SCREENING & TREATMENT OF SEXUALLY TRANSMITTED INFECTIONS

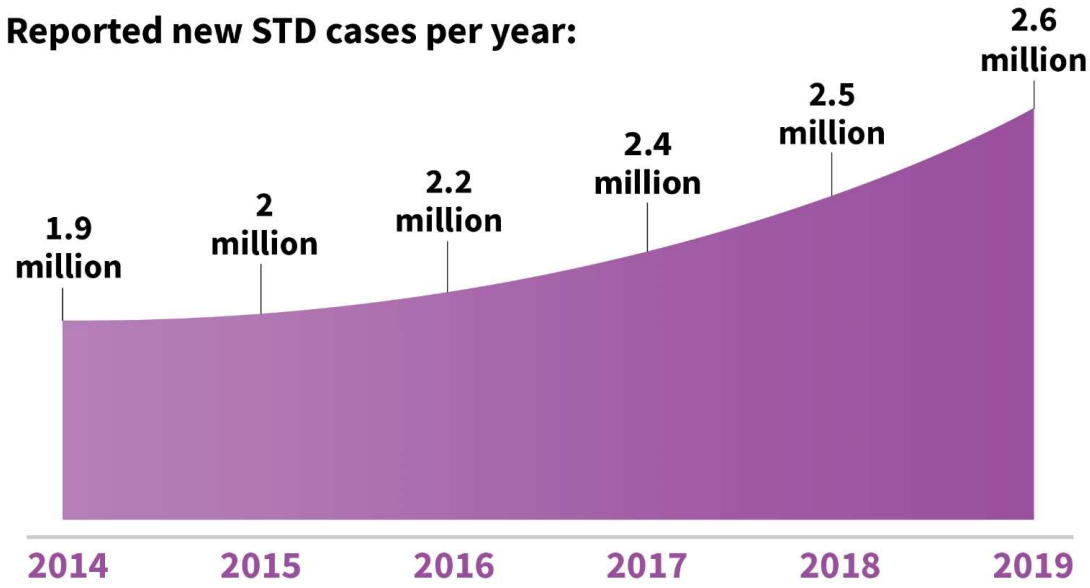
SPEAKER AND OBJECTIVES

Mandy Smith is the Infection Control Officer for Twelve Clans Unity Hospital in Winnebago, NE Winnebago is home to the Winnebago/Ho-Chunk Tribe.

Learning Objectives

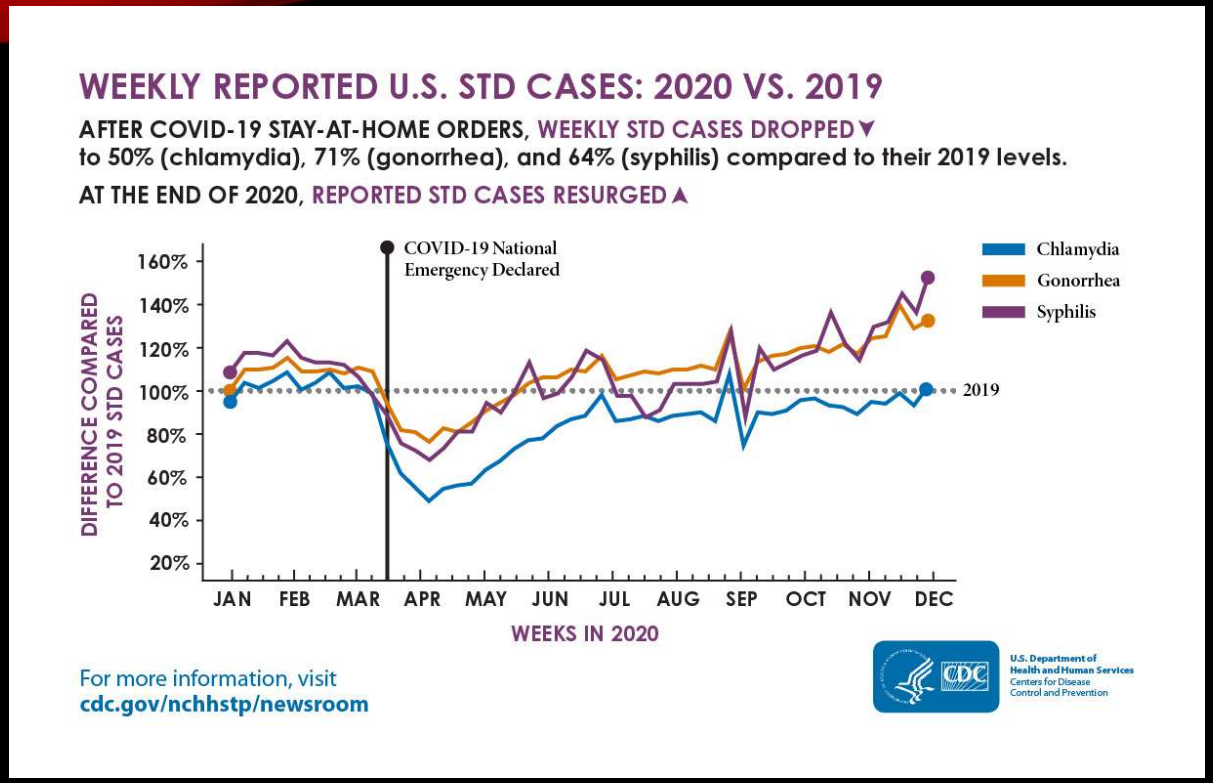
1. Identification of syphilis and other bacterial STI's using symptoms, history and testing.
2. Treatment of chlamydia, gonorrhea and all syphilis stages.
3. Recognizing risk of STI being transferred to a fetus.
4. Be able to identify clinician risks when testing patients for STI.
5. Identify which infection control practices would be utilized to mitigate or eliminate those risks.

6th consecutive year of RECORD-BREAKING STD cases

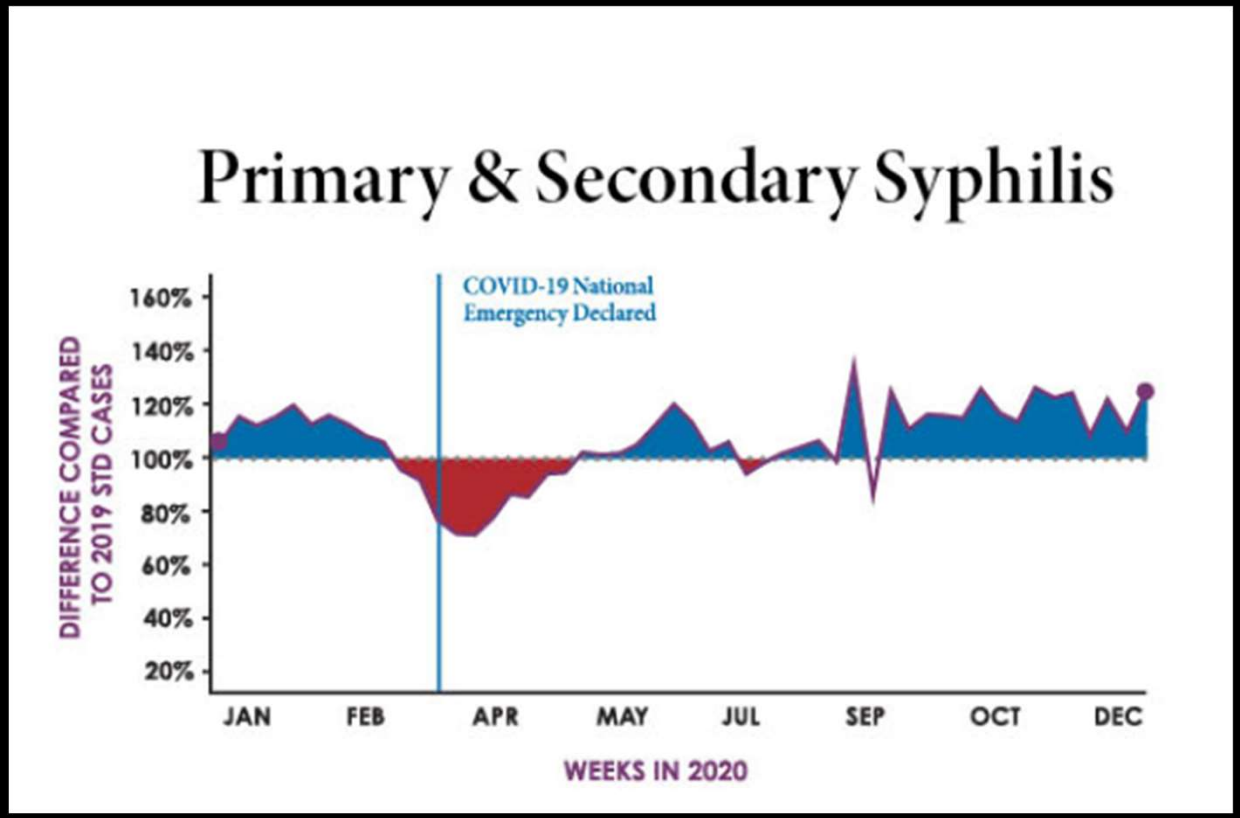


For more information visit ***www.cdc.gov/nchhstp/newsroom***

2020 STI CASES



SYPHILIS


Primary & Secondary Syphilis
COVID-19 National Emergency Declared
DIFFERENCE COMPARED TO 2019 STD CASES
160%
140%
120%
100%
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SYPHILIS INFECTIONS

- Spirochete Infection, Treponema pallidum
- Vertical, Horizontal (sexual) transmission
- Treat with Penicillin
- 4 stages
  - New CDC definitions (2021)

PRIMARY SYPHILIS INFECTION

Incucbation period is 10-90 days

- Chancre
  - 1 (or more) painless ulcers
  - Oral, penile, vulvar, vaginal, and rectal
  - Resolves on own; 4-10 weeks after appearance

Atypical Syphilis lesions: https://dermnetnz.org/topics/syphilis-images

PRIMARY SYPHILIS













- ATYPICAL LESIONS; https://dermnetnz.org/topics/syphilis-images



SECONDARY SYPHILIS

4-10 weeks AFTER chancre resolves

- Localized or diffuse mucocutaneous lesions (Rashes)
  - Non-pruritic maculopapular
  - Papular
  - Pustular lesions
- Lymphadenopathy (generalized)
- Mucous patches in mouth
- Palmar/plantar rash
- Rash on torso
- Condyloma lata
- Alopecia



Palmar/plantar rash







Torso/back rash





Condyloma lata



Alopecia





Mucous patches

1. https://www.cdc.gov/std/syphilis/images.htm
2. https://www.cdc.gov/std/statistics/2019/case-definitions.htm

EARLY (NON-PRIMARY, NON-SECONDARY)

Infection has occurred within the previous 12 months

Syphilis Less than 12 months duration indicated by either:

1. Interval from prior negative test
2. 4 - fold titer increase from previous test
3. Report of symptoms consistent with syphilis within the previous 12 months
4. Sexual contact with a known case or 1st sexual encounter within prior 12 months.

LATE AND TERTIARY

Syphilis of Unknown Duration or Late (Late latent)





- Stage of infection which has occurred >12 months previously

OR

- Case where the is insufficient evidence to conclude that infection was acquired during the previous 12 months
- Gummas

Late Clinical Manifestations/Tertiary Syphilis

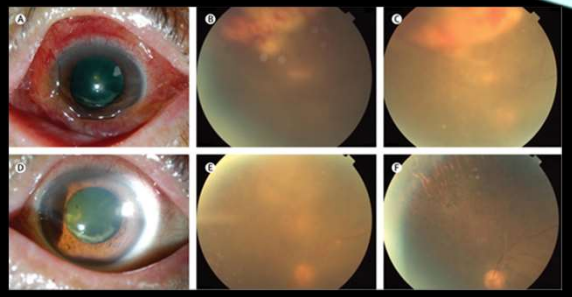
May include inflammatory lesions of:

- Cardiovascular system (aortitis, coronary vessels)
- Skin (gummatous lesions)
- Bone (osteitis)
- Other sites; e.g., upper and lower respiratory tracts, mouth, eye, abdominal organs, reproductive organs, lymph nodes, skeletal muscle
- Neurologic symptoms**



Neurologic Signs/Symptoms

Neurologic manifestations can happen during any stage of infection



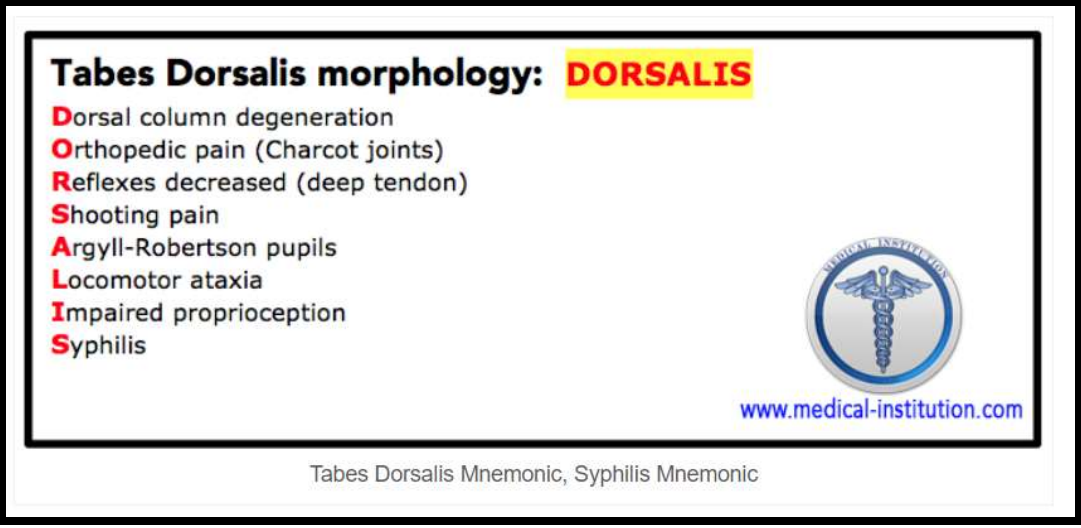
https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(13)70198-1/fulltext

Neurosyphilis:

1. Syphilitic meningitis
2. General paresis
3. Dementia
4. Tabes dorsalis
5. Meningovascular syphilis

Ocular syphilis:

1. Conjunctivitis
2. Uveitis
3. Panuveitis
4. Posterior interstitial keratitis
5. Optic neuropathy
6. Retinal vasculitis



Tabes Dorsalis Mnemonic, Syphilis Mnemonic

Otosyphilis:

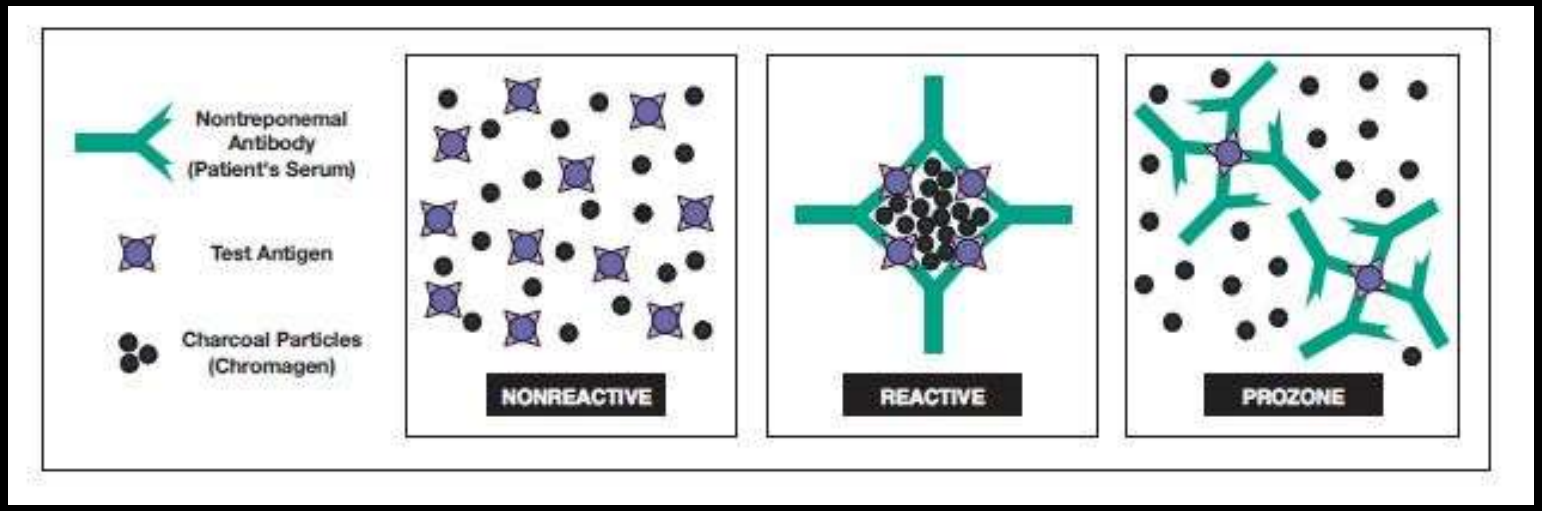
1. Tinnitus
2. Vertigo
3. Sensorineural hearing loss

Localized oto/optic syphilis cases DO NOT necessarily need an LP.

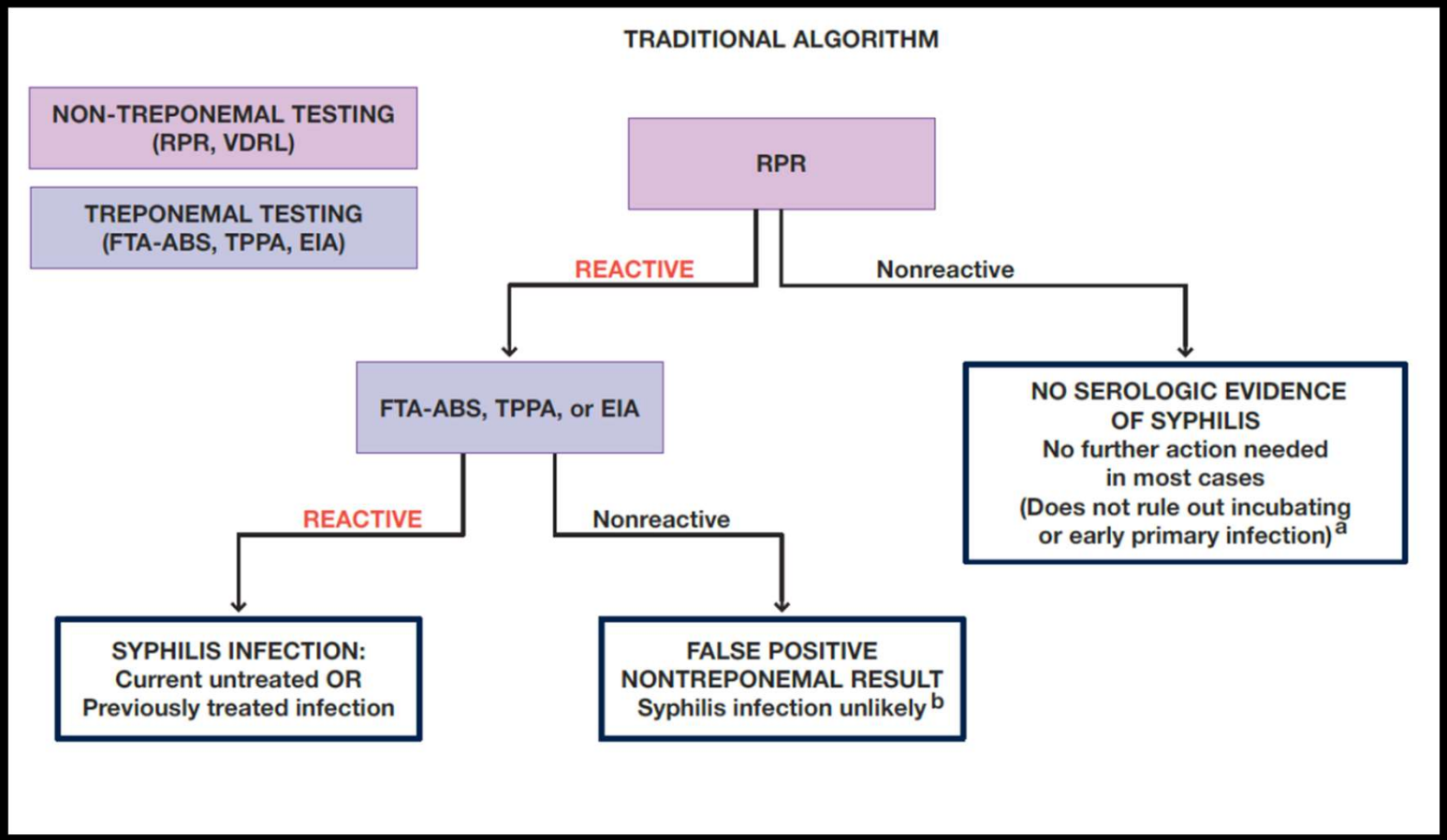
SEROLOGY

RPR or Rapid Plasma Reagin test

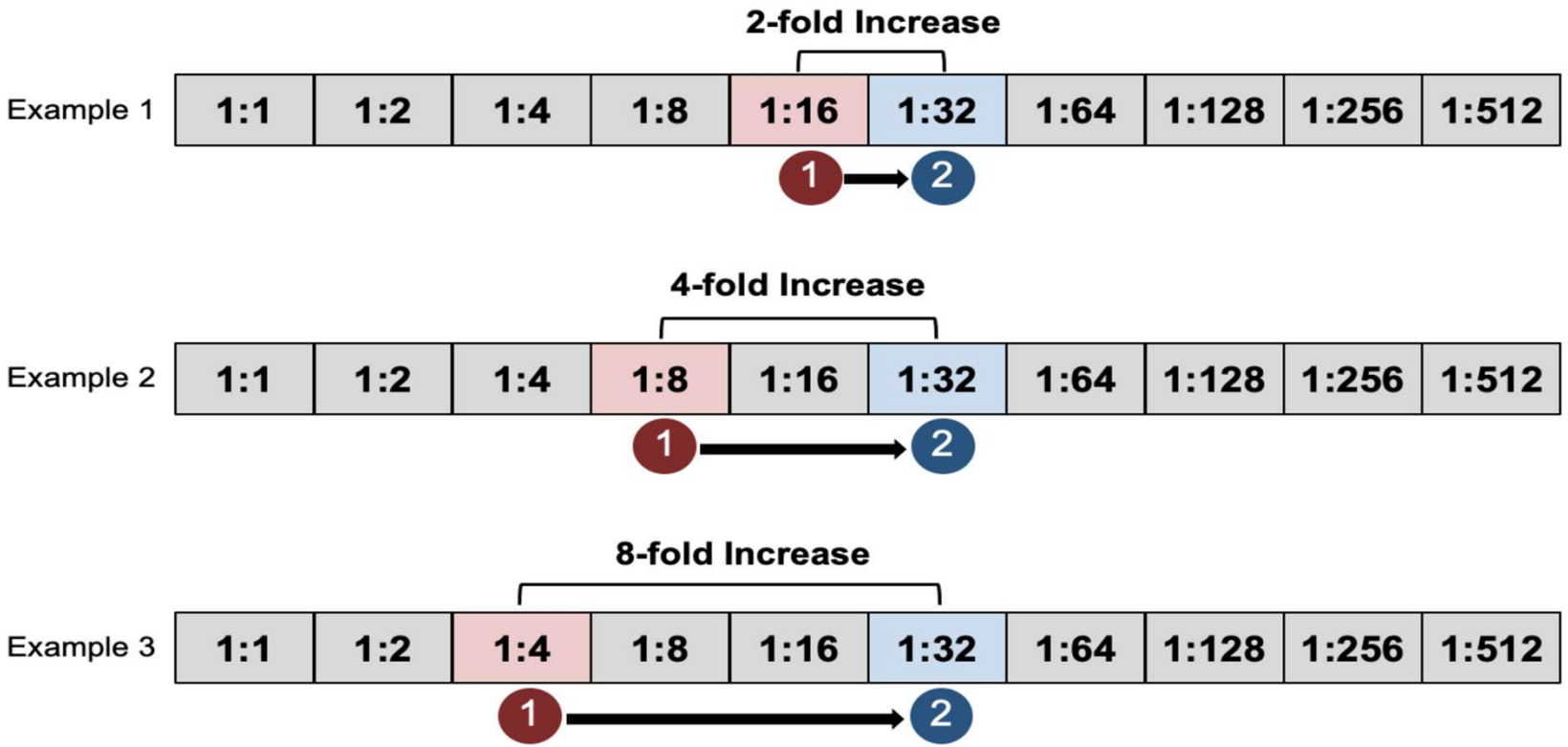
- Short turnaround time, few false positives
- Gives a titer; eliminates need to draw more labs before treating
- Needs to be done on the day of treatment initiation



SEROLOGY OF SYPHILIS



Serology of Surveillance

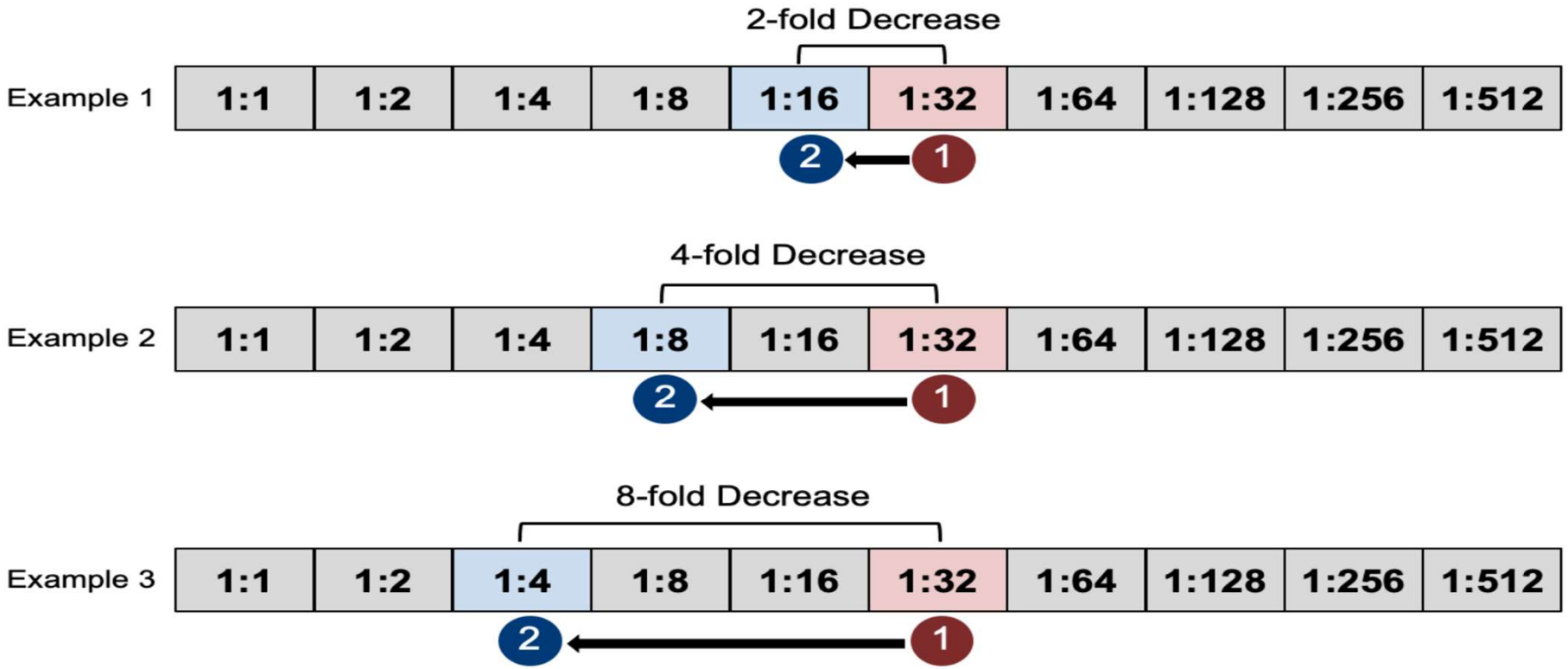


TREATMENT OF SYPHILIS

Stage	Treatment
Primary	2.4 million units Benzathine PCN IM x 1 PCN Allergy- Doxy 100mg bid x 14 days ★
Secondary	
Early Latent* (Early nonprimary nonsecondary)	
Late Latent or unknown duration	2.4 million units Benzathine PCN IM q week for 3 weeks PCN Allergy- Doxy 100mg bid x 28 days ★

★ Doxycycline should never be given to a pregnant patient.

Expected Reduction of Titer



JARISCH-HERXHEIMER REACTION

Definition: *Acute febrile reaction after initiation of antibiotics for the treatment of spirochete infections.*

- Death of these bacteria release endotoxins and lipoproteins
- Fever, malaise, nausea, vomiting, chills, exacerbation of rash
- Often in secondary infection
- Onset within 24 hours, resolves in 24 hours
- The intensity of the reaction indicates the severity of inflammation.
- Self-limiting. Supportive care







PEARLS

- No syphilis test is perfect, especially by itself.
- Use non-treponemal (RPR) and treponemal tests (FTA-ABS, EIA, TPPA) together with patient history, physical exam findings and clinical judgement.
- Better to over-treat than under-treat.
- Don't delay treatment of symptomatic syphilis awaiting serologic results!
- Draw quantitative RPR on day of treatment.
- Test for other STIs(including HIV) & pregnancy.
  - Test pregnant women in 1st trimester, 28 weeks and at delivery.
- Define follow-up plan (Follow titers to ensure >2 titer(4-fold) decline over 6-12 months).
- Report to health department.
- Syphilis is complicated!

FOLLOW UP

Serological Follow-up:

- CDC = 6 and 12 months

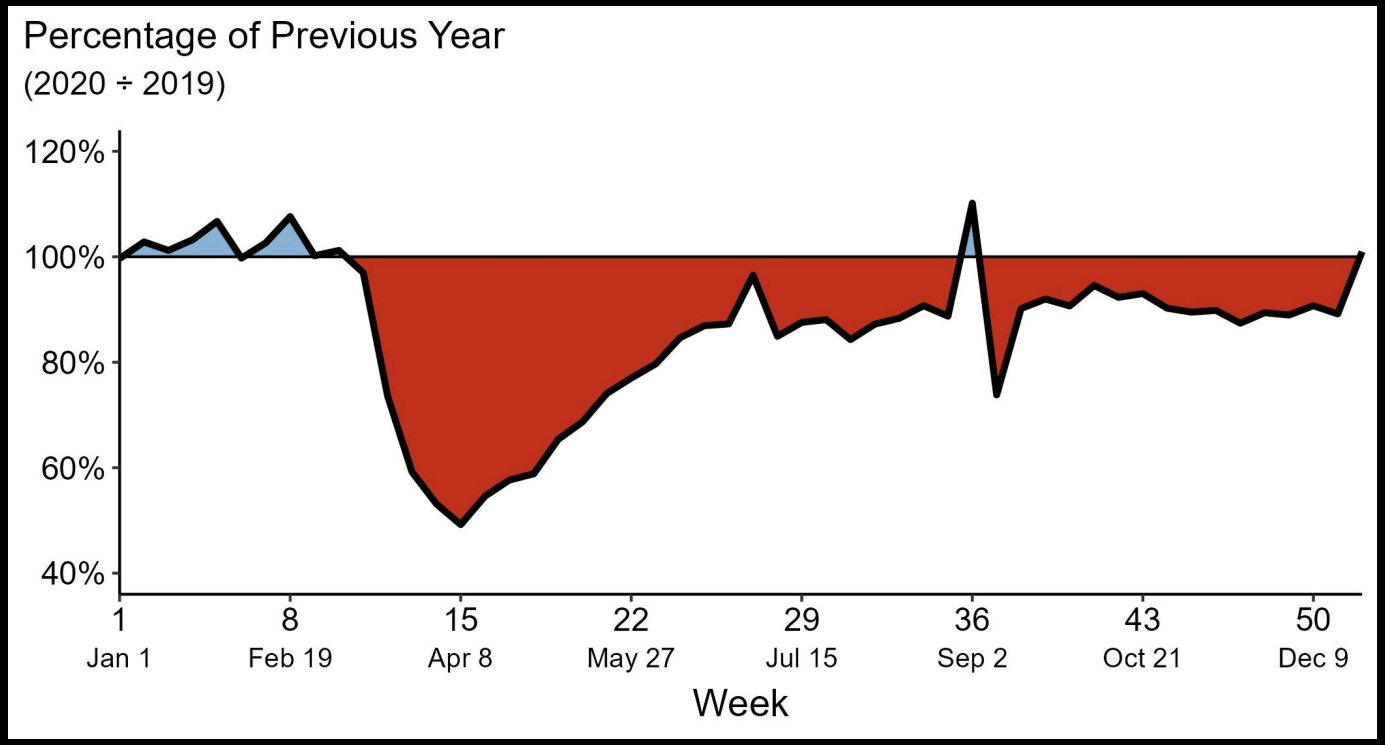
- Treatment failure:
  1. Sustained 2 titer (4-fold) increase in RPR

  2. High titer (>1:32) syphilis that does not decline 2 titers (4-fold) over 6-12 months (1° or 2° syphilis) or 12-24 months (latent syphilis)–soft indication

- Lumbar Puncture
  1. Neurologic signs/symptoms
  2. Active tertiary disease (aortitis, gumma, iritis present)
  3. Treatment failure

**Per Dr. Lindley Barbee, MD MPH, Associate Professor of Medicine and Infectious Diseases, University of Washington, Deputy Director, Public Health –Seattle & King County HIV/STD Program, Medical Director, PHSKC, Sexual Health Clinic Medical Consultant, CDC, Division of STD Prevention, Clinical Team

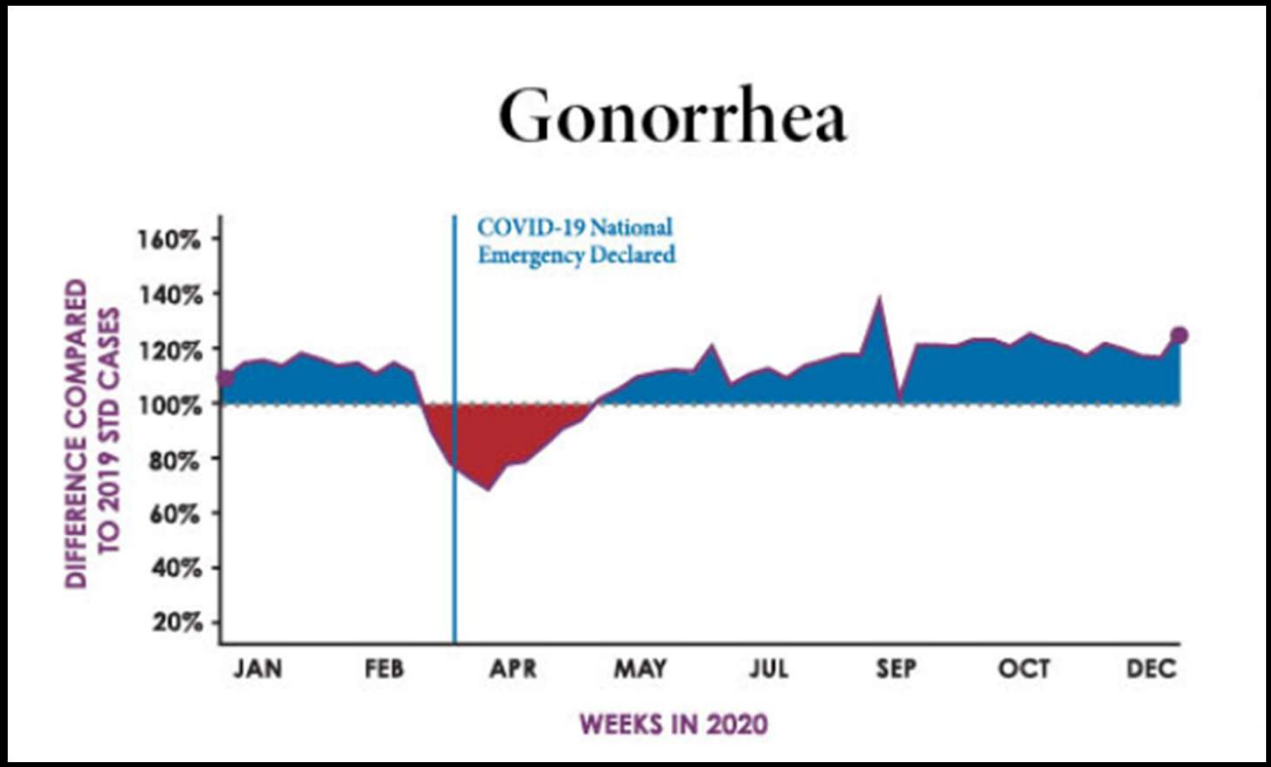
CHLAMYDIA


Percentage of Previous Year
(2020 ÷ 2019)
120%
100%
80%
60%
40%
1
Jan 1
8
Feb 19
15
Apr 8
22
May 27
29
Jul 15
36
Sep 2
43
Oct 21
50
Dec 9
Week

CHLAMYDIA TREATMENT

Treatment of C. trachomatis	Adult & Adolescent Treatment	Alternative Regimen	Other Considerations in Treatment
Chlamydial Infections	Doxycycline 100 mg orally 2 times/day for 7 days	Azithromycin 1 g orally in a single dose OR Levofloxacin 500 mg orally once daily for 7 days	When nonadherence to doxycycline regimen is a substantial concern, a single dose azithromycin 1 g regimen is an alternative treatment option but might require posttreatment evaluation and testing because it has demonstrated lower treatment efficacy among persons with rectal infection.

GONORRHEA


Gonorrhea
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GONORRHEA TREATMENT

Treatment of N. gonorrhea	Persons weighing <300 lbs. (<150 kg)	Persons weighing >300 lbs. (>150 kg)	Other Considerations in Treatment
Uncomplicated gonococcal infections of the cervix, urethra, rectum or pharynx	Single dose of Ceftriaxone 500 mg IM	Single dose of Ceftriaxone 1 gm IM	If chlamydial infection has not been excluded, providers should treat for chlamydia with doxycycline 100 mg orally twice daily for 7 days. Pregnancy: azithromycin 1 g as a single dose is recommended to treat chlamydia
Alternative regimens for uncomplicated gonococcal infections of the cervix, urethra, or rectum	Gentamicin 240 mg IM - single dose plus azithromycin 2g orally as a single dose OR Cefixime 800 mg orally as a single dose		No reliable alternative treatments are available for pharyngeal gonorrhea. For persons with a history of a beta-lactam allergy, a thorough assessment of the reaction is recommended. *

PREGNANCY

Pregnant women should be screened for STIs at beginning of care.

Testing for pregnant patients:

- Chlamydia, Gonorrhea, Syphilis, Hepatitis, HIV all should be performed during 1st and 3rd trimesters.
- Other testing should be done if symptomatic (i.e., BV, trichomonas).

  Fetal deaths >/= 20 weeks; mom should be screened with RPR.
- Diagnosis of syphilis during 2nd half of pregnancy, US should be done to assess for congenital syphilis.
  - Fetal or placental signs of syphilis:
    - Hepatomegaly, ascites, hydrops, fetal anemia, thickened placenta.

OTHER CONSIDERATIONS

Best practices in an outbreak:

- Test all sexually active patients for ALL STIs (including HIV and Syphilis) AND pregnancy when STI screening.
  - Syphilis is the great imitator, can present outside of the expected signs.
- Penicillin is the treatment of choice for syphilis infection- allergic patients need to be desensitized.
- Don't be afraid to treat!
  - ED visitors, transients, incarcerated persons or treatment physicals. (***Jail screens should have full STI testing done).
  - If the patient presents as a contact of a known syphilis case, ok to treat if RPR is negative/pending. (Remember, it can take 10-90 days for a person to seroconvert.)
- Schedule follow up!
  - Let the patient know they need to come back for TOC. Make the appointment BEFORE they leave clinic.
    - 6 & 12 months for Syphilis.
    - Gonorrhea at 1-2 weeks and Chlamydia at 3 months post treatment.
  - Early/Late Latent Syphilis:
    - If patient goes >9 days between doses, treatment regimen must be restarted. Draw RPR!



RESOURCES

https://www.cureus.com/articles/57032-primary-syphilis-of-the-oral-cavity-a-rare-presentation-of-a-re-emerging-disease

Solitary frontal ulcer: A syphilitic gumma, 2010, Author(s): Andrade, P; Mariano, A; Figueiredo, A, https://doi.org/10.5070/D35gs4q6wz

Jarisch-Herxheimer reaction in a patient with syphilis and human immunodeficiency virus infection; December 2018;

Revista da Sociedade Brasileira de Medicina Tropical 51(6):877-878

DOI:10.1590/0037-8682-0419-2017

https://www.cdc.gov/std/treatment-guidelines/ (2021)

https://www.nycptc.org/x/Syphilis_Monograph_2019_NYC_PTC_NYC_DOHMH.pdf

https://www.std.uw.edu/

A Syphilis Diagnosis and Treatment Primer; Lindley Barbee, MD MPH



RESOURCES CON'T.

CDC. Sexually transmitted diseases treatment guidelines. MMWR Recom 2015;64(No. RR-3). https://www.cdc.gov/mmwr/preview/mmwrhtml/rr6403a1.htm.

https://www.cdc.gov/std/chlamydia/treatment.htm

Primary syphilis of the oropharynx: an unusual location of a chancre; F. Drago, G. Ciccarese, A. Parodi; International Journal of STD & AIDS; August 1, 2015