Youth-Friendly Strategies
STI Treatment and Prevention

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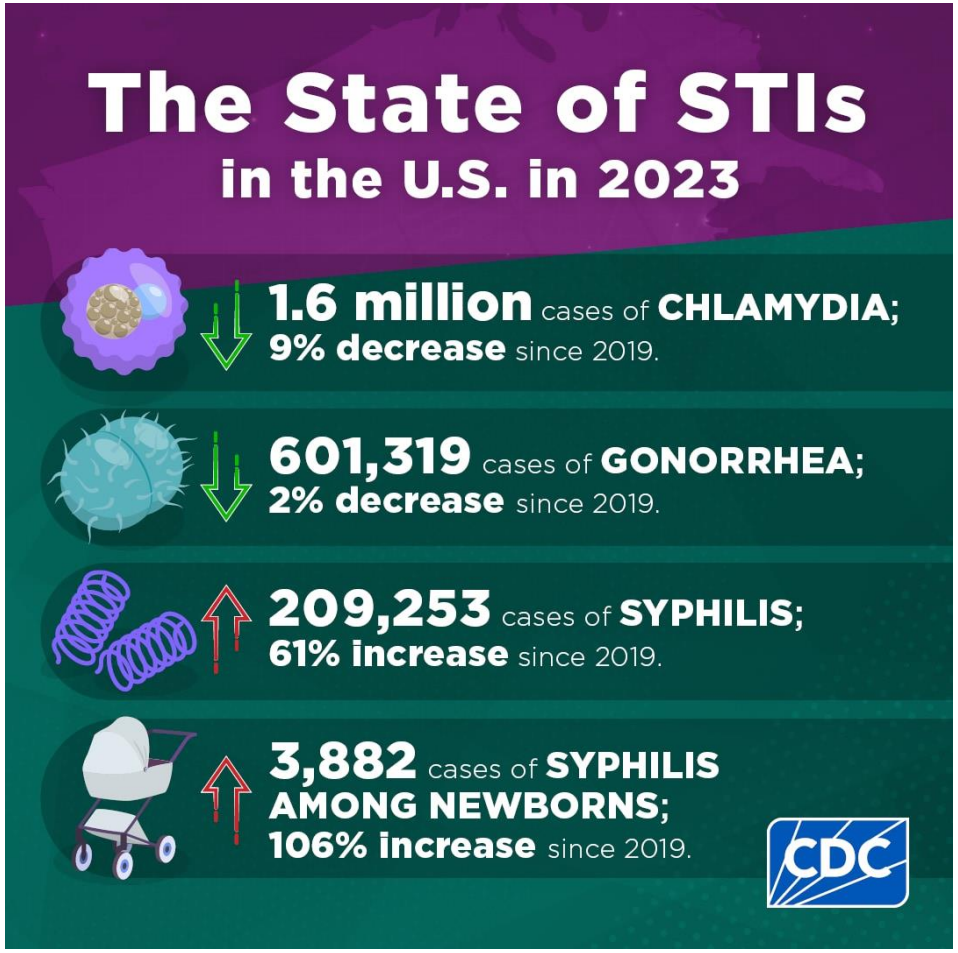
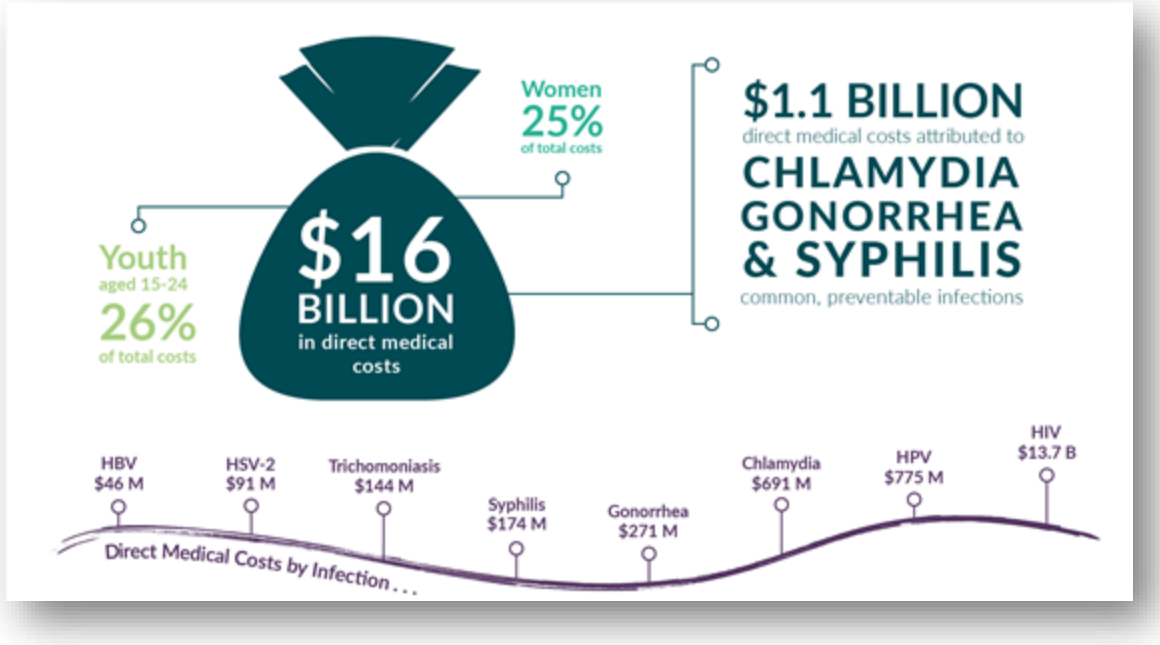
- Nothing to disclose

Objectives

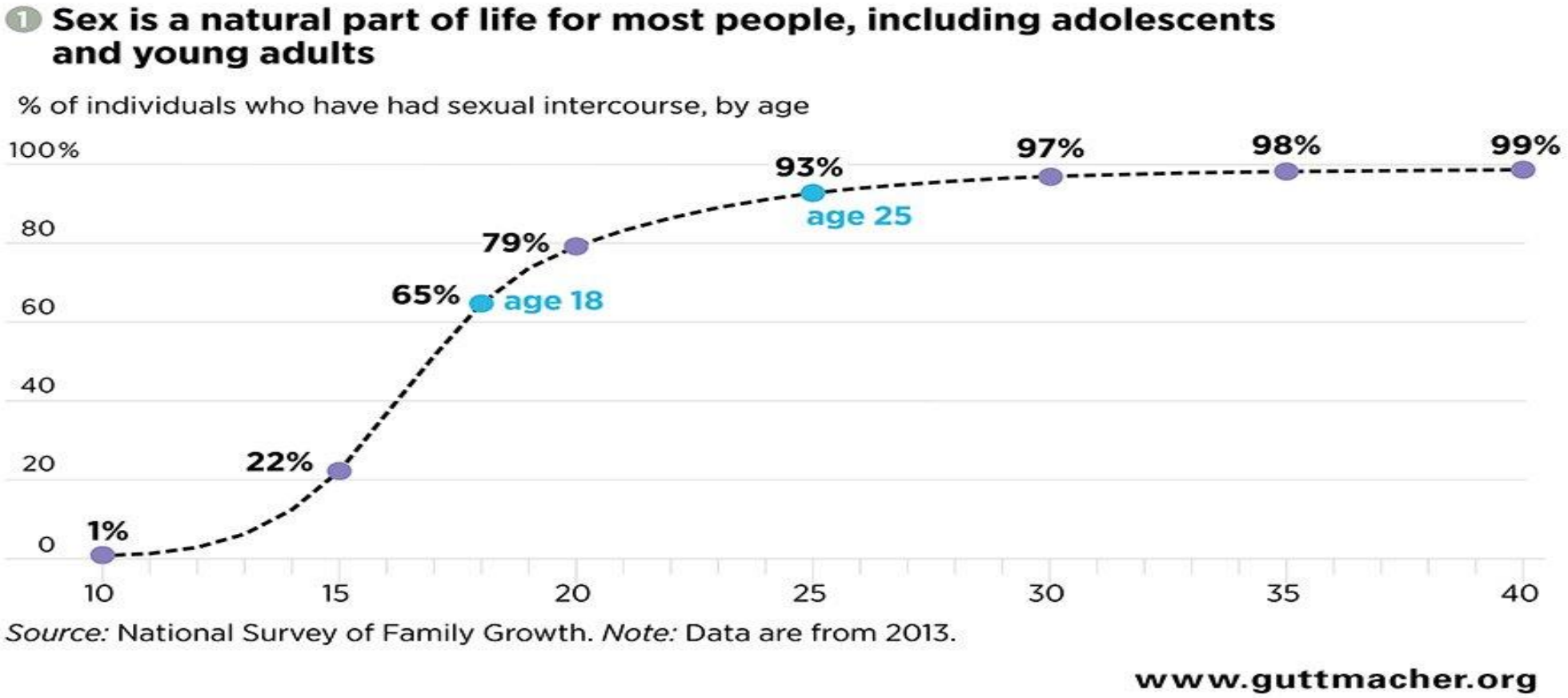
- Describe the burden of sexually transmitted infections (STIs) for young adults
- Focusing on rural health, access, STI care
- Outline CDC screening recommendations for STIs and current gaps in practice
- Review diagnosis and treatment for common STIs
- Describe STI prevention updates and recommendations

Sexually Transmitted Infections Are Important

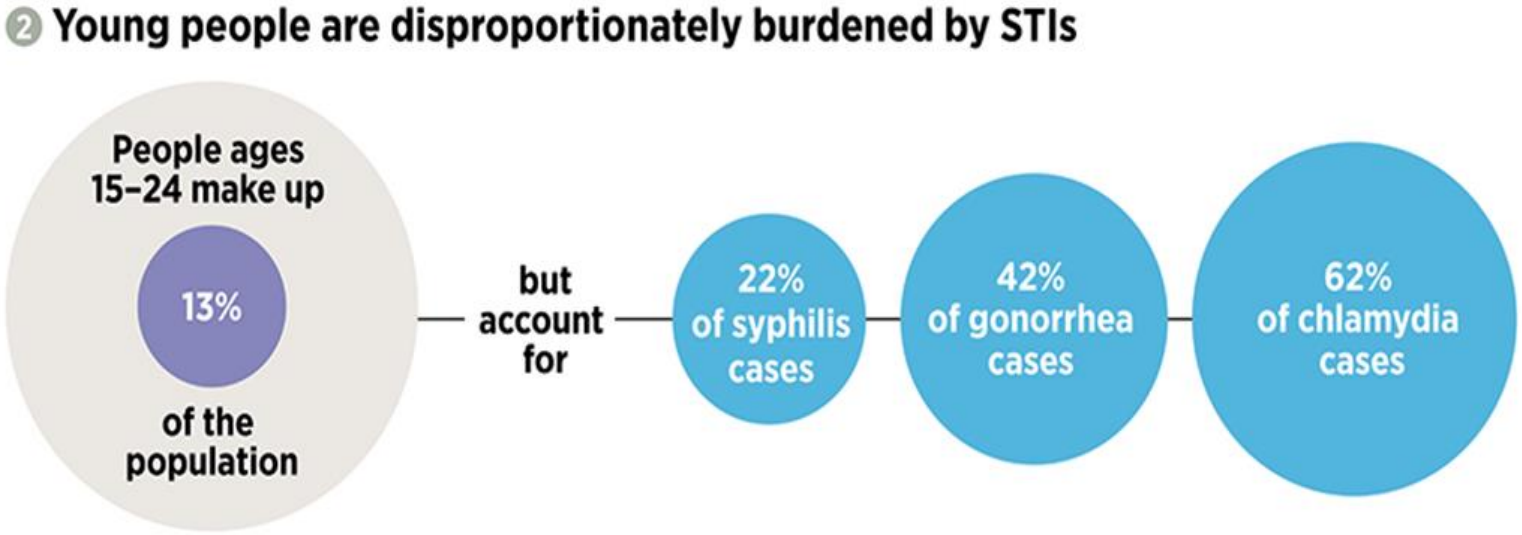




Sex and Youth



Youth and Burden of STIs



Rural Health and STI/HIV care

- What is a rural setting?
  - Population <50,000 based on US Office of Management and Budget
  - 15% of all Americans live in rural communities (CDC and HRSA)
- What is unique to STI/HIV in rural setting- and how have recent health care issues impacted this
  - COVID Pandemic and need to get care to those with limited access
  - Ending the HIV Epidemic efforts made CDC aware to locations outside of urban areas for this work
  - Epidemic of opioid and other drug use and impact on rural life
    - Impact on sexual health e.g. transactional sex or condomless sex

Jenkins et al. STI Epidemiology and Care in Rural Areas: A Narrative Review. Sexually Transmitted Dis. Vol 48, Dec 2021, E236

STI Risk Factors in Rural Settings

- Epidemiologic
  - Substance use→ condomless sex, transactional sex
- Health services (Institutional level)
  - Availability, accessibility and quality
- Political and economic characteristic (Program level)
  - Funding for programs
- Social norms (Individual level)
  - Social norms (sexual and gender minorities in rural areas 2.9-3.8%)
  - Acceptance around harm reduction programs
  - Feeling or concern for discrimination by health care workers around STIs
  - Unhoused

Jenkins et al. STI Epidemiology and Care in Rural Areas: A Narrative Review
Sexually Transmitted Dis. Vol 48, Dec 2021, E236

STI epidemiology for Rural Areas

Figure 5

In 2023, primary and secondary syphilis rates were concentrated in the Rochester Regic and New York City.

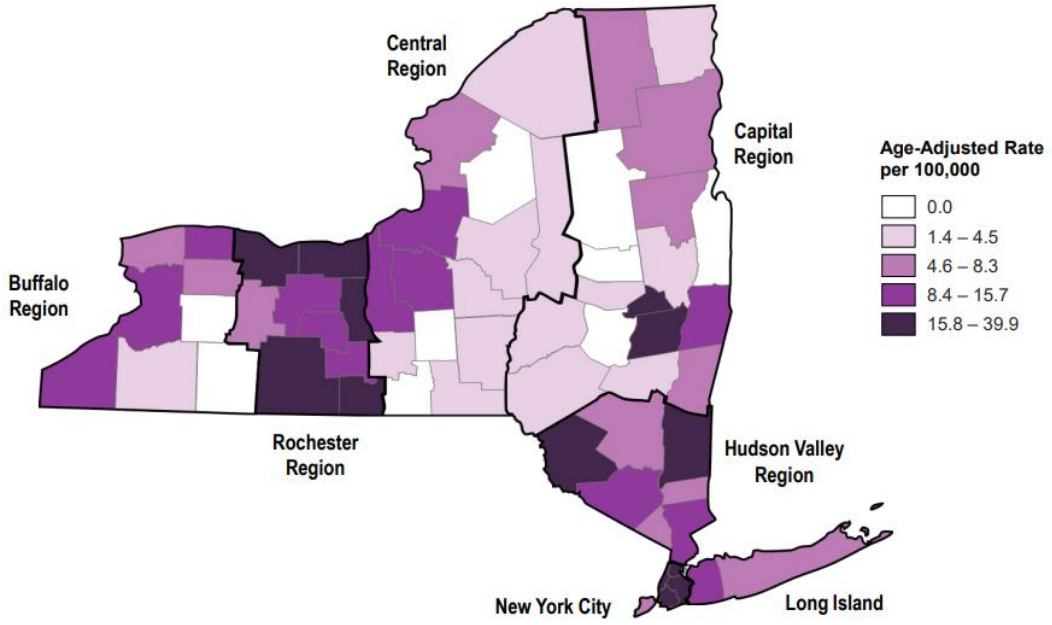
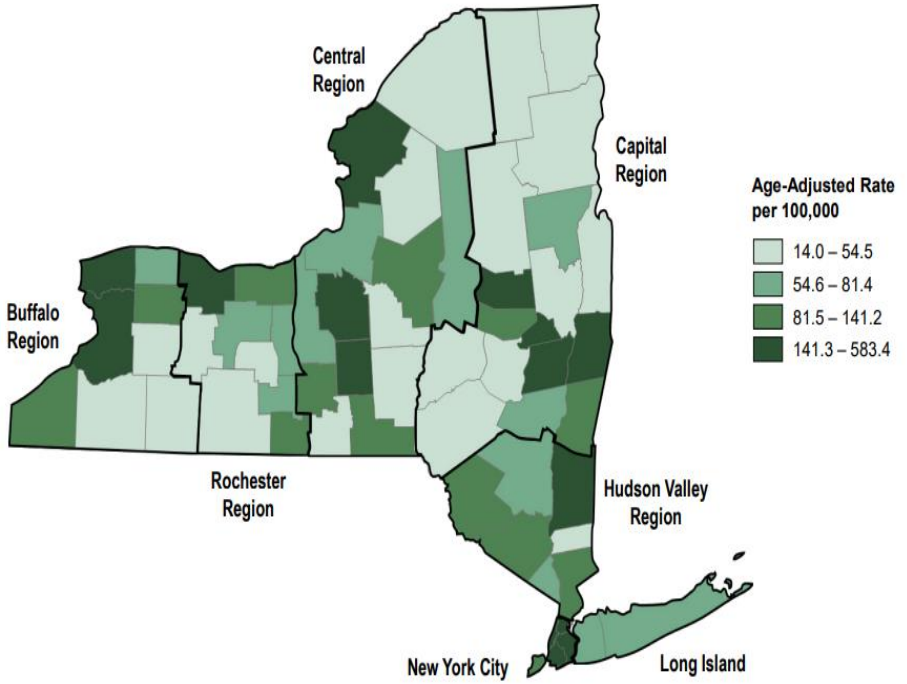


Figure 15

Outside of New York City, regional gonorrhea rates were geographically concentrated within a few counties.



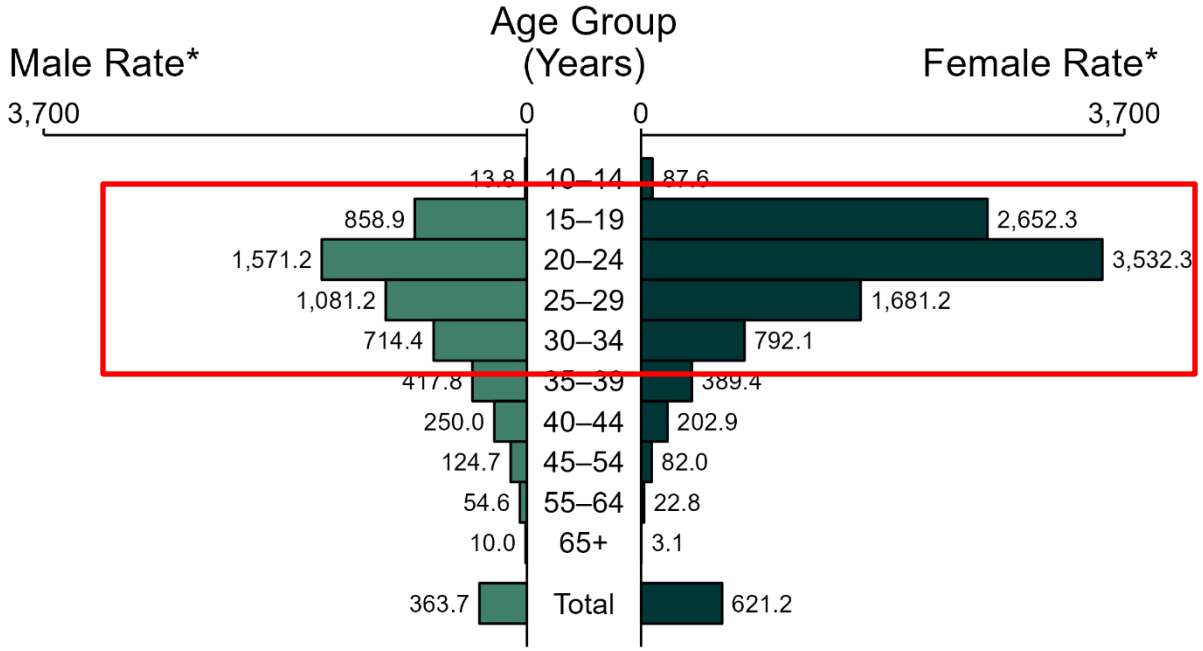
Sexually Transmitted Infections Surveillance Report NYS 2023 Rates are per 100,000 persons and age-adjusted.
https://www.health.ny.gov/statistics/diseases/communicable/std/docs/sti_surveillance_report_2023.pdf

STIs in Young Adults

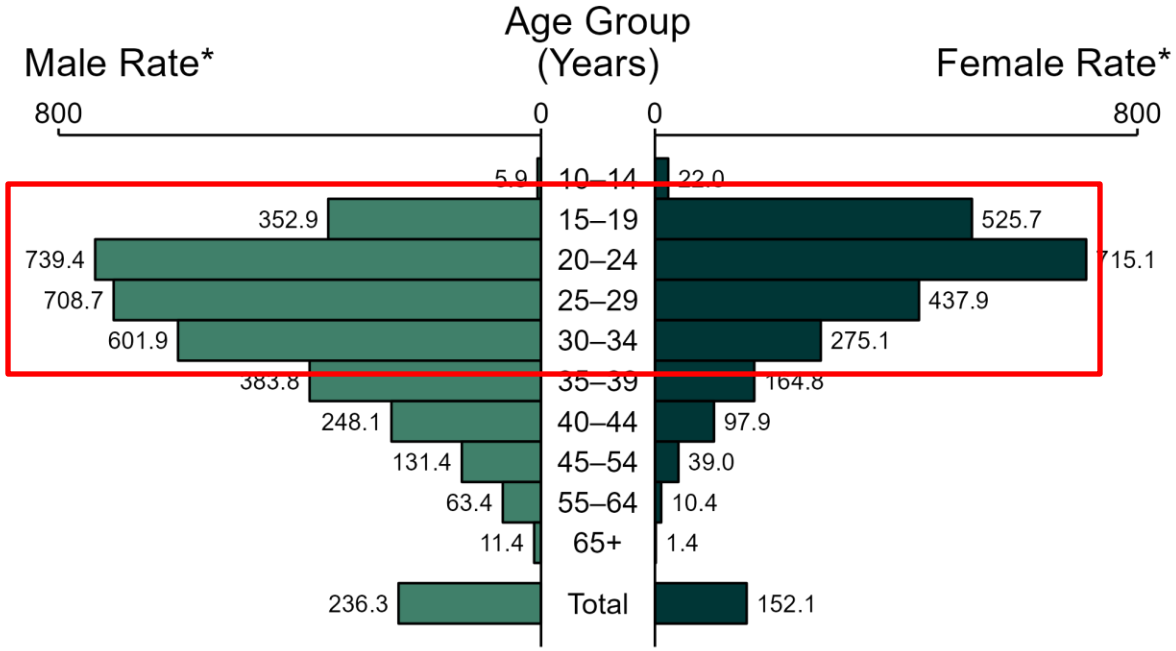
- What STI's do you need to be concerned about?
- How do you implement screening?
- What treatment can be given?
- What about partners?

Age distribution for STIs

Chlamydia



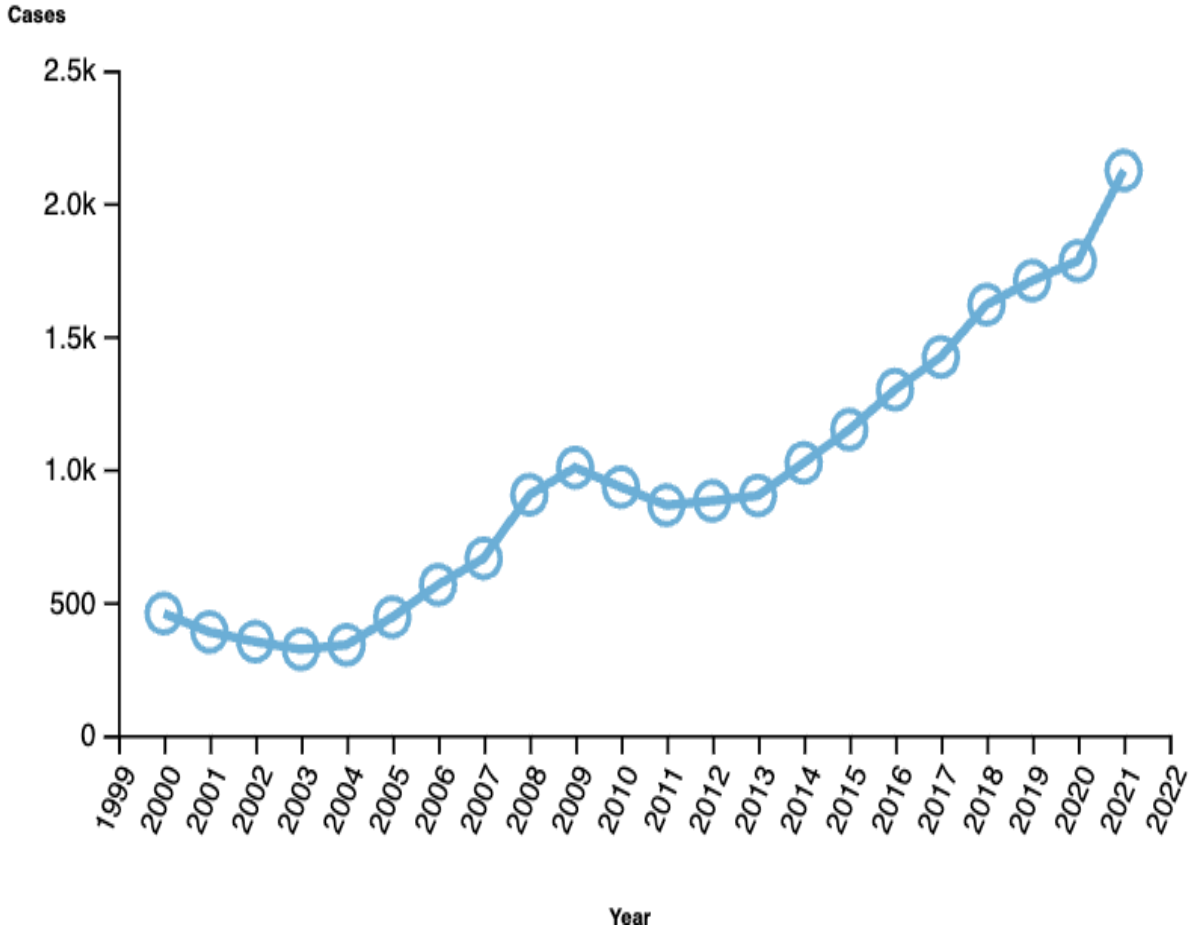
Gonorrhea



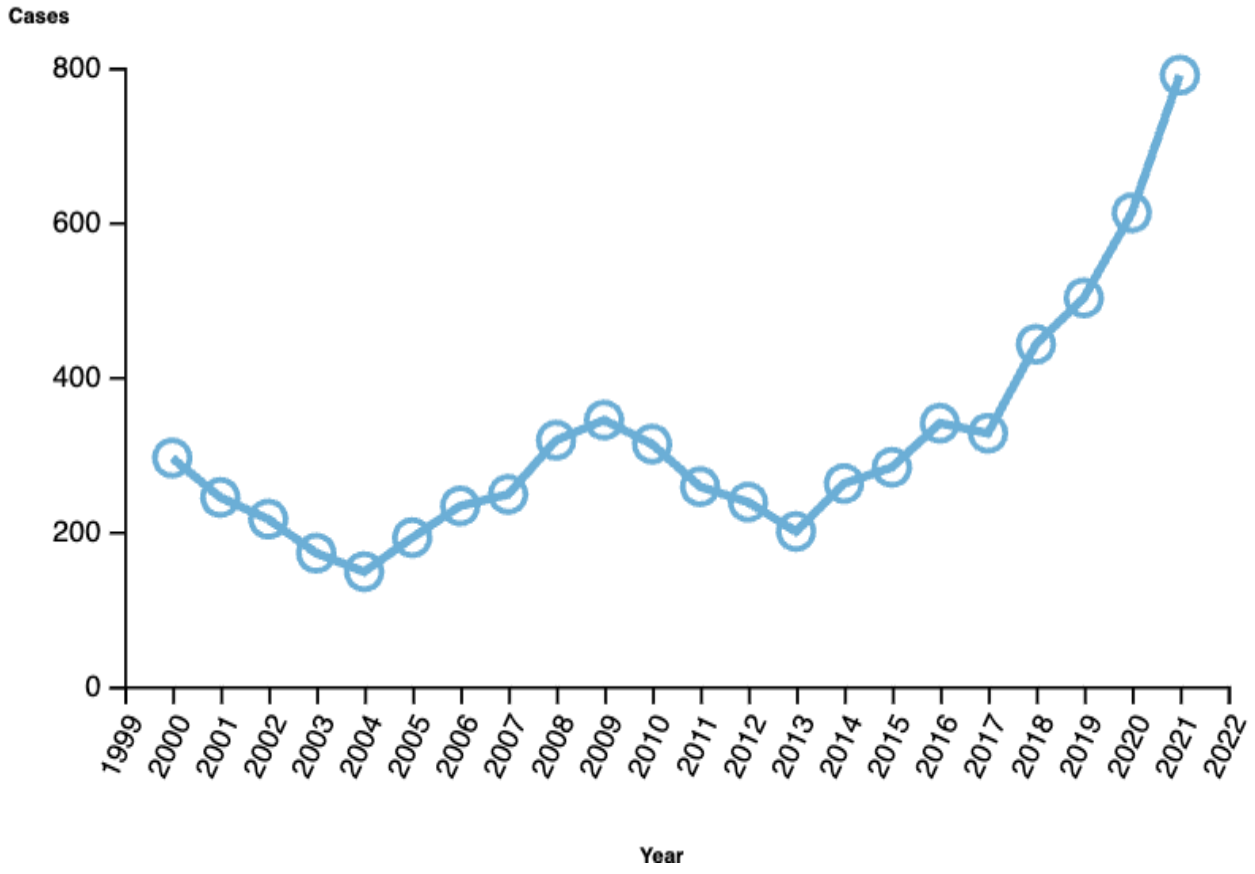
- Centers for Disease Control and Prevention. NCHHSTP AtlasPlus. https://www.cdc.gov/nchhstp/atlas/index.htm. Accessed 2/8/24

P & S Syphilis – 2022 – Ages 15-19

Male and Female



Female Only



Centers for Disease Control and Prevention. NCHHSTP AtlasPlus. https://www.cdc.gov/nchhstp/atlas/index.htm. Accessed 2/8/24

NEW YORK CITY STI HIV PREVENTION TRAINING CENTER

COLUMBIA | COLUMBIA UNIVERSITY IRVING MEDICAL CENTER

STIs Are Not Benign

- Pelvic inflammatory disease
- Chronic pelvic pain
- Infertility
- Adverse pregnancy outcomes
  - Prematurity
  - Stillbirth
- Urethral strictures
- Gastrointestinal fistulas
- Peri-rectal abscesses
- Severe complications of syphilis
  - Permanent hearing or vision impairment

Missed Opportunities to Discuss Sexual Reproductive Health

- Research survey of parents and adolescents published in Pediatrics 2021
- Parents and adolescents say it's important to talk about sex
- BUT...
- <1/3 of adolescents reported discussions by provider about sex
  - 14% of younger adolescents
  - 39% of older adolescents were asked by provider
- 24% of younger adolescents and 42% of older adolescents reported that provider ever discussed confidentiality with adolescent

How Can We Improve Sexual Health?

Sexual Health Needs Assessment

- Welcoming Environment
  - Confidential
  - Friendly, non-judgmental staff
  - Clear communications
  - Accessible and convenient times
  - Safe environment

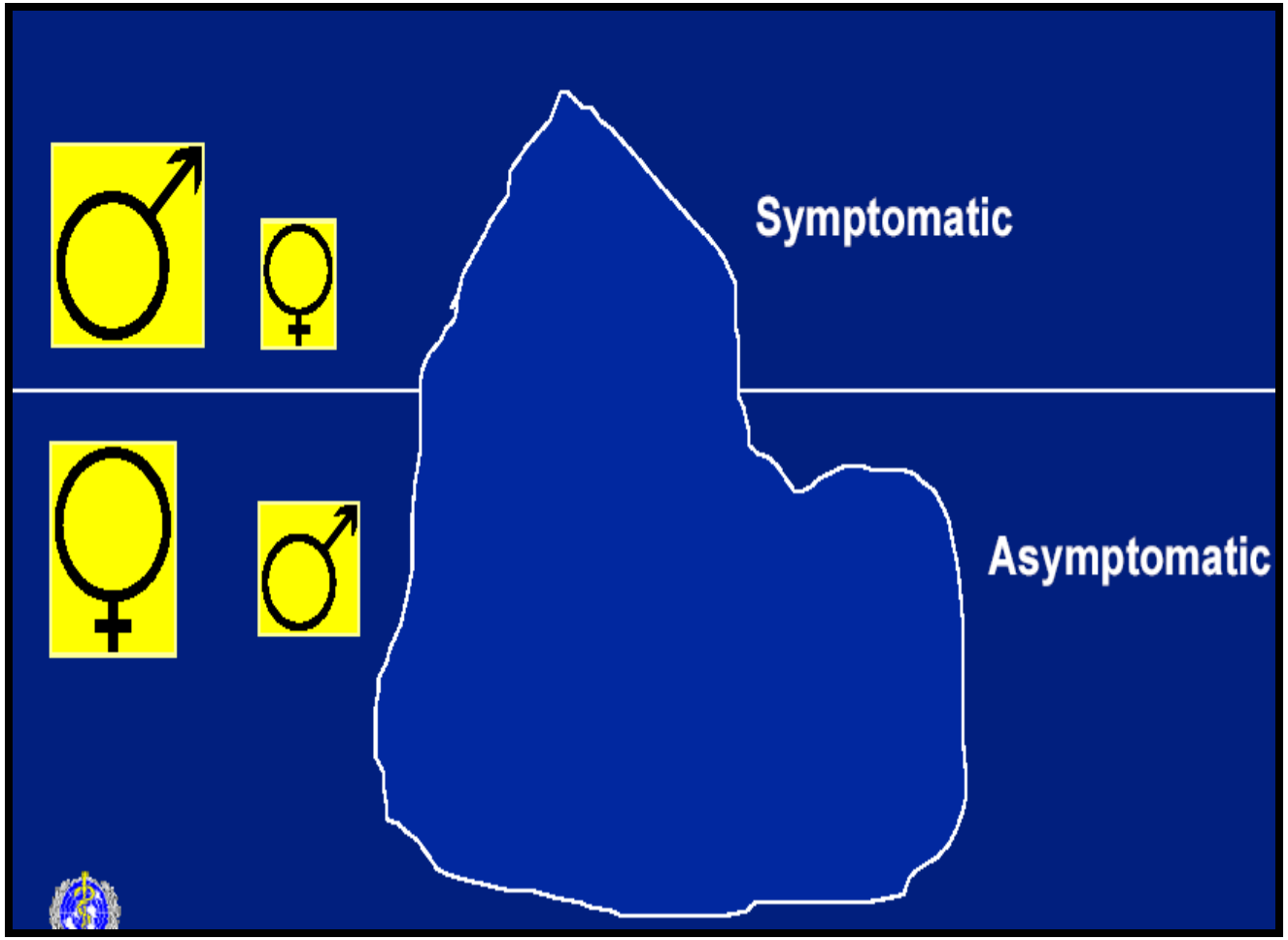
Youth friendly design, information, and services

- https://www.nachc.org/quality4teenshealth/improvement-goals/screening-for-sexual-activity-and-sexual-risk-assessment/

Screening vs. Diagnostic Testing

- Screening Tests: testing for disease in people who DO NOT have symptoms

- Diagnostic Testing: testing for disease in people who HAVE symptoms



Adolescent and Young Adults

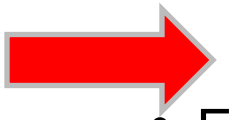
- **Risk Factors**
  - Behavioral
    - Multiple or new partners
    - Inconsistent use of barrier protection
    - Substance use
    - Peer pressure & social media
    - Barriers to access health care
  - Biologic
    - Cervical ectopy/immaturity
- **Unique issues**
  - Self-consenting for diagnosis and treatment but emotional and cognitive immaturity
  - Concerns about privacy and confidentiality
  - Pregnancy and fear of pregnancy
  - Lack of support
  - Housing insecurity

Presenting Sexual Health to Youth

Normalizing sexual health discussion

- Identify and address other clinical and psychosocial issues
- Identify and address sexual concerns and/or concerns for dysfunction
- Enhance comfort/pleasure

Action



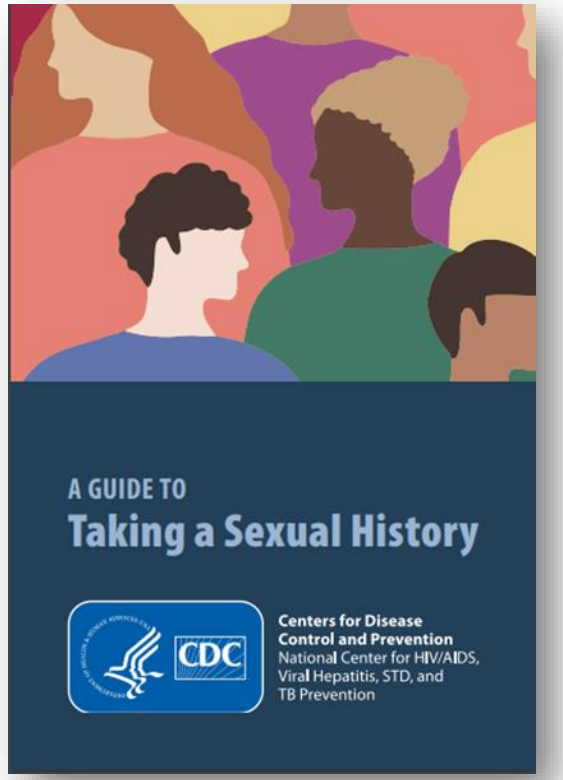
Screening, treating, and stopping the spread

- Early detection and identification of sexual health issues
- Prevention of unintended pregnancies
- Reduce transmission of STIs and lower community burden of diseases

Provider's Guide to Taking a Sexual History

What To Ask - CDC 5 P's

- Partners
- Practices
- Protection from STIs
- Past history of STIs
- Pregnancy intention



- https://www.cdc.gov/std/treatment/sexualhistory.pdf

Taking A Sexual History

Can't Be A Checklist

~~What~~ How to Ask

Sexual Health Assessment & Clinic Workflow

- Incorporate a sexual risk assessment into general health assessment
- Assessing risks, but also knowledge, skills, and behaviors
- How?
  - Use adolescent-friendly tablet-based technology
  - Send assessment tools via text message to be completed ahead of the clinic visit
- Where?
  - Confidential space
  - Privacy

Taking a Sex Positive Sexual History

Do

- Talk about sexual behavior
- Talk about sexual health
- Focus on Benefits

Don't

- Talk about risk behavior
- Talk about risk assessments
- Focus on risks

AVOID

- **Judging**
- **Lecturing**
- **Threatening**
- **Preaching**
- **Blaming**

What Kinds of Questions Should You Ask?

- New sex partner? Or person you have sexual relations with.
- Condomless sex with more than one sex person currently?
- Condomless sex with a person with who has other sexual partners?
- Condomless sex with a person who has a sexually transmitted infection?
- Condomless sex with a person living with HIV?
- Forced/coerced sex?
- Involvement with substance use?

Implementing This Assessment

- GOALS Framework
  - NYSDOHMH
- Sex Positive approach

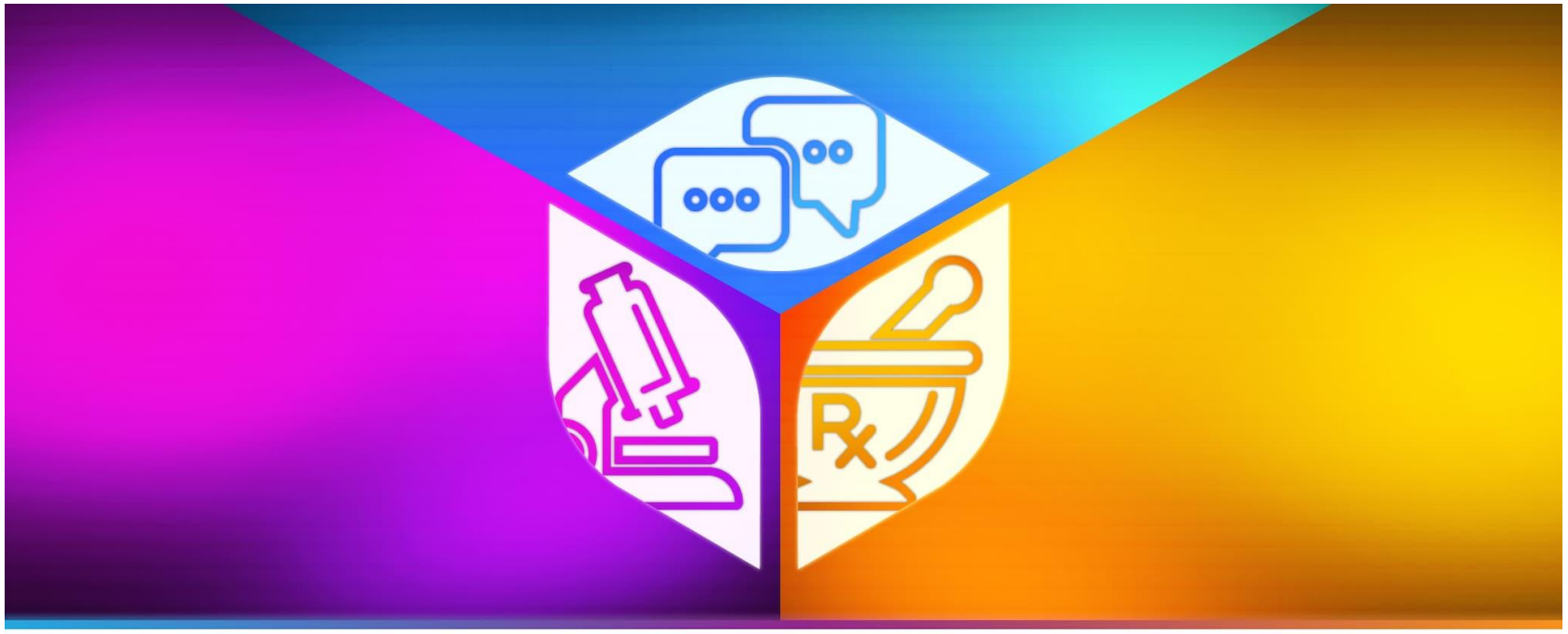
- https://www.hivguidelines.org/hiv-care/selected-resources/goals-framework/

Strategy – GOALS Framework

1. Give a preamble that emphasizes sexual health
2. Offer opt-out HIV/STI testing and information
3. Ask an open-ended question
4. Listen for relevant information and fill in the blanks
5. Suggest a course of action

Component	Suggested Script	Rationale and Goal Accomplished
Give a preamble that emphasizes sexual health.	*I'd like to talk with you for a couple of minutes about your **sexuality and sexual health**. I talk to all of my patients about sexual health, because it's such an **important part of overall health**. Some of my patients have **questions or concerns** about their sexual health, so I want to make sure I **understand what your questions or concerns might be and provide whatever information or other help you might need**.*	• Focuses on sexual health, not risk. • Normalizes sexuality as part of health and healthcare. • Opens the door for the patient's questions. • Clearly states a desire to understand and help.
Offer opt-out HIV/STI testing and information.	*First, I like to test all my patients for HIV and other sexually transmitted infections. Do you have any concerns about that?*	• Doesn't commit to specific tests, but does normalize testing. • Sets up the idea that you will recommend some testing regardless of what the patient tells you. • Opens the door for the patient to talk about HIV or STIs as a concern.
Ask an open-ended question.	Pick **one** (or use an open-ended question that you prefer): • *Tell me about your sex life.* • *What would you say are your biggest sexual health questions or concerns?* • *How is your current sex life similar or different from what you think of as your ideal sex life?*	• Puts the focus on the patient. • Lets you hear what the patient thinks is most important first. • Lets you hear the language the patient uses to talk about their body, partners, and sex.
Listen for relevant information and probe to fill in the blanks.	→ *Besides* [partner(s) already disclosed], *tell me about any other sexual partners.* → *How do you protect yourself against HIV and STIs?* → *How do you prevent pregnancy (unless you are trying to have a child)?* → *What would help you take (even) better care of your sexual health?*	• Makes no assumption about monogamy or about gender of partners. • Avoids setting up a script for over-reporting condom use. • Can be asked of patients regardless of gender. • Increases motivation by asking the patient to identify strategies/ interventions.
Suggest a course of action.	→*So, as I said before, I'd like to test you for* [describe tests indicated by sexual history conversation]. →*I'd also like to give you information about PrEP/contraception/other referrals. I think it might be able to help you* [focus on benefit].	• Allows you to tailor STI testing to the patient so they don't feel targeted. • Shows that you keep your word. • Allows you to couch education or referral in terms of relevant benefits, tailored to the specific patient.

CDC Standard for STI Management



talk | test | treat

Case #1

Meet Jack

- 16-year-old
- Presents to clinic as a walk-in
- Feels like he just wants to get tested for STIs
- No specific complaints

Jack's History

- Partners
  - 3 male partners in the past 2 months
    - Meets partners on an app
  - 1 regular female partner
- Practices
  - Oral (gives and receives), vaginal and anal intercourse (insertive and receptive)
- Protection from STIs
  - Condoms "sometimes", doesn't like the sensation
- Past history of STIs
  - Chlamydia in the past
- Pregnancy intention
  - Doesn't want kids but does not know what his female partner uses

What can you offer in your practice?

- Blood tests
  - HIV Testing (HIV Ab/Ag test)
  - Hepatitis C Ab test
  - Syphilis testing (RPR)
- Urine and Swabs
  - Gonorrhea and chlamydia testing
    - Urine, throat and rectal
    - Nucleic acid amplified Testing (NAAT)
- Offer HIV biomedical HIV prevention services (PrEP +/- PEP)

Chlamydia and Gonorrhea Screening Recommendations

Population	Recommendations
Men who have sex with men (MSM)	At least annually, **test at each site of exposure** (urethra, rectum) for sexually active MSM regardless of condom use or every 3-6 months if at increased risk.
Patients taking PrEP	**All patients** starting and taking oral PrEP should have genitourinary and extra-genital testing performed at baseline and **every 3 months**.
People with HIV	For sexually active patients, screen at first HIV evaluation and at least annually thereafter. **More frequent screening** might be appropriate depending on individual risk behaviors and local epidemiology
Non-pregnant women	**Test at least annually** for sexually active females under 25 years of age and those aged 25 years and older if at increased risk Rectal chlamydial testing can be considered in females **based on sexual behaviors and exposure** through shared clinical decision making.
Men who have sex with women***	Consider screening young men in high prevalence clinical settings (adolescent and STI clinics and correctional facilities)
Pregnant patients	All pregnant patients under 25 years of age and those aged 25 years and older if at increased risk. **retest during 3rd trimester** if under 25 years of age or at risk.

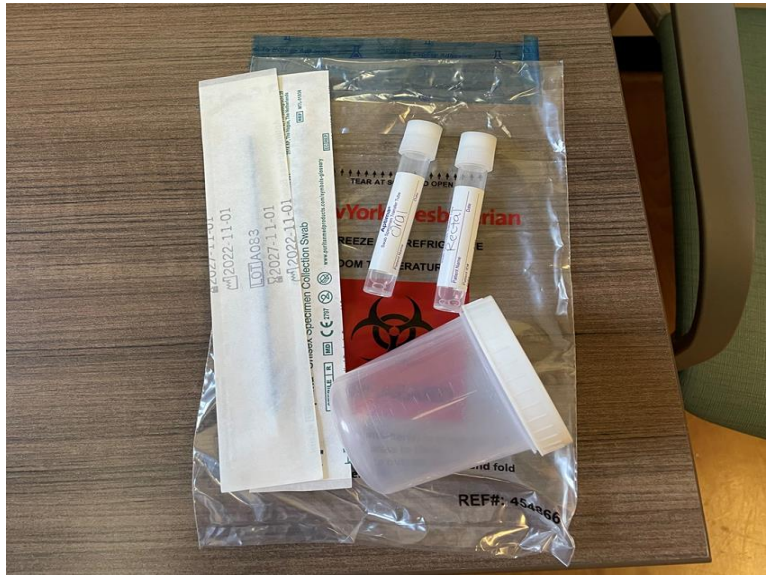
Get Your Space Ready!

- In our clinic we make up these kits beforehand, ready to go for patients
- They are available in every exam room

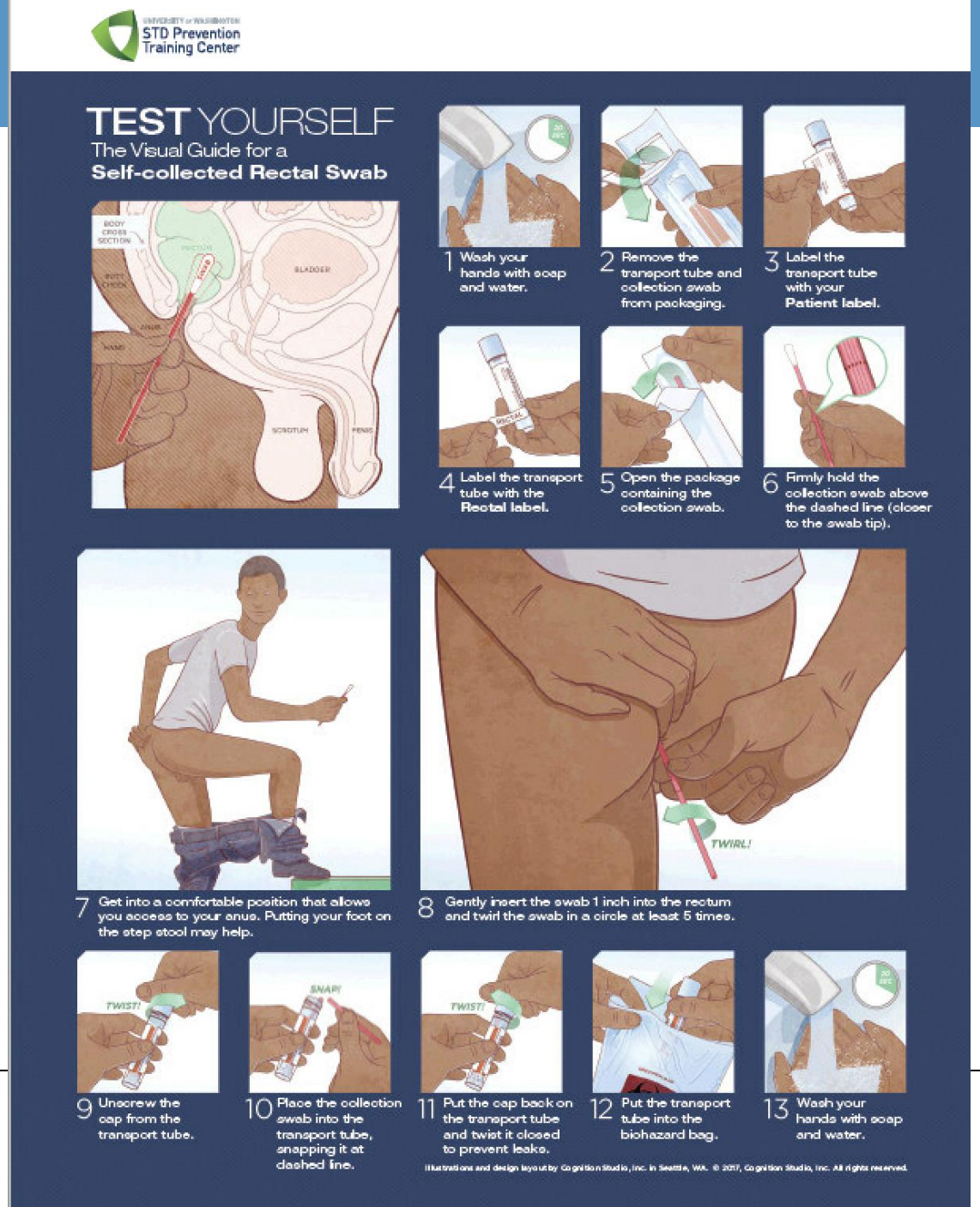
Clinic Workflow Inclusive of 3 Site Testing

- Pick a clinic bathroom that is good for 3 site testing

- A shelf or a place to put specimens

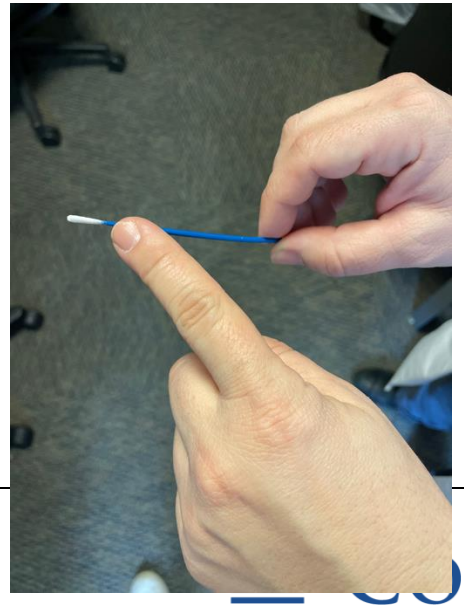


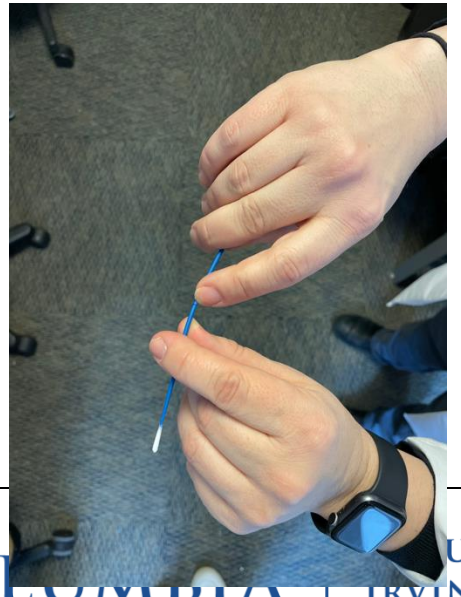
Education on 3 Site Self Collection



Rectal Swabbing: sample language

- *Here is a swab that is going to go in your butt until right about here.*
- *You are going to twirl it about 5 times*
- *The swab breaks in the middle, and you twist off the top of the tube and put it in the tube*





How to increase screening in rural areas?

- Location:
  - Department of Health
  - Express testing walk-in clinics
  - Advocate for private practices to do screenings
- Staffing
  - Educate alternative care providers e.g. nurses and students to help with testing
  - Self- testing for patients
- Point of care tests- Binx IO
  - But little data on pharyngeal or rectal samples

Test	Indication	Population	Cost*
Binx IO point-of-care test	Screening and diagnosis of *Chlamydia trachomatis* and *Neisseria gonorrhoeae* infections	Symptomatic and asymptomatic adults†	$70.20

*–Reimbursement rate according to the 2022 Centers for Medicare and Medicaid Services Clinical Laboratory Fee Schedule.[4]

†–Test performance evaluated in female patients 16 years and older and in male patients 17 years and older.

Another testing strategy: home self collection

- Self- collection is highly acceptable and often preferred
- Self- collection is very accurate in fact sometimes better than clinician collected
- Home collection reduces concerns e.g. transportation to the clinic or health care facility

BMJ Global Health

At-home specimen self-collection as an additional testing strategy for chlamydia and gonorrhoea: a systematic literature review and meta-analysis

Amanda C Smith, Phoebe G Thorpe, Emily R Learner, Eboni T Galloway, Ellen N Kersh

- 19 studies, 15 RCTs with 62,369 participants and 4 cross sectional studies
- Higher numbers of CT and GC tests done especially among men
- Higher proportion of + CT tests collected at home (asymptomatic testing)
- No difference in + GC tests
- No issues with linkage to care
- High concordance with home and clinic collected specimens

Smith AC, et al. BMJ. Glob Health 2024; 9:eo15349.

How can you identify more STIs?
Do 3-site Testing

Urogenital-Only and Behavior-Based Testing Miss Diagnoses

MEN WHO HAVE SEX WITH WOMEN

35% Pharyngeal GC

36% EG only

MEN WHO HAVE SEX WITH MEN

70-85% EG only

WOMEN

1/3 of women with EG infection had negative urine tests

RECTAL GC+

RECTAL CT+

>3/4 reported no anal sex in the last 3 months/with last partner

- Jann JT, Cunningham NJ, Assaf RD, et alEvidence supporting the standardisation of extragenital gonorrhoea and chlamydia screenings for women. Sexually Transmitted Infections 2021;97:601-606.

Patton, ME et al. Extragenital gonorrhea and chlamydia testing and infection among men who have sex with men--STD Surveillance Network, United States, 2010-2012. Clin Infect Dis. 2014 Jun;58(11):1564-70. doi: 10.1093/cid/ciu184. Epub 2014 Mar 18. PMID: 24647015; PMCID: PMC4666527.

- Bamberger, David M. MD*†‡; Graham, Georgia MD*§; Dennis, Lesha BA†; Gerkovich, Mary M. PhD‡. Extragenital Gonorrhea and Chlamydia Among Men and Women According to Type of Sexual Exposure. Sexually Transmitted Diseases 46(5):p 329-334, May 2019

Infographic courtesy of NTI STD/HIV PTC

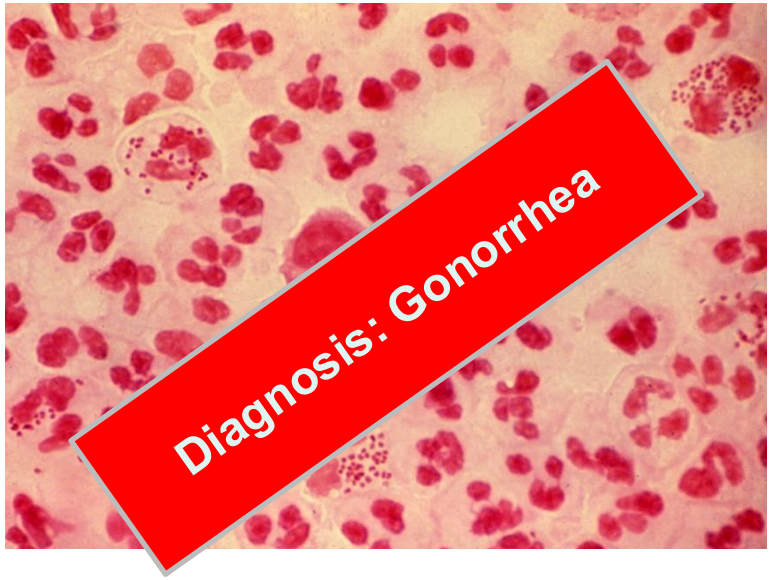
One More Thing

"I have to be honest, I was embarrassed to say it, but it hurts when I pee."

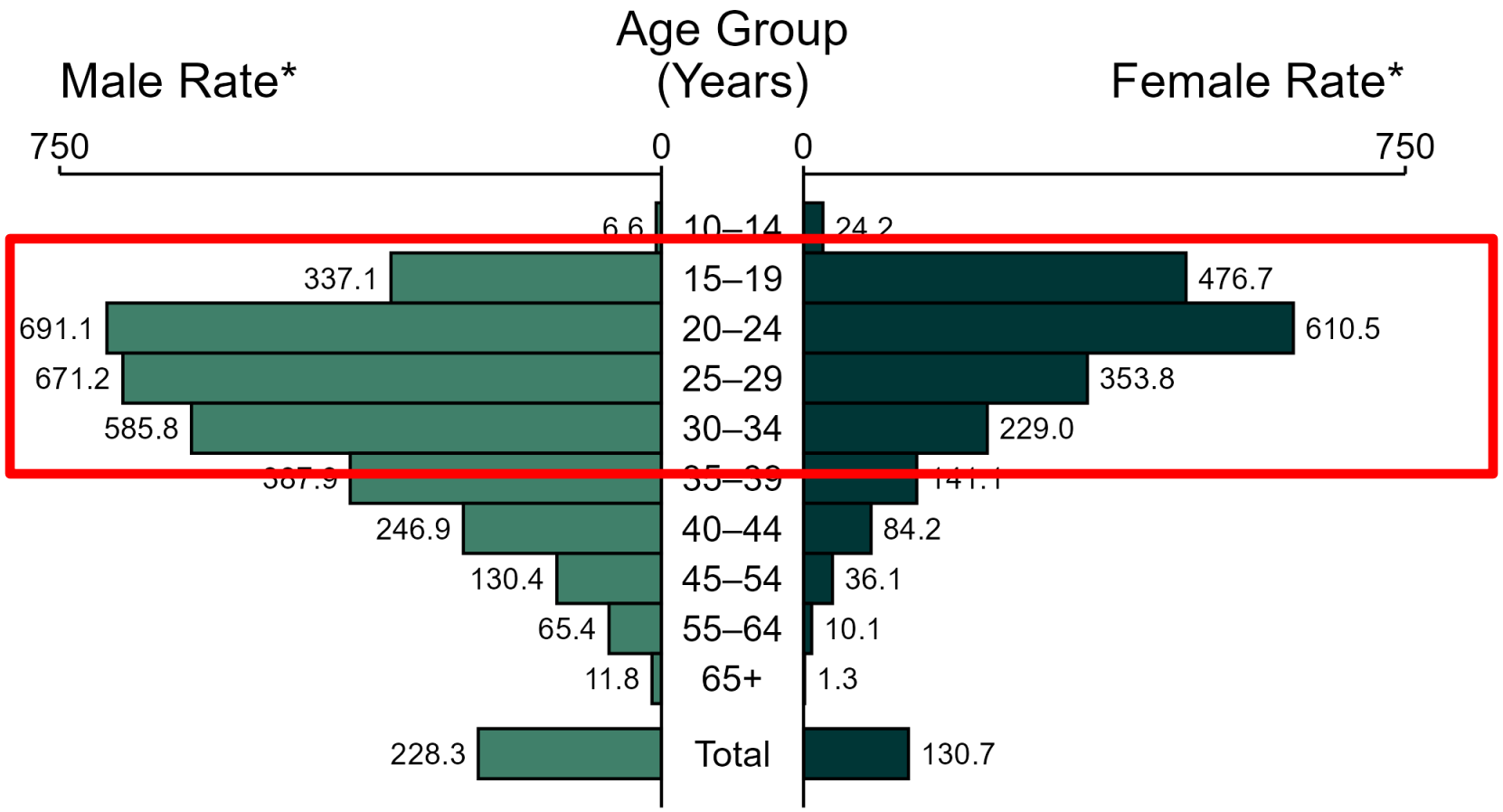
Jack's Work-Up

- HIV Testing (HIV Ab/Ag test)
- Hepatitis C Ab test
- Gonorrhea and chlamydia testing
  - **3 site GC/CT NAAT**
  - Gram stain (if able)
- Syphilis testing (RPR)
- Offer HIV biomedical HIV prevention services (PrEP +/- PEP)

- **Gram stain from urethral discharge**
  - Gram-negative intracellular diplococci



Gonorrhea — Rates of Reported Cases by Age Group and Sex, United States, 2023



Treatment Guidelines – Gonorrhea

Ceftriaxone <u>500</u> mg IM x 1
for persons weighing <150kg*

*For persons weighing ≥ 150kg, 1 g of IM ceftriaxone should be administered

If chlamydia has **not** been excluded, treat for chlamydia with:

Doxycycline 100 mg PO twice daily x 7 days

*For pregnancy, allergy, or concern for non-adherence 1g PO Azithromycin can be used

Treatment Guidelines For Gonorrhea?

Preferred Regimen

Ceftriaxone 500mg intramuscularly once

*For patients weighing ≥150 kg (300 lb), 1g of IM ceftriaxone should be administered

Doxycycline 100 mg orally twice daily for 7 days

*If chlamydial infection has not been excluded

Alternative/Cephalosporin Allergy*

Gentamicin 240mg IM Plus **Azithromycin** 2g PO x1

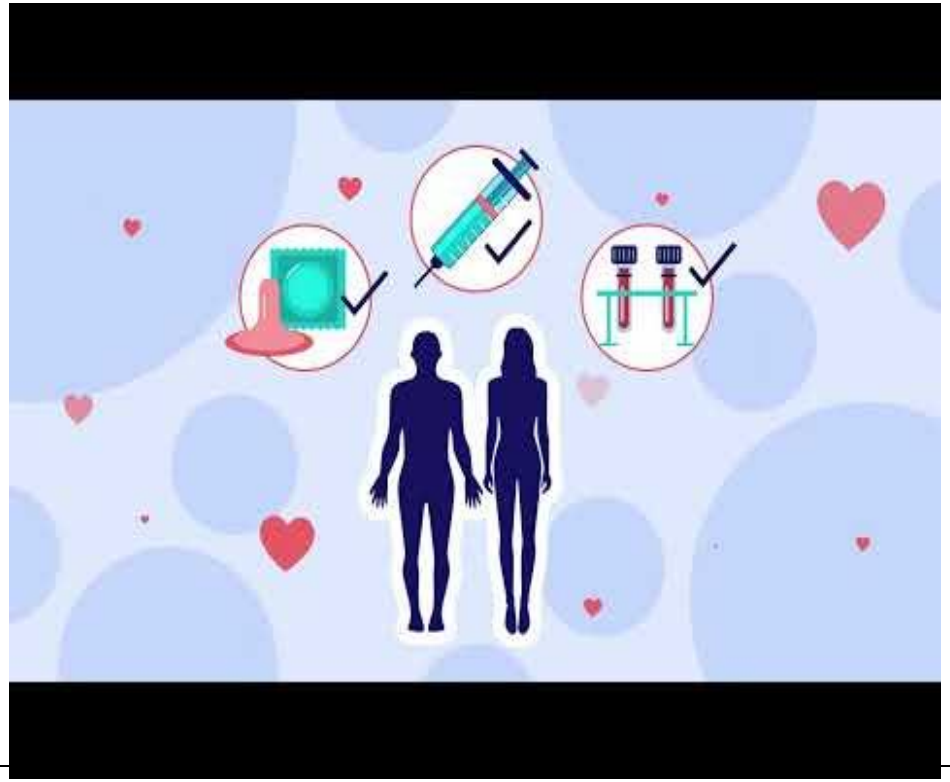
Cefixime 800 mg orally as a single dose

gyrA testing – Ciprofloxacin 500mg PO x 1

***No reliable alternatives for pharyngeal gonorrhea**

Goals and Considerations: Treatment for GC

- Cure
- Prevention of transmission
- Prevention of antimicrobial resistance



- **Pharmacokinetics/dynamics**
  - Not enough data on all doses of ceftriaxone at all anatomic sites (particularly the pharynx)
  - Unknown dose or concentration needed to prevent development of resistance
  - Pharyngeal infection common and underdiagnosed
- **Stewardship**
  - Remove azithromycin => risk of AMR in other pathogens and in GC (rising MICs)

Barbee L. Clin Infect Dis. 2022 Apr 13; 74 (Suppl 2); S95-S111

Gonorrhea – Treatment Failure

- Common causes:
  - Pharyngeal infection; use of alternative regimen(80% for azithro + gent); too low dose; Antimicrobial resistance in the pharyngeal neiserria species

- When to suspect:
  - Persistent symptoms after 3-5 days
  - Positive TOC (14 days for pharyngeal, at least 8 days at other sites)

- Diagnostics:
  - Repeat NG NAAT, testing for other potential culprit STIs
  - Gonorrhea culture with reflex susceptibility (available from LabCorp, Quest, local DOH, CDC)

Workowski KA, Lao-Tzu Allan-Blitz, Helen Fifer, Jeffrey D Klausner. Managing treatment failure in Neisseria gonorrhoeae infection: current guidelines and future directions. The Lancet Infectious Diseases. Volume 24, Issue 8, 2024, Pages e532-e538

Bachmann LH, Chan PA, Johnston CM, Muzny CA, Park I, Reno H, Zenilman JM, Bolan GA. Sexually Transmitted Infections Treatment Guidelines, 2021. MMWR Recomm Rep. 2021 Jul 23;70(4):1-187. doi: 10.15585/mmwr.rr7004a1.

Gonorrhea – Suspected Treatment Failure (Cont.)

Suspected Gonorrhea Treatment Failure Consultation Form

(available in guidelines)

- Treatment:
  - If re-infection possible (most common) or alternative regimen used, retreat with CTX
    - Can consider azithromycin 2 g + gentamicin 240 mg
  - Other possibilities: ertapenem 1 g daily x 3 days, CTX 1 g + azithro 2 g, ***zoliflodacin

- Reporting/consultation:
  - GCfailure@CDC.gov

Workowski KA, Lao-Tzu Allan-Blitz, Helen Fifer, Jeffrey D Klausner. Managing treatment failure in Neisseria gonorrhoeae infection: current guidelines and future directions. The Lancet Infectious Diseases. Volume 24, Issue 8, 2024, Pages e532-e538

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Jack's Results

Lab results:

- HIV test – negative
- Hepatitis C Ab - negative
- Urine GC/CT – GC positive
- Pharyngeal GC/CT – negative
- Rectal GC/CT – GC positive
- RPR – non-reactive

Gonorrhea Follow-Up

- Abstain from sex until 7 days after completing treatment
- Assess for treatment failure if persistent symptoms at 3-5 days with culture (with AST) and NAAT
- **Test of cure recommended for all pharyngeal infections at 7-14 days**
- Test of cure at 4 weeks if pregnant
- Rescreen everyone at 3 months for re-infection

Case #2

Meet Jill!

- A 14-year-old female
- She is sexually active with several male partners
  - One of them was recently diagnosed with chlamydia

What Do You Ask Jill?

5Ps Method

- Partners
- Practices
- Protection from STIs
- Past history of STIs
- Pregnancy intention

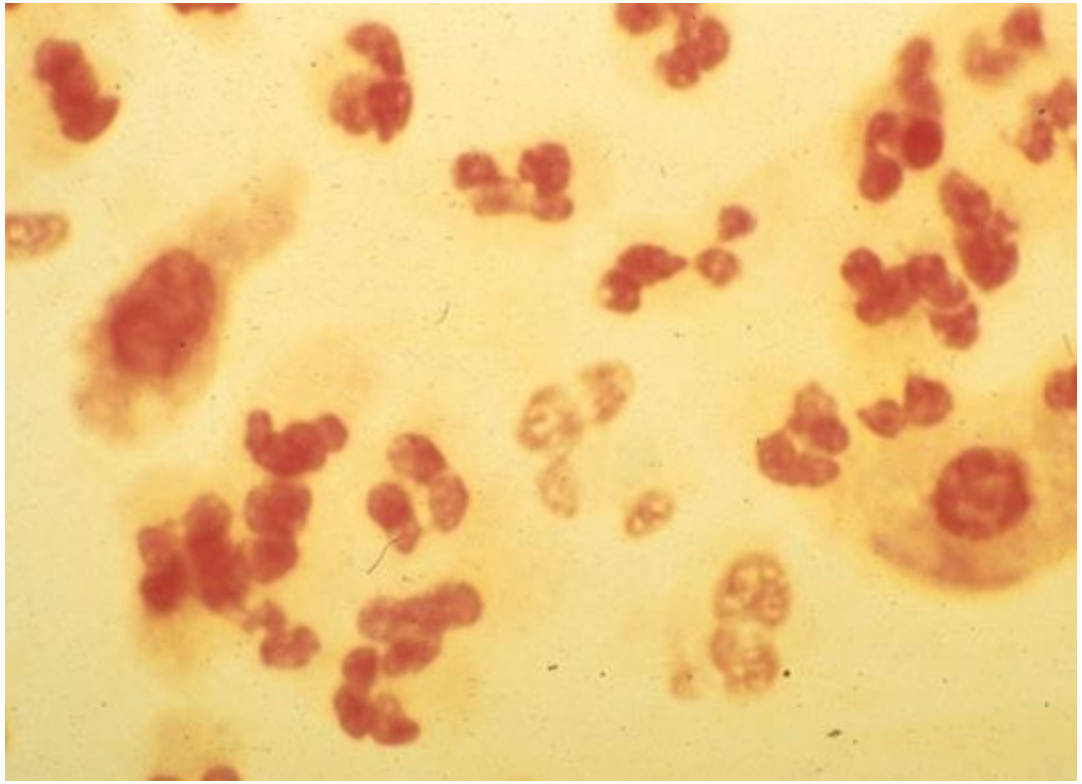
Jill's History

- Partners
  - 2 male partners in the past 6 months
  - 1 female partner
- Practices
  - Oral (gives and receives), vaginal and anal intercourse "a few times"
- Protection from STIs
  - Condoms 50% of the time, never for oral sex
- Past history of STIs
  - Chlamydia in the past
- Pregnancy intention
  - Does not want kids
  - Is not on oral contraceptives

Jill's Work-up

- Blood
  - HIV Testing (HIV Ab/Ag test)
  - Hepatitis C testing
  - Syphilis testing (RPR)
- Urine or Swab
  - Gonorrhea and chlamydia testing (
    - 3 sites
  - Trichomonas testing (NAAT)
- Pregnancy test
- Offer of HIV biomedical HIV prevention services (PrEP +/- PEP)

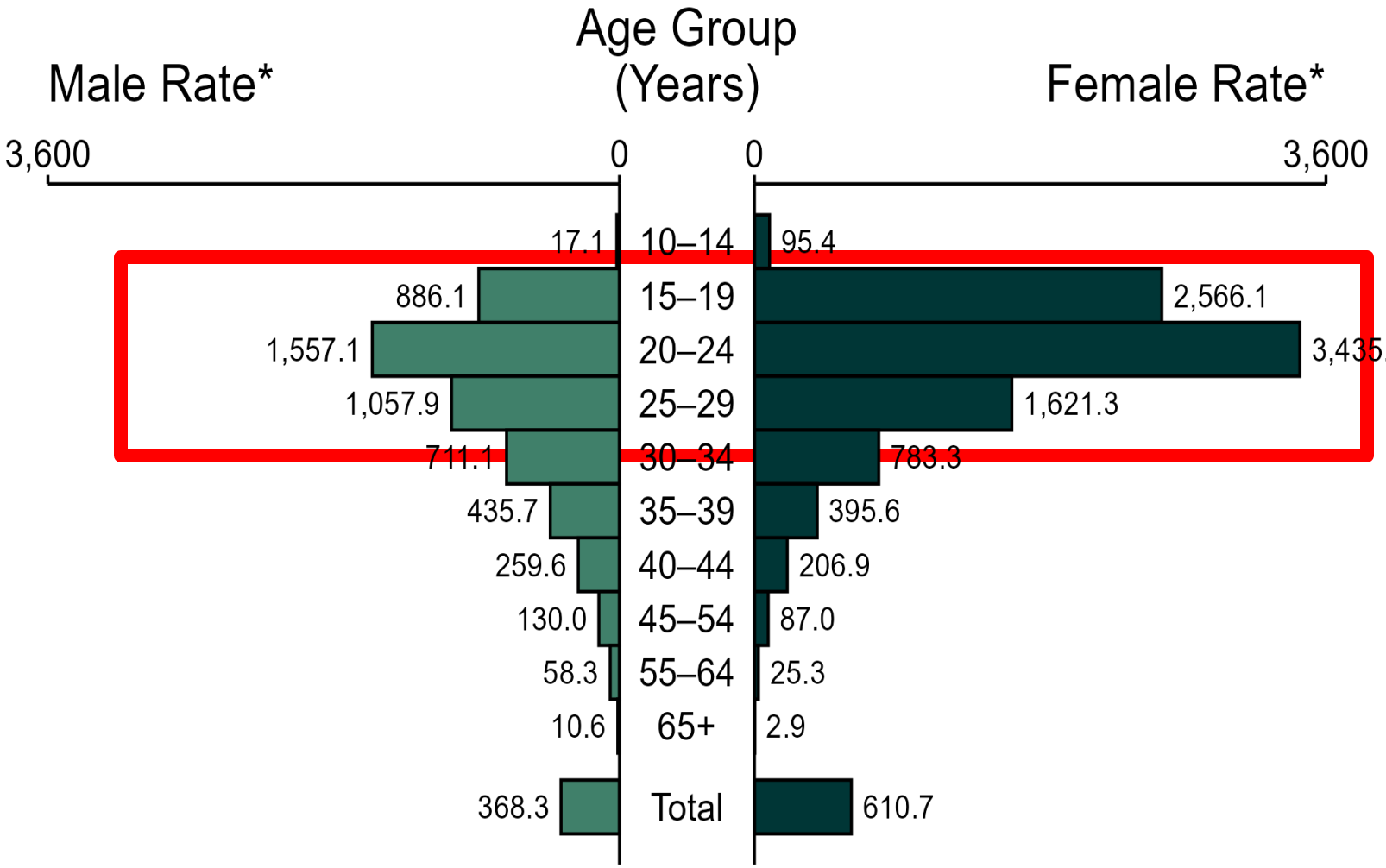
Non-Gonococcal Urethritis



Etiology

- *C. trachomatis* (15-40%)
- *M. genitalium* (15-25%)
- *T. vaginalis* (1-8%)
- HSV (3%)
- *N. meningitidis*
- Other bacteria (i.e. *H. influenzae*)
- Other viruses (i.e. adenovirus, EBV)
- UNKNOWN (~50%)!

Chlamydia — Rates of Cases by Age and Sex, 2023



Highest rates:
Youth 15-30

https://www.cdc.gov/sti-statistics/media/files/2024/11/2023-STI-Surveillance-Report

Treatment Guidelines – Chlamydia

Preferred

Doxycycline 100 mg PO twice daily x 7 days

Alternative

Azithromycin 1g orally once*

*Preferred during pregnancy
**Pregnancy alternative: Amoxicillin 500mg orally 3 times per day for 7 days

OR

Levofloxacin 500mg orally x 7 days

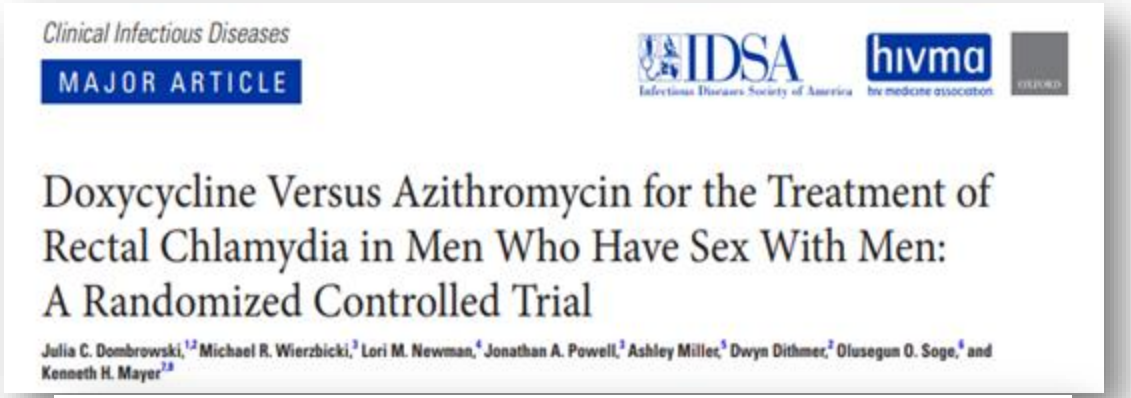
Why Make This Change for Chlamydia

Genitourinary infection

- Microbiologic failure higher among men

Rectal infection

- **Doxycycline superior to azithromycin (20%-26%)**
- Rectal infection not uncommon among women with genitourinary infection (33%-83%)

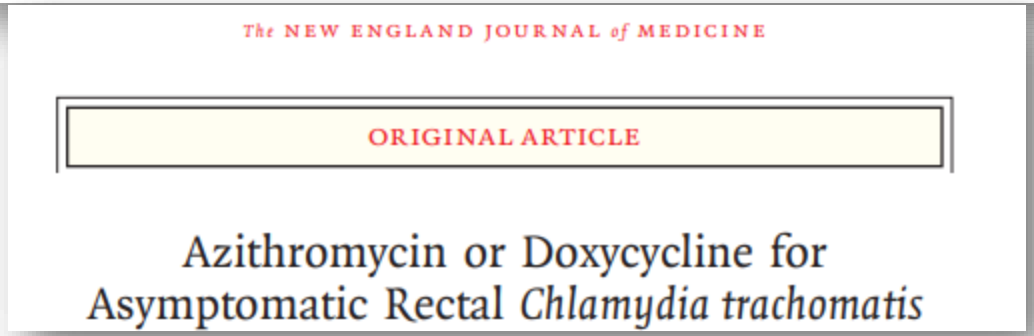

Clinical Infectious Diseases

MAJOR ARTICLE

IDSA Infectious Diseases Society of America | hivma hiv medicine association

Doxycycline Versus Azithromycin for the Treatment of Rectal Chlamydia in Men Who Have Sex With Men: A Randomized Controlled Trial

Julia C. Dombrowski,[1,2] Michael R. Wierzbicki,[3] Lori M. Newman,[4] Jonathan A. Powell,[3] Ashley Miller,[5] Dwyn Dithmer,[2] Olusegun O. Soge,[6] and Kenneth H. Mayer[7,8]


The NEW ENGLAND JOURNAL of MEDICINE

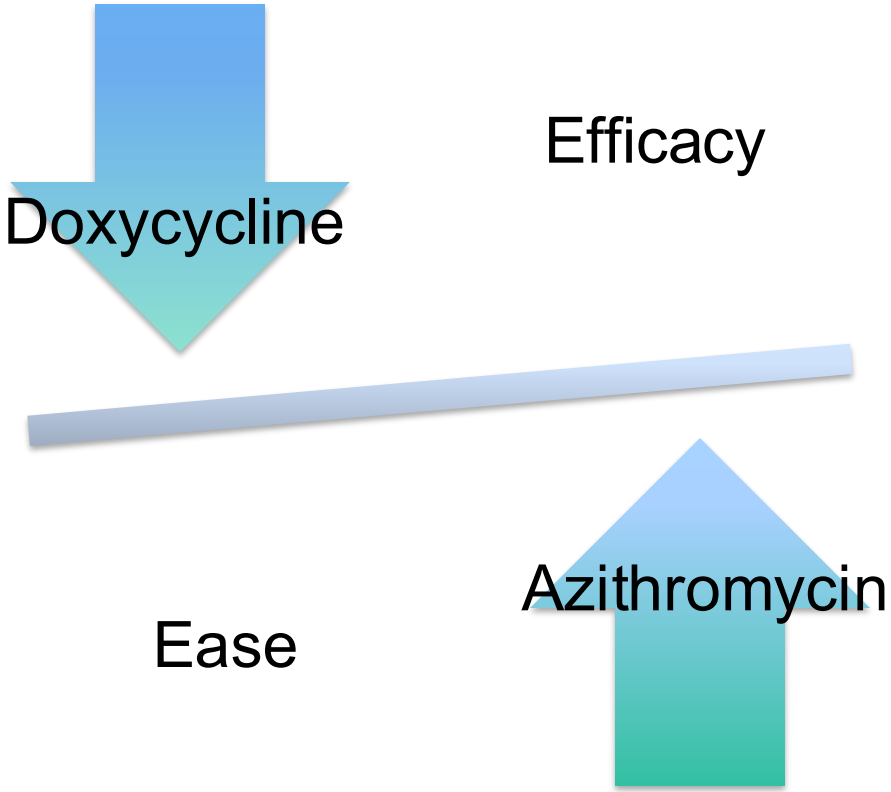
ORIGINAL ARTICLE

Azithromycin or Doxycycline for Asymptomatic Rectal *Chlamydia trachomatis*

7-day course of doxycycline was significantly more effective than a single dose of azithromycin

- Dombrowski JC, Wierzbicki MR, Newman LM, et al. Doxycycline Versus Azithromycin for the Treatment of Rectal Chlamydia in Men Who Have Sex With Men: A Randomized Controlled Trial. *Clin Infect Dis*. 2021;73(5):824-831. doi:10.1093/cid/ciab153
- Lau A, Kong FYS, Fairley CK, et al. Azithromycin or Doxycycline for Asymptomatic Rectal *Chlamydia trachomatis*. *N Engl J Med*. 2021;384(25):2418-2427. doi:10.1056/NEJMoa2031631

Azithromycin vs. Doxycycline



Ease

- **Access**
  - **Only 57.7% (95%CI, 50.9-64.5) of adolescents with STI diagnosis in an ED filled their prescription**
- **Adherence**
  - Studies suggest doxycycline self-reported adherence 60%-90%
- **Confidentiality**
- **Side Effect Profile**

Chlamydia Follow-up

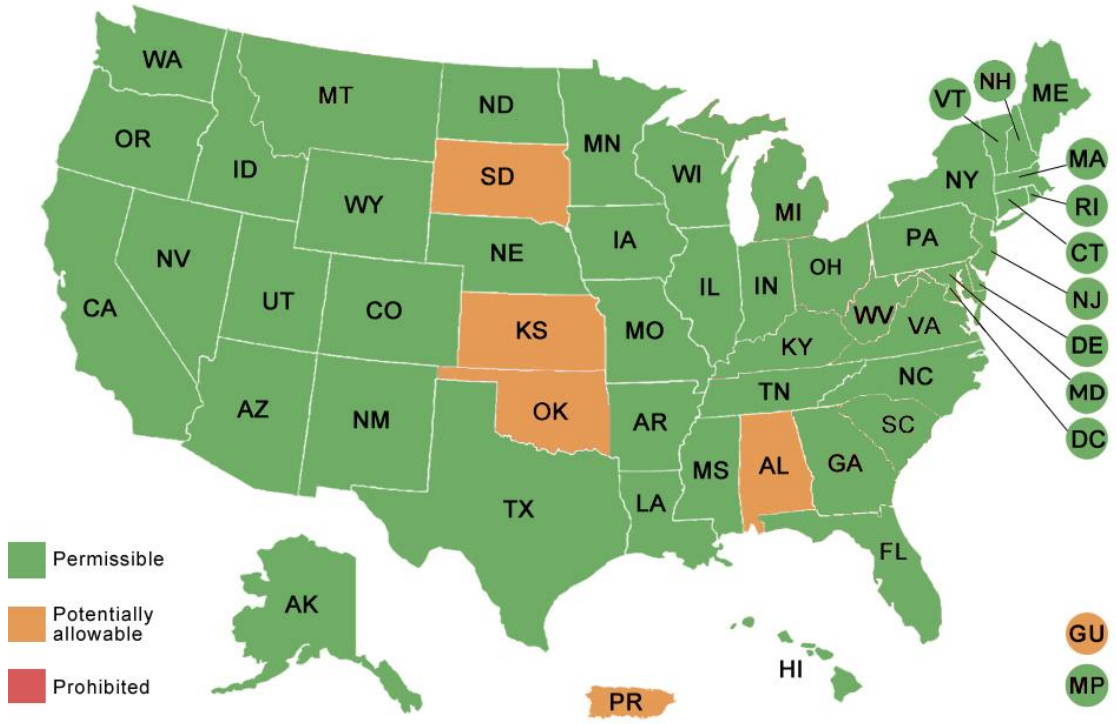
- Abstain from sex until partners have completed treatment or 7 days after single dose therapy
- **Consider repeat testing at 4 weeks for rectal CT treated with Azithromycin due to lower efficacy**
- Test of cure at 4 weeks if pregnant
- Rescreen at 3 months for re-infection

What Did We Do For Jill?

Prescription Pad Dr. Z Sexual Health Clinic
Doxycycline 100mg PO Q12 x 7 days
HIV testing
Hepatitis C Ab testing
3 Site GC/CT testing
Syphilis Testing
HIV prevention counseling and offer of services
Pregnancy testing, counseling and services

Prevention – Partner Therapy or EPT

- HIV Testing
- Primary prevention methods
  - PEP and PrEP
- **Partner services**
- **Expedited partner therapy**
- Retesting after treatment



- https://www.health.ny.gov/diseases/communicable/std/docs/ept_guidance.pdf

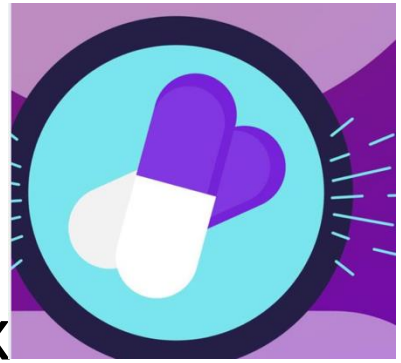
Expedited Partner Therapy

Table: Preferred and Alternative Regimens for Expedited Partner Therapy (EPT)
CDC. 2021 Sexually Transmitted Infections Treatment Guidelines [Workowski, et al. 2021]

STI	Preferred EPT Regimen	Alternative EPT Regimen	Comments
Chlamydia	Doxycycline 100 mg by mouth twice daily for 7 days *OR* Azithromycin 1 g by mouth in a single dose	Levofloxacin 500 mg by mouth daily for 7 days	• Doxycycline and levofloxacin are contraindicated in pregnancy • Azithromycin is recommended for treatment of chlamydia in patients with unknown pregnancy status
Gonorrhea	Cefixime 800 mg by mouth in a single dose	—	Treat for chlamydia if it has not been excluded
Trichomoniasis	Metronidazole 2 g by mouth in a single dose *OR* Tinidazole 2 g by mouth in a single dose	Metronidazole 500 mg by mouth twice daily for 7 days	Counsel symptomatic pregnant patients with trichomoniasis regarding the potential risks and benefits of treatment

- https://www.health.ny.gov/diseases/communicable/std/docs/ept_guidance.pdf

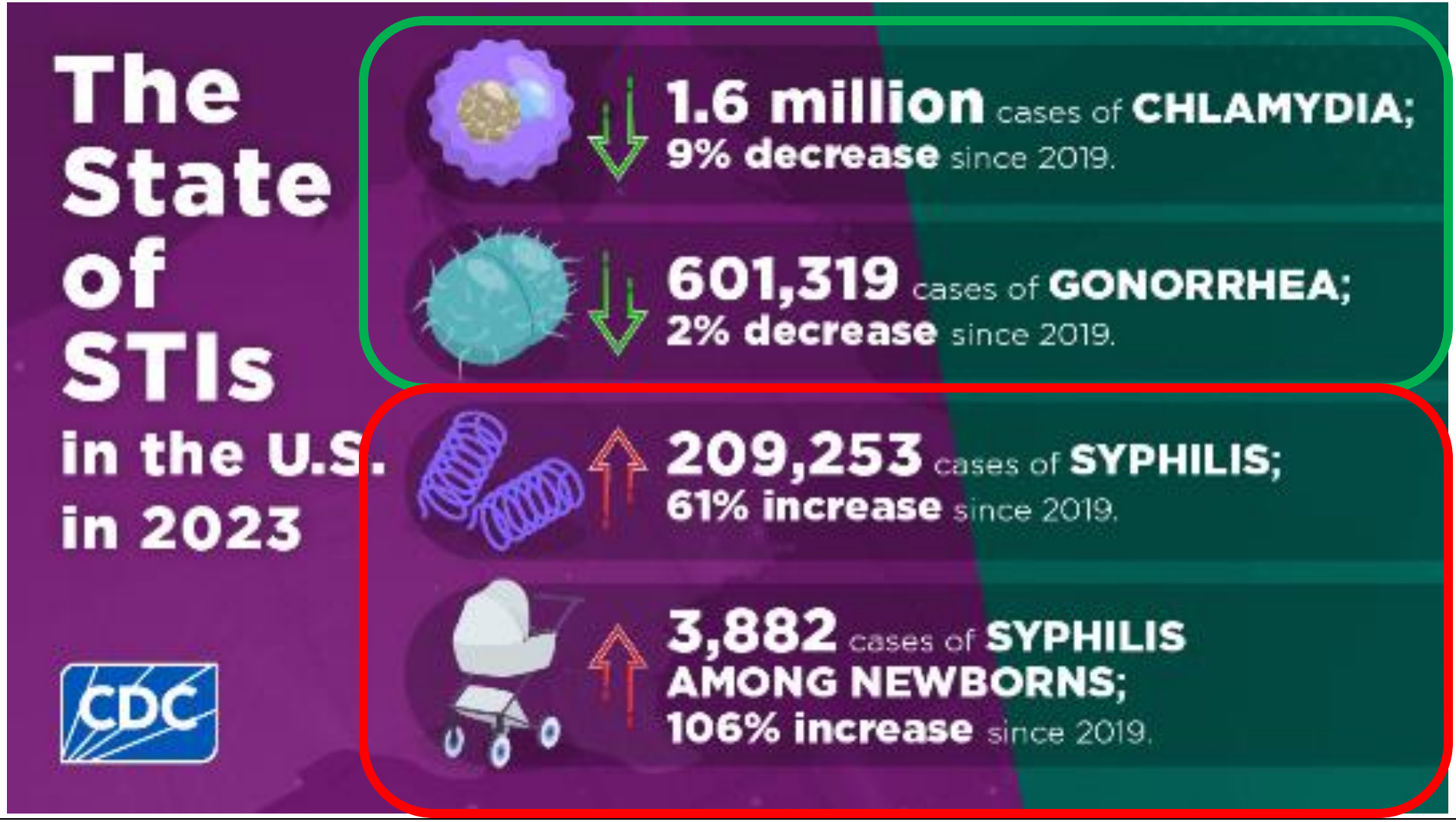
Doxy PEP – The Latest Thing in STIs



- CDC guideline in June 2024
- MSM with bacterial STI in last 12 months
- Doxycycline 200 mg within 72 hours after condomless sex (preferably <24 hours)
- Max dose 200 mg q 24 hours
- Syphilis and chlamydia by >80%, gonorrhea by variable (0-50%)
- Trial in women failed to show efficacy → adherence
- No trials yet in people <18 (ATN 166 in progress)
- Some have advocated for shared decision making in groups not proven (women, adolescents)

- Bachmann LH, Barbee LA, Chan P, et al. CDC Clinical Guidelines on the Use of Doxycycline Postexposure Prophylaxis for Bacterial Sexually Transmitted Infection Prevention, United States, 2024. MMWR Recomm Rep 2024;73(No. RR-2):1–8
- Hazra A et al. Filling in the Gaps: Updates on Doxycycline Prophylaxis for Bacterial Sexually Transmitted Infections, *Clinical Infectious Diseases*, 2024;, ciae062
- Image courtesy of CDC

Bacterial STIs in 2023 – Bad News



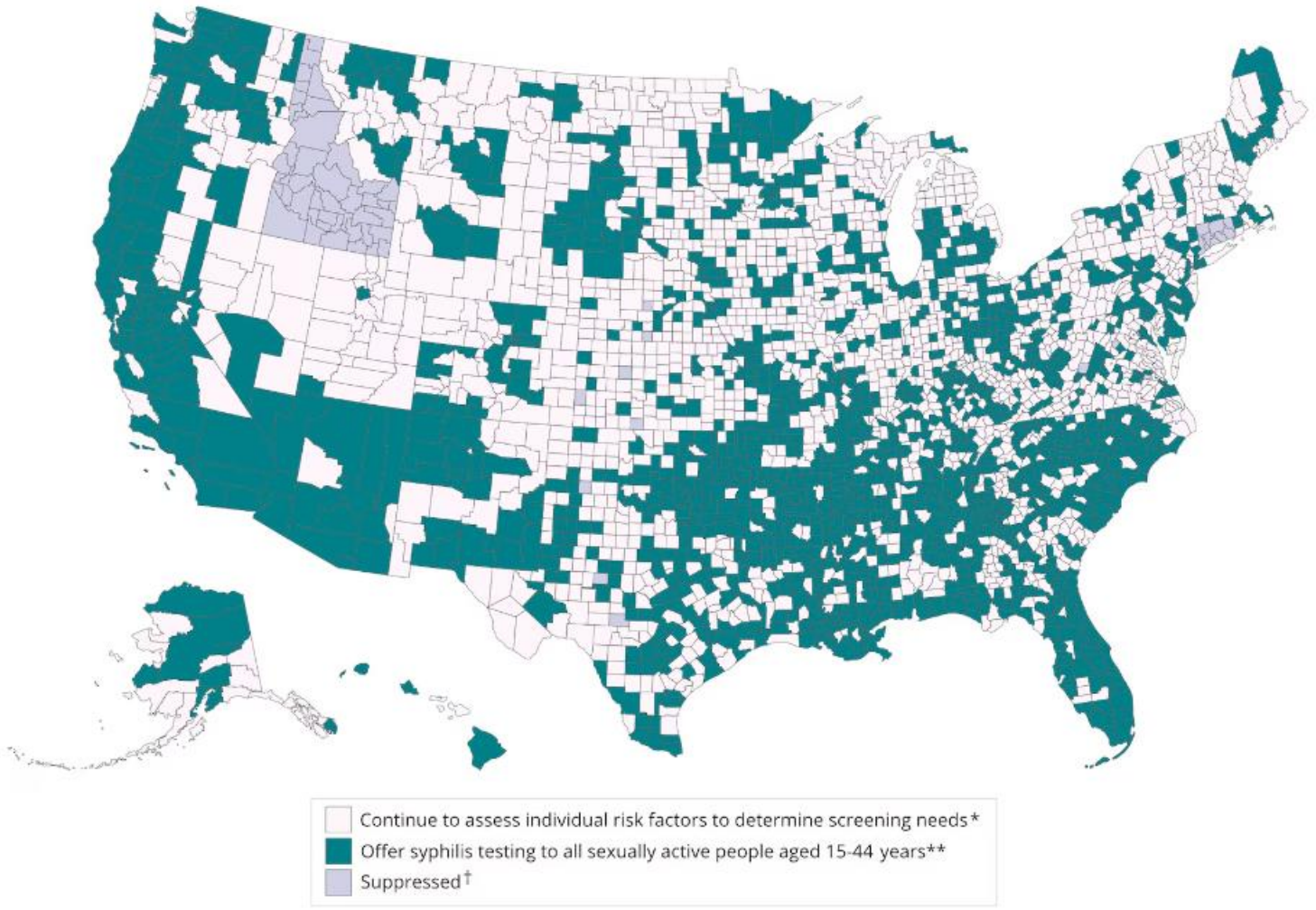
General Screening for Syphilis

- What is increased risk? Some behavioral categories but now specifically by prevalence in the community

Population	Recommendations
Men who have sex with men (MSM)	• At least annually if sexually active • Every 3-6 months based if increased risk*
Patients taking PrEP	• At initiation and every 3-6 months if increased risk*
People with HIV	• At diagnosis and at least annually if sexually active, and more frequently depending on individual risk and local epidemiology*
Non-pregnant women and Non-MSM men	• No national recommendation for **routine** screening • Screen asymptomatic adults at increased risk
Pregnant patients	• First prenatal encounter plus third trimester (28 weeks) and at delivery if increased risk or in a community with increased prevalence***

Workowski KA, Bachmann LH, Chan PA, et al. Sexually Transmitted Infections Treatment Guidelines, 2021. MMWR Recomm Rep. 2021;70(4):1-187. Published 2021 Jul 23. doi:10.15585/mmwr.rr7004a1

Syphilis rates are high (almost) everywhere

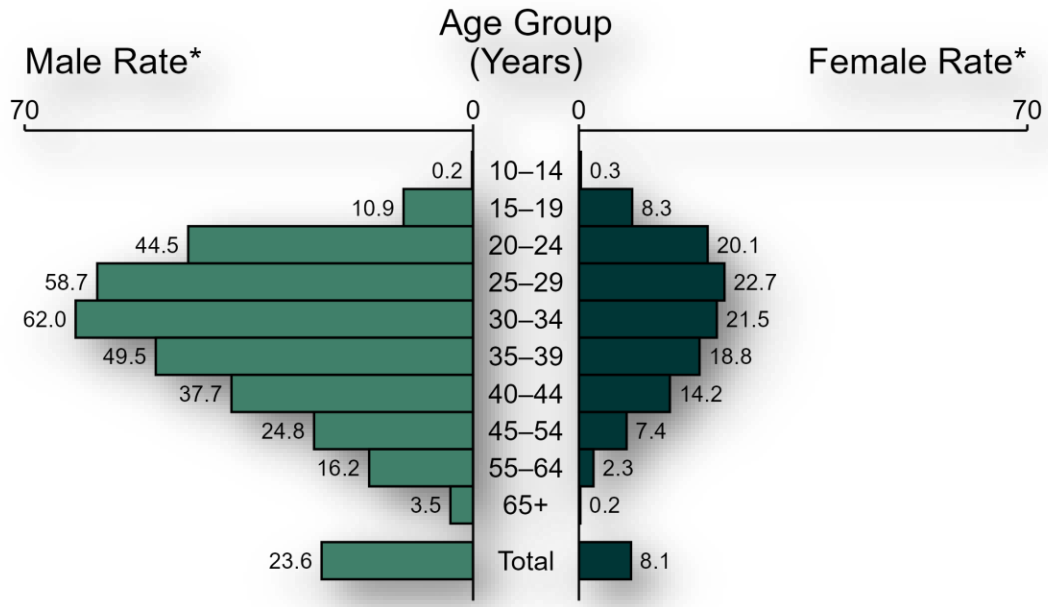


- Counties with syphilis rates >4.6 per 100,000 among females 15-44
- **72%** of the US population

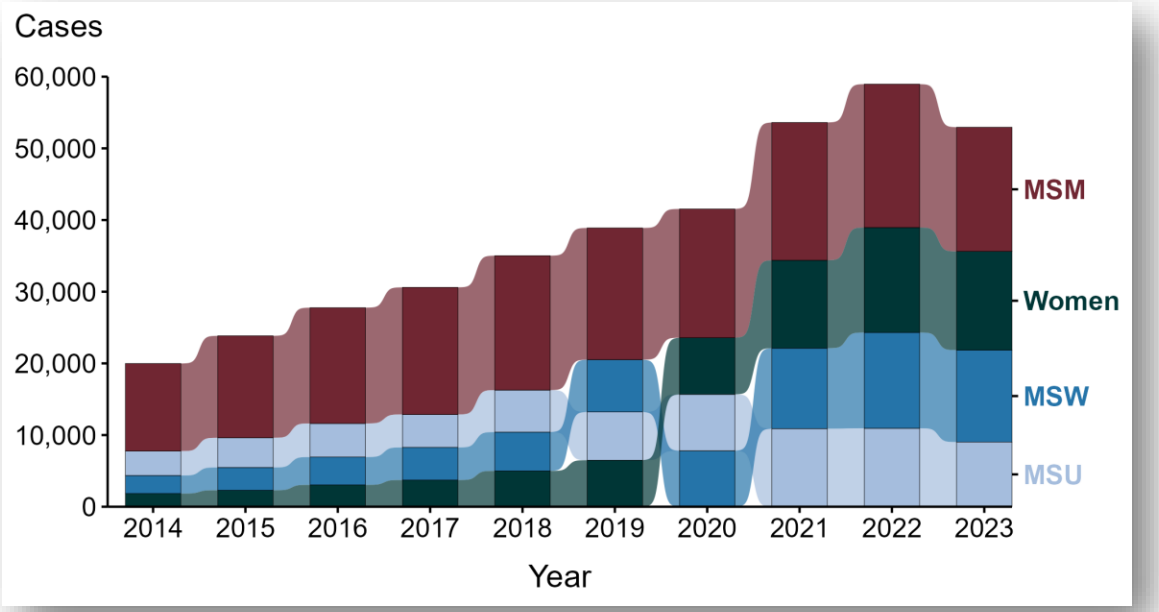
- McDonald R et al. *Vital Signs*: Missed Opportunities for Preventing Congenital Syphilis — United States, 2022. MMWR Morb Mortal Wkly Rep 2023;72:1269–1274

Syphilis Cases Are Not Distributed Equally

Primary and Secondary Syphilis — Rates of Reported Cases by Age Group and Sex, United States, 2023

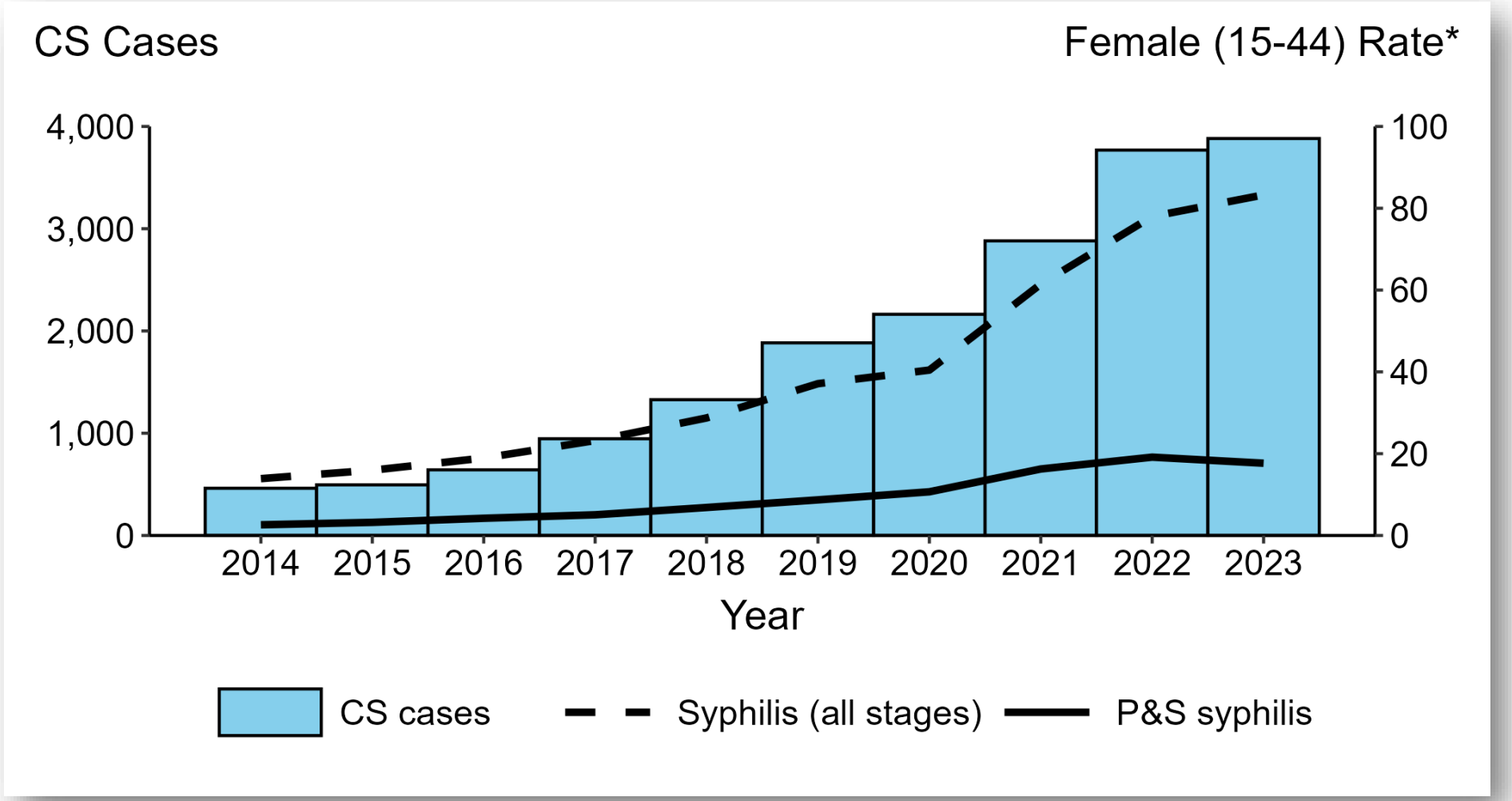


Primary and Secondary Syphilis — Reported Cases by Sex and Sex of Sex Partners and Year, United States, 2014–2023



- https://www.cdc.gov/sti-statistics/annual/slides.html

Female and Congenital Cases Are Rising



- https://www.cdc.gov/sti-statistics/annual/slides.html

Congenital Syphilis?

Increased Risk of Congenital Infection

- Early-stage syphilis
- Maternal infection late in pregnancy
- **Failure to adequately test and treat maternal infection**

Transplacental transmission

- 9th to 10th week of gestation
- Any stage of disease
- Fetal abnormalities worse after 20 weeks gestation

Adverse outcomes

- **Congenital infection**
- Miscarriage
- Stillbirth*
- Pre-term birth
- Impaired fetal growth
- Neonatal mortality

- Harter C, Benirschke K. Fetal syphilis in the first trimester. Am J Obstet Gynecol. 1976 Apr 1;124(7):705-11. doi: 10.1016/s0002-9378(16)33340-3. PMID: 56895.
- Rac MW, Revell PA, Eppes CS. Syphilis during pregnancy: a preventable threat to maternal-fetal health. Am J Obstet Gynecol. 2017 Apr;216(4):352-363. doi: 10.1016/j.ajog.2016.11.1052. Epub 2016 Dec 9. PMID: 27956203.

Understanding Congenital Syphilis

Diagnosing Syphilis

1. Identify syphilis in the mother
2. Determinate if maternal treatment was adequate
3. Look for the presence of clinical, laboratory, or radiographic evidence of syphilis in the neonate
4. Compare maternal and neonatal non-treponemal serologic titers

Serologic Testing

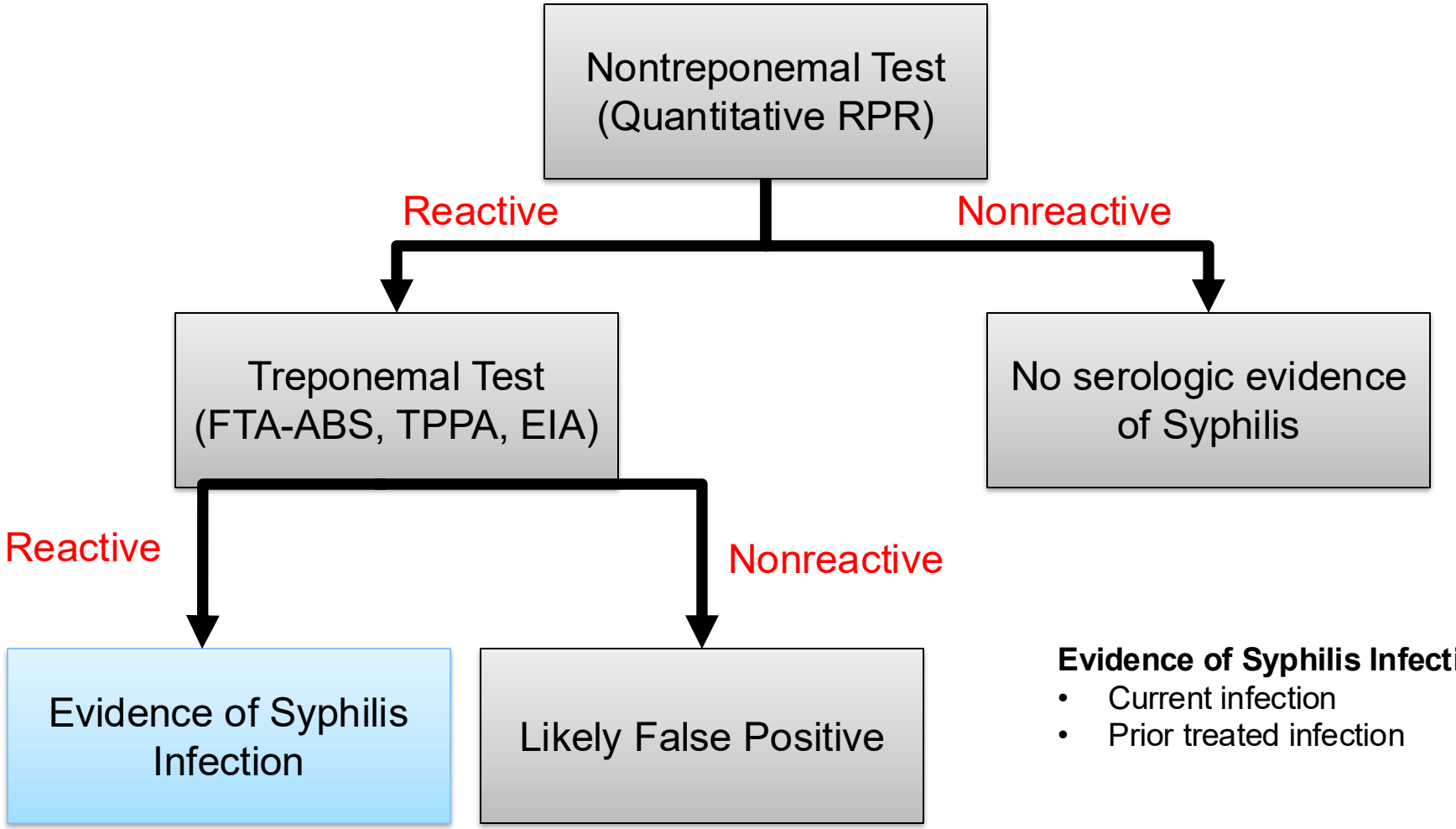
Non-treponemal (lipoidal antigen) tests	Treponemal tests
Test serum reactivity (presence of antibodies) to cardiolipin-cholesterol-lecithin	Test serum reactivity against T. pallidum-specific antigens
Antigen response is due both directly to bacteria and host tissue damage	More specific than non-treponemal tests
Up to 11% of positive tests in one series not due to T pallidum	Often remain positive for life
Degree of reactivity changes over disease course/after treatment	Generally automated
Generally manual	

RPR (Rapid Plasma Reagin);
VDRL (Venereal disease research lab)

EIA (Enzyme Immunoassay); CIA (chemiluminescence assay)
TPPA (Treponema pallidum particle agglutination) ;
FTA (Fluorescent treponemal antibody)

- Papp JR, Park IU, Fakile Y, Pereira L, Pillay A, Bolan GA. CDC Laboratory Recommendations for Syphilis Testing, United States, 2024. MMWR Recomm Rep 2024;73(No. RR-1):1–32..

Syphilis – Traditional Algorithm

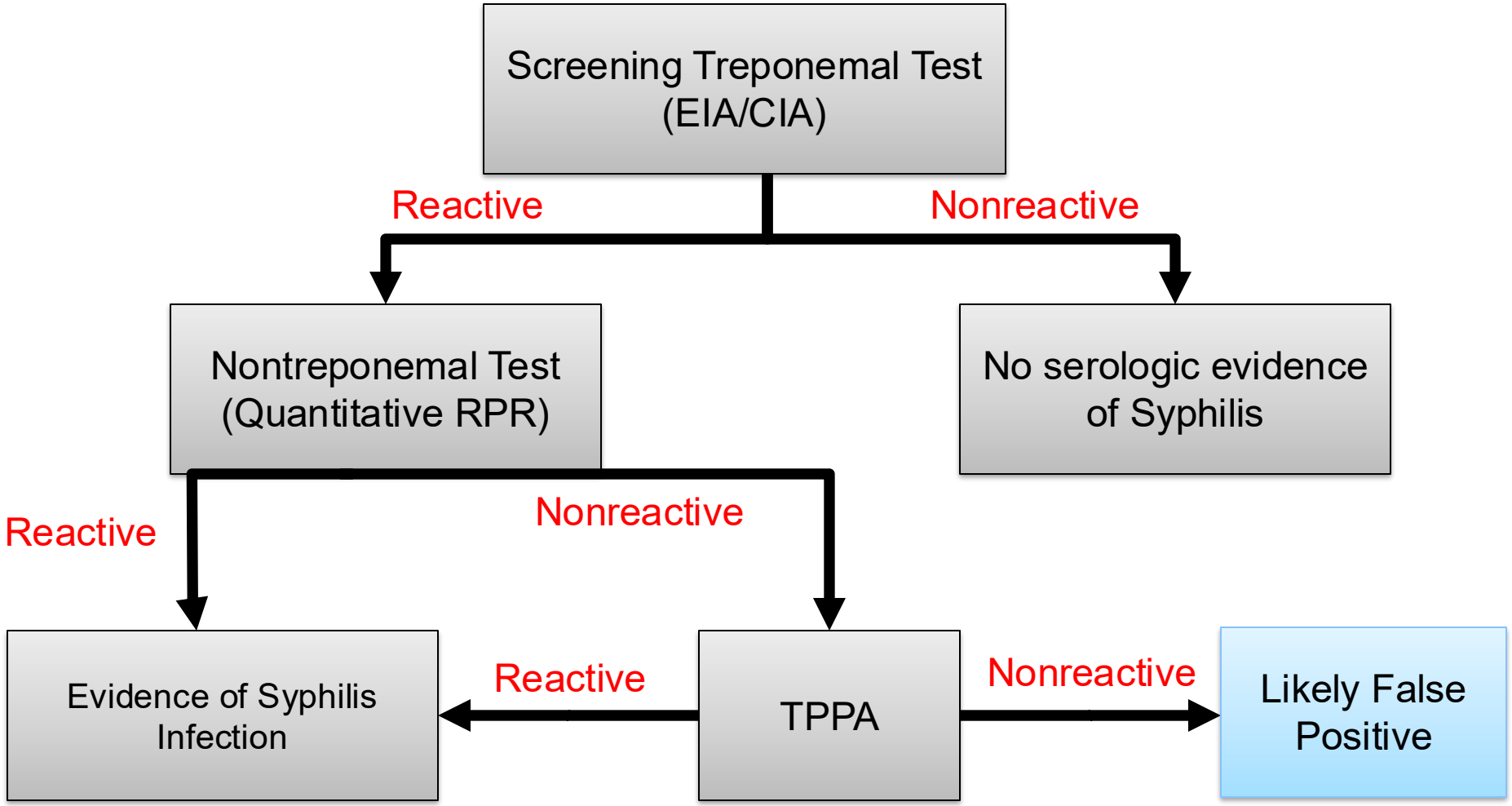


Evidence of Syphilis Infection:

- Current infection
- Prior treated infection

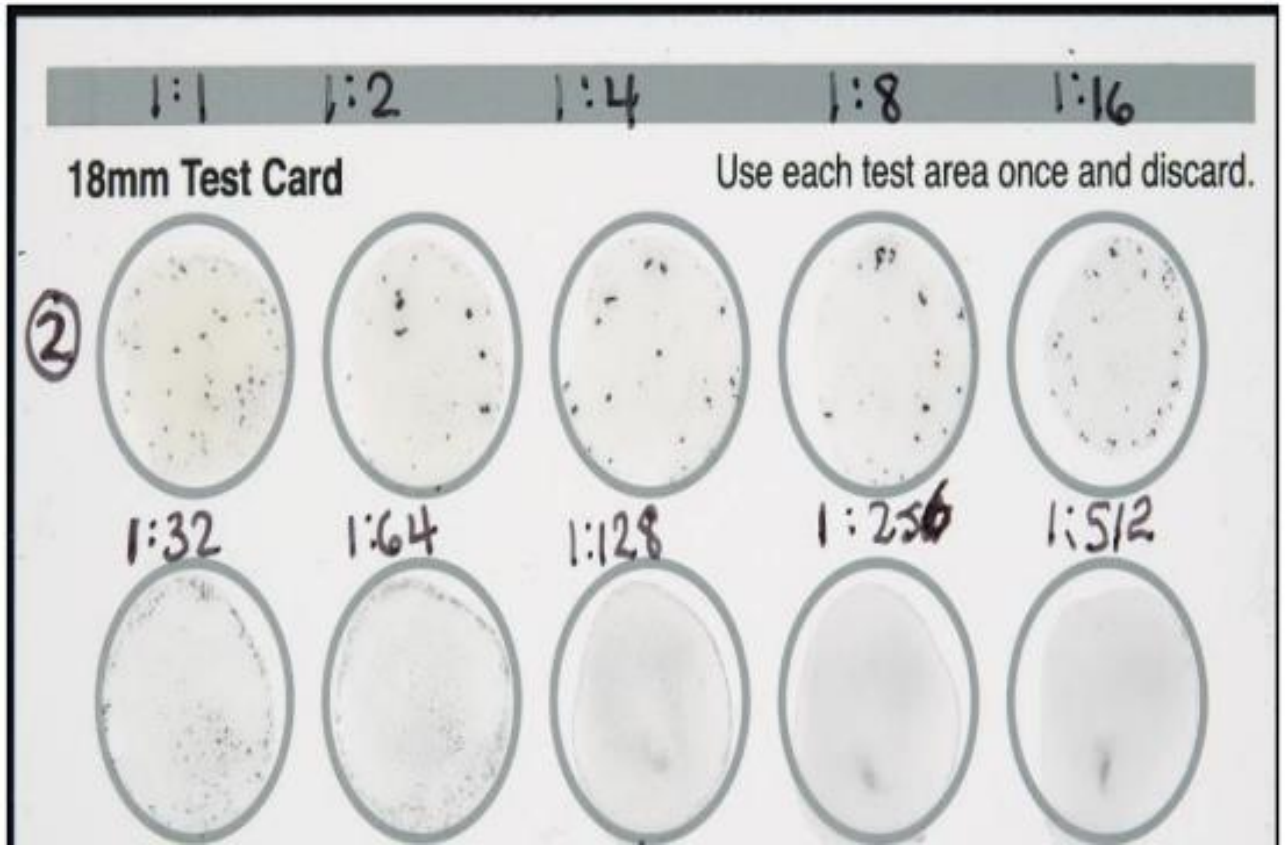
- New York City Department of Health and Mental Hygiene, and the New York City STD Prevention Training Center. The Diagnosis and Management of Syphilis: An Update and Review. March 2019. A PDF version is available at www.nycptc.org.

Syphilis – Reverse Algorithm



- New York City Department of Health and Mental Hygiene, and the New York City STD Prevention Training Center. The Diagnosis and Management of Syphilis: An Update and Review. March 2019. A PDF version is available at www.nycptc.org.

What Do Titers Mean?



1:2048
1: 1024
1:512
1: 256
1:128
1: 64
1:32
1: 16
1:8
1: 4
1:2
1: 1
Nonreactive

- https://www.cdc.gov/nchs/data/nhanes/nhanes_01_02/l36_b_met_syphillis_rapid_plasma_reagin.pdf

Syphilis – Interpreting RPR Titers

2 dilution change = 4 x increase or decrease in titers

1:2048

1: 1024

1:512

1: 256

1:128

1: 64

1:32

1: 16

1:8

1: 4

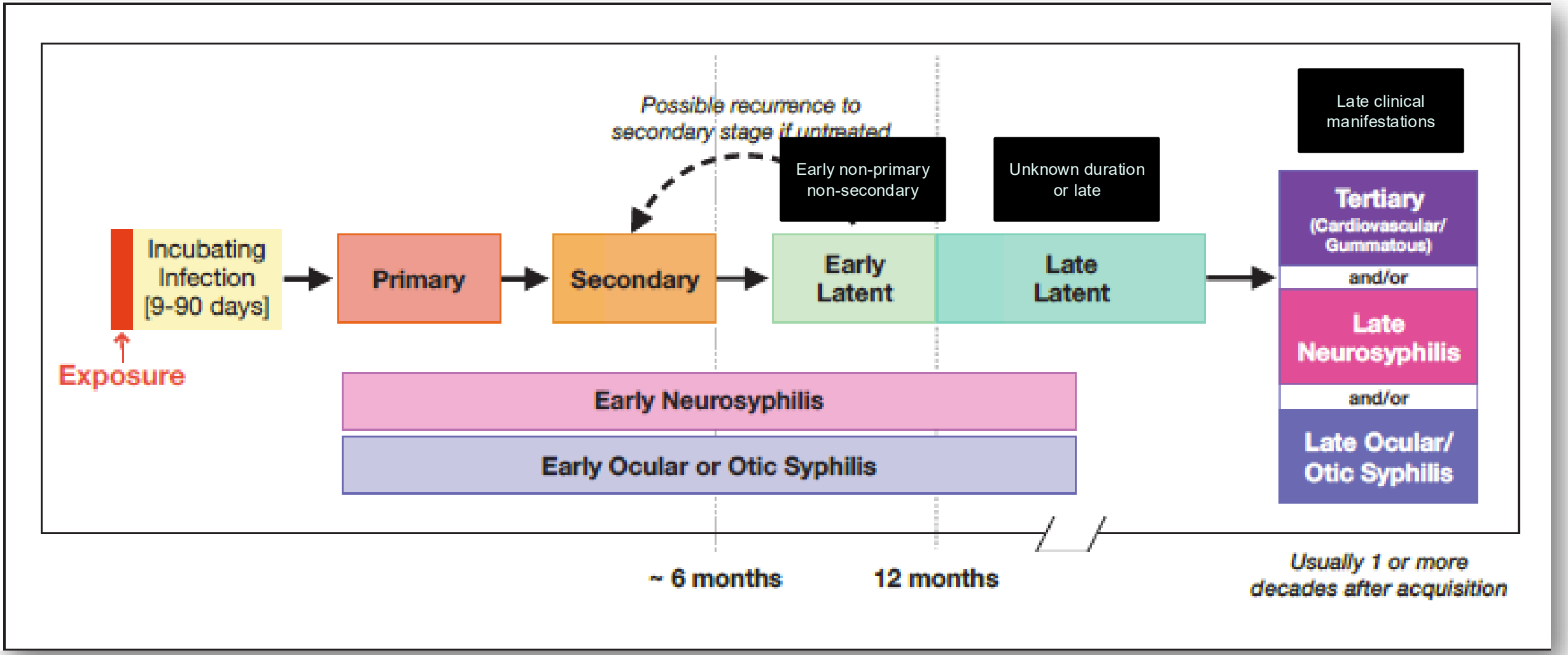
1:2

1: 1

Nonreactive

1 dilution change = 2 x increase or decrease in titers

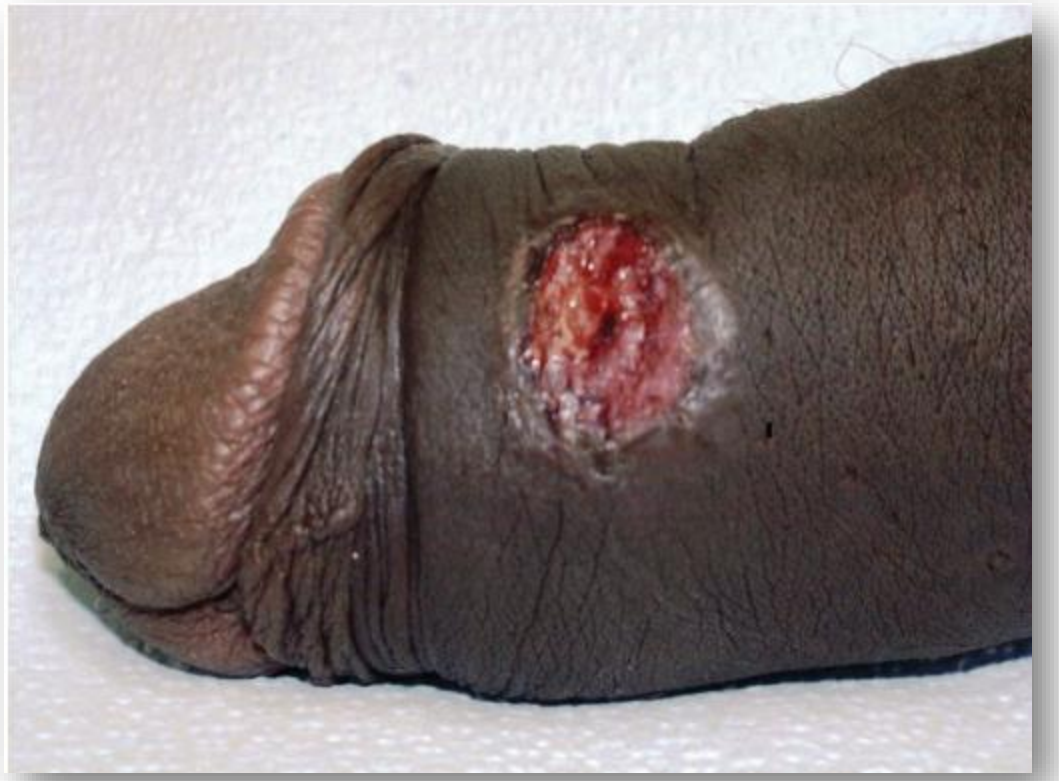
Syphilis – Natural History



- New York City Department of Health and Mental Hygiene, and the New York City STD Prevention Training Center. The Diagnosis and Management of Syphilis: An Update and Review. March 2019. A PDF version is available at www.nycptc.org.

Syphilis – Primary

- Primary Syphilis
  - **Local**
  - **One or more ulcers (chancres) at inoculation site**
  - Painless
    - May go unnoticed
    - Often associated with regional or bilateral lymphadenopathy
  - Occur 10 – 90 days after infection
  - Highly infectious
  - Resolves in 1-6 weeks



Other ulcerative diseases....

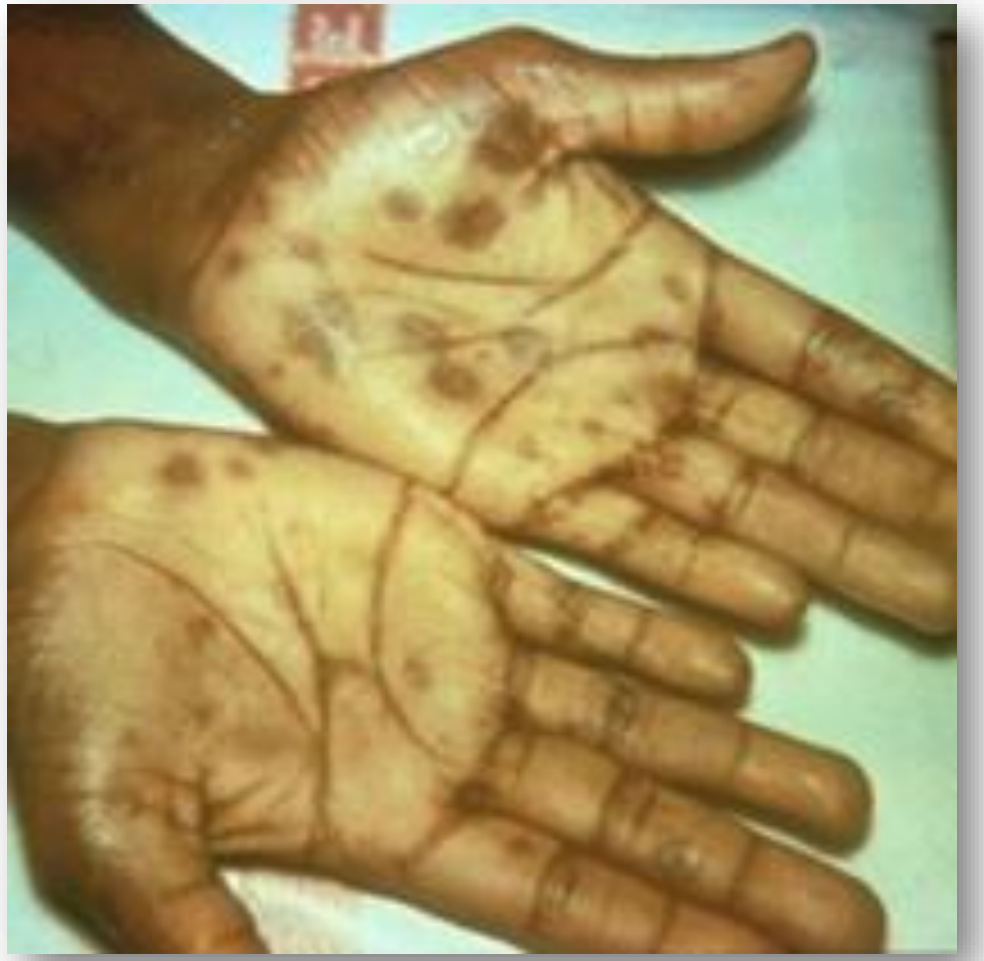
Not so new but emerging … HSV 1 as an STI

- **Why is there a change?**
  - Increase in ano-genital HSV-1 (especially in MSM and young women)
  - Prognosis related to type of HSV present and location
- **New recommendations**
  - Identifying the type of HSV (1 or 2)
  - Use of 2- step, serological testing for HSV including western blot

    Type specific serologic tests: HSV-1 and HSV-2
    - Glycoprotein-G-based IgG EIAs [e.g., HerpeSelect HSV-2 EIA]
    - Issues is specificity: 57% at low index values (e.g. <3.0)
    - Improved specificity with confirmatory testing using western blot or Biokit
  - Never send HSV IgM
- **History and Counseling: pregnant mothers**
  - Discuss prodromal symptoms (e.g., pain or burning at site before appearance of lesion)
  - Examine thoroughly for herpetic lesions at time of delivery and prenatal visits
  - Consideration of vaginal vs c-section based on both prodrome and lesions

Back to Secondary Syphilis

- Secondary Syphilis
  - **Bacterial Dissemination**
  - **Dermatologic manifestations**
  - Systemic symptoms
    - Low-grade fever
    - Fatigue
    - Painless generalized adenopathy
  - Usually, 4-8 weeks after infection
    - Resolves in 6 weeks
    - Highly infectious



- https://www.cdc.gov/std/syphilis/images.htm
- https://www.cdc.gov/std/syphilis/stdfact-syphilis.htm

Syphilis – Latent

Latent Phase	Definition
Syphilis, early non-primary non-secondary	Duration of infection <= 1 year
Syphilis, unknown duration or late	Duration of infection >1 year
	Unknown duration of infection

*****Latent syphilis requires no exam findings of primary, secondary or tertiary syphilis**

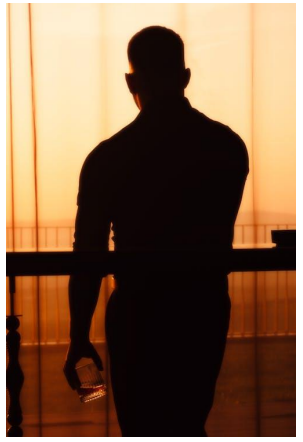
- Early latent disease is differentiated due to the risk of relapsed or intermittent bacteremia
  - This can occur in up to 24% of patients
  - Manifests as symptoms of secondary syphilis including CNS disease
- Risk for infecting partners remains
- Risk of relapsed symptoms and infectiousness decreases after 1 year

Syphilis Treatment – Early (Uncomplicated)

Stage	Treatment	Alternative
Incubation	Benzathine penicillin G 2.4 million units intramuscular injection once	Doxycycline 100mg twice daily for 14 days
Primary		
Secondary		
Syphilis, early non-primary non-secondary		

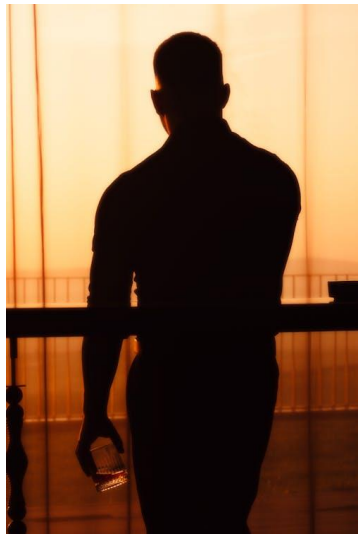
Incubation

Primary



Secondary/ early latent

Syphilis Treatment – Otic/Ocular/CNS



Neurosyphilis, Ocular, or Otic Syphilis Tertiary	Aqueous crystalline penicillin G 18–24 million units per day, administered as 3–4 million units **intravenously** every 4 hours, or by continuous infusion, for 10–14 days	Procaine penicillin G 2.4 million units IM once daily *PLUS* Probenecid 500mg 4 times daily for 10–14 days

- Workowski KA, Bachmann LH, Chan PA, et al. Sexually Transmitted Infections Treatment Guidelines, 2021. MMWR Recomm Rep. 2021;70(4):1-187. Published 2021 Jul 23. doi:10.15585/mmwr.rr7004a1

Syphilis Treatment – Late Latent

Syphilis, unknown duration or late	**Benzathine penicillin G 2.4 million units intramuscular injection 3 times at one week intervals**	**Doxycycline 100mg twice daily for 28 days**

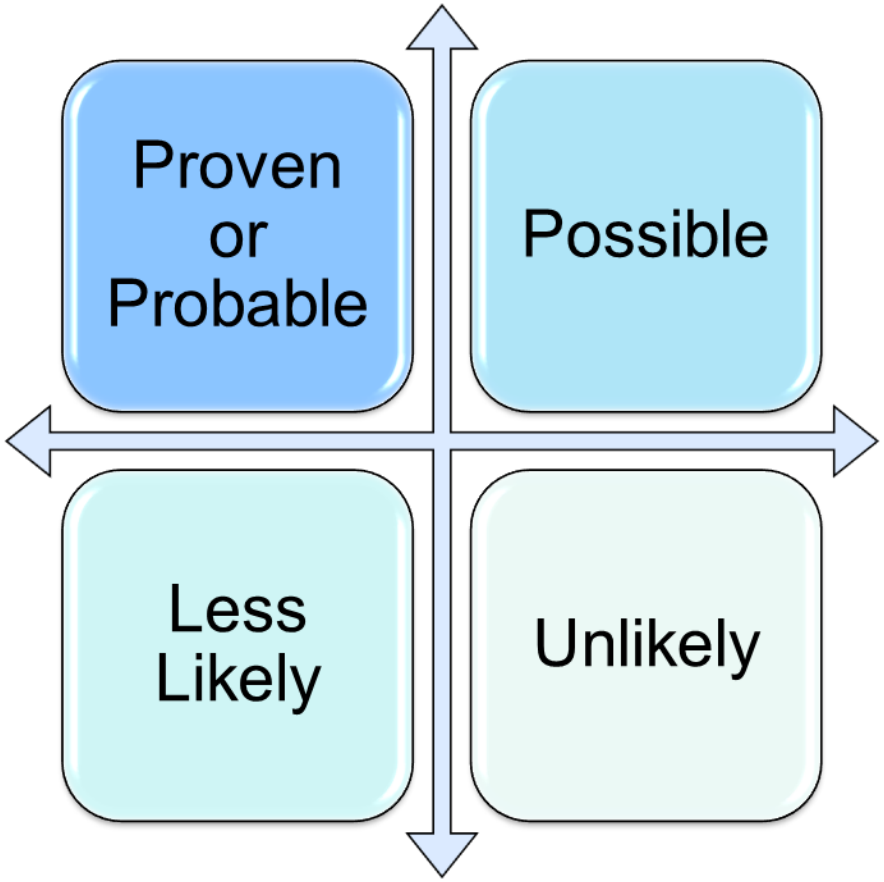
Pregnant patients dosing MUST be weekly 7-9 days due to risk on congenital syphilis

What about congenital syphilis?

Put It All Together

1. Identification of syphilis in the mother
2. Adequacy of maternal treatment
3. Presence of clinical, laboratory, or radiographic evidence of syphilis in the neonate
4. Comparison of maternal and neonatal non-treponemal serologic titers

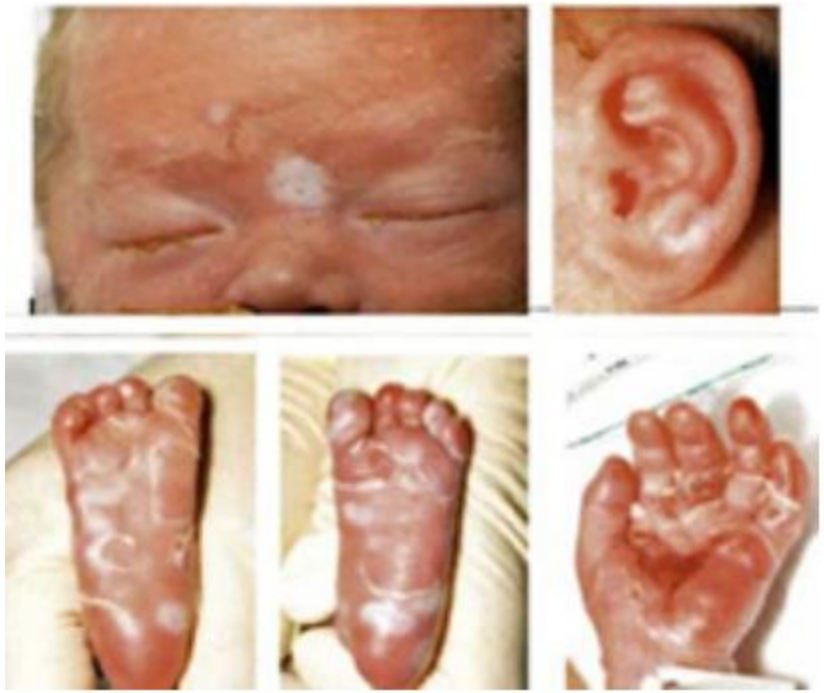
4 Scenarios

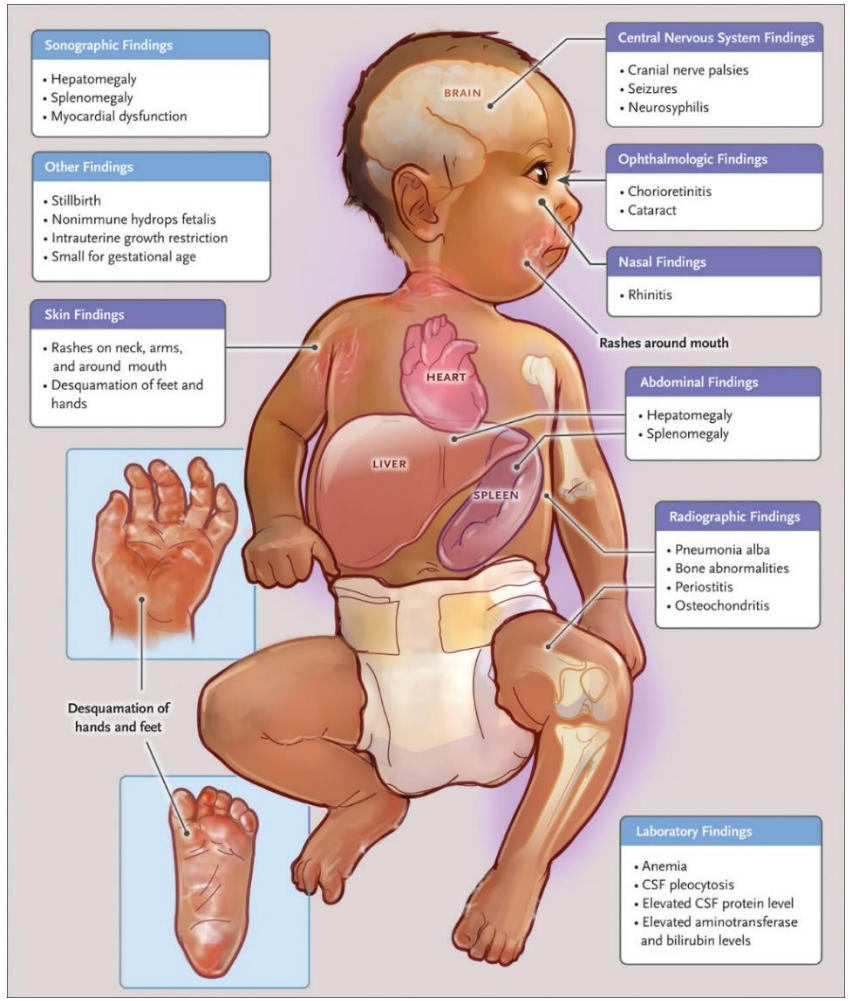


- Workowski KA. Centers for Disease Control and Prevention Sexually Transmitted Diseases Treatment Guidelines. Clin Infect Dis. 2015 Dec 15;61 Suppl 8:S759-62. doi: 10.1093/cid/civ771. PMID: 26602614.

Skin manifestations of congenital syphilis

Typical Rash



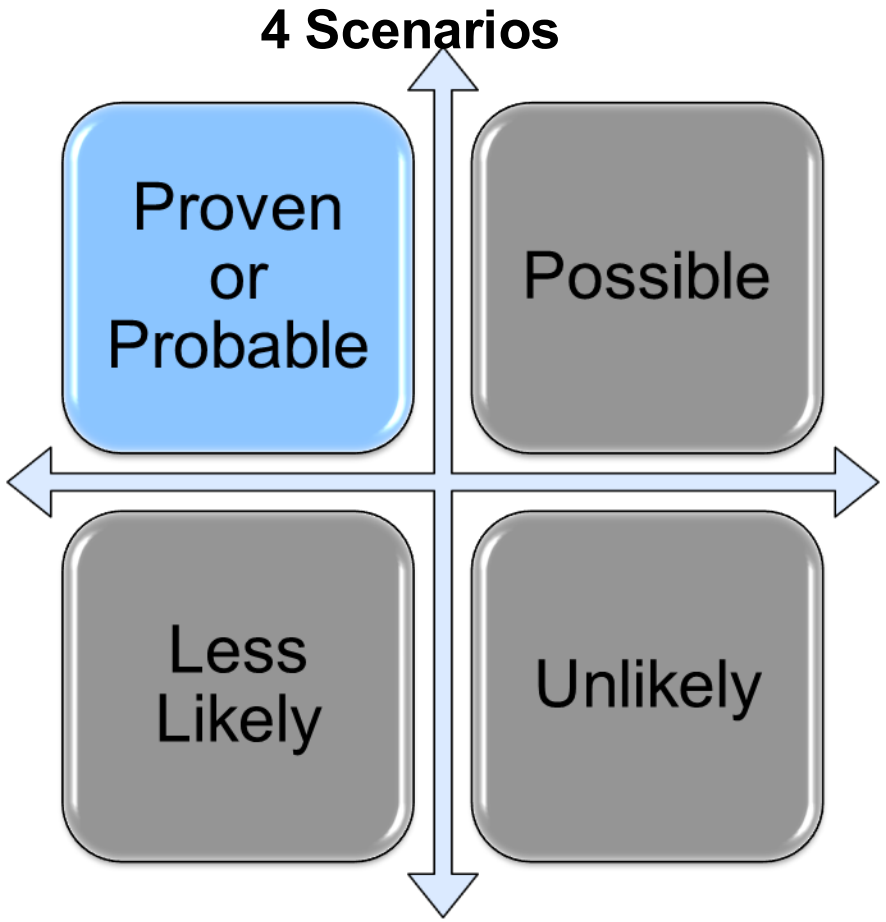


- https://www.nejm.org/doi/full/10.1056/NEJMra2202762

Put It All Together

Proven or Highly Probable Criteria

- A physical examination that is consistent with congenital syphilis
  - **OR**
- Serum quantitative nontreponemal serologic titer >= 4x the maternal titer
  - **OR**
- Evidence of direct detection of T. Pallidum



- Workowski KA. Centers for Disease Control and Prevention Sexually Transmitted Diseases Treatment Guidelines. Clin Infect Dis. 2015 Dec 15;61 Suppl 8:S759-62. doi: 10.1093/cid/civ771. PMID: 26602614.

Follow-Up

Neonates With Positive Non-Treponemal Test

- Repeat every 3 months
- In patients **not treated** at birth
  - Should be non-reactive by 6 months
  - If reactive, consider treatment
- In patients **treated** at birth
  - Should be non-reactive by 12 months
  - If reactive consider LP and 10-day course of IV penicillin

Neonates With a Negative Non-Treponemal Test

- Mothers is positive at birth
  - Repeat non-treponemal test at 3 months (incubation period)

Management: STI Follow Up

Syphilis	**GC/CT**	Pharyngeal CT/GC
Early: RPR at 6 & 12 mo Late latent: 6, 12, 24 mo 4x RPR titer decrease	TOC 7-14 days if using alternative regimen used Re-test 3 months or next visit for all	Test of cure (NAAT) in 14 days

GENERAL RECOMMENDATIONS FOR STIs

- Abstain from sex for 7 days after treatment (NG, CT, and syphilis)
- Encourage partner notification (tellyourpartner.org)
  Presumptive tx: prior 60 days for GC/CT, 90 days for P&S syphilis
- Consider HIV PrEP for everyone diagnosed with a bacterial STI

STI Guidelines Summary

- **Patients you see in clinic need sexual health prevention services**
  - Take a sexual history
  - Offer universal STI and HIV testing
  - Educate all patients about prevention options
- **Testing**
  - Extra-genital gonorrhea/chlamydia testing emphasized in updated guidelines
- **Treatment**
  - Gonorrhea - Ceftriaxone 500mg (weight-based dosing)
  - Chlamydia - Doxycycline 100mg Q12 x 7 days preferred
- **Prevention**
  - More liberal expedited partner therapy (EPT) supported (MSM)
  - PEP and PrEP emphasized
  - Doxy PEP for STIs

STI Care in a Rural Setting: reducing disparities

- Educate providers on STIs
  - Understanding screening, treatment and prevention
  - Reduce stigma of STIs and assure confidentiality
- Provide access to care
  - Home testing
  - Self testing (clinic or at home)
  - Walk-in services (expedited testing services)
  - Telehealth
- Encourage testing in various population and various sites
  - Substance users
  - Women
  - Extragenital testing

Consultation resources

- STI Clinical Consultation Network
  - CDC supported service w/ free clinical consultations on STI care as well as TA
  - Consults via email, phone, text response as soon as 1 business day
  - https://www.stdccn.org/render/Public
- New York State Clinical Education Initiative (NYSDOH):
  - New York Clinicians only
  - Toll-free specialist advice for sexual health (& HIV, HCV, PEP, PrEP)
  - 1.866.637.2342

NYC STI Prevention Training Center (PTC)

The CDC-funded NYC STD Prevention Training Center at Columbia University provides a continuum of education, resources, consultation and technical assistance to health care providers, and clinical sites. *Region: Ohio, Indiana, Michigan, New York, New Jersey, Puerto Rico & the US Virgin Islands*

https://www.publichealth.columbia.edu/nycptc

NEW YORK CITY STI HIV PREVENTION TRAINING CENTER

NNPTC National Network of STD Clinical Prevention Training Centers

Didactic Presentations

Webinars, conferences, trainings and grand rounds presentations to enhance and build knowledge

Clinical Consultation Warmline

Clinical guidance regarding STD cases; no identifying patient data is submitted

www.stdccn.org

Technical Assistance

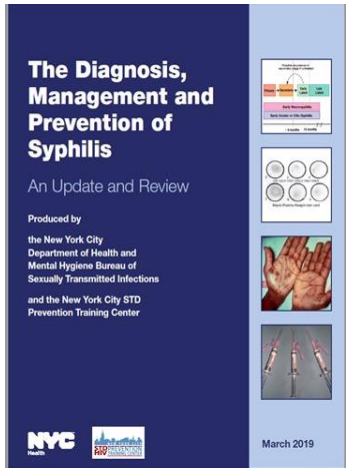
Virtual and on-site technical assistance regarding quality improvement, clinic implementation and best practices around sexual health provision

For more information please contact:
nycptc@cumc.columbia.edu

Resources

Clinical guidance tools regarding the STD treatment guidelines, screening algorithms and knowledge books, such as the **Syphilis Monograph**.

To download a copy please visit:
http://bit.ly/SyphilisMonograph2019PTC



Thank You