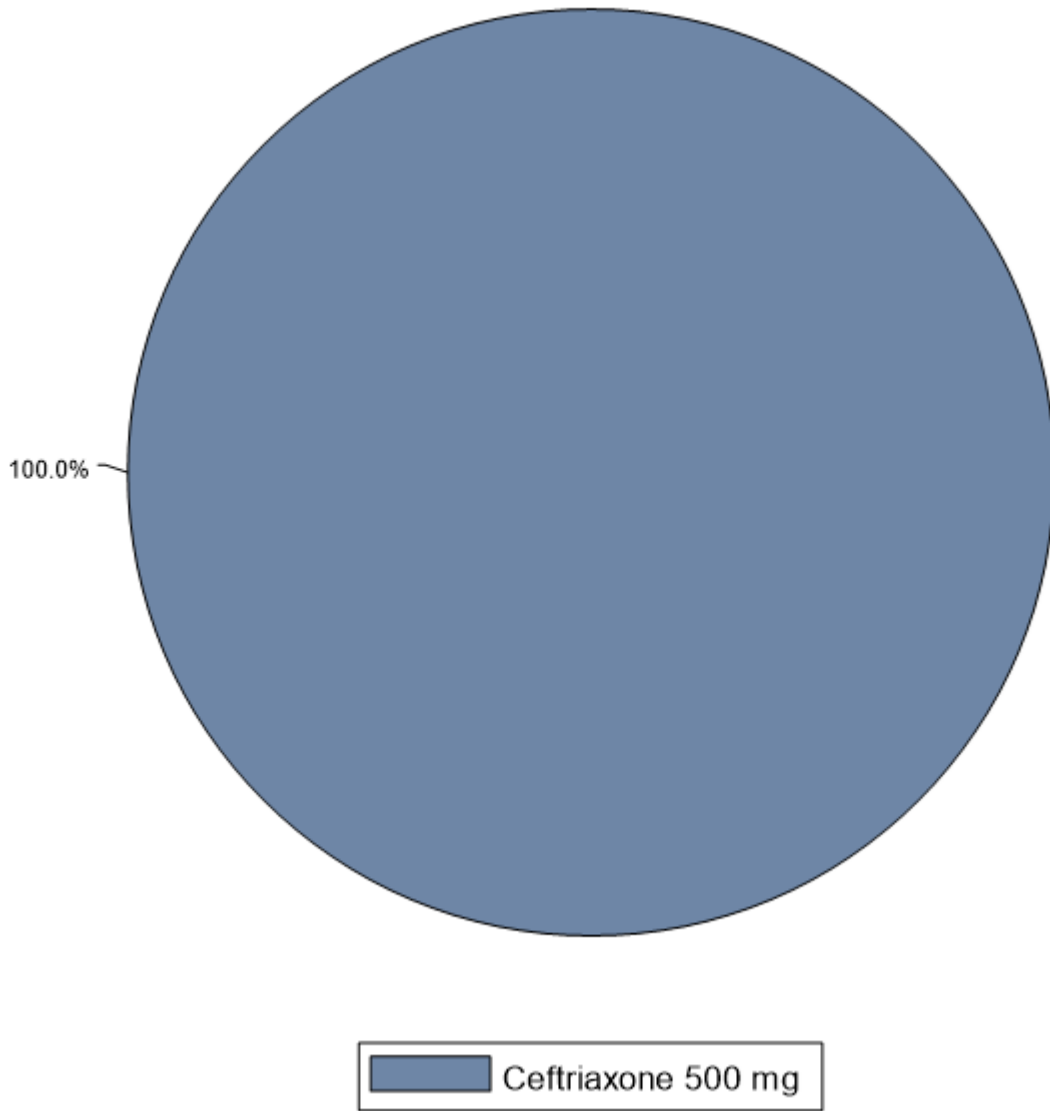


2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (25.0)	31 (40.8)	21 (38.9)	30 (56.6)	33 (67.3)

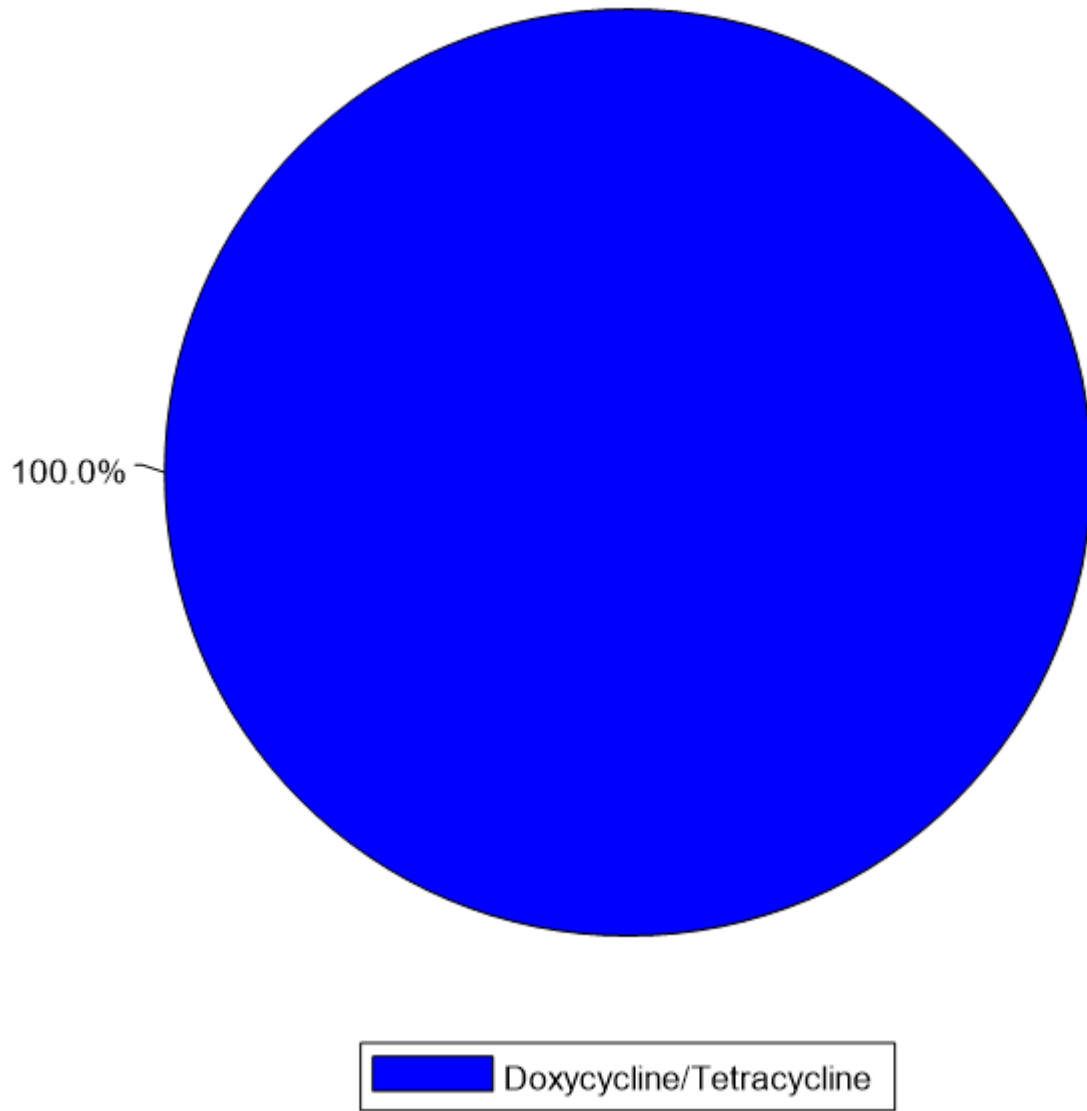
Men who have sex with men = men who self-identified as gay or bisexual or reported recent male sex partners.
 Site participated in GISP during 2018-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure D. Primary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Washington, DC, 2022



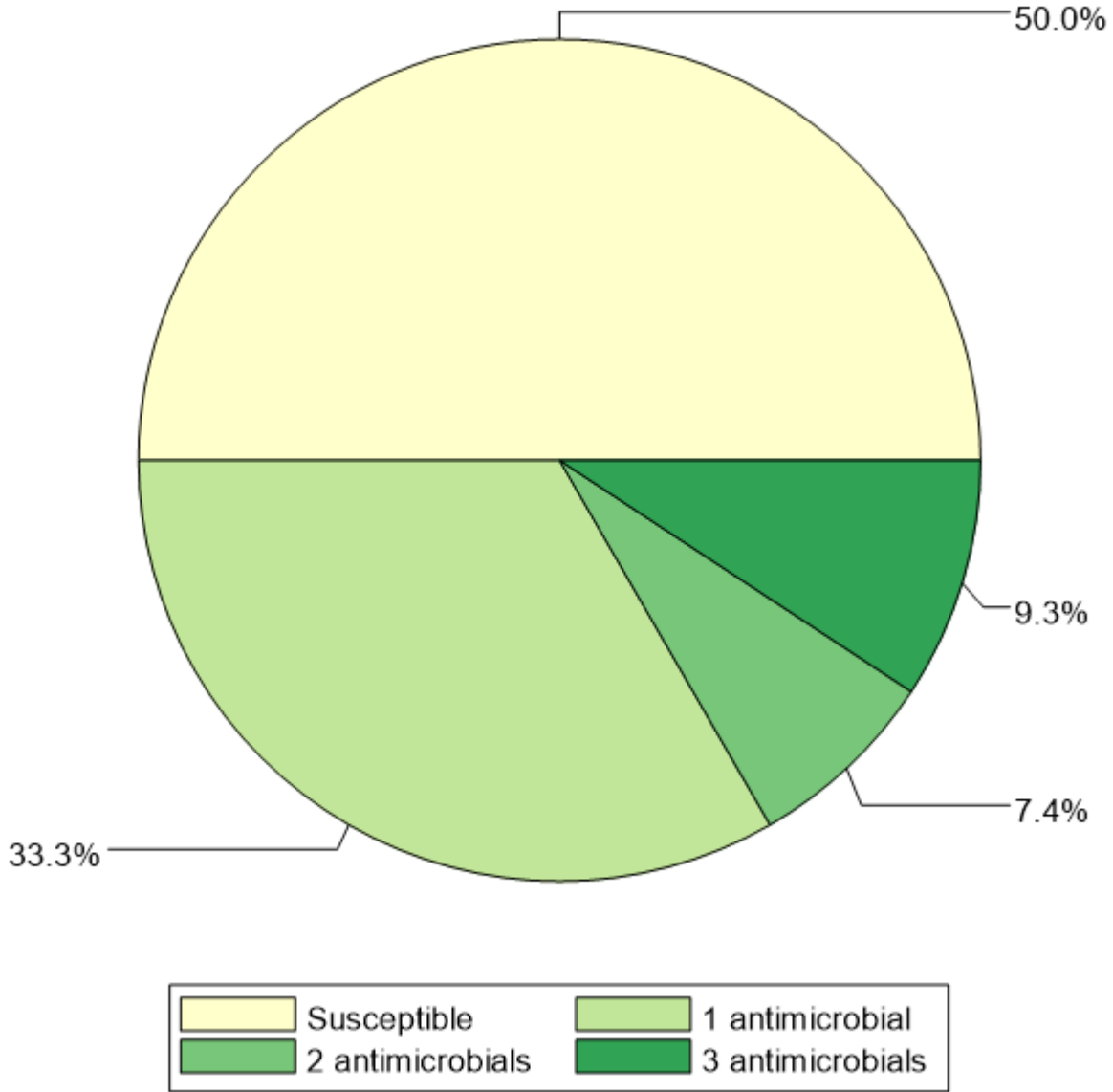
Primary Treatment	Count	Percentage
Ceftriaxone 500 mg	54	100.0

Figure E. Secondary Antimicrobial Drug Used to Treat Gonorrhea Among Participants, Gonococcal Isolate Surveillance Project (GISP), Washington, DC, 2022



Secondary Treatment	Count	Percentage
Doxycycline/Tetracycline	54	100.0

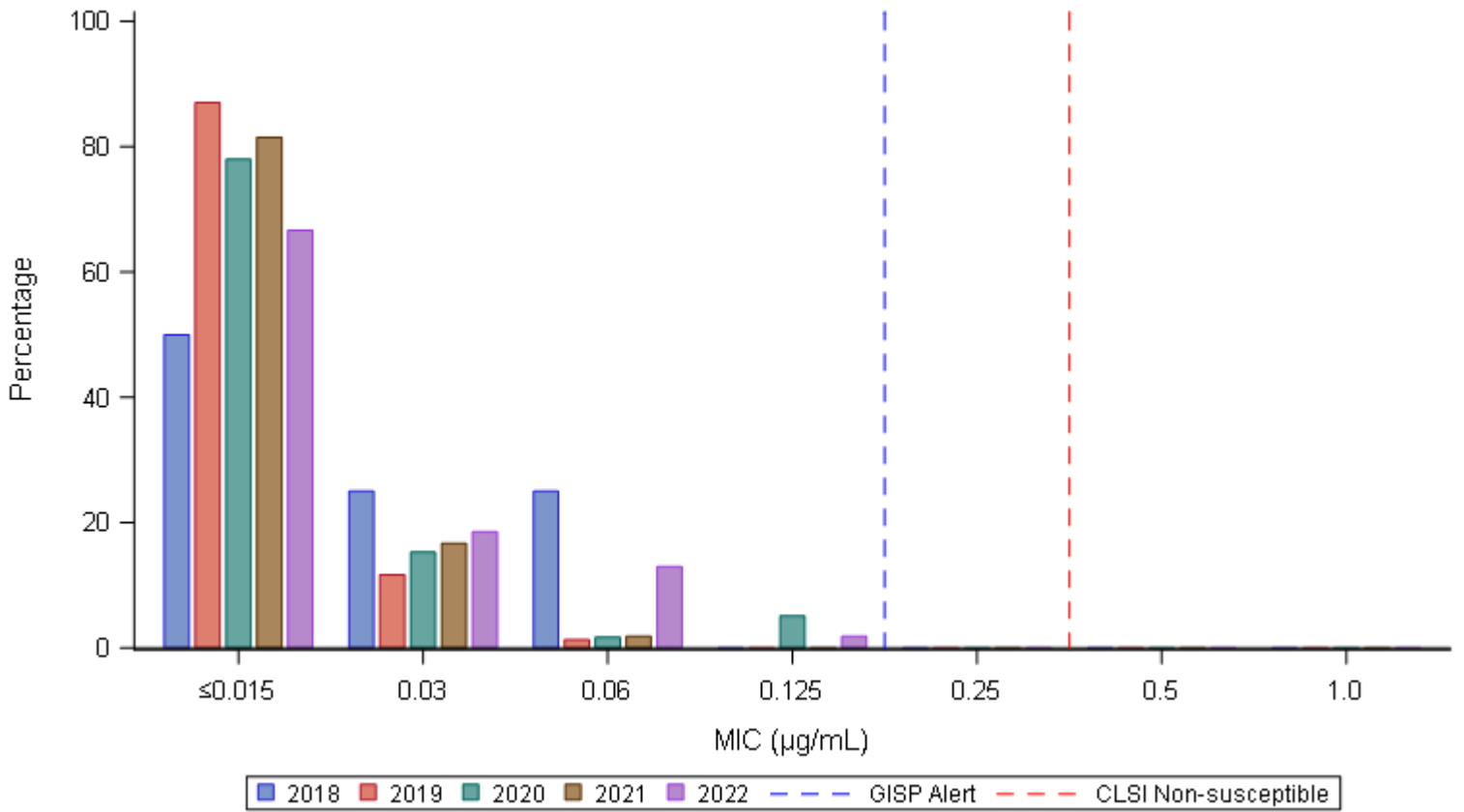
Figure F. Resistance or Elevated Minimum Inhibitory Concentration (MIC) Patterns Among *Neisseria gonorrhoeae* Isolates by Number of Antimicrobials, Gonococcal Isolate Surveillance Project (GISP), Washington, DC, 2022



Number of Antimicrobials	Count	Percentage
Susceptible	27	50.0
1 antimicrobial	18	33.3
2 antimicrobials	4	7.4
3 antimicrobials	5	9.3
4+ antimicrobials	0	0.0

Elevated MICs = ceftriaxone MIC ≥ 0.125 $\mu\text{g/mL}$; cefixime MIC ≥ 0.25 $\mu\text{g/mL}$; azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; Resistance = tetracycline MIC ≥ 2.0 $\mu\text{g/mL}$; ciprofloxacin MIC ≥ 1.0 $\mu\text{g/mL}$; penicillin MIC ≥ 2.0 $\mu\text{g/mL}$ or β -lactamase positive.

Figure G. Distribution of Cefixime Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Washington, DC, 2018-2022



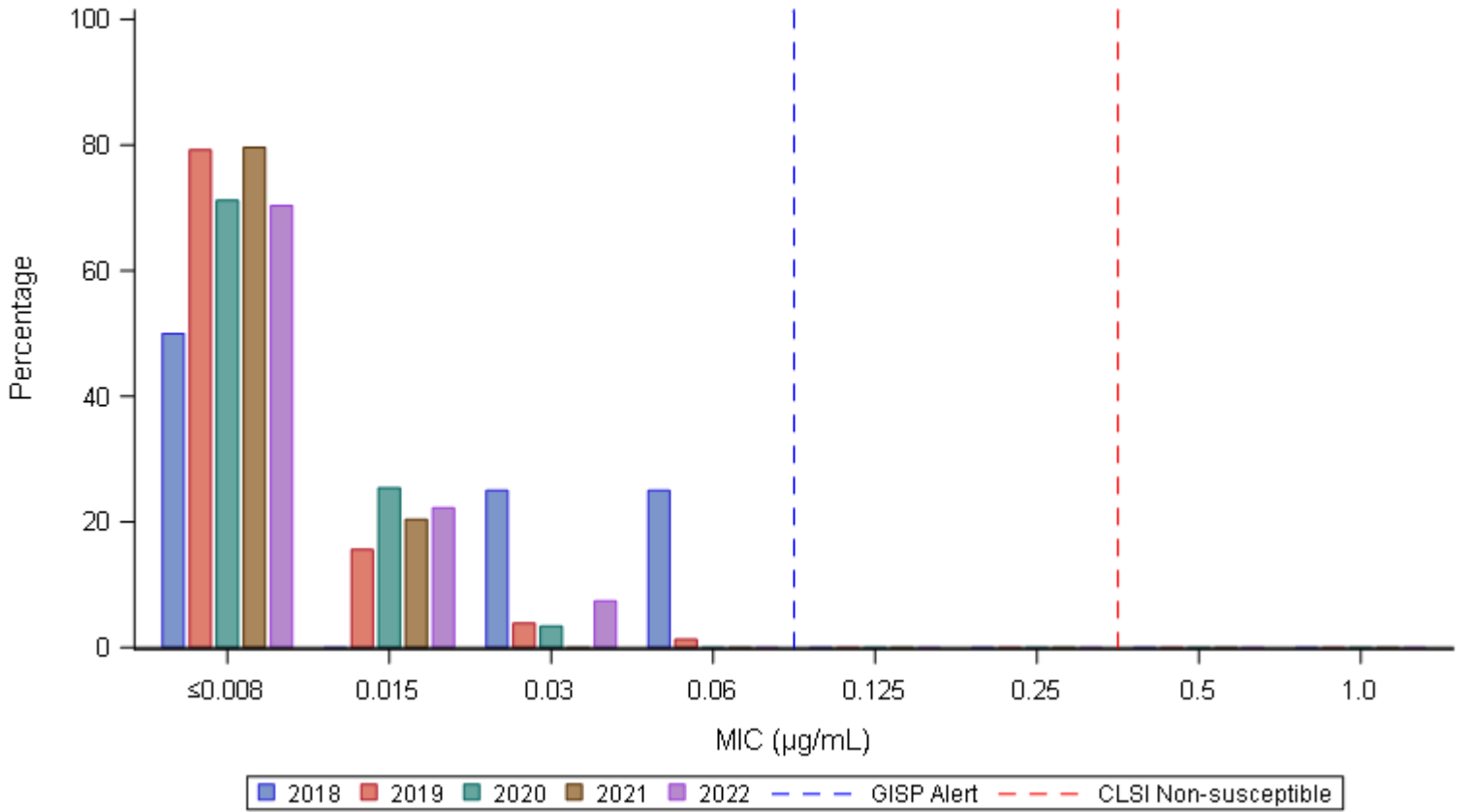
Year	≤0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	2 (50.0)	1 (25.0)	1 (25.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4
2019	67 (87.0)	9 (11.7)	1 (1.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	77
2020	46 (78.0)	9 (15.3)	1 (1.7)	3 (5.1)	0 (0.0)	0 (0.0)	0 (0.0)	59
2021	44 (81.5)	9 (16.7)	1 (1.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	54
2022	36 (66.7)	10 (18.5)	7 (13.0)	1 (1.9)	0 (0.0)	0 (0.0)	0 (0.0)	54

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

CLSI = Clinical & Laboratory Standards Institute.

Non-susceptible = Category used for isolates when only a susceptible breakpoint has been designated and the MIC is above the susceptible breakpoint. As of the end of 2022, the CLSI has not established a cefixime resistance breakpoint for *N. gonorrhoeae*.

Figure H. Distribution of Ceftriaxone Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Washington, DC, 2018-2022



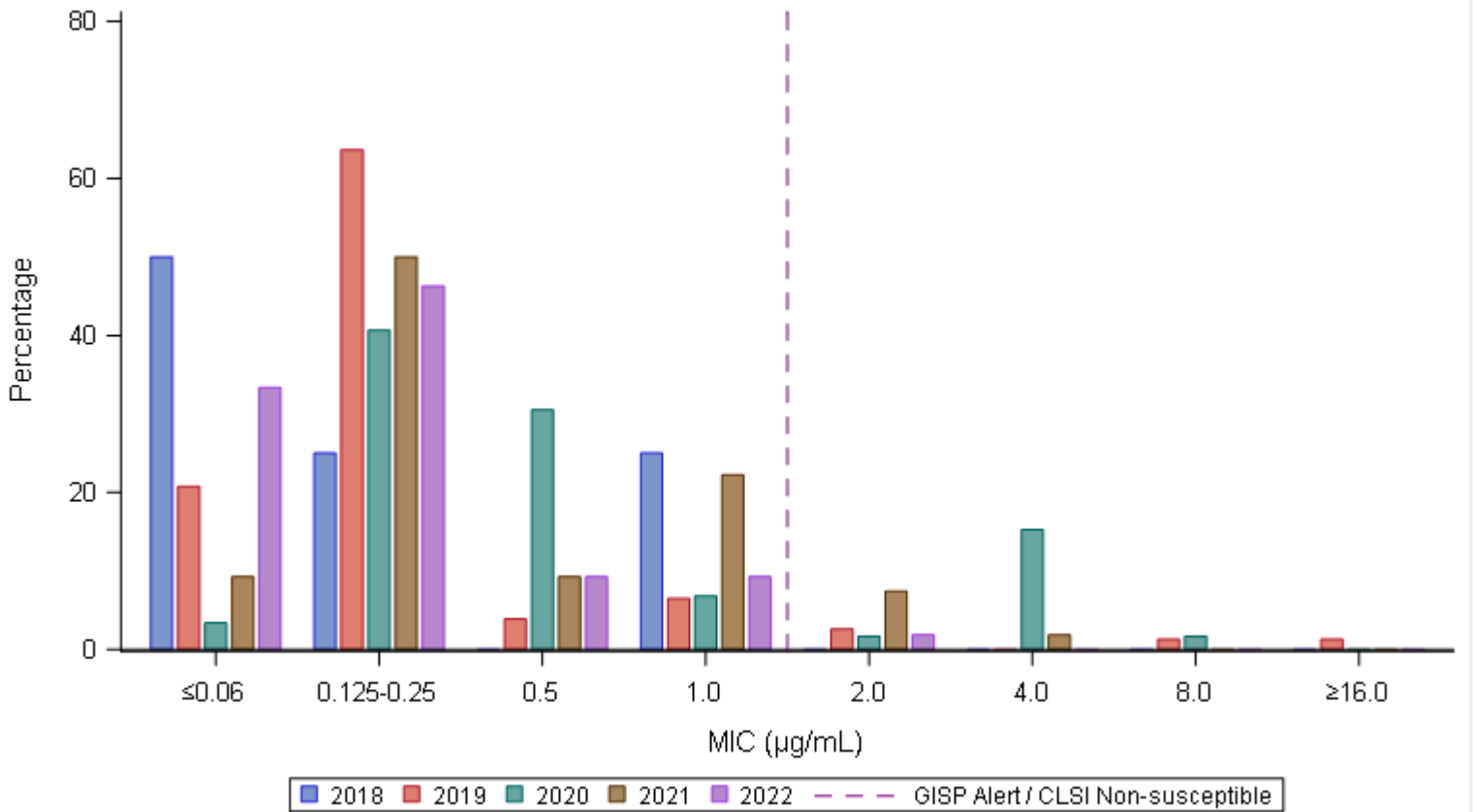
Year	≤0.008 n (%)	0.015 n (%)	0.03 n (%)	0.06 n (%)	0.125 n (%)	0.25 n (%)	0.5 n (%)	1.0 n (%)	Total
2018	2 (50.0)	0 (0.0)	1 (25.0)	1 (25.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4
2019	61 (79.2)	12 (15.6)	3 (3.9)	1 (1.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	77
2020	42 (71.2)	15 (25.4)	2 (3.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	59
2021	43 (79.6)	11 (20.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	54
2022	38 (70.4)	12 (22.2)	4 (7.4)	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 the end of 2022, the CLSI has not established a ceftriaxone resistance breakpoint for *N. gonorrhoeae*.

Figure I. Distribution of Azithromycin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Washington, DC, 2018-2022



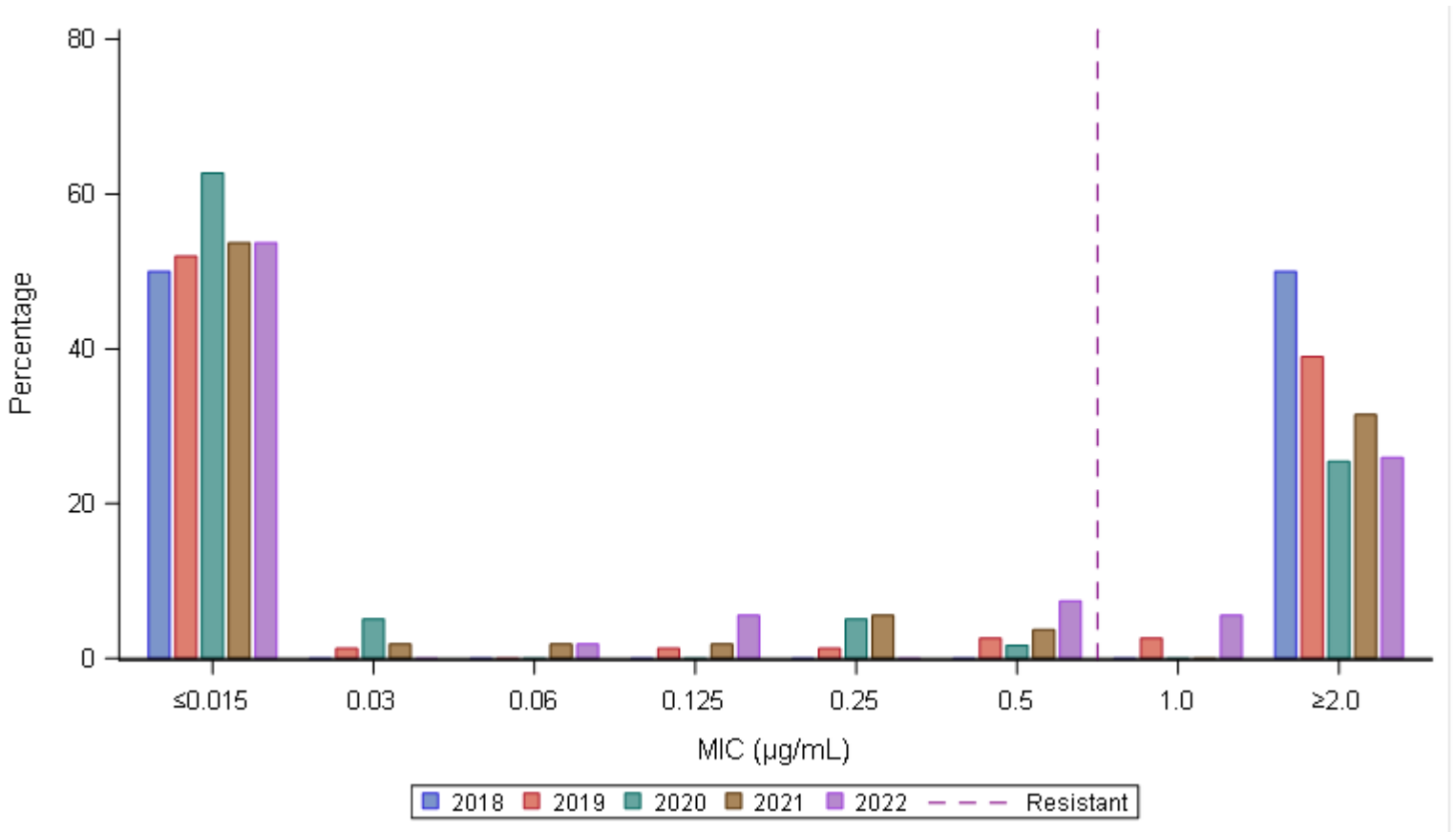
Year	≤0.06 n (%)	0.125-0.25 n (%)	0.5 n (%)	1.0 n (%)	2.0 n (%)	4.0 n (%)	8.0 n (%)	≥16.0 n (%)	Total
2018	2 (50.0)	1 (25.0)	0 (0.0)	1 (25.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4
2019	16 (20.8)	49 (63.6)	3 (3.9)	5 (6.5)	2 (2.6)	0 (0.0)	1 (1.3)	1 (1.3)	77
2020	2 (3.4)	24 (40.7)	18 (30.5)	4 (6.8)	1 (1.7)	9 (15.3)	1 (1.7)	0 (0.0)	59
2021	5 (9.3)	27 (50.0)	5 (9.3)	12 (22.2)	4 (7.4)	1 (1.9)	0 (0.0)	0 (0.0)	54
2022	18 (33.3)	25 (46.3)	5 (9.3)	5 (9.3)	1 (1.9)	0 (0.0)	0 (0.0)	0 (0.0)	54

GISP Alert Value: azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$; CLSI Non-susceptible = azithromycin MIC ≥ 2.0 $\mu\text{g/mL}$.

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 the end of 2022, the CLSI has not established an azithromycin resistance breakpoint for *N. gonorrhoeae*.

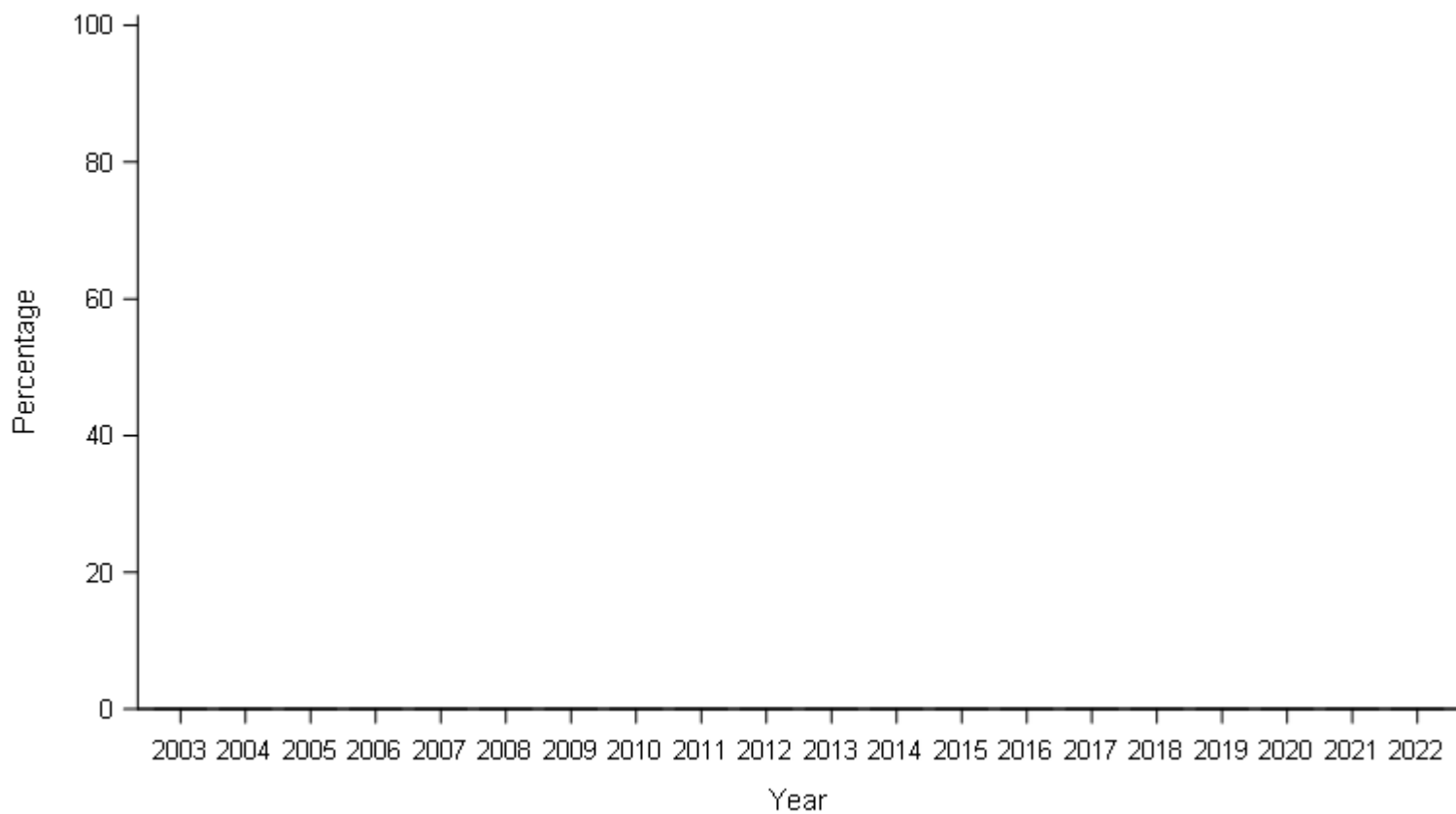
Figure J. Distribution of Ciprofloxacin Minimum Inhibitory Concentrations (MICs) by Year, Gonococcal Isolate Surveillance Project (GISP), Washington, DC, 2018-2022



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
2018	2 (50.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (50.0)	4
2019	40 (51.9)	1 (1.3)	0 (0.0)	1 (1.3)	1 (1.3)	2 (2.6)	2 (2.6)	30 (39.0)	77
2020	37 (62.7)	3 (5.1)	0 (0.0)	0 (0.0)	3 (5.1)	1 (1.7)	0 (0.0)	15 (25.4)	59
2021	29 (53.7)	1 (1.9)	1 (1.9)	1 (1.9)	3 (5.6)	2 (3.7)	0 (0.0)	17 (31.5)	54
2022	29 (53.7)	0 (0.0)	1 (1.9)	3 (5.6)	0 (0.0)	4 (7.4)	3 (5.6)	14 (25.9)	54

Ciprofloxacin resistance MIC ≥1.0 µg/mL.

Figure K. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Cefixime, Gonococcal Isolate Surveillance Project (GISP), Washington, DC, 2003-2022



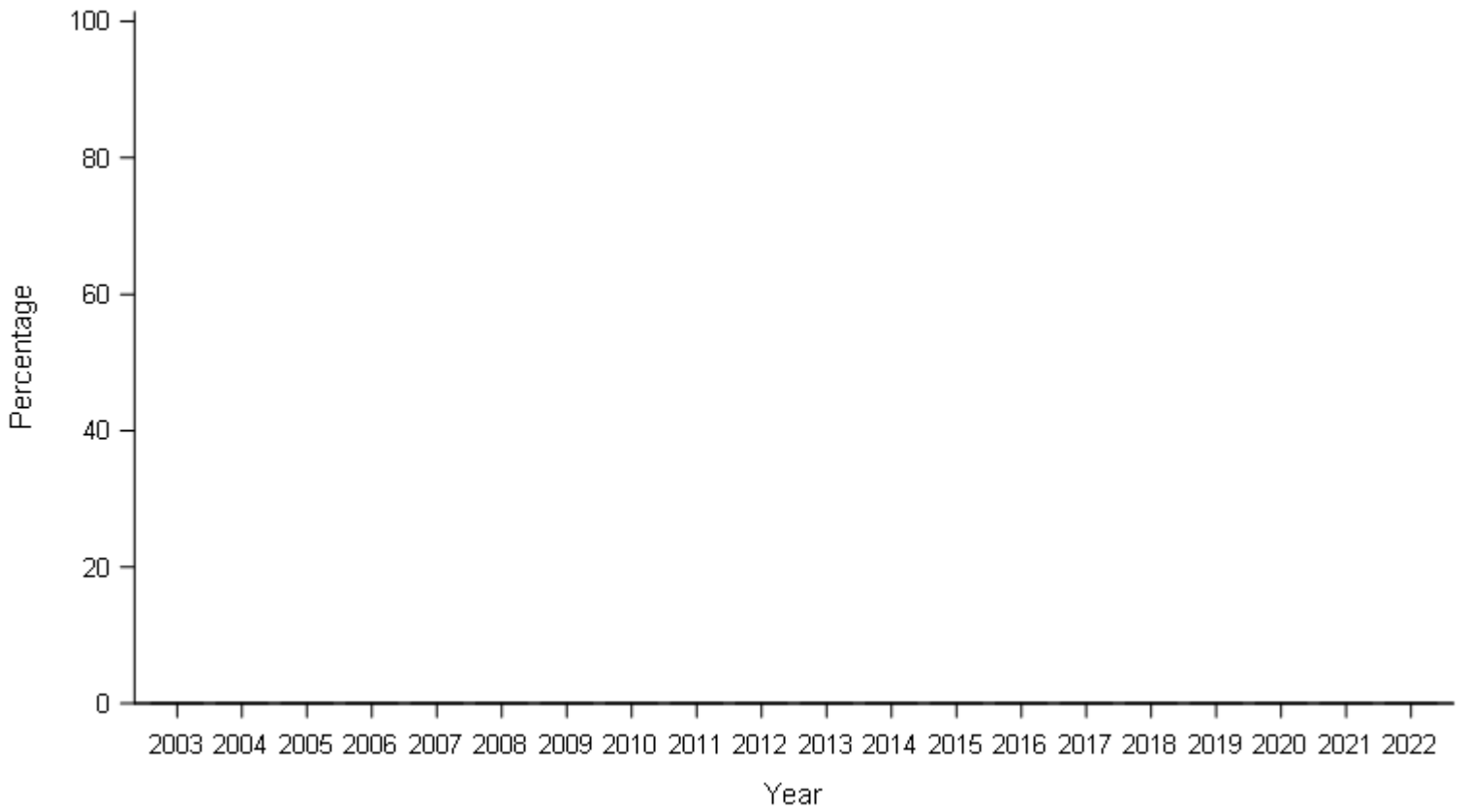
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

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

Site participated in GISP during 2018-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure L. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Ceftriaxone, Gonococcal Isolate Surveillance Project (GISP), Washington, DC, 2003-2022



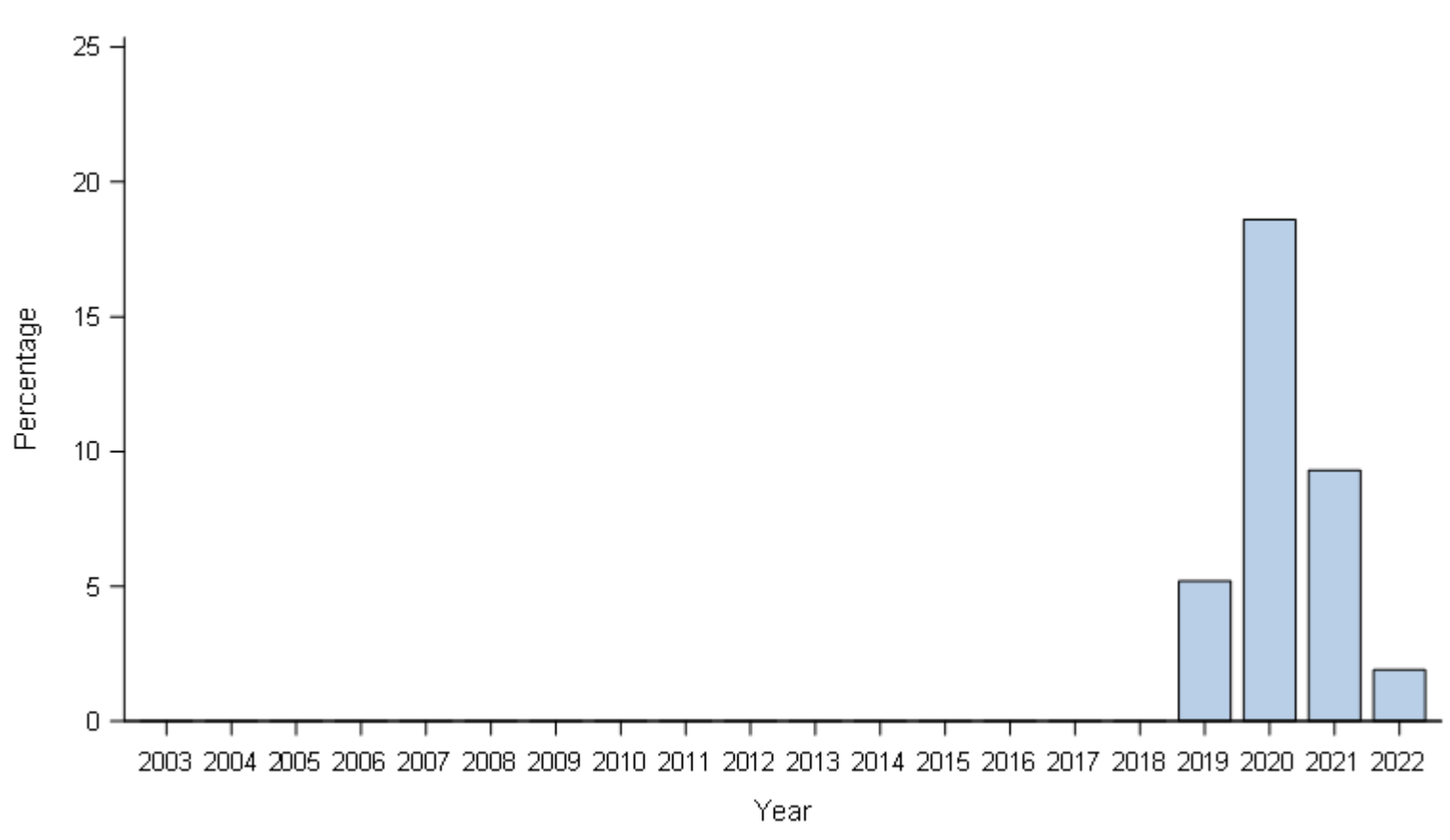
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

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

Site participated in GISP during 2018-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure M. Percentage of Isolates with an Elevated Minimum Inhibitory Concentration (MIC) to Azithromycin, Gonococcal Isolate Surveillance Project (GISP), Washington, DC, 2003-2022



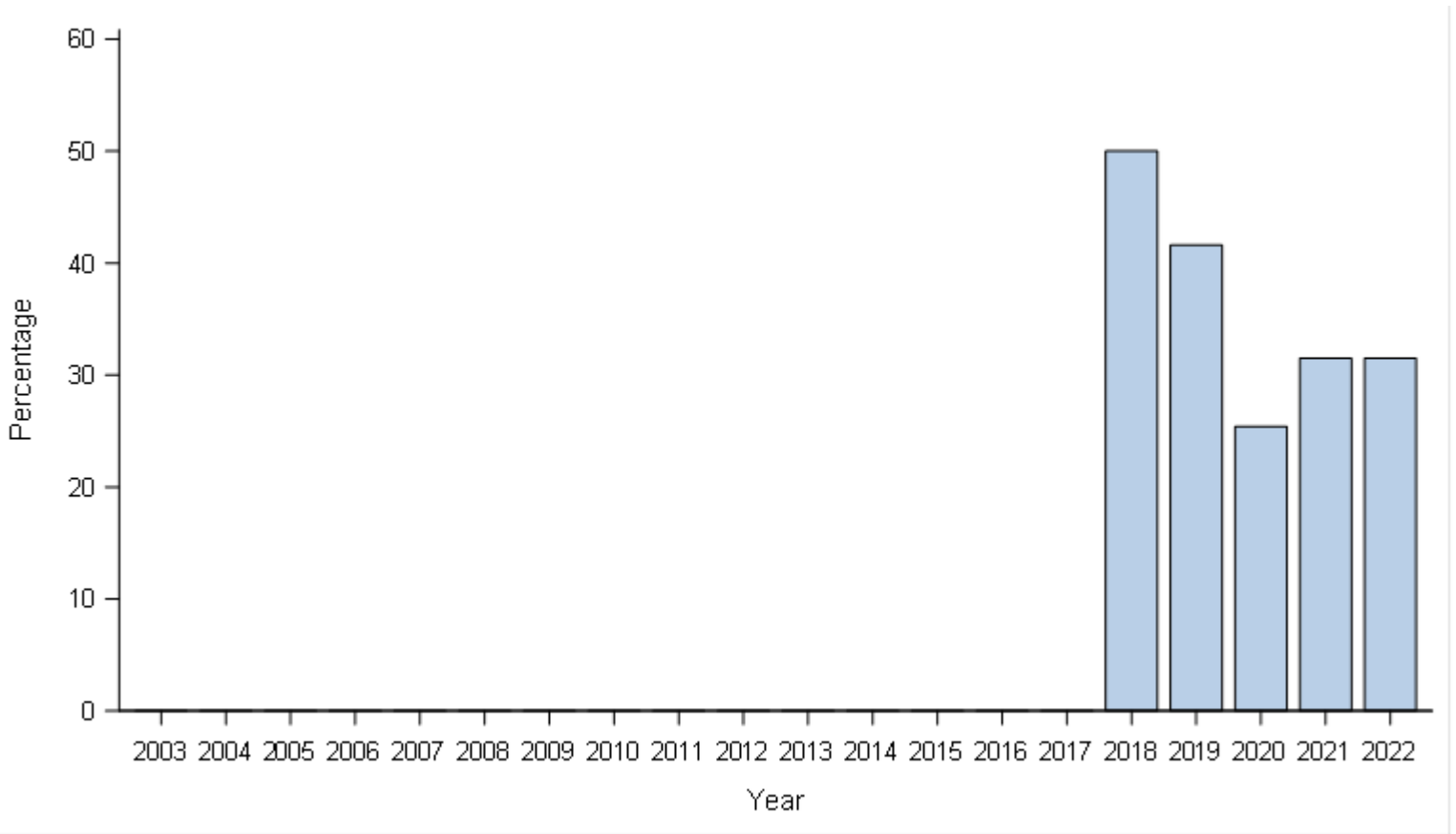
2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4 (5.2)	11 (18.6)	5 (9.3)	1 (1.9)

Azithromycin elevated MIC ≥ 1.0 $\mu\text{g/mL}$ prior to 2005 and ≥ 2.0 $\mu\text{g/mL}$ during 2005-2022.

Site participated in GISP during 2018-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.

Figure N. Percentage of Isolates with Resistance to Ciprofloxacin, Gonococcal Isolate Surveillance Project (GISP), Washington, DC, 2003-2022



2003 n (%)	2004 n (%)	2005 n (%)	2006 n (%)	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

2013 n (%)	2014 n (%)	2015 n (%)	2016 n (%)	2017 n (%)	2018 n (%)	2019 n (%)	2020 n (%)	2021 n (%)	2022 n (%)
0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (50.0)	32 (41.6)	15 (25.4)	17 (31.5)	17 (31.5)

Ciprofloxacin resistance MIC \geq 1.0 μ g/mL.

Site participated in GISP during 2018-2022. Where blanks exist on the graphs for years of participation, no data were available for the criteria presented.