

Talking to Your Patients About Sex & Sexually Transmitted Diseases

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NH Division of Public Health Services
April 22, 2015

Outline

- Discuss how to take a sexual history
- Review of Chlamydia and Gonorrhea
 - Clinical syndromes
 - Epidemiology
 - Screening
 - Treatment
- Highlight some key changes in the upcoming 2014 STD treatment guidelines (Gonorrhea)
- Highlight available resources



MMWRTM

Morbidity and Mortality Weekly Report

www.cdc.gov/mmwr

Recommendations and Reports

December 17, 2010 / Vol. 59 / No. RR-12

Sexually Transmitted Diseases Treatment Guidelines, 2010

Taking a Sexual History

Stages of Prevention

- Primary Prevention – Changing sexual behavior before infection occurs via education and counselling
- Secondary/Tertiary Prevention – Evaluation & screening to detect clinical/subclinical disease before transmission & progression to worse outcomes

Before you can Intervene, you have to Ask!

- Non-judgmental
- Compassion/empathy
- Respect
- Use a common understandable language
- Use open-ended questions

Key: Make it Routine

- Good organization
- Use your medical record or EMR
- Template the question(s) into your work-flow
- Ask at every appointment or at least every “annual exam”
- Ask even if you already “know” the answer
 - Catholic Nun
 - 89 y.o. patient
 - “No interest in sex for years” patient

EMR Note Template

Annual Physical Exam

Name: Phony Baloney

MRN: 000987654321

Date: April 22, 2015

Age: 25

Sex: Male

CC:

HPI:

ROS:

FHx:

Mother:

Father:

SHx:

Marriage:

Travel:

Tobacco:

EtOH:

Illegal/IVDU:

Sexual History:

What to Ask: the Five P's

- Partners
- Prevention of Pregnancy
- Protection from STDs
- Practices
- Past History of STDs

CDC 2010 STD Treatment Guidelines

- Suggested Questions for asking about the “Five P’s”:

Box 1. The Five P’s: Partners, Prevention of Pregnancy, Protection from STDs, Practices, and Past History of STDs

1. Partners

- “Do you have sex with men, women, or both?”
- “In the past 2 months, how many partners have you had sex with?”
- “In the past 12 months, how many partners have you had sex with?”
- “Is it possible that any of your sex partners in the past 12 months had sex with someone else while they were still in a sexual relationship with you?”

2. Prevention of pregnancy

- “What are you doing to prevent pregnancy?”

3. Protection from STDs

- “What do you do to protect yourself from STDs and HIV?”



4. Practices

- “To understand your risks for STDs, I need to understand the kind of sex you have had recently.”
- “Have you had vaginal sex, meaning ‘penis in vagina sex?’” If yes, “Do you use condoms: never, sometimes, or always?”
- “Have you had anal sex, meaning ‘penis in rectum/ anus sex?’” If yes, “Do you use condoms: never, sometimes, or always?”
- “Have you had oral sex, meaning ‘mouth on penis/ vagina?’”

For condom answers:

- If “never:” “Why don’t you use condoms?”
- If “sometimes:” “In what situations (or with whom) do you not use condoms?”

5. Past history of STDs

- “Have you ever had an STD?”
- “Have any of your partners had an STD?”

Additional questions to identify HIV and viral hepatitis risk include:

- “Have you or any of your partners ever injected drugs?”
- “Have any of your partners exchanged money or drugs for sex?”
- “Is there anything else about your sexual practices that I need to know about?”

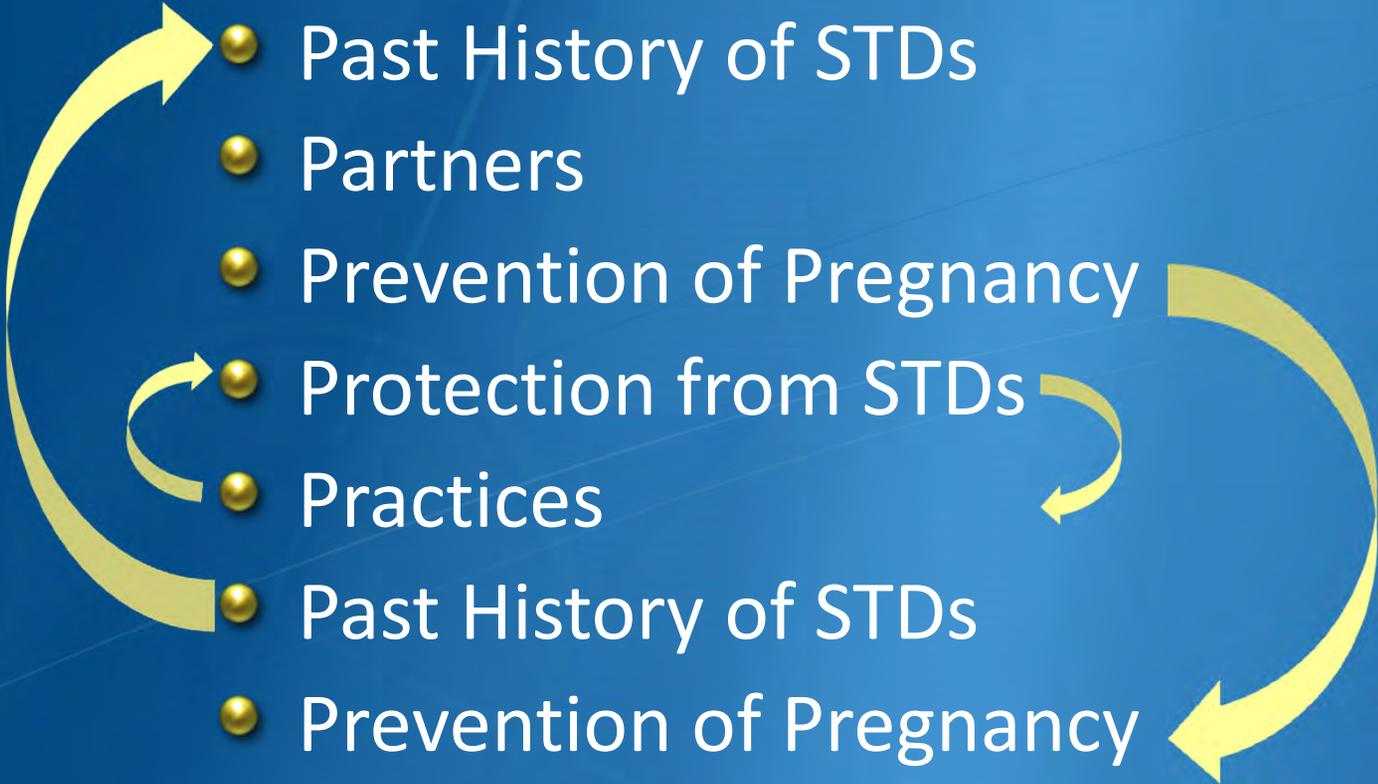
Issues

- Questions can be awkward to ask (it's not the way normal people talk)
- The flow feels interruptive to the normal conversation & dialogue of the visit
- Too many questions, no time to ask
- Providers think patients will be uncomfortable
- Providers feel uncomfortable

Potential Solutions

- Change the wording of the questions
- Change the order of the questions
- You don't need to ask all the questions listed, it's a guide
- Patient's generally aren't too uncomfortable, especially if you make it routine and develop a flow for how you ask

Five P's Re-organized

- Start with a Lead-in statement
 - Past History of STDs
 - Partners
 - Prevention of Pregnancy
 - Protection from STDs
 - Practices
 - Past History of STDs
 - Prevention of Pregnancy
- 

Five P's Re-organized

- Start with a Lead-in statement
 - Past History of STDs
 - Partners
 - Practices
 - Protection from STDs
 - Prevention of Pregnancy
- 

Five P's Re-organized

Start with a Lead-in statement

1. Past History of STDs
2. Partners
3. Practices
4. Protection from STDs
5. Prevention of Pregnancy (?)

Conversation Flow & Progression

- Lead-in: “I’m going to ask you several questions about your sexual health and practices. This is important because...”
- #1: “Do you have any history of sexually transmitted infections”
“Have you ever been checked for STDs?”
- #2: “Are you currently sexually active?”
“How many partners have you had in the last 12 months?”
“Men, women, or both?”

Conversational Flow & Progression

- #3: “What kind of sex do you have? Anal, vaginal, or oral sex?”
 - ...if reports anal sex: “Are you the “top” (anal insertive) or the “bottom” (anal receptive)?”
 - ...if reports oral sex: “what kind of oral sex...mouth to penis, mouth to vagina, both?”
- #4: “Do you use condoms?”
 - “How do you protect yourself from STDs?”
- #5: “What are you doing to prevent pregnancy?”

Annual Physical Exam

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Age: 25

Sex: Male

CC:

HPI:

ROS:

FHx: |

Mother:

Father:

SHx:

Marriage: single

Travel: No recent travel

Tobacco: quit 10 years ago, previously smoked $\frac{1}{2}$ ppd for 20 years

EtOH: 2-4 beers/week

Illegal/IVDU: denies, never

Sexual Activity: no h/o STDs, never checked for STDs, currently sexually active with 1 female partner, reports 3 female partners in last year, denies MSM. Reports both vaginal and oral sex. Does not use Condoms nor any other form of protection.



Counseling and Prevention

- Abstinence or reduce the # of partners
- Vaccination (HPV, Hep A/B)
- Male condoms (latex & non-latex synthetic vs. natural “lambskin”)
- Female condoms
- PEP
- PrEP

Screening for STDs

- HIV (all adults and adolescents from 13-64 years of age should be screened at least once)
- Chlamydia
- Gonorrhea
- Syphilis (pregnant and MSM)
- Hepatitis B and C (pregnant and MSM)
- HPV (cervical cancer screening recs)

Chlamydia trachomatis

Background

- Non-motile, obligate intracellular bacteria
- Extra-cellular infectious form: Elementary Body (EB)
 - Spore-like structure
 - Metabolically Inert
- EB attaches to epithelial cells and enters via receptor mediated endocytosis
- Intracellular replication (Reticulate Body)
- Releases EB to transmit infection

Multiple Chlamydial Species

- *C. trachomatis* (Serovars A-C)
- *C. trachomatis* (Serovars (D-K)
- *C. trachomatis* (Serovars L1, L2, L3)
- *C. pneumoniae*
- *C. psittaci*

Serovars of *Chlamydia trachomatis*

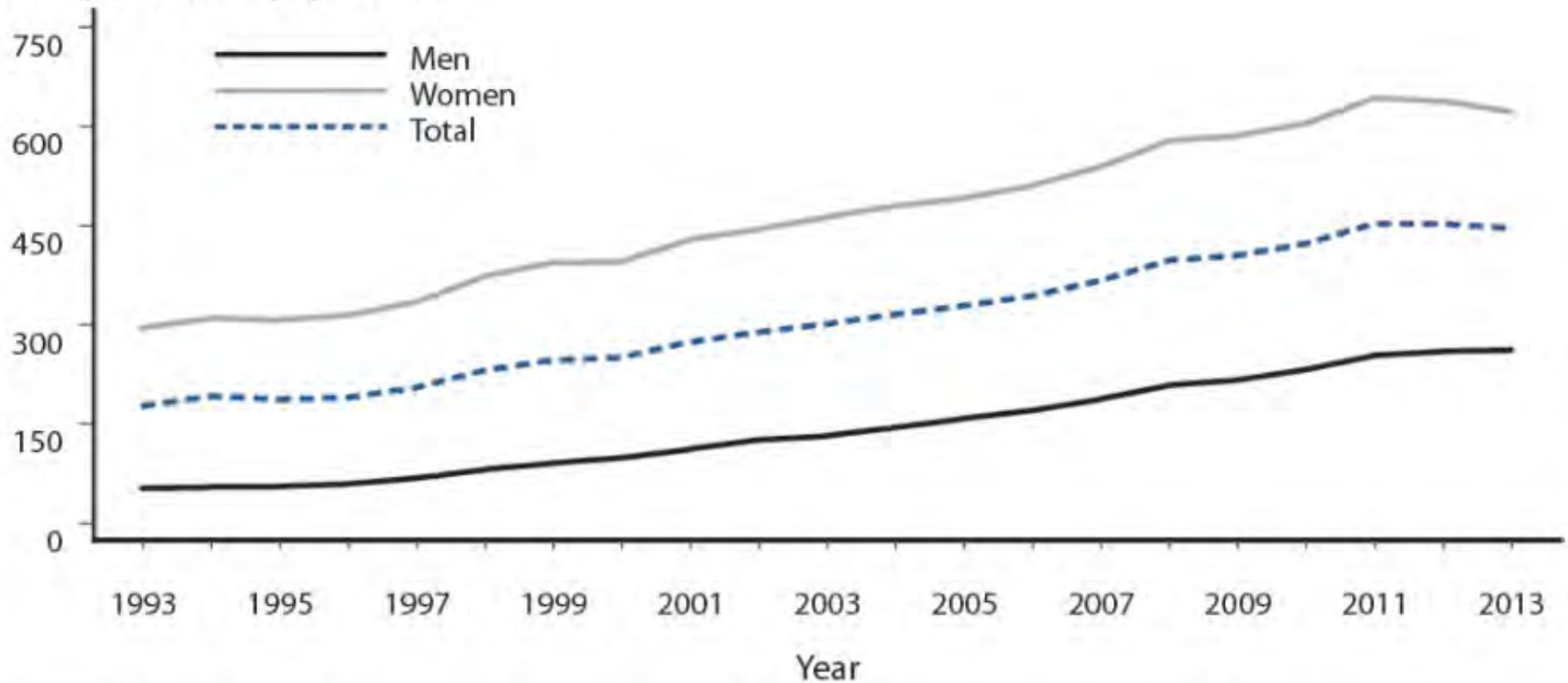
- Serovars A – C: Ocular trachoma (leading cause of preventable blindness worldwide)
- Serovars D – K: Urogenital disease & Conjunctivitis
- Serovars L1, L2, L3: Lymphogranuloma venereum (LGV)
 - Painful inguinal/femoral lymphadenopathy
 - Self-limited painless genital ulcer
 - Proctocolitis (sometimes hemorrhagic)

Clinical Syndromes

- Conjunctivitis
- Urethritis
- Cervicitis
- Epididymitis
- Pharyngitis (rare)
- Proctocolitis
- Reactive arthritis
- Long-term complications: PID, ectopic pregnancy, infertility

Chlamydia Rates in the U.S.

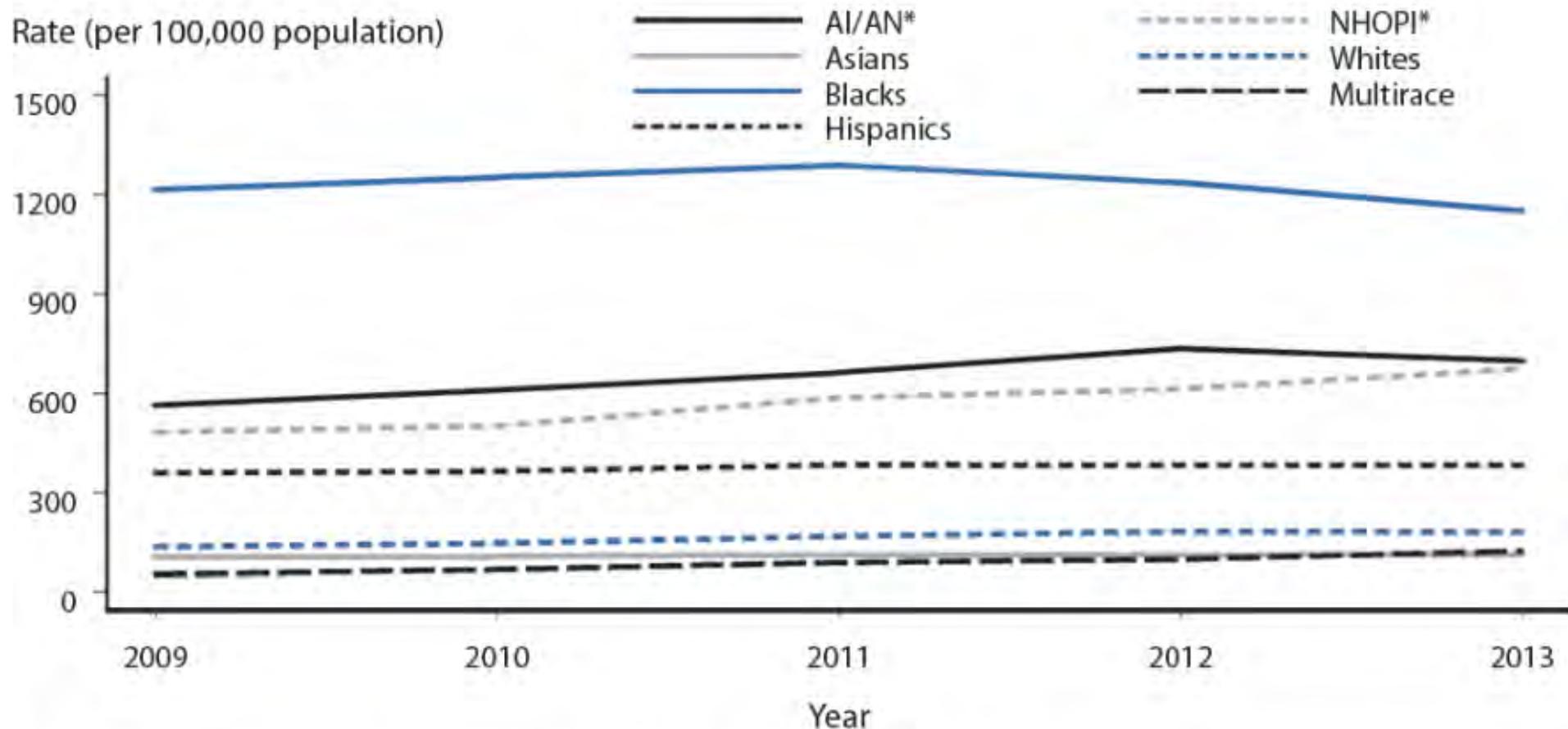
Rate (per 100,000 population)



NOTE: As of January 2000, all 50 states and the District of Columbia have regulations that require the reporting of chlamydia cases.

CDC. Sexually Transmitted Disease Surveillance, 2013. Website:
<http://www.cdc.gov/std/stats13/default.htm>

Chlamydia Rates in the U.S. by Race/Ethnicity

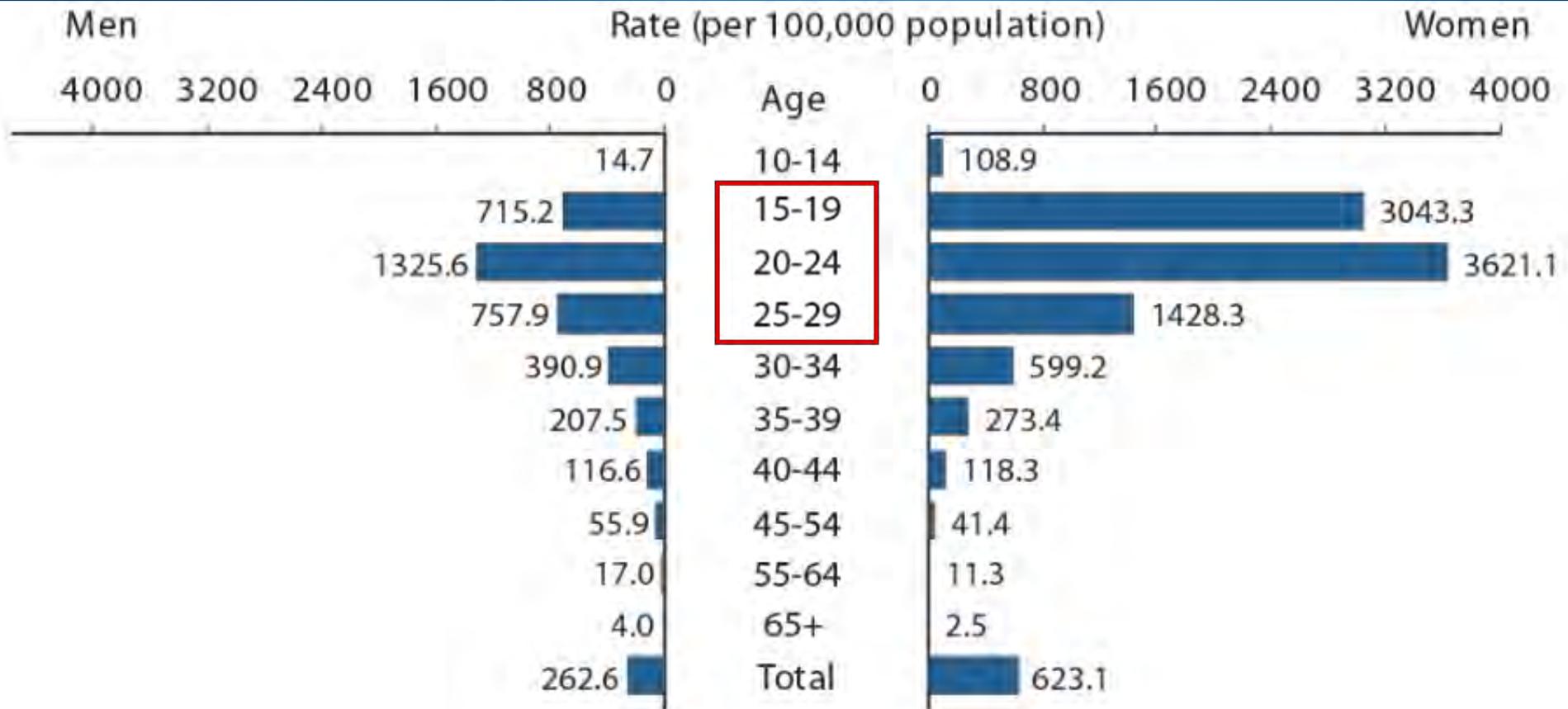


* AI/AN= American Indians/Alaska Natives; NHOPI= Native Hawaiian and Other Pacific Islanders.

NOTE: Includes 39 states and the District of Columbia reporting race/ethnicity data in Office of Management and Budget compliant formats during 2009–2013 (see [Reporting of Data for Race/Ethnicity](#) in the Appendix).

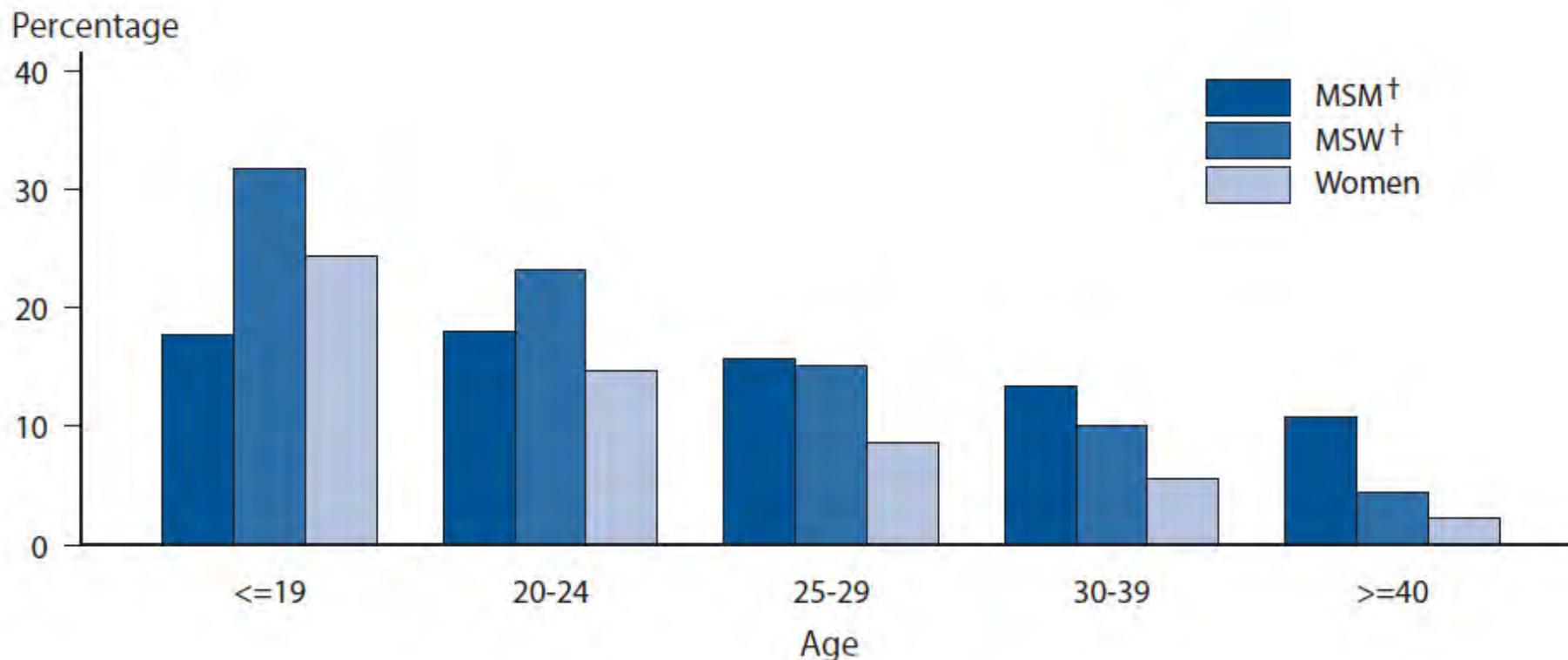
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2013 Chlamydia Rates in the U.S. by Age/Sex



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2013 Chlamydia Cases in the U.S. by Age, Sex, & Sexual Behavior



* Only includes patients tested for chlamydia

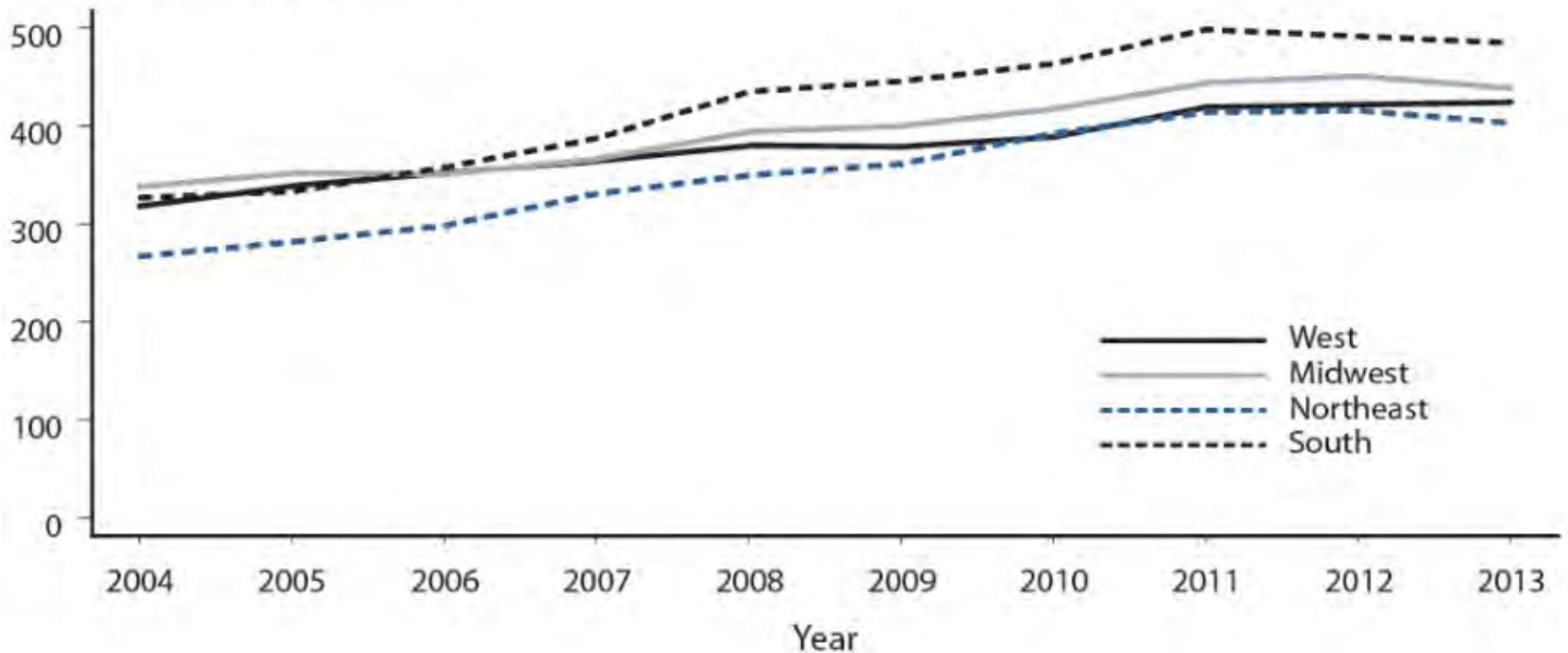
† MSM = men who have sex with men; MSW = men who have sex with women only.

NOTE: Six jurisdictions (Birmingham, Chicago, Denver, Hartford/New Haven, New Orleans, and Richmond) contributed data from January through June 2013 and the remaining jurisdictions (Baltimore, Los Angeles, New York City, Philadelphia, San Francisco and Seattle) contributed data for all of 2013.

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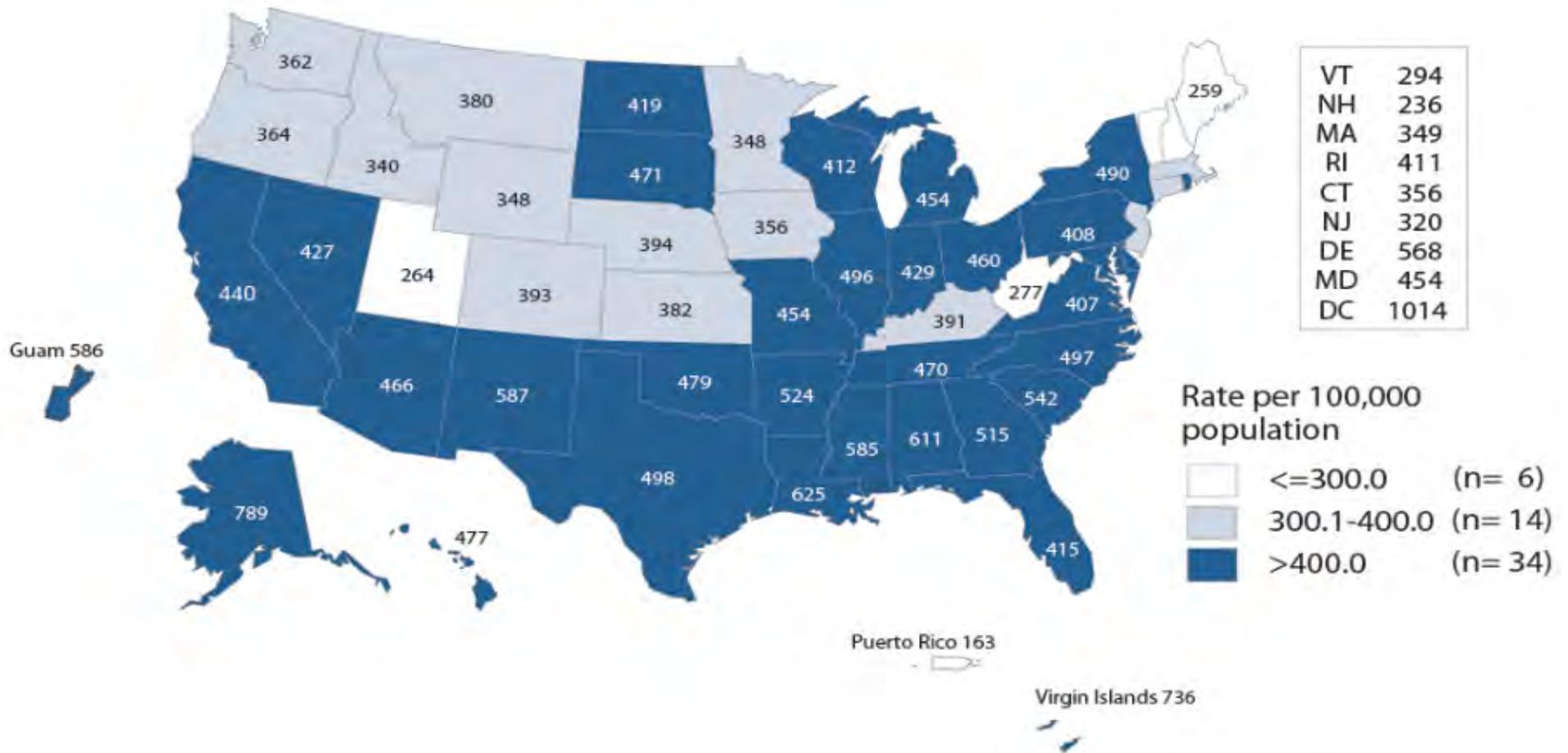
Chlamydia Rates in the U.S. by Region

Rate (per 100,000 population)



CDC. Sexually Transmitted Disease Surveillance, 2013. Website:
<http://www.cdc.gov/std/stats13/default.htm>

2013 Chlamydia Rates by State



NOTE: The total rate of reported cases of chlamydia for the United States and outlying areas (Guam, Puerto Rico, and Virgin Islands) was 443.5 per 100,000 population.

CDC. Sexually Transmitted Disease Surveillance, 2013. Website:
<http://www.cdc.gov/std/stats13/default.htm>

2013 Chlamydia Cases Ranked by State

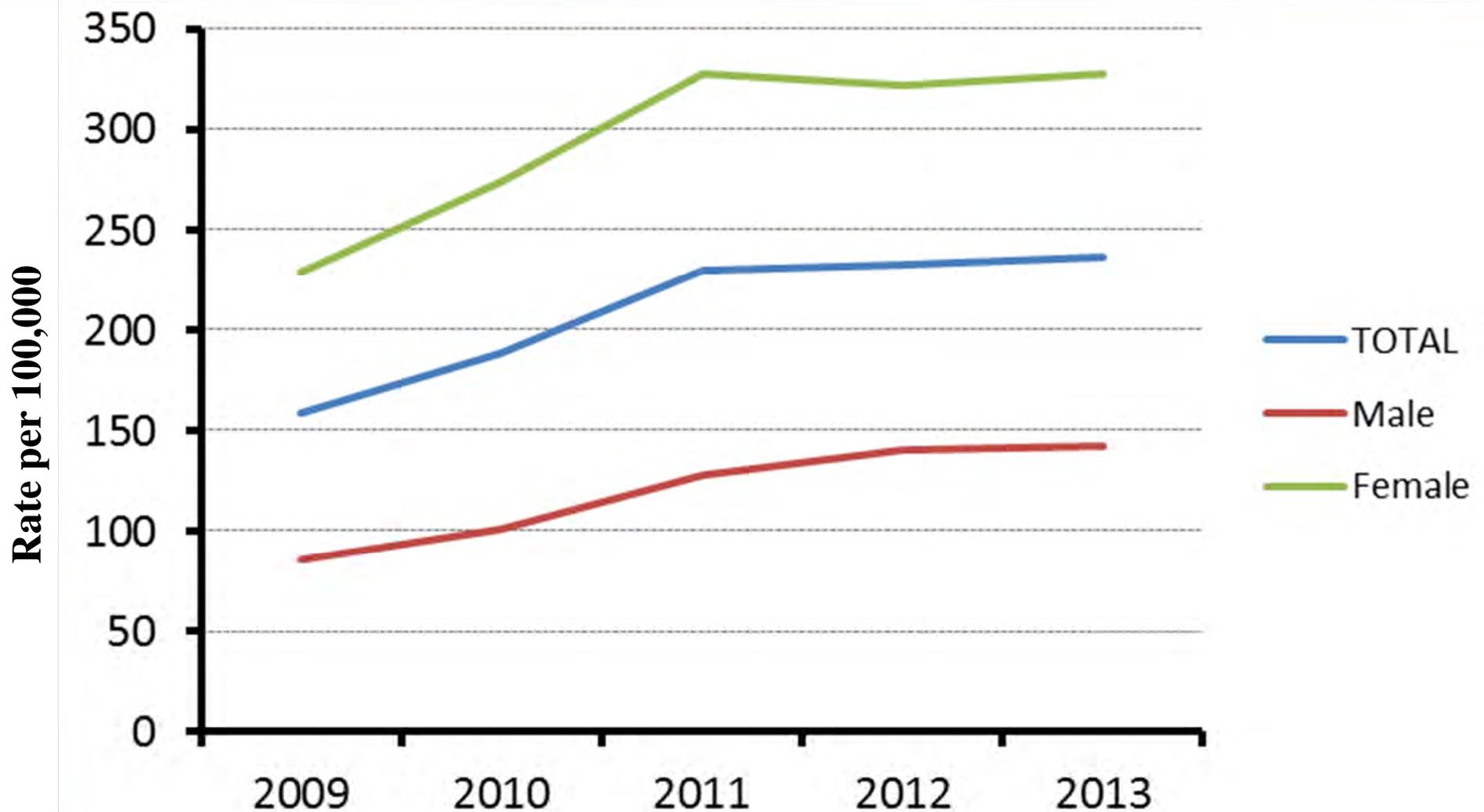
Rank*	State	Cases	Rate per 100,000 Population
1	Alaska	5,774	789.4
2	Louisiana	28,739	624.5
3	Alabama	29,464	611.0
4	New Mexico	12,249	587.3
5	Mississippi	17,464	585.1
6	Delaware	5,213	568.4
7	South Carolina	25,594	541.8
8	Arkansas	15,447	523.8
9	Georgia	51,070	514.8
10	Texas	129,861	498.3
11	North Carolina	48,416	496.5
12	Illinois	63,797	495.5
13	New York	95,803	489.5
14	Oklahoma	18,278	479.1
15	Hawaii	6,640	476.9
16	South Dakota	3,927	471.2
17	Tennessee	30,370	470.4
18	Arizona	30,564	466.4
19	Ohio	53,121	460.2
20	Maryland	26,723	454.1
21	Missouri	27,328	453.8
22	Michigan	44,835	453.6
	U.S. TOTAL†	1,401,906	446.6
23	California	167,346	439.9
24	Indiana	28,023	428.7
25	Nevada	11,781	427.0
26	North Dakota	2,932	419.1
27	Florida	80,182	415.1
28	Wisconsin	23,572	411.6
29	Rhode Island	4,312	410.6
30	Pennsylvania	52,056	407.8
31	Virginia	33,316	407.0
32	Nebraska	7,301	393.5
33	Colorado	20,386	393.0
34	Kentucky	17,134	391.2
35	Kansas	11,012	381.6
36	Montana	3,818	379.8
37	Oregon	14,181	363.7
38	Washington	24,950	361.8
39	Iowa	10,953	356.3
40	Connecticut	12,775	355.8
41	Massachusetts	23,210	349.2
42	Minnesota	18,742	348.4
43	Wyoming	2,005	347.8
44	Idaho	5,428	340.2
45	New Jersey	28,327	319.6
46	Vermont	1,842	294.2
47	West Virginia	5,139	277.0
48	Utah	7,535	263.9
49	Maine	3,428	258.7
50	New Hampshire	3,119	236.2

CDC. Sexually Transmitted Disease Surveillance, 2013. Website: <http://www.cdc.gov/std/stats13/default.htm>

* States were ranked by rate, then by case count, then in alphabetical order, with rates shown rounded to the nearest tenth.

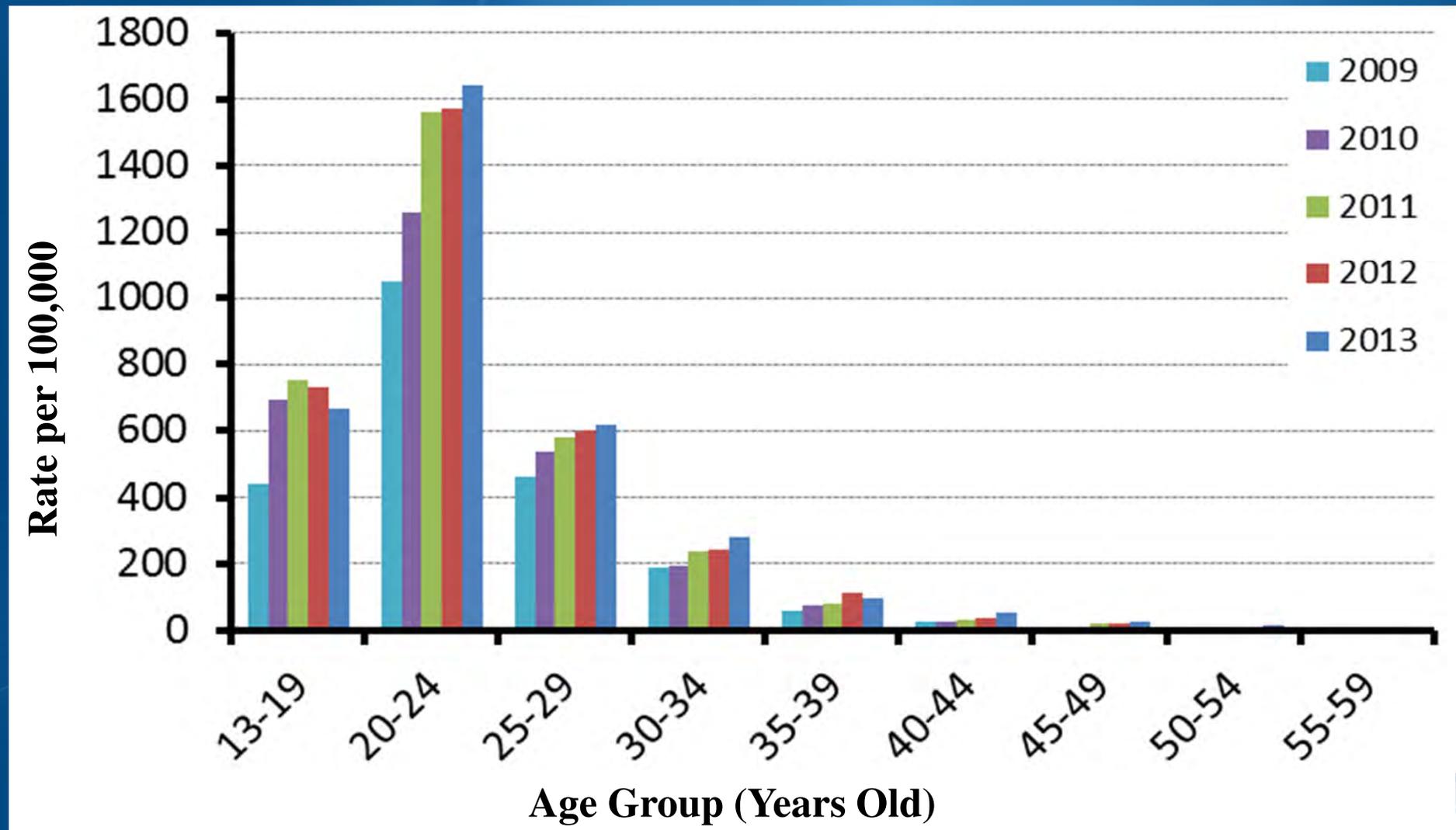
† Total includes cases reported by the District of Columbia with 6,414 cases and a rate of 1,014.4, but excludes outlying areas (Guam with 937 cases and rate of 585.9, Puerto Rico with 5,969 cases and rate of 162.8, and Virgin Islands with 775 cases and rate of 736.2).

Yearly NH Chlamydia Rates by Sex



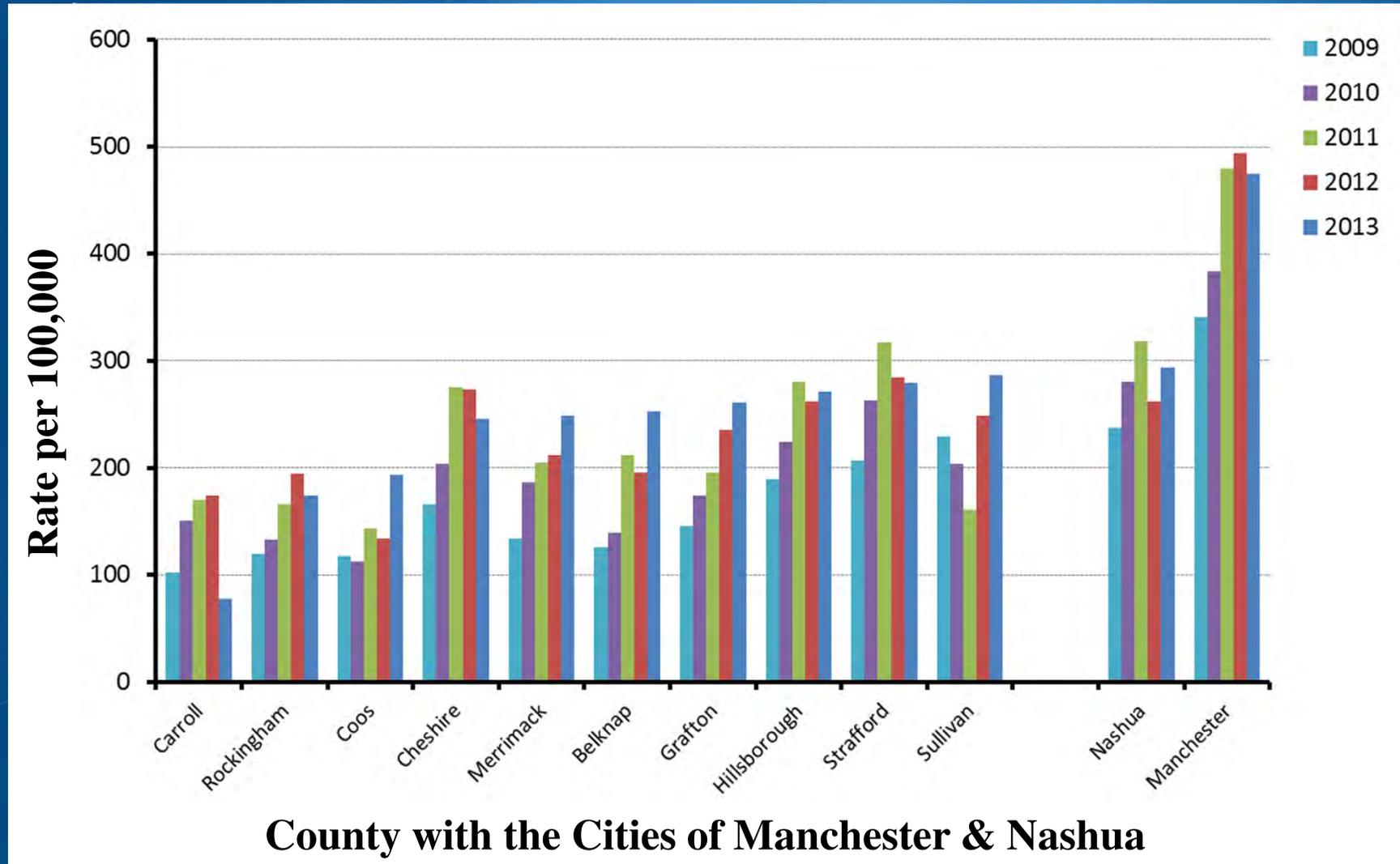
Data source: Sexually Transmitted Disease Management Information System (STD MIS). Data is complete as of October 10, 2014.

Yearly NH Chlamydia Rates by Age Group



Data source: Sexually Transmitted Disease Management Information System (STD MIS). Data is complete as of October 10, 2014.

Yearly NH Chlamydia Rates by County/City



Data source: Sexually Transmitted Disease Management Information System (STD MIS). Data is complete as of October 10, 2014.

Screening: CDC guidelines

- Annual screening of ALL sexually active women < 25 years of age
- Screen older women with risk factors (multiple partners, new partners, inconsistent condom use, other STDs, sex workers, drug use)
- Screen ALL pregnant women during the first prenatal visit
- Pregnant women < 25 years of age and those at high risk should be screened again during the third trimester
- Women \leq 35, men < 30 in correctional facilities
- MSM if sexual activity in the preceding year – urethral & rectal (oropharyngeal not recommended)

Screening: USPSTF

- The United States Prevention Services Task Force (USPSTF) recommends screening for chlamydia in all sexually active women age 24 years and younger and in older women who are at increased risk for infection (grade B)
- Applies to all sexually active adolescents and adults, including pregnant women
- Screening interval: based on sexual history that reveals new or persistent risk factors since last negative test

Screening Summary

- Take a Sexual History because it impacts who you screen and how
- Screen of any sexually active female less than 25 years of age annually
- Screen any older sexually active women with risk factors (multiple partners, new sex partners, inconsistent condom use, other STDs, sex workers, drug use)
- Screen certain populations: MSM, women/men in correctional facilities, pregnant women

Nucleic Acid Amplification Test (NAAT)

- Urine (first-catch) or swab (urethra, endocervix, vagina, rectal, oropharyngeal) for a NAAT
- Note: Rectal and oropharyngeal swabs are not FDA-approved for NAAT
- Higher sensitivity than Culture (90+% range)
- High Specificity (99%)

Treatment of urogenital, rectal, & pharyngeal infections

Recommended Regimens

Azithromycin 1 g orally in a single dose

OR

Doxycycline 100 mg orally twice a day for 7 days *

Alternative Regimens

Erythromycin base 500 mg orally four times a day for 7 days

OR

Erythromycin ethylsuccinate 800 mg orally four times a day for 7 days

OR

Levofloxacin 500 mg orally once daily for 7 days *

OR

Ofloxacin 300 mg orally twice a day for 7 days *

* Contraindicated in pregnancy

Note about Chlamydia Proctitis

- Serovar L1 – L3 (LGV) vs. Serovar D – K (genital tract Chlamydia)
- Treatment is different:

Treatment for Lymphogranuloma Venereum

Recommended Regimen

Doxycycline 100 mg orally twice a day for 21 days

Alternative Regimen

Erythromycin base 500 mg orally four times a day for 21 days

Follow-up: Partner Notification

- Abstain from sexual intercourse until 7 days after initiating treatment
- Partner referral for evaluation, testing, treatment if there was sexual contact in the 60 days prior to patient symptoms/diagnosis
- Most recent sexual partner should be evaluated and treated even if outside of 60 day window

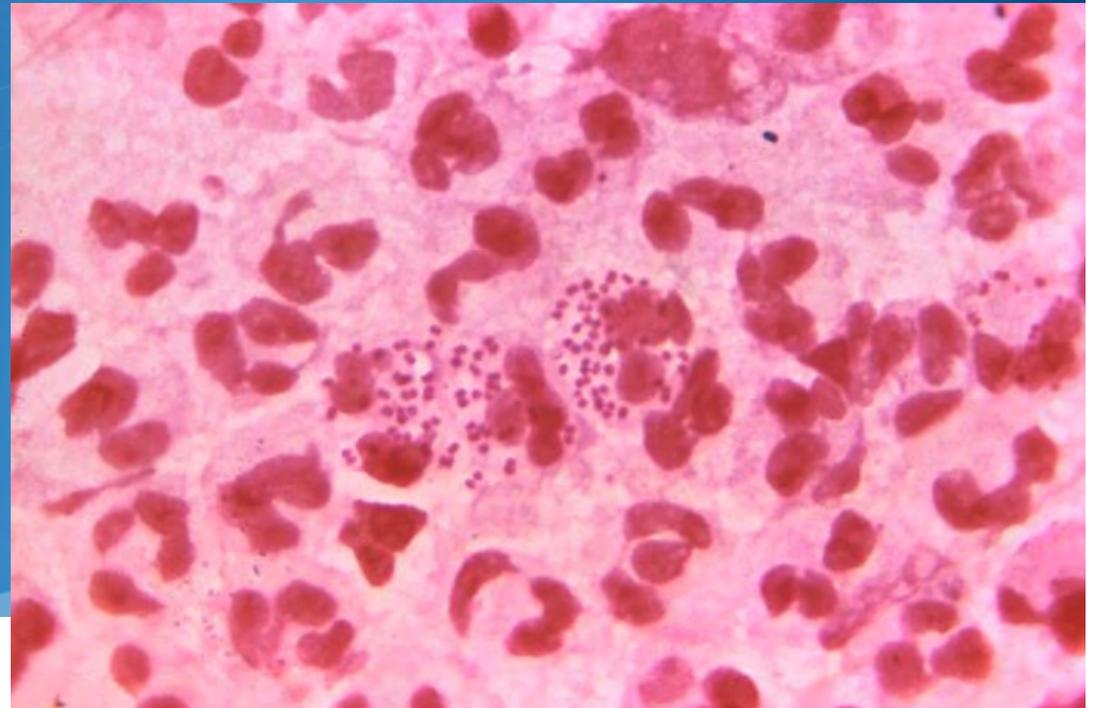
Follow-up: Testing

- Repeat testing in pregnant women 3-4 weeks after treatment
- No “test-of-cure” needed in others unless compliance is in question, symptoms persist, or concern for re-infection
- Re-test at 3 months given high risk of re-infection and associated complications (not a “test-of-cure”)

Neisseria Gonorrhoea

Background

- Non-motile gram negative diplococci
- 2nd most commonly reported bacterial STD
- Usually symptomatic urethral infections in men
- CDC Gonococcal Isolate Surveillance Project (GISP):
Monitored antibiotic susceptibilities since 1986

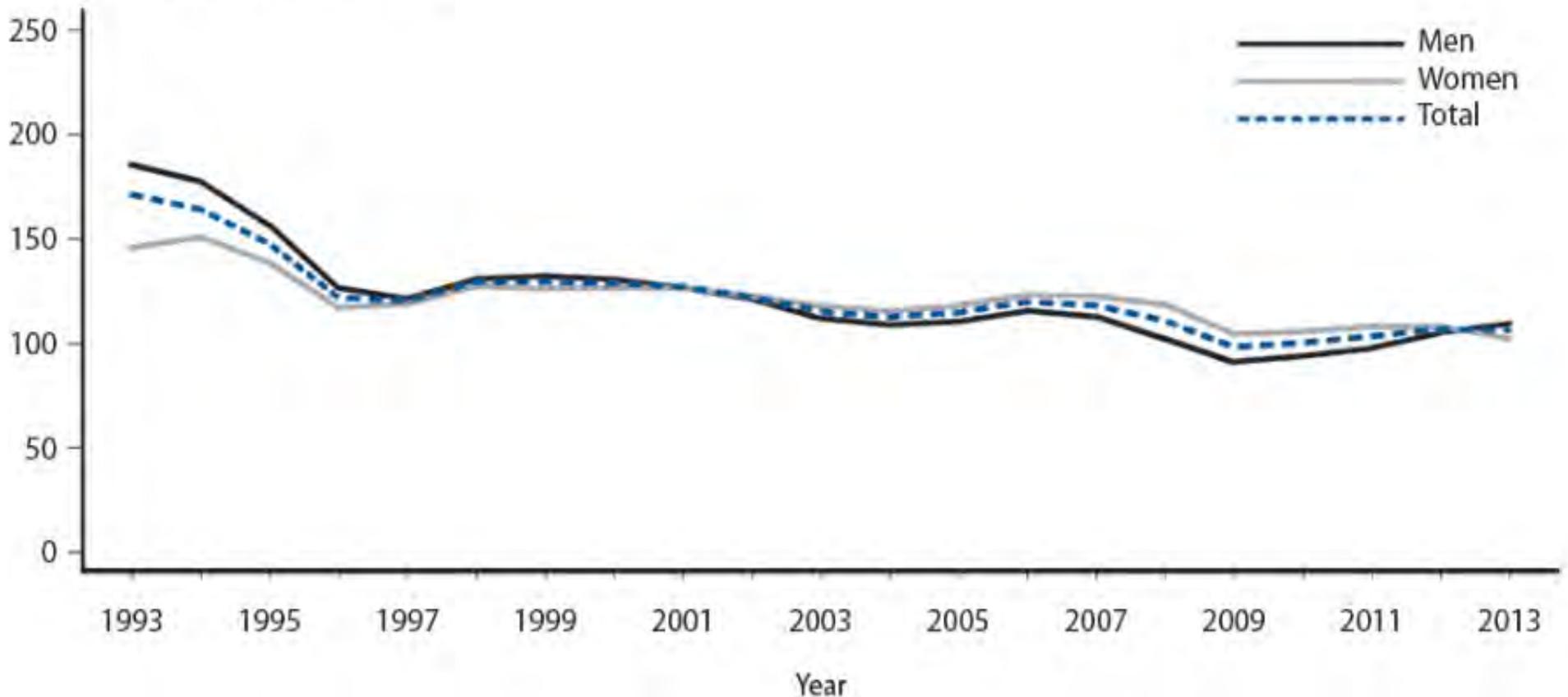


Clinical Syndromes

- Conjunctivitis
- Urethritis
- Cervicitis
- Epididymitis
- Pharyngitis
- Proctocolitis
- Long-term complications: PID, ectopic pregnancy, infertility
- Disseminated Gonococcal infection (arthritis, dermatitis, bacteremia)

Gonorrhea Rates in the U.S.

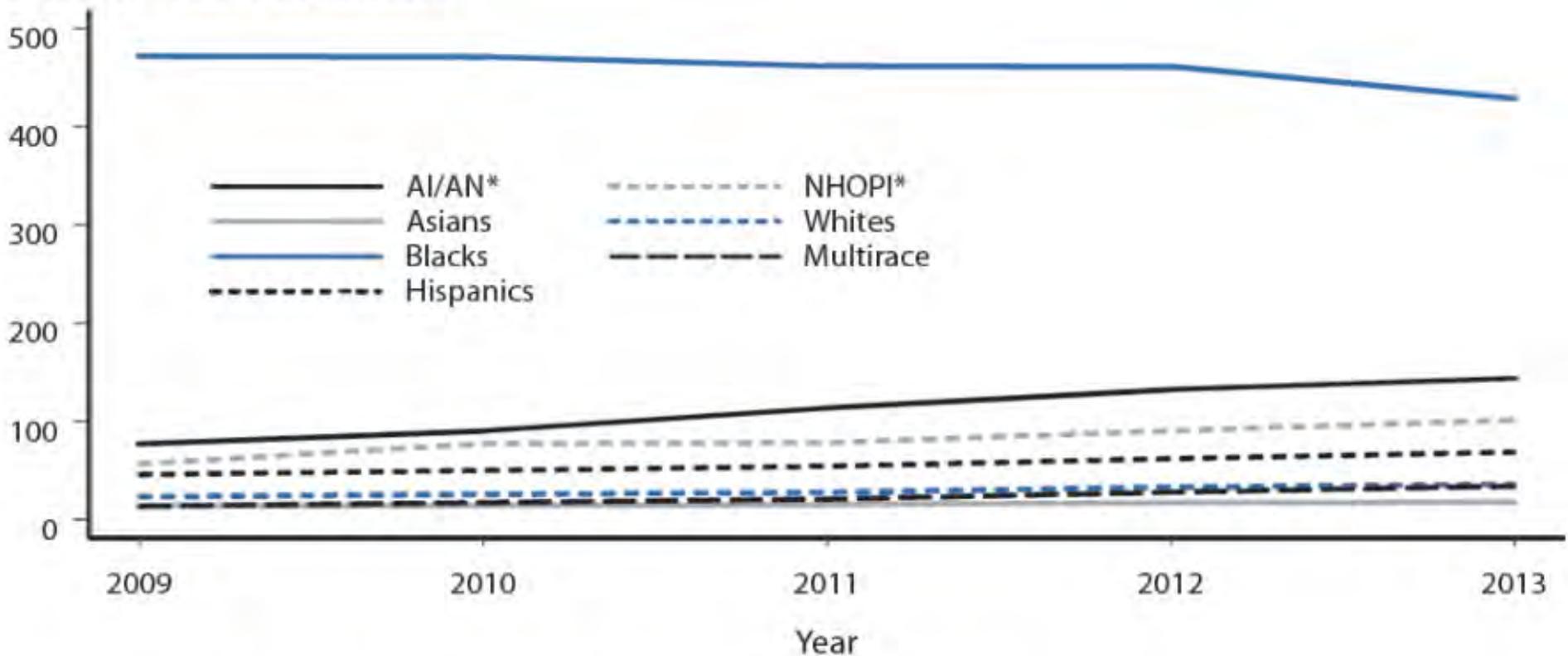
Rate (per 100,000 population)



CDC. Sexually Transmitted Disease Surveillance, 2013. Website:
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Gonorrhea Rates in the U.S. by Race/Ethnicity

Rate (per 100,000 population)

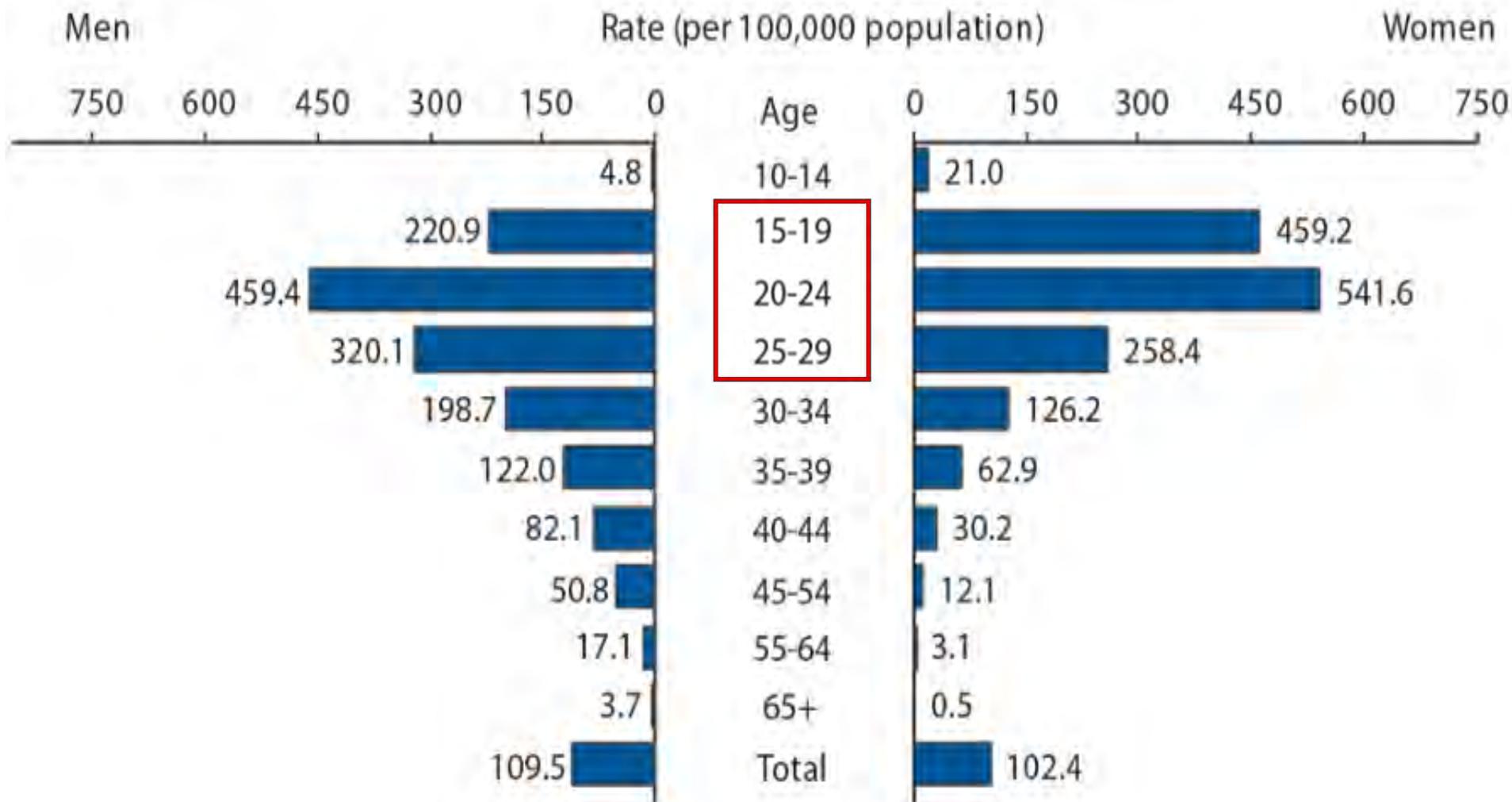


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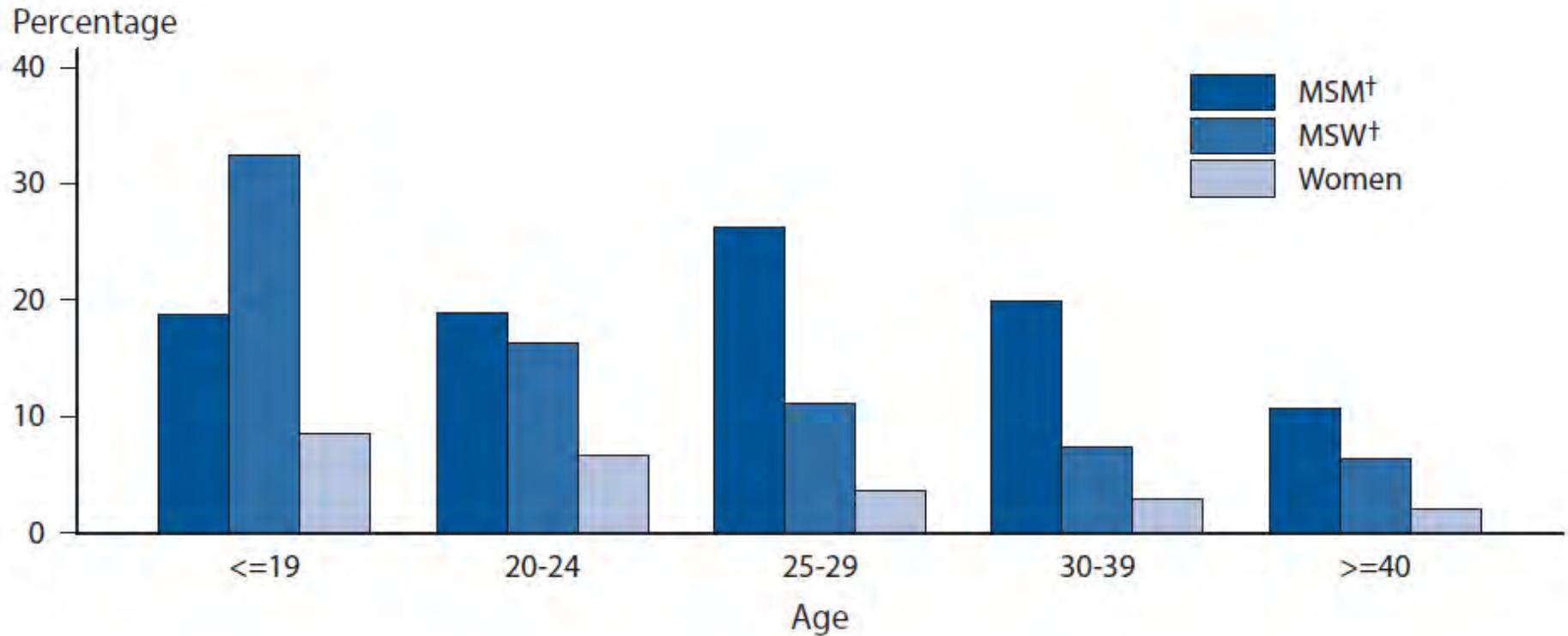
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2013 Gonorrhea Rates in the U.S. by Age/Sex



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2013 Gonorrhea Cases in the U.S. by Age, Sex, & Sexual Behavior



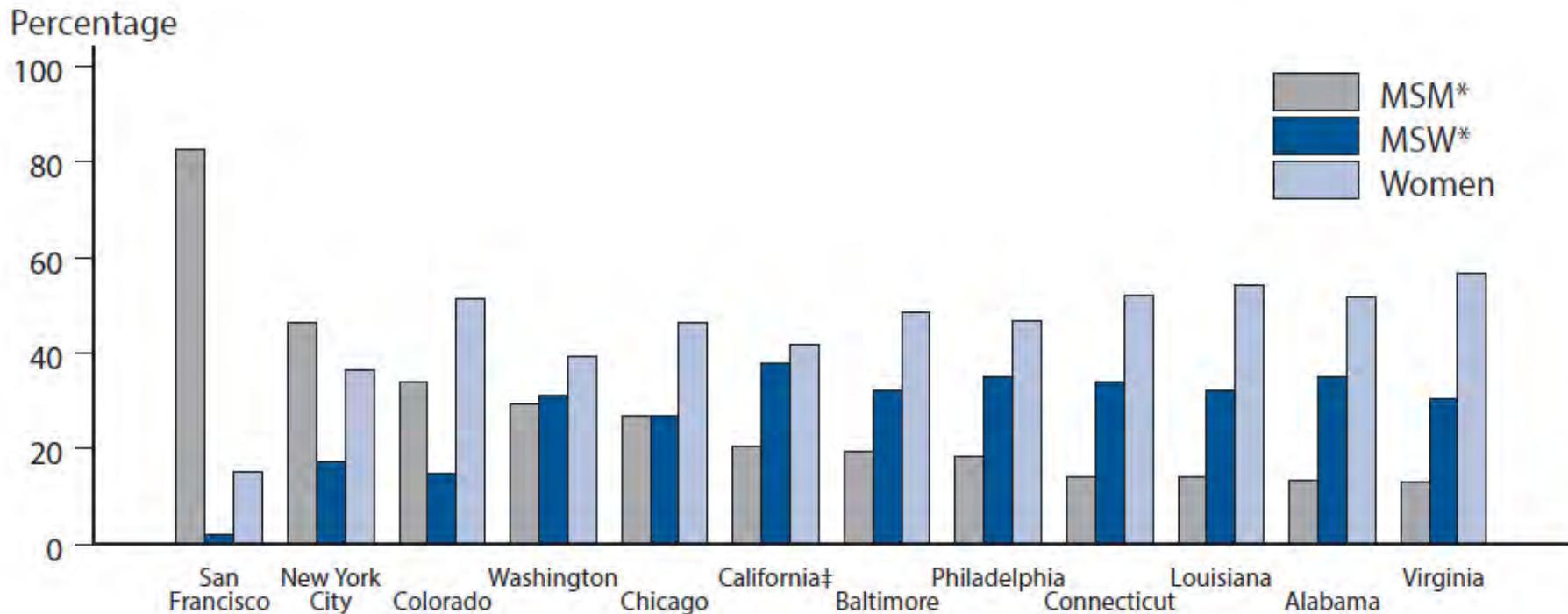
* Only includes patients tested for gonorrhea.

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

NOTE: Six jurisdictions (Birmingham, Chicago, Denver, Hartford/New Haven, New Orleans, and Richmond) contributed data from January through June 2013 and the remaining jurisdictions (Baltimore, Los Angeles, New York City, Philadelphia, San Francisco and Seattle) contributed data for all of 2013.

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2013 Gonorrhea Cases in the U.S. by Sexual Behavior and Surveillance Site



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

† Estimate based on weighted analysis of data obtained from interviews (n=3,121) conducted among a random sample of reported gonorrhea cases during January to June 2013.

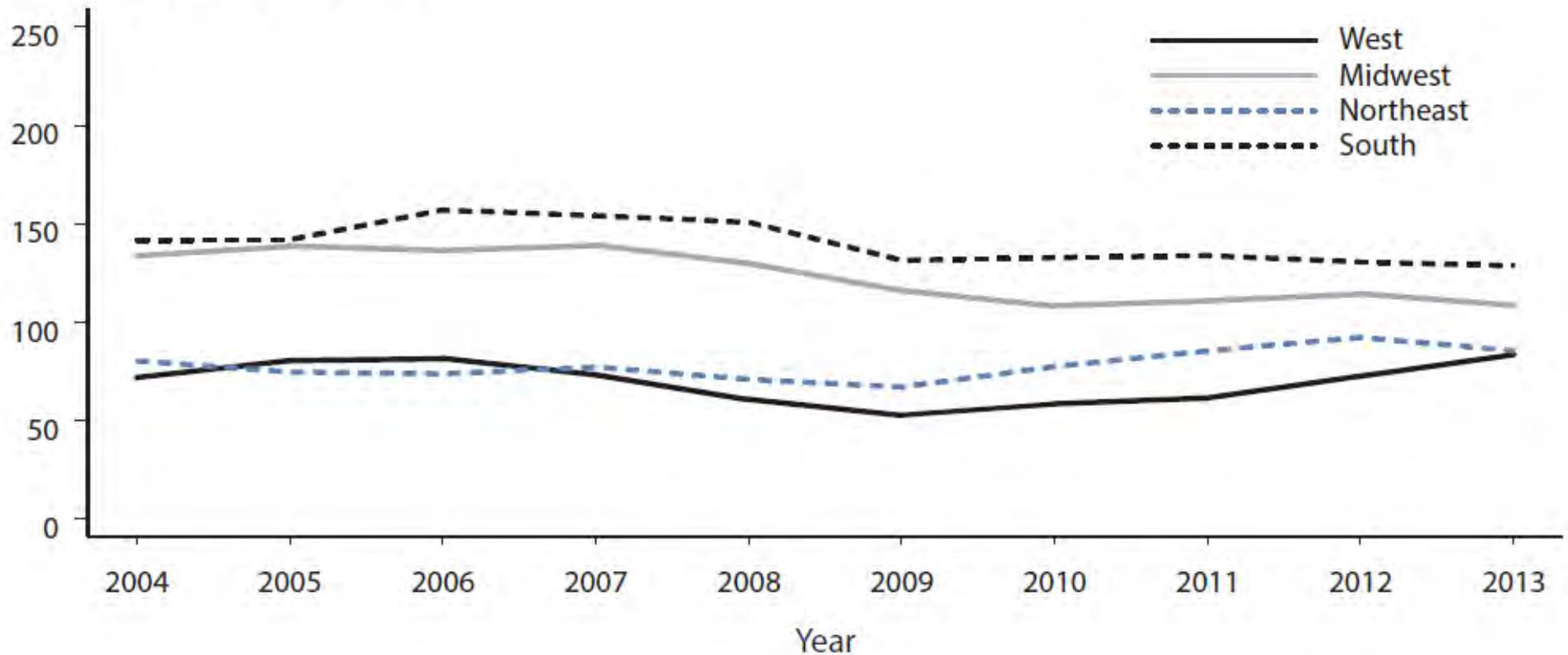
‡ California data excludes San Francisco County (shown separately).

NOTE: See STD Surveillance Network (SSuN) in the Appendix for SSuN methods and jurisdictions included in each project area.

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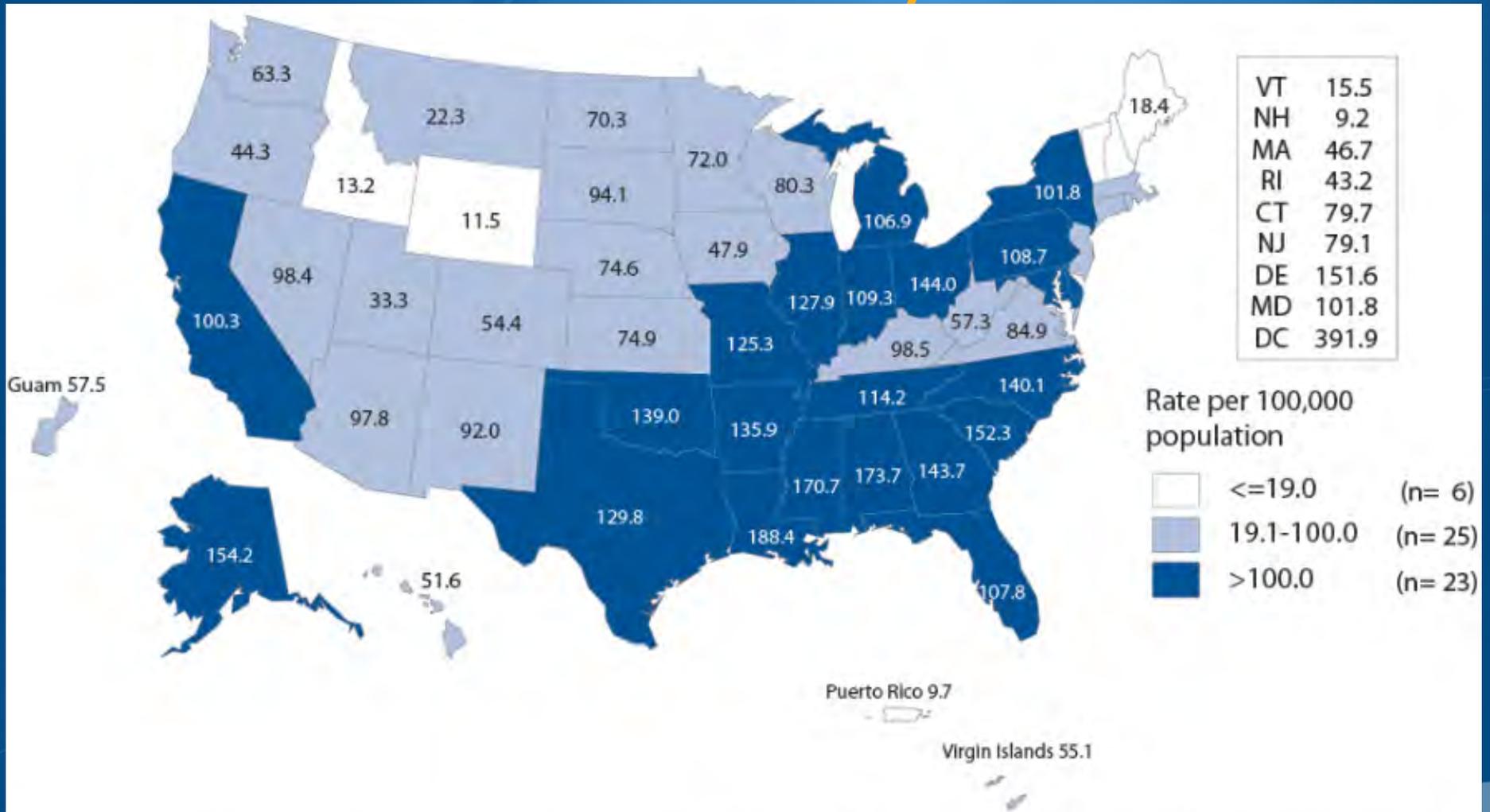
Gonorrhea Rates in the U.S. by Region

Rate (per 100,000 population)



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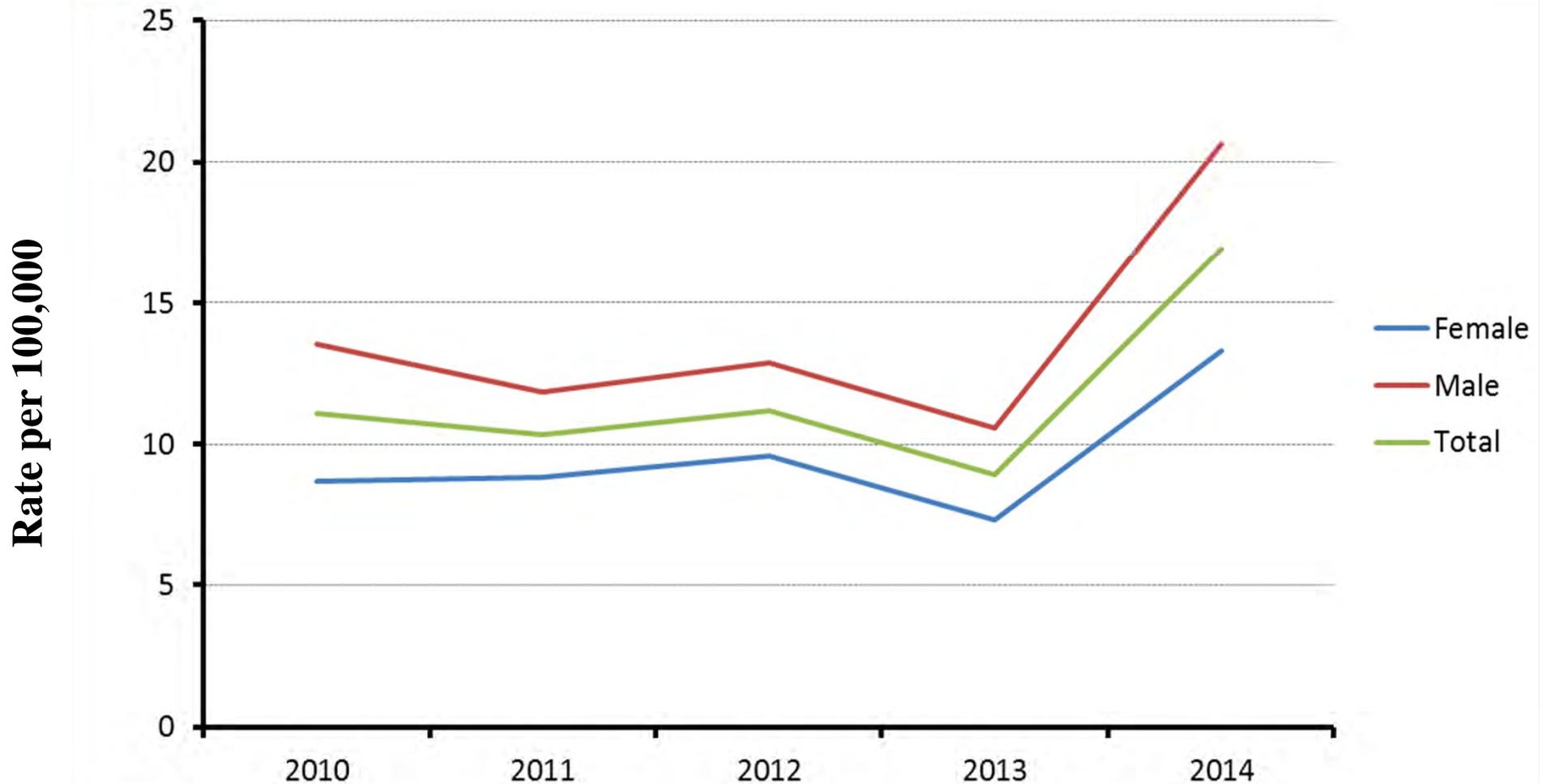
2013 Gonorrhea Rates by State



NOTE: The total rate of reported cases of gonorrhea for the United States and outlying areas (Guam, Puerto Rico, and Virgin Islands) was 104.5 per 100,000 population.

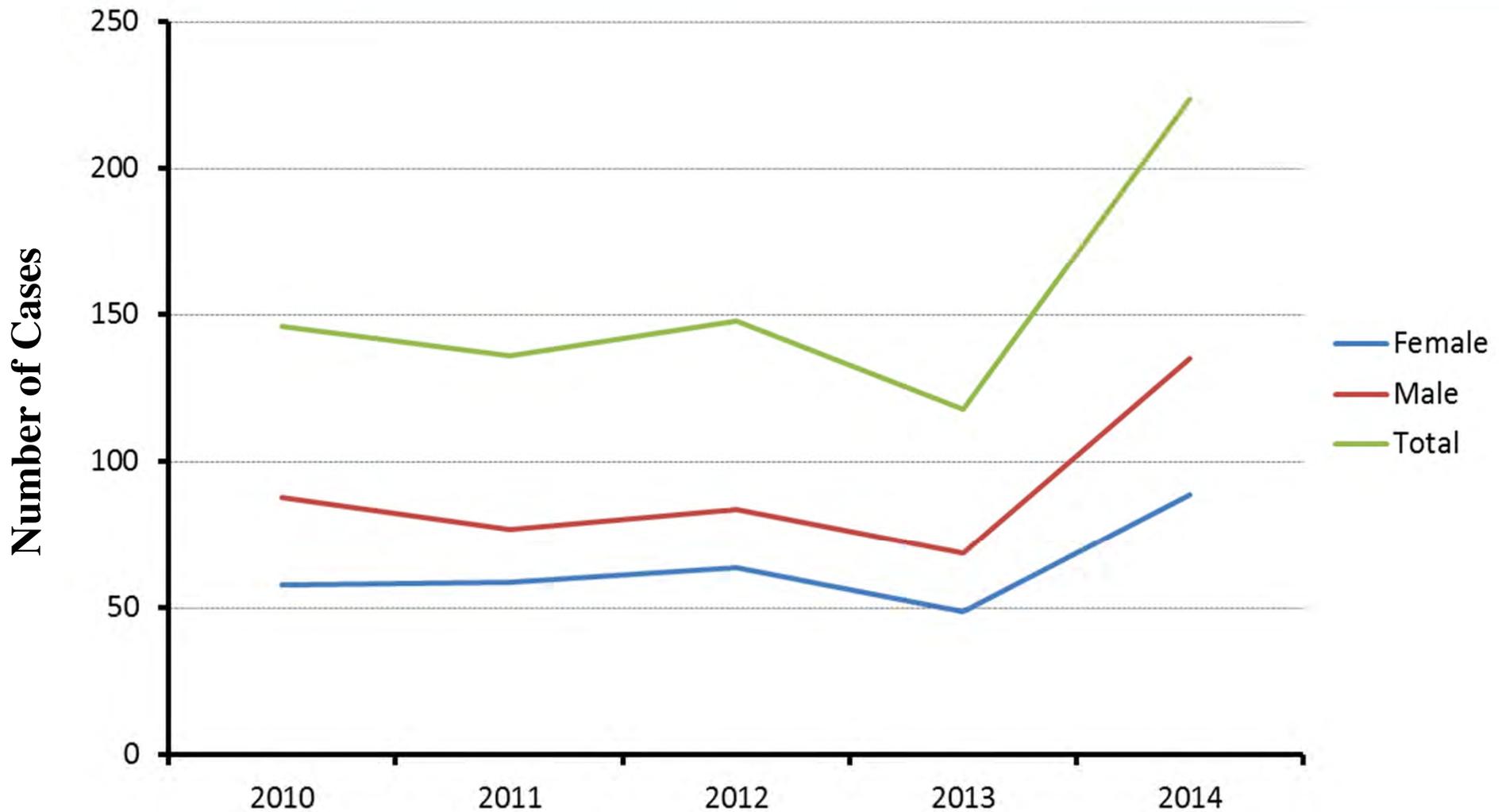
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Yearly NH Gonorrhea Rates by Sex



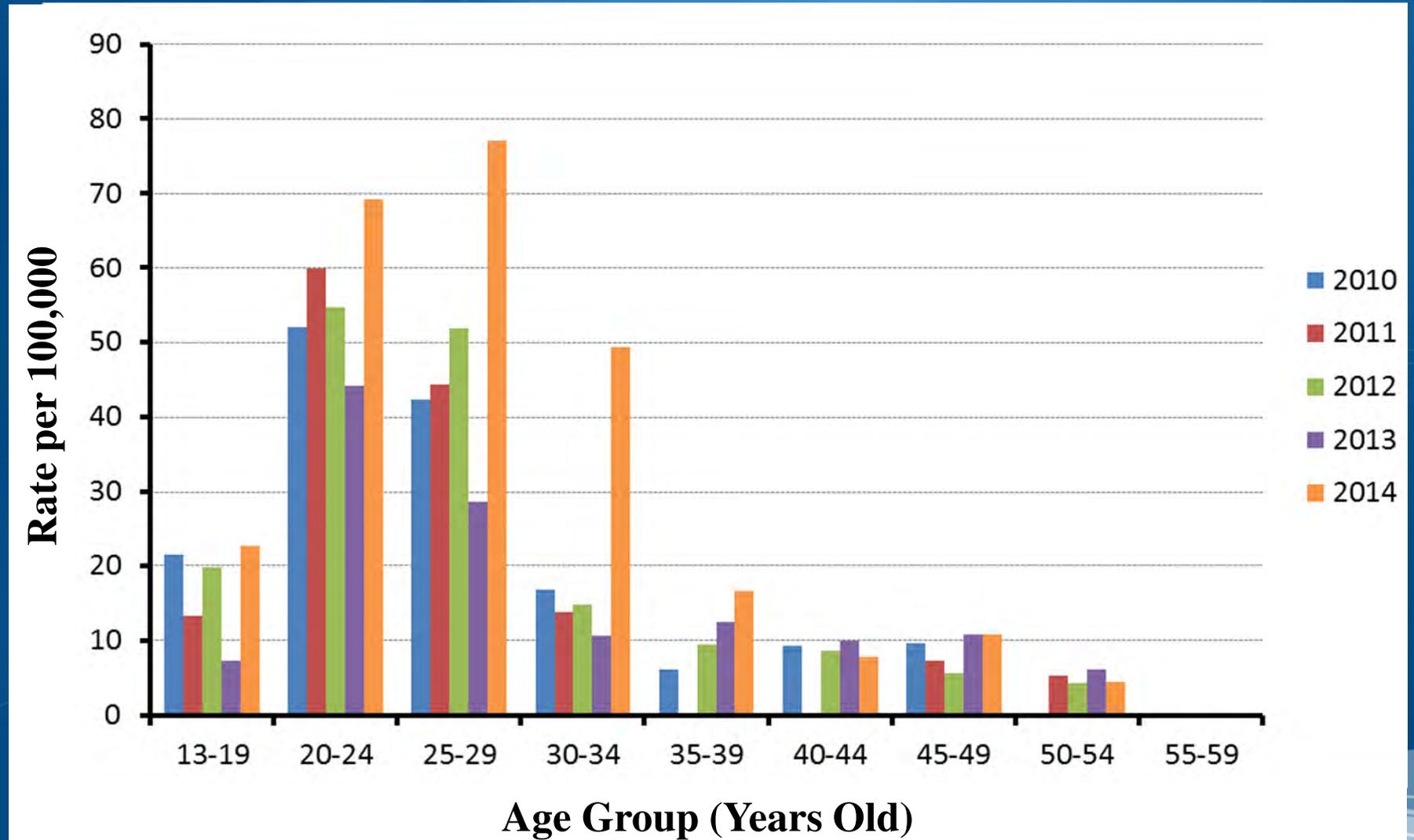
Data source: Sexually Transmitted Disease Management Information System (STDMIS). 2010-2013 data is complete as of October 10, 2014. 2014 data is considered provision and not yet validated. 2014 data is complete as of 3/31/2015

Yearly NH Gonorrhea Cases by Sex



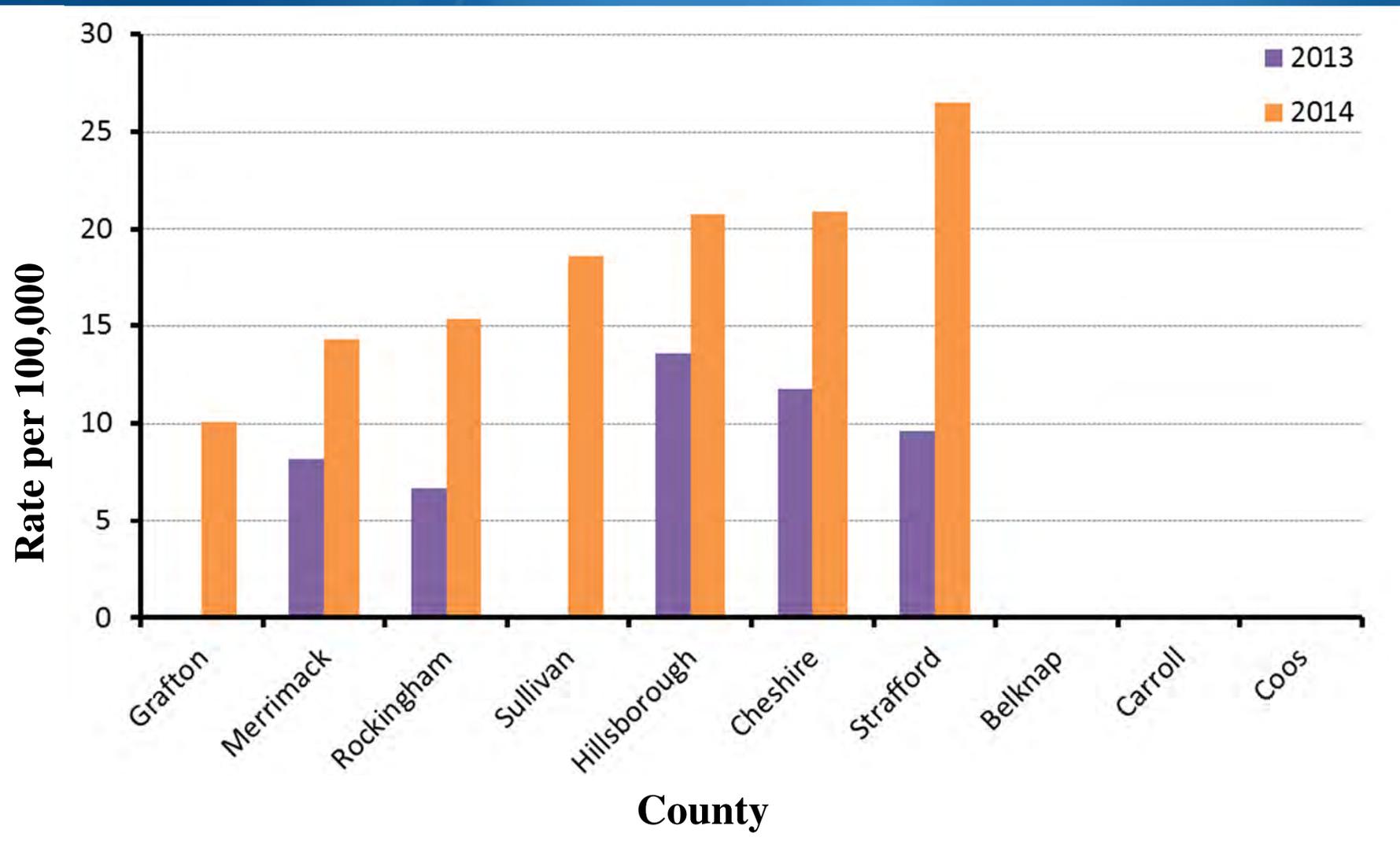
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Yearly NH Gonorrhea Rate by Age Group



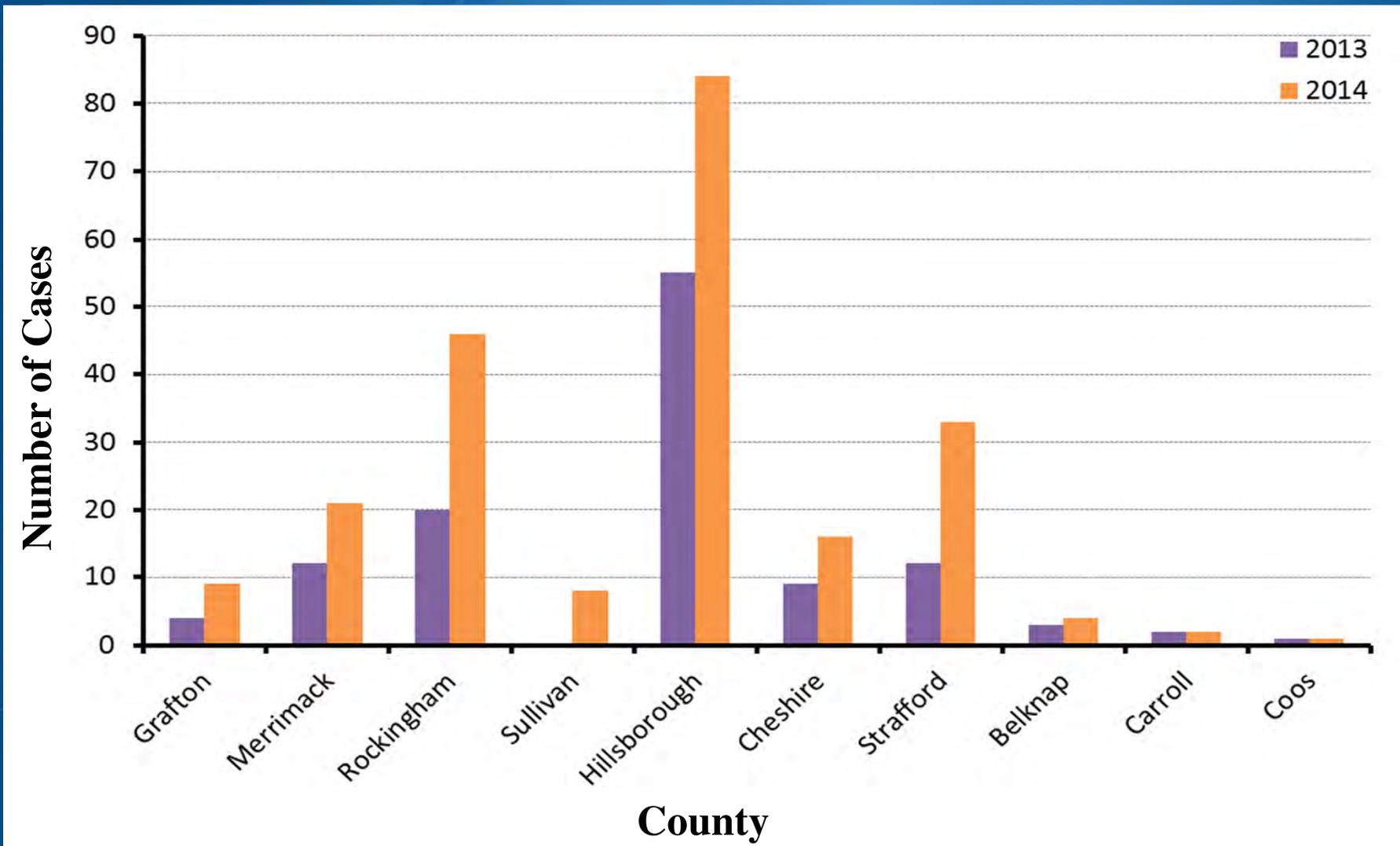
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Yearly NH Gonorrhea Rates by County



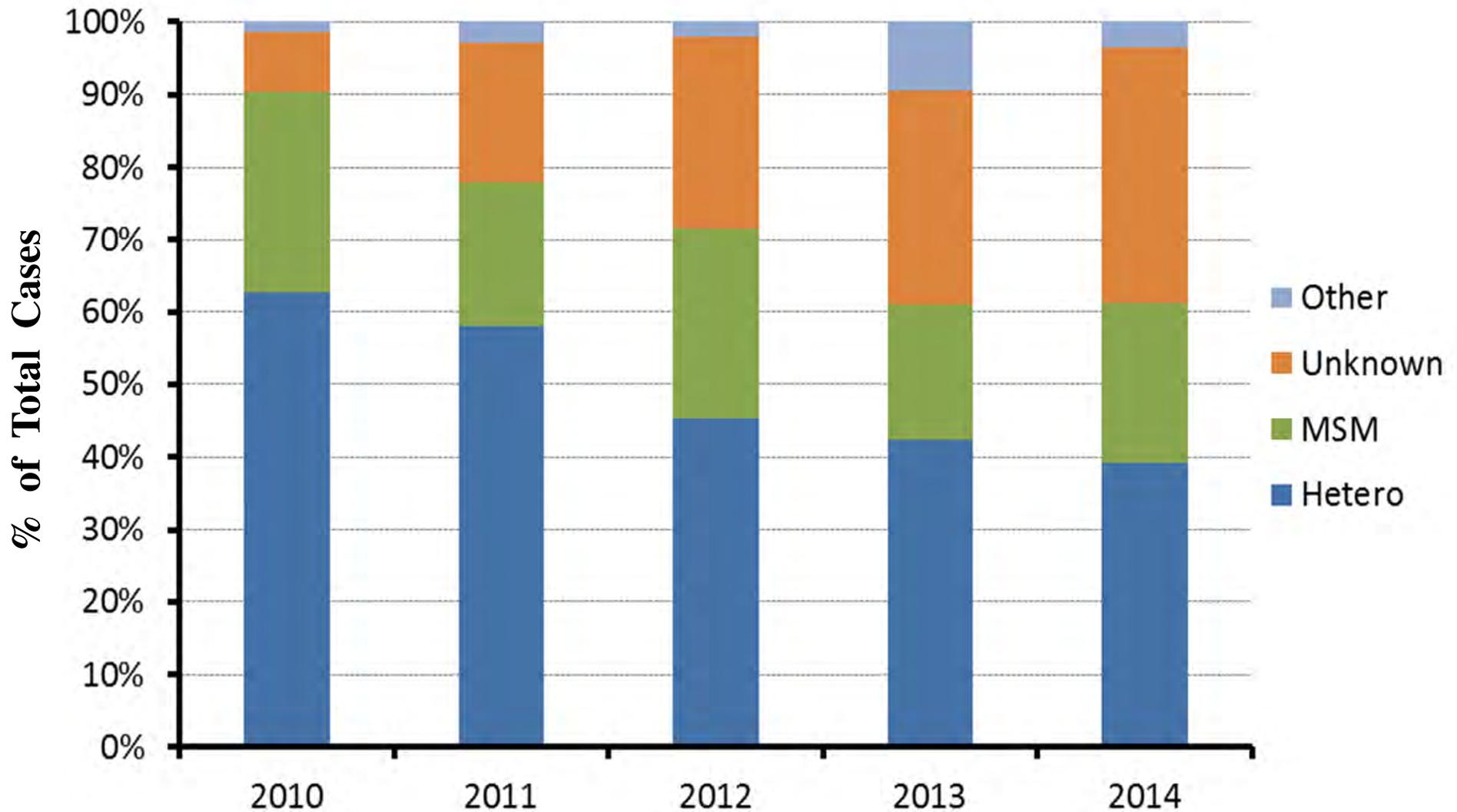
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Yearly NH Gonorrhea Cases by County



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Yearly NH Gonorrhea infections by sexual practice



Data source: Sexually Transmitted Disease Management Information System (STDMIS). 2010-2013 data is complete as of October 10, 2014. 2014 data is considered provision and not yet validated. 2014 data is complete as of 3/31/2015

Screening: CDC Guidelines

- Annual screening of sexually active women at risk for infection (< 25 years of age at highest risk, previous infection, other STDs, new or multiple sex partners, sex workers, drug use)
- Screen pregnant women at risk during the first prenatal visit, and re-test in 3rd trimester if positive/treated in first trimester
- Women \leq 35, men < 30 in correctional facilities
- MSM if sexual activity in the preceding year – urethral, rectal, & oropharyngeal

Screening: USPSTF

- The USPSTF recommends screening for gonorrhea in all sexually active women age 24 years and younger and in older women who are at increased risk for infection (Grade B)
- Applies to all sexually active adolescents and adults, including pregnant women
- Interval: based on sexual history that reveals new or persistent risk factors since last negative test

Screening Summary

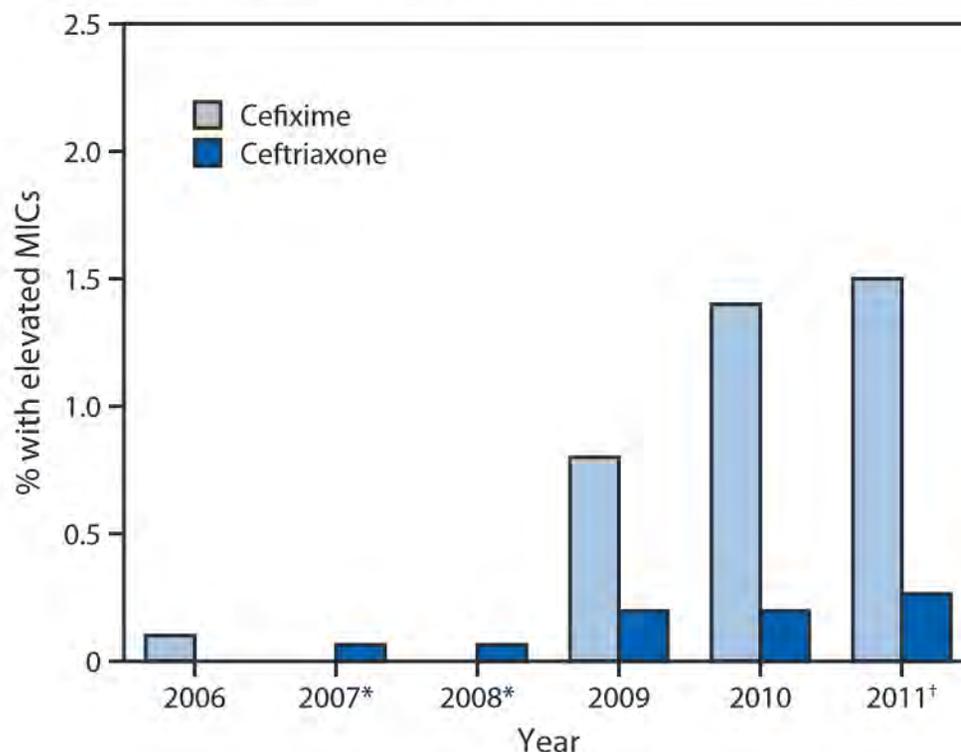
- Take a Sexual History because it impacts who you screen and how
- Screen of any sexually active female less than 25 years of age annually
- Screen any older sexually active women with risk factors (multiple partners, new sex partners, inconsistent condom use, previous Gonorrhea infection, other STDs, sex workers, drug use)
- Screen certain populations: MSM, women/men in correctional facilities, pregnant women

Testing

- Gram stain of male urethral discharge showing PMNs with intracellular gram-negative diplococci is diagnostic in symptomatic men
- Gram stain not diagnostic in asymptomatic
- Urine (first catch) or swab (urethra, endocervix, vagina, rectal, oropharyngeal) for a NAAT
- Note: Rectal and oropharyngeal swabs are not FDA-approved for NAAT
- NAAT more sensitive than culture in rectal and pharyngeal swabs

Update to CDC's *Sexually Transmitted Diseases Treatment Guidelines, 2010*: Oral Cephalosporins No Longer a Recommended Treatment for Gonococcal Infections

FIGURE. Percentage of urethral *Neisseria gonorrhoeae* isolates (n = 32,794) with elevated cefixime MICs (≥ 0.25 $\mu\text{g}/\text{mL}$) and ceftriaxone MICs (≥ 0.125 $\mu\text{g}/\text{mL}$) — Gonococcal Isolate Surveillance Project, United States, 2006–August 2011



Abbreviation: MICs = minimum inhibitory concentrations.

* Cefixime susceptibility not tested during 2007–2008.

† January–August 2011.

Update to CDC's *Sexually Transmitted Diseases Treatment Guidelines, 2010*: Oral Cephalosporins No Longer a Recommended Treatment for Gonococcal Infections

Uncomplicated gonococcal infections of the cervix, urethra, and rectum

Recommended regimen

Ceftriaxone 250 mg in a single intramuscular dose
PLUS

Azithromycin 1 g orally in a single dose
or doxycycline 100 mg orally twice daily for 7 days*

Alternative regimens

If ceftriaxone is not available:

Cefixime 400 mg in a single oral dose
PLUS

Azithromycin 1 g orally in a single dose
or doxycycline 100 mg orally twice daily for 7 days*
PLUS

Test-of-cure in 1 week

If the patient has severe cephalosporin allergy:

Azithromycin 2 g in a single oral dose
PLUS

Test-of-cure in 1 week

Uncomplicated gonococcal infections of the pharynx

Recommended regimen

Ceftriaxone 250 mg in a single intramuscular dose
PLUS

Azithromycin 1 g orally in a single dose
or doxycycline 100 mg orally twice daily for 7 days*

*Because of the high prevalence of tetracycline resistance among Gonococcal Isolate Surveillance Project isolates, particularly those with elevated minimum inhibitory concentrations to cefixime, the use of azithromycin as the second antimicrobial is preferred.

Dual Therapy to treat possible Chlamydia (even if NAAT is negative), and for double coverage of Gonorrhea

2014 CDC STD Treatment Guidelines

<http://www.cdc.gov/std/treatment/update.htm>

Uncomplicated gonococcal infections of the cervix, urethra, and rectum

Recommended regimen

Ceftriaxone 250 mg in a single intramuscular dose

PLUS

Azithromycin 1 g orally in a single dose

~~or doxycycline 100 mg orally twice daily for 7 days*~~

Alternative regimens

If ceftriaxone is not available:

Cefixime 400 mg in a single oral dose

PLUS

Azithromycin 1 g orally in a single dose

(or doxycycline 100 mg orally twice daily for 7 days*)

If an Azithromycin allergy exists

If the patient has severe cephalosporin allergy:

? Azithromycin + Gemifloxacin.

Consult an ID expert

Uncomplicated gonococcal infections of the pharynx

Recommended regimen

Ceftriaxone 250 mg in a single intramuscular dose

PLUS

Azithromycin 1 g orally in a single dose

~~or doxycycline 100 mg orally twice daily for 7 days*~~

*Because of the high prevalence of tetracycline resistance among Gonococcal Isolate Surveillance Project isolates, particularly those with elevated minimum inhibitory concentrations to cefixime, the use of azithromycin as the second antimicrobial is preferred.

2014 CDC STD Treatment Guidelines

<http://www.cdc.gov/std/treatment/update.htm>

- No test of cure if rectal/genital treated with a recommended or alternative regimen
- Test-of-cure is recommended 14 days after treatment of pharyngeal Gonorrhoea with an alternative regimen

Update to CDC's *Sexually Transmitted Diseases Treatment Guidelines, 2010*: Oral Cephalosporins No Longer a Recommended Treatment for Gonococcal Infections

Uncomplicated gonococcal infections of the cervix, urethra, and rectum

Recommended regimen

Ceftriaxone 250 mg in a single intramuscular dose
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Dual Therapy to treat possible Chlamydia (even if NAAT is negative), and for double coverage of Gonorrhea

Treatment failure after Recommended Therapy

- Obtain culture for antimicrobial sensitivity testing
- Consult an ID expert and/or CDC
- Report resistance within 24 hours
- Test-of-cure 1 week after re-treatment (culture preferred over NAAT, A positive NAAT should lead to culture)

Follow-up testing

- Abstain from sexual intercourse until after treatment and symptoms resolved
- Partner referral for evaluation, testing, treatment – if there was sexual contact in the 60 days prior to patient symptoms/diagnosis
- Most recent sexual partner should be evaluated and treated even if outside of 60 day window
- Repeat testing in pregnant women 3-4 weeks after treatment
- Re-test at 3 months given high risk of re-infection and associated complications (not a “test-of-cure”)

Neisseria Gonorrhoea Resistance

ANTIBIOTIC RESISTANCE THREATS in the United States, 2013



U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention



Services for all

Executive Summary

Antibiotic Resistance Threats in the United States, 2013 is a snapshot of the complex problem of antibiotic resistance today and the potentially catastrophic consequences of inaction. The overriding purpose of this report is to increase awareness of the threat that antibiotic resistance poses and to encourage immediate action to address the threat.

HAZARD LEVEL
URGENT



These are high-consequence antibiotic-resistant threats because of significant risks identified across several criteria. These threats may not be currently widespread but have the potential to become so and require urgent public health attention to identify infections and to limit transmission.

HAZARD LEVEL
SERIOUS



These are significant antibiotic-resistant threats. For varying reasons (e.g., low or declining domestic incidence or reasonable availability of therapeutic agents), they are not considered urgent, but these threats will worsen and may become urgent without ongoing public health monitoring and prevention activities.

HAZARD LEVEL
CONCERNING



These are bacteria for which the threat of antibiotic resistance is low, and/or there are multiple therapeutic options for resistant infections. These bacterial pathogens cause severe illness. Threats in this category require monitoring and in some cases rapid incident or outbreak response.

Urgent Threats

- *Clostridium difficile*
- Carbapenem-resistant Enterobacteriaceae (CRE)
- Drug-resistant *Neisseria gonorrhoeae*

Serious Threats

- Multidrug-resistant *Acinetobacter*
- Drug-resistant *Campylobacter*
- Fluconazole-resistant *Candida* (a fungus)
- Extended spectrum β -lactamase producing Enterobacteriaceae (ESBLs)
- Vancomycin-resistant *Enterococcus* (VRE)
- Multidrug-resistant *Pseudomonas aeruginosa*
- Drug-resistant Non-typhoidal *Salmonella*
- Drug-resistant *Salmonella* Typhi
- Drug-resistant *Shigella*
- Methicillin-resistant *Staphylococcus aureus* (MRSA)
- Drug-resistant *Streptococcus pneumoniae*
- Drug-resistant tuberculosis

Concerning Threats

- Vancomycin-resistant *Staphylococcus aureus* (VRSA)
- Erythromycin-resistant Group A *Streptococcus*
- Clindamycin-resistant Group B *Streptococcus*

7 Factors in Assessing Threats

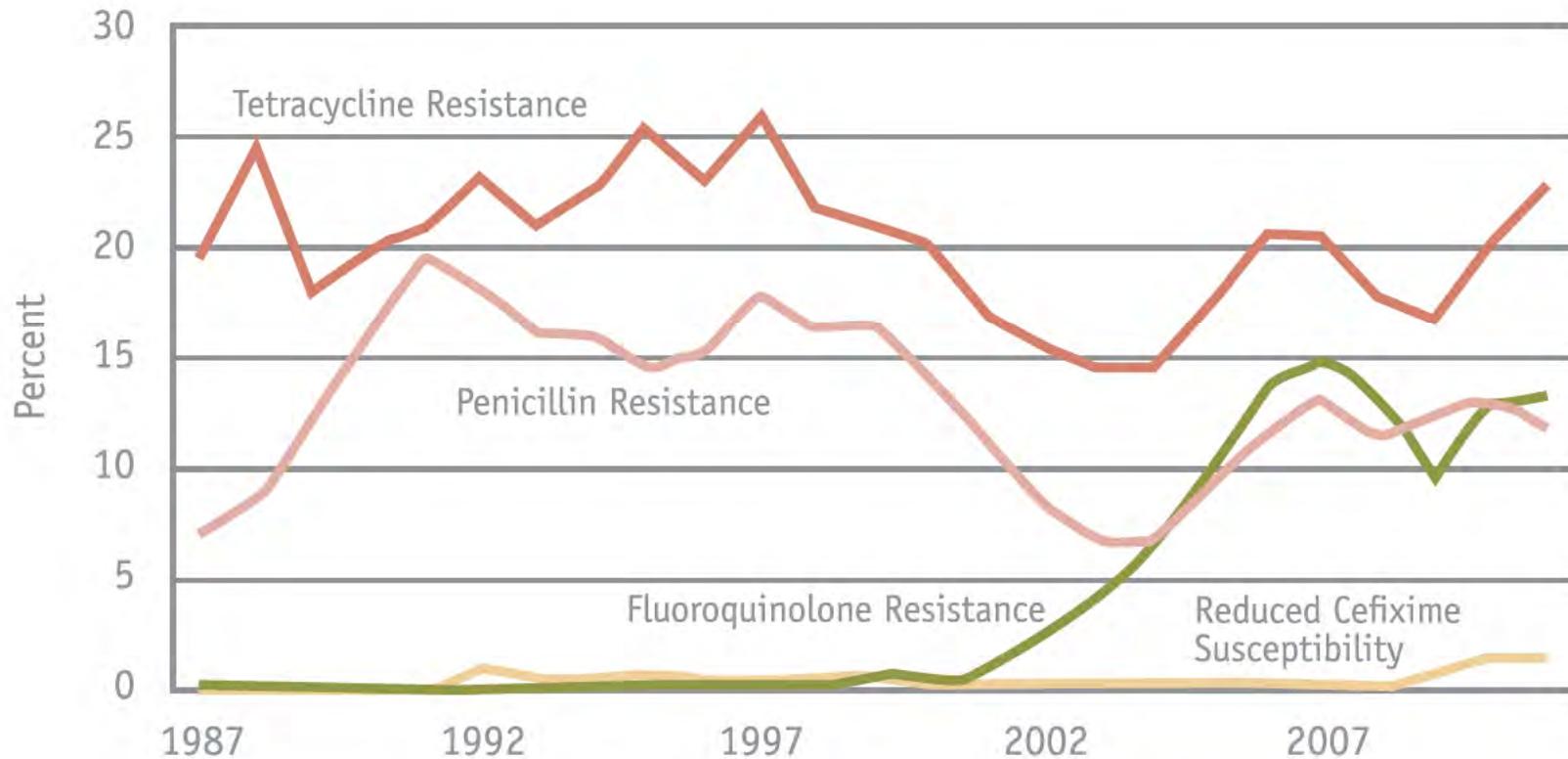
- Clinical impact
- Economic impact
- Incidence
- 10-year projection of incidence
- Transmissibility
- Availability of effective antibiotics
- Barriers to prevention

Is *Neisseria gonorrhoeae* Initiating a Future Era of Untreatable Gonorrhea?: Detailed Characterization of the First Strain with High-Level Resistance to Ceftriaxone^{∇†} (H041 Strain)

Makoto Ohnishi,¹ Daniel Golparian,² Ken Shimuta,¹ Takeshi Saika,³ Shinji Hoshina,⁴
Kazuhiro Iwasaku,⁵ Shu-ichi Nakayama,¹ Jo Kitawaki,⁵ and Magnus Unemo^{2*}

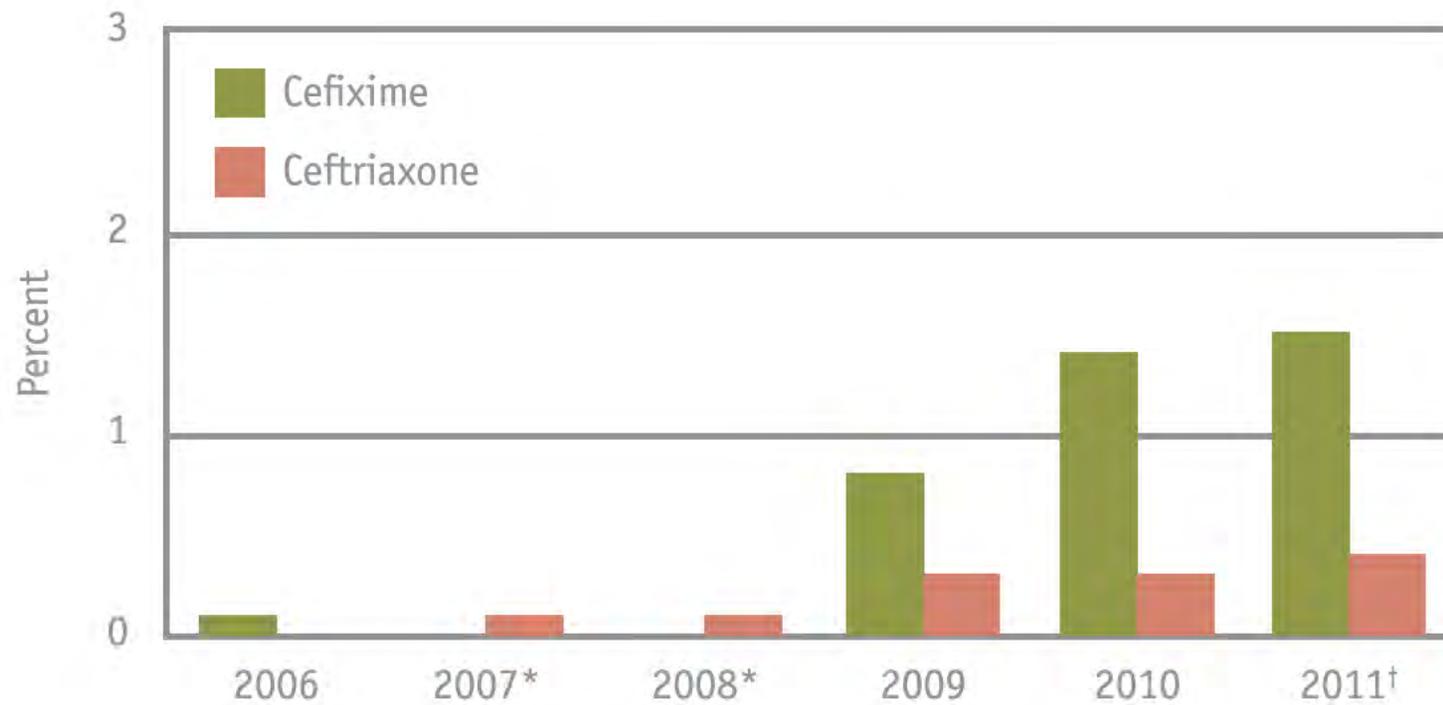
*National Institute of Infectious Diseases, Tokyo, Japan*¹; *Swedish Reference Laboratory for Pathogenic Neisseria, Department of Laboratory Medicine, Microbiology, Örebro University Hospital, Örebro, Sweden*²; *Mitsubishi Chemical Medience Corporation, Tokyo, Japan*³; *Hoshina Clinic, Kyoto, Japan*⁴; and *the Kyoto Prefectural University of Medicine, Kyoto, Japan*⁵

Prevalence of Penicillin, Tetracycline and Fluoroquinolone Resistance and Reduced Cefixime Susceptibility in *N. gonorrhoeae* isolates, U.S., 1987-2011



Source: The Gonococcal Isolate Surveillance Project (GISP).

Prevalence of *N. gonorrhoeae* isolates with reduced cefixime (MICs $\geq 0.25\mu\text{g/ml}$) and ceftriaxone (MICs $\geq 0.125\mu\text{g/ml}$) susceptibility, U.S. 2006–2011

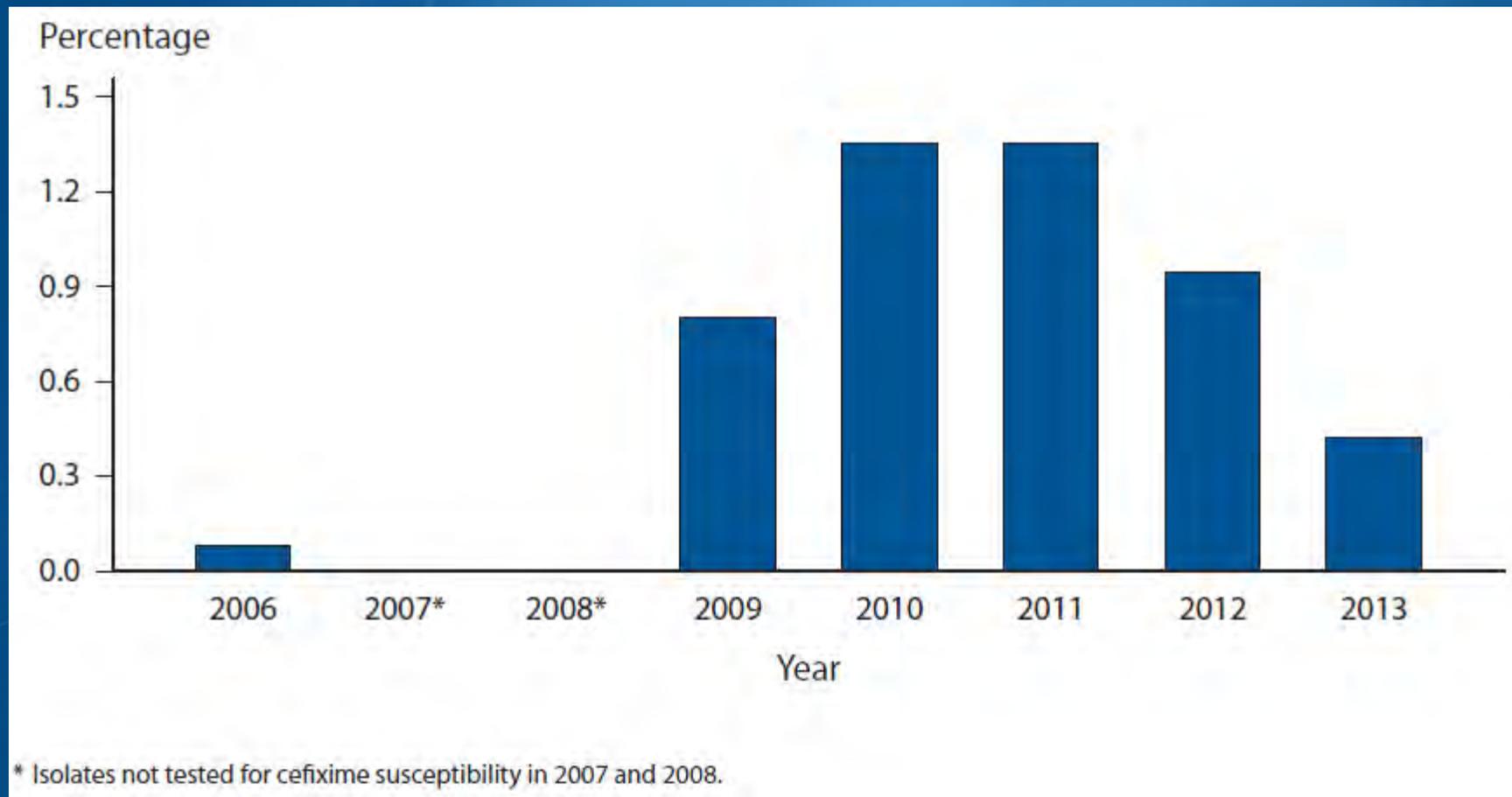


Abbreviations: MICs = minimum inhibitory concentrations

*Cefixime susceptibility not tested during 2007–2008

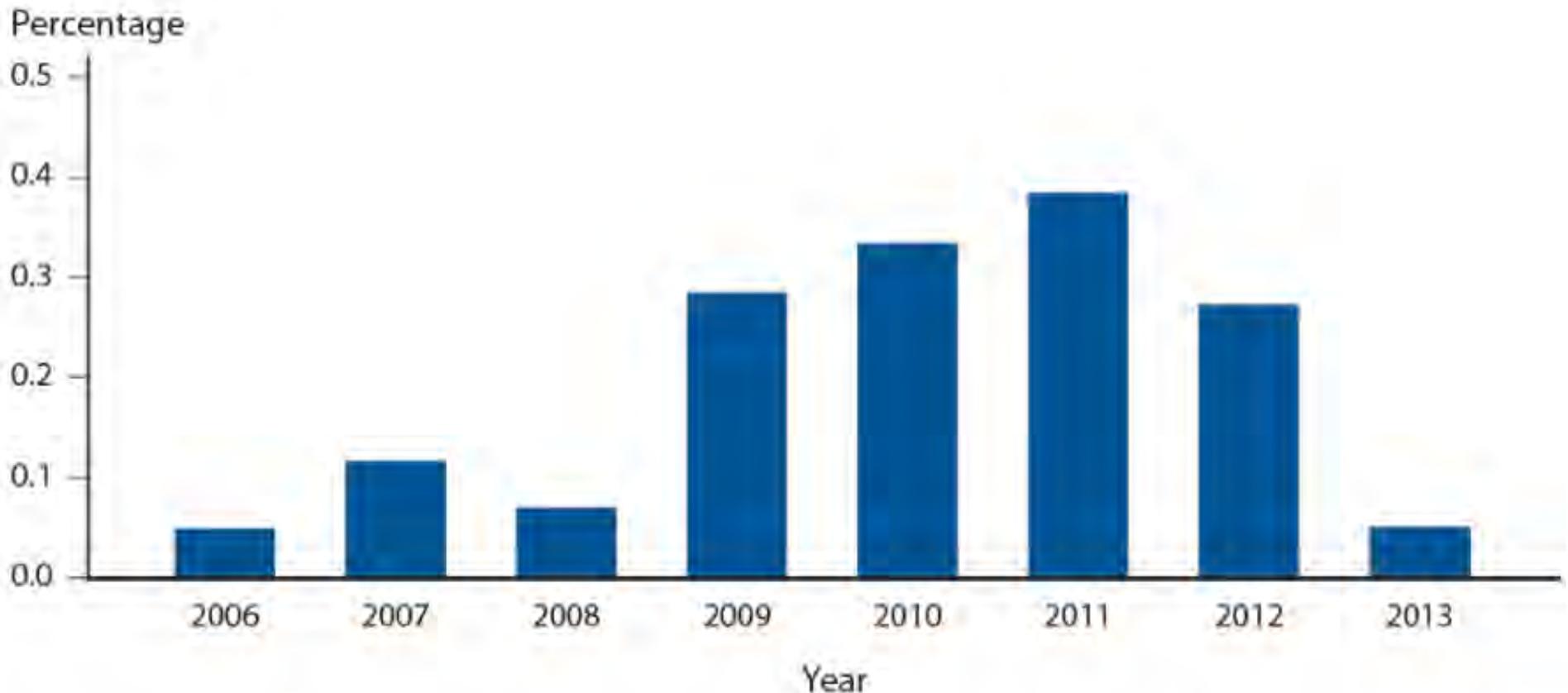
Source: The Gonococcal Isolate Surveillance Project (GISP).

Gonorrhea Isolates with Elevated Cefixime MICs ($\geq 0.25 \mu\text{g}/\text{mL}$), Gonococcal Isolate Surveillance Project (GISP)



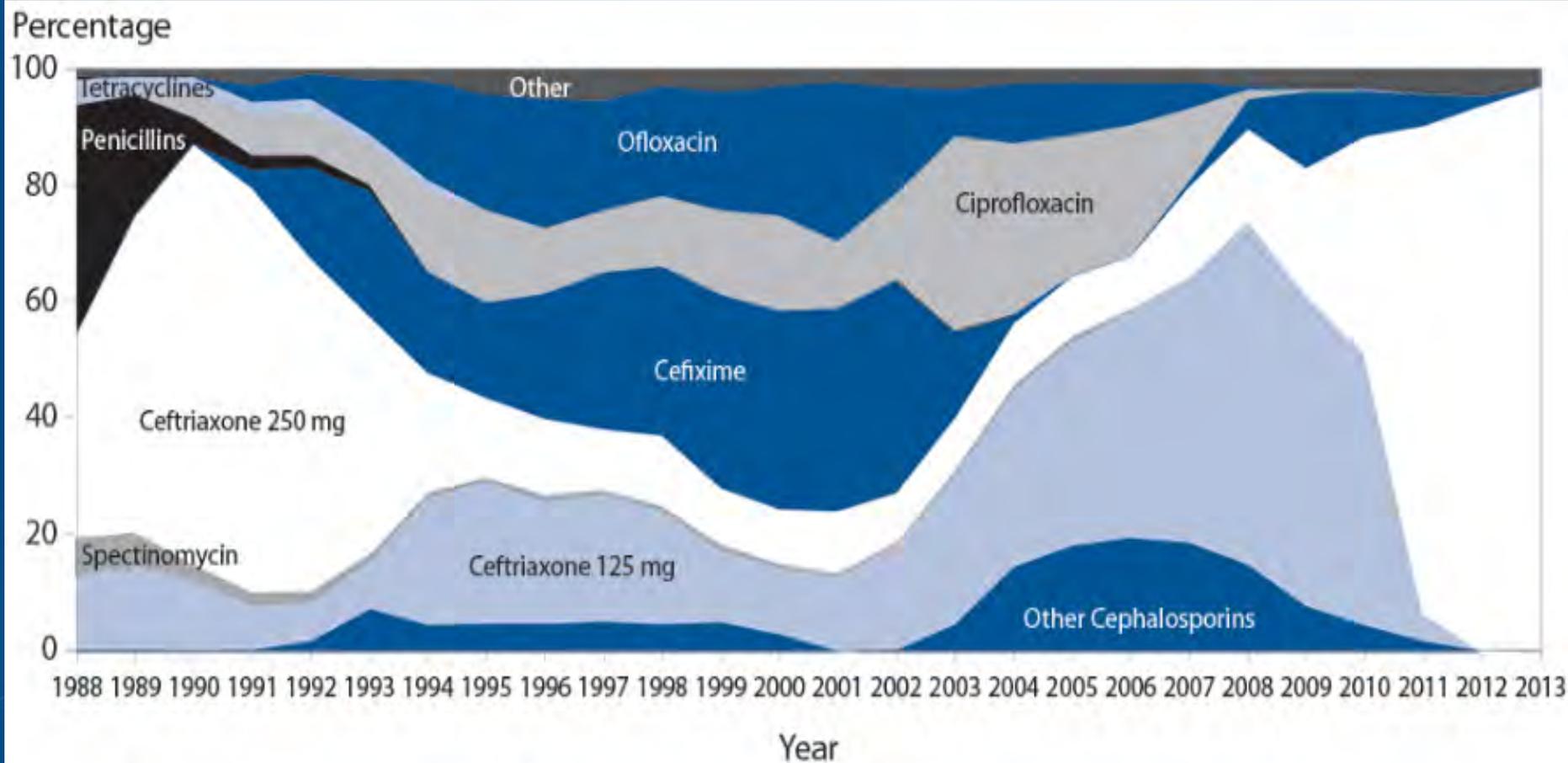
CDC. Sexually Transmitted Disease Surveillance, 2013. Website:
<http://www.cdc.gov/std/stats13/default.htm>

Gonorrhea Isolates with Elevated Ceftriaxone MICs ($\geq 0.125 \mu\text{g/mL}$), Gonococcal Isolate Surveillance Project (GISP)



CDC. Sexually Transmitted Disease Surveillance, 2013. Website:
<http://www.cdc.gov/std/stats13/default.htm>

Antibiotics Used to Treat Gonorrhea, Gonococcal Isolate Surveillance Project (GISP)



NOTE: For 2013, "Other" includes no therapy (0.9%), azithromycin 2g (1.7%), and other less frequently used drugs (<0.1%).

CDC. Sexually Transmitted Disease Surveillance, 2013. Website:
<http://www.cdc.gov/std/stats13/default.htm>

Conclusion

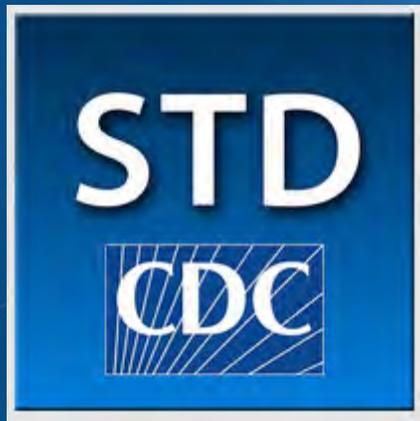
- Take a sexual history. The more you practice and make it routine, the easier it will become.
- Your sexual history will define where/how you screen
- Screen for Chlamydia and Gonorrhea all sexually active women at higher risk
- Screen certain populations as well (MSM, Correctional facilities, pregnant women)
- NAAT is the preferred method – First catch urine, endocervix, vagina, rectal, pharyngeal

Conclusion

- Treat according to guidelines – stay up to date on Gonorrhea treatment guidelines, which are changing due to decreasing susceptibility
- Antibiotic stewardship is everyone's responsibility
- Try the CDC STD treatment app

Resources

- Search for: “STD Treatment (or Tx)”
- Don't search for “STD CDC”



STD Treatment Guidelines App



The STD Treatment (Tx) Guide app is an easy-to-use reference that helps health care providers identify and treat patients for STDs. STD Tx Guide combines information from the STD Treatment Guidelines as well as MMWR updates, and features a streamlined interface so providers can access treatment and diagnostic information. The free app is available for Apple and Android devices.

Topics covered include:

- Diagnosis and treatment of 21 STDs and sexual assault.
- Access to the full STD Treatment Guidelines.
- "A Guide to Taking a Sexual History."

Download

iPhone, iPad or iPod touch



Android devices



There is no charge for this app.



Sexually Transmitted Diseases (STDs)

Sexually Transmitted Diseases

Diseases & Related Conditions

Life Stages and Populations

Laboratory Information

Prevention

Publications & Products

Program Management & Evaluation Tools

Projects & Initiatives

Data & Statistics

Training

Treatment

STD Tx App

Expedited Partner Therapy

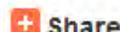
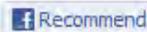
Updating the STD Treatment Guidelines

Additional Resources

Archive

About the Division of STD Prevention

[Sexually Transmitted Diseases](#)



Treatment



[STD Treatment Guidelines App](#)

A quick reference guide for health care providers to help identify and treat sexually transmitted diseases (STDs).



[2010 STD Treatment Guidelines](#)

Recommendations for treating persons who have or are at risk for sexually transmitted diseases, updated December 2010.



[Updating the STD Treatment Guidelines](#)

The 2010 STD Treatment Guidelines will soon be updated. The peer review plan and other pre-release information can be found here.



[Expedited Partner Therapy](#)

Providing prescriptions or medications to the patient to take to his/her partner without the health care provider first examining the partner.



[Additional Resources](#)

General STD treatment updates and resources, including Dear Colleague Letters, podcasts, and scientific articles.





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Sexually Transmitted Diseases (STDs)

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▶ Training

STD Prevention Courses

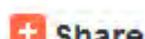
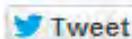
Continuing Education Online

Additional Resources

Treatment

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Training



[STD Prevention Courses](#)

STD clinical management courses, behavioral intervention training, courses for STD program staff, and more.



[Continuing Education Online](#)

STD overview for non-clinicians, STD curriculum self-study modules, Hepatitis web study, and other online training.



[Webinars](#)

Web-based seminars for clinicians, physicians, and public health practitioners.



[Additional Resources](#)

STD 101, clinical slides, picture cards, ready to use curriculum for clinical and health educators, and more.

Features

[STD Picture Cards](#)

Printable flashcards illustrating symptoms of STDs.

[STD Clinical Slides](#)

Slides depicting symptoms of STDs. Available as slideshows or as individual graphics.



References

- CDC STD Treatment Guidelines, 2010
- <http://www.cdc.gov/std/treatment/2010/>
- CDC Updated 2012 Gonorrhea Treatment Guidelines
- http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6131a3.htm?s_cid=mm6131a3_w
- CDC STD Surveillance Report, 2013
- <http://www.cdc.gov/std/stats13/>
- CDC Screening Guidelines Overview
- <http://www.cdc.gov/std/prevention/screeningReccs.htm>
- US Preventative Services Taskforce
- <http://www.uspreventiveservicestaskforce.org/index.html>
- DPHS 2009-2013 STD/HIV Surveillance Data Report
- <http://www.dhhs.state.nh.us/dphs/cdcs/documents/nh-std-hiv-aids-surveillance.pdf>

Thank You

Questions?