The Current State of STIs: OK Edition

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Objectives

Summarize STI surveillance data with emphasis on Oklahoma

Describe the most common STIs, including clinical signs, testing, and treatment

Identify current trends and innovative practices related to STIs

Note: Will focus on adolescents/adults

References

Centers for Disease Control and Prevention (CDC)

CDC Sexually Transmitted Infections Treatment Guidelines, 2021

National STD Curriculum (highly recommend)

Will site if from other source

National Overview: 2023

- Over 2.4 million cases of syphilis, gonorrhea, and chlamydia
- 209,000 cases of syphilis
  - 3,882 cases of congenital syphilis, leading to 279 stillbirths and neonatal/infant deaths
- Over 600,000 cases of gonorrhea
- Over 1.6 million cases of chlamydia

- 39,201 new HIV diagnoses among 13 y/o and older
  - 81% males and 66% attributed to male-to-male sexual contact
  - 38% Black/African American persons
  - 51% residing in South at time of diagnosis
- 4,496 HIV-related deaths
- 1,132,739 persons 13 y/o and older living with HIV

CDC Screening Guidelines

- General STI testing recommendations
  - All sexually active persons 13-64 annual HIV testing
  - All sexually active women <25 y/o annual gonorrhea and chlamydia
    - With risk factors (new/multiple partners, exposure to STI, positive STI) >25 y/o
  - Everyone who is pregnant: syphilis, HIV, hepatitis B & C early in pregnancy
    - Repeat if needed later in pregnancy
    - If at risk, test for gonorrhea/chlamydia
  - Men who have sex with men annual HIV, syphilis, gonorrhea, chlamydia
    - Every 3-6 months if multiple or anonymous partners
  - Annual HIV if shares injection drug equipment
  - Throat and rectal testing if engage in oral or anal sex

CDC Screening Guidelines

Specific population categories

- Women
- Pregnant women
- Men who have sex with women
- Men who have sex with men
- Transgender and gender diverse persons
- Persons with HIV

Specific by disease

Risk Assessment: The Five P's

To understand your risk for STIs, I am going to ask you some specific questions

- Partners
  - Are you currently having sex of any kind?
  - What is the genders of your partners? AMAB? AFAB? Both?
  - Any new partners since the last time you were tested for STIs?
- Practices
  - What kind of sex do you have? Vaginal (penis in vagina)? Anal (penis in rectum/anus)? Oral (mouth on penis/vagina)?

Risk Assessment: The Five P's

To understand your risk for STIs, I am going to ask you some specific questions

- Protection
  - Do you and your partner discuss prevention of STIs/HIV? Getting tested?
  - What protection methods do you use? Condoms (always vs sometimes vs never)?
- Past History of STIs
  - How you ever been tested for STIs/HIV? When was the last time? Have you tested positive before? Have any of your partners tested positive?
- Pregnancy Intention
  - Do you think you would like to have (more) children in the future?
  - How important is it to you to prevent pregnancy (until then)?
  - Are you or your partner using contraception or any form of birth control?
  - Would you like to talk about ways to prevent pregnancy?

Clinical Resource

Pictures to Follow

Used for educational purposes. Available online and cited.

Chlamydia (CT)

- Intercellular bacterium similar to gram-negative organism *Chlamydia trachomatis*
- Oklahoma: 19,104 in 2023
- 25th in US with a rate of 471.3/100,000 population
- National average rate of 492.2
- Most frequently reported bacterial infectious disease in US
- Prevalence highest ≤24 y/o
- Transmitted via sexual contact with incubation 7-21 days

Chlamydia (CT)

- Can lead to pelvic inflammatory disease (PID), ectopic pregnancy, and infertility
- Asymptomatic infection common
- Clinical sxs:
  - Cervicitis, urethritis, proctitis, conjunctivitis
  - AFAB: Mucopurulent endocervical discharge, endocervical bleeding, dysuria, urinary frequency
    - Vague: abdominal discomfort, spotting
  - AMAB: Dysuria, urethral discharge (clear, mucoid, mucopurulent)
    - Epididymitis: scrotal pain, epididymal swelling, tenderness
  - Oropharyngeal: usually asymptomatic, acute tonsillitis/pharyngitis, dry/pruritic throat
  - Rectal: usually asymptomatic, proctitis with rectal pain, mucoid/hemorrhagic discharge, fever, tenesmus (urge to have BM)

Chlamydia (CT)

- Testing
  - AFAB: vaginal/cervical swabs (optimal) or first-void urine
  - AMAB: first-void urine (optimal) or urethral swab
  - NAATs (nucleic acid amplification test) are most sensitive tests
  - Vaginal swabs collected by clinician or self-swab
  - Can perform NAAT in cytology specimens for Pap smears
  - Consider rectal (self-swab) and oropharyngeal if receptive anal/oral intercourse

Chlamydia (CT)

- Treatment:
  - Recommended: Doxycycline 100mg po 2 times/day for 7 days
  - Alternative: Azithromycin 1g po single dose (pregnancy, allergy, adherence concerns)
    - Levofloxacin 500mg po once daily for 7 day
  - Doxycycline more efficacious for rectal/oropharyngeal

Chlamydia (CT)

- Follow-up:
  - Abstain from intercourse for 7 days after single-dose or until 7-day regimen + sxs resolve
  - All sex partners treated if sexual contact within 60 days of sxs onset or CT diagnosis
    - Treat most recent sex partner regardless of timing
    - Consider expedited partner treatment (EPT)
  - No test of cure needed unless pregnancy (4 weeks post-treatment)
  - NAATs at <4 weeks after treatment not recommended d/t presence of nonviable organisms and false-positive results
  - Retest in 3 months after treatment

Gonorrhea (GC)

- Gram-negative bacterium *Neisseria gonorrhoeae*
- Oklahoma: 6,905 in 2023
- 20th in US with a rate of 170.3/100,000 population
- National average rate of 179.5
- 2nd most frequently reported bacterial infectious disease in US
- Transmitted via sexual contact with incubation 1-14 days
- Antimicrobial-resistance
    - Fluoroquinolones no longer used, cephalosporins only
    - Cefixime effectiveness waning (note this)

Gonorrhea (GC)

- Can lead to pelvic inflammatory disease (PID), ectopic pregnancy, and infertility
- Asymptomatic infection common
- Clinical sxs:
  - Cervicitis, urethritis, proctitis, conjunctivitis
  - AFAB: Mucopurulent endocervical discharge, endocervical bleeding
    - Vague: vaginal discharge, dysuria, abdominal discomfort, intermenstrual bleeding, dyspareunia
    - Bartholin gland infections: Unilateral fluid-filled cyst or painful, tender abscess on labia
  - AMAB: Urethritis with dysuria, urethral discharge (purulent, mucopurulent)
    - Epididymitis: scrotal pain, epididymal swelling, tenderness
  - Oropharyngeal: usually asymptomatic, mild sore throat, tonsillitis/pharyngitis, fever, cervical adenitis (exudative pharyngitis is rare)
  - Rectal: usually asymptomatic, proctitis with rectal pain, mucoid/hemorrhagic discharge, pruritis, tenesmus (urge to have BM)

Gonorrhea (GC)

- Testing
  - AFAB: vaginal/cervical swabs (optimal) or first-void urine
  - AMAB: first-void urine (optimal) or urethral swab
  - NAATs (nucleic acid amplification test) are most sensitive tests
  - Vaginal swabs collected by clinician or self-swab
  - NAAT in cytology specimens for Pap smears not in CDC guidelines
  - Consider rectal (self-swab) and oropharyngeal if receptive anal/oral intercourse
  - Culture and antimicrobial susceptibility testing if treatment failure

Gonorrhea (GC)

- Treatment:
  - Recommended: Ceftriaxone 500mg IM single dose (<150kg or ~330lbs)
    - Ceftriaxone 1g IM single dose if >150kg
    - Treat for CT if not excluded
  - Alternative due to cephalosporin allergy: Gentamicin 240mg IM single dose AND Azithromycin 2g po single dose
  - If ceftriaxone not available/feasible: Cefixime 800mg po single dose (do not use with pharyngeal infection)
    - Refer to infectious disease if pharyngeal and cephalosporin allergy
  - PCN cross-reactivity rare with third-generation cephalosporins (<1%)

Gonorrhea (GC)

- Follow-up:
  - Abstain from intercourse for 7 days after single-dose + sxs resolve
  - All sex partners treated if sexual contact within 60 days of sxs onset or GC diagnosis
    - Treat most recent sex partner regardless of timing
    - Consider expedited partner treatment (EPT)
  - No test of cure needed for urogenital/rectal
  - Test of cure for pharyngeal at 7-14 (recommended) days post treatment
  - If treatment failure, refer to infectious disease
  - Retest in 3 months after treatment

Trichomoniasis (Trich)

- Protozoan parasite *Trichomonas vaginalis*
- Estimated to be most common curable STI worldwide
- 2.6 million persons in US (based on population surveys)
- Prevalence is 2.1% of females and 0.5% of males
- Prevalence at STD clinic in Birmingham, AL was 14.6% of women and 9.8% of men
- Prevalence rate same for >24 y/o and <24 y/o
- Transmitted via sexual contact with incubation 5-28 days
- Fomite transmission possible (think sex toys)
- Higher risk for women with BV and lower risk for men who have sex with men

Trichomoniasis (Trich)

- Associated with preterm birth, premature rupture of membranes, and infants who are small for gestational age
- Asymptomatic infection common
- Clinical sxs:
  - AFAB: Frothy gray or yellow-green vaginal discharge, pruritus, and dyspareunia
    - Cervical punctate hemorrhages or "strawberry cervix" (<5%)
  - AMAB: Usually asymptomatic
    - Rarely prostatitis or epididymitis

Trichomoniasis (Trich)

- Testing:
  - AFAB: vaginal/cervical swabs (optimal) or first-void urine
    - Immediately viewed wet mount (low sensitivity at 44%-68%)
  - AMAB: first-void urine (optimal) or urethral swab
  - NAATs (nucleic acid amplification test) are most sensitive tests
  - Vaginal swabs collected by clinician or self-swab
  - Can perform NAAT in cytology specimens for Pap smears
    - If incidental finding, not considered diagnostic, should be retested to confirm
  - Should be performed for women seeking care for vaginal discharge

Trichomoniasis (Trich)

- Treatment:
  - AFAB: Metronidazole 500mg po 2 times/day for 7 days
  - AMAB: Metronidazole 2g po single dose
  - Alternative: Tinidazole 2g single dose
  - Nitroimidazoles only class with clinically demonstrated efficacy
  - Note: Metronidazole gel DOES NOT reach therapeutic levels
  - Pregnancy: test and treat with metronidazole

Trichomoniasis (Trich)

- Follow-up:
  - Abstain from intercourse for 7 days after single-dose or until 7-day regimen + sxs resolve
  - All sex partners treated if sexual contact within 60 days of sxs onset or CT diagnosis
    - Treat most recent sex partner regardless of timing
    - Consider expedited partner treatment (EPT)
  - Retest in 3 months after treatment
  - If persistent infection, request kit from CDC for drug-resistance testing

Urethritis

- Urethral inflammation
- Clinical sxs: dysuria, urethral pruritis, discharge (mucoid, mucopurulent, purulent)
- STI causes: GC/CT/Mgen/trich (rare in men)
- Test and treat for GC/CT
- If suspect nongonococcal urethritis: doxycycline 100mg po 2 times/day for 7 days
    - Alternative: Azithromycin 1g po single dose

Cervicitis

- Two diagnostic sxs (can have either/both): 1) purulent or mucopurulent endocervical exudate visible in endocervical canal and 2) easily induced by gentle passage of cotton swab through cervical os
- Clinical sxs: abnormal vaginal discharge and intermenstrual vaginal bleeding, especially after sex
- STI causes: GC/CT/trich/Mgen/HSV
- Assess for PID
- Test for GC/CT/trich, consider Mgen
- If high risk, treat with doxycycline 100mg po 2 times/day for 7 days
    - Alternative: Azithromycin 1g po single dose
    - Consider GC treatment

Proctitis

- Inflammation of rectum
- Clinical sxs: anorectal pain, tenesmus, and rectal discharge
- Associated with receptive anal exposure (oral-anal, digital-anal, or genital-anal)
- STI causes: GC/CT/syphilis/HSV
- Should be examined by anoscopy if possible
- Test for GC/CT/syphilis/HSV
- Treat acute proctitis for GC/CT
    - If bloody discharge, perianal ulcers, or mucosal ulcers with positive rectal CT, extend treatment to doxycycline to 21 days

Epididymitis

- Acute: pain, swelling, and inflammation of epididymis that has lasted <6 weeks
- Clinical sxs: unilateral testicular pain/tenderness, hydrocele, and swelling
- Consider testicular torsion if sudden onset
- STI causes: GC/CT/Mgen
- Associated with insertive partner during anal sex
- Test for GC/CT
- Treat acute epididymitis most likely due to GC/CT
  - Ceftriaxone 500mg IM single dose and doxycycline 100mg po 2 times/day for 10 days
  - If practice insertive sex: add levofloxacin 500mg po daily for 10 days for enteric organisms

Pelvic Inflammatory Disease (PID)

- Inflammatory disorder of upper female genital tract including endometritis, salpingitis, tubo-ovarian abscess, and pelvic peritonitis
- Commonly caused by GC/CT although trend is decreasing with ~50% testing positive
  - Other causes: vaginal flora, BV, trich, Mgen
- May be subtle sxs or asymptomatic
- Diagnosis: Pelvic/lower abdominal pain + one or more of the following on pelvic exam 1) cervical motion tenderness, 2) uterine tenderness, and/or 3) adnexal tenderness

Pelvic Inflammatory Disease (PID)

- Diagnosis: pelvic/lower abdominal pain + one or more of the following on pelvic exam 1) cervical motion tenderness, 2) uterine tenderness, and/or 3) adnexal tenderness
- Other considerations:
  - Oral temperature >38.3°C (>101°F)
  - Abnormal cervical mucopurulent discharge or cervical friability
  - Presence of abundant numbers of WBCs on saline microscopy of vaginal fluid
  - Elevated erythrocyte sedimentation rate
  - Elevated C-reactive protein
  - Positive GC/CT

Pelvic Inflammatory Disease (PID)

- Treatment: empiric, board-spectrum coverage
- If mild-to-moderate (severe refer to ER for IV therapy):
  - Ceftriaxone 500mg IM single dose PLUS
  - Doxycycline 100mg po 2 times/day for 14 days WITH
  - Metronidazole 500mg po 2 times/day for 14 days
- Follow-up: clinical improvement <72 hours
  - Refer for hospitalization if no improvement
- If IUD, greatest risk within 3 weeks of insertion
  - Do not need to remove, can treat

Reminders of Other Complications

- Perihepatitis (Fitz-Hugh-Curtis Syndrome)
  - Inflammation of liver due to CT/GC
  - RUQ pain, n/v, fever, PID
- Reactive arthritis (Reither's Syndrome)
  - 3-6 weeks after urogenital CT
  - Conjunctivitis, urethritis, oligioarthritis, skin lesions, balanitis with red, ring-shaped lesions
- Disseminated gonococcal infection (DGI)
  - More common in women after menstruation and during pregnancy
  - Petechial/pustular skin lesions on extremities, asymmetric polyarthralgia, tenosynovitis, oligoarticular septic arthritis, endocarditis, meningitis
  - Requires hospitalization

Syphilis

- Systemic disease caused by spirochete bacterium *Treponema pallidum*
- Oklahoma: 1,121 in 2023
- 6th in US with a rate of 27.7/100,000 population
- National average rate of 15.8
- Transmission when lesions and rash present (usually within first year)
- Transmission during pregnancy via transplacental passage or contact during delivery

Syphilis

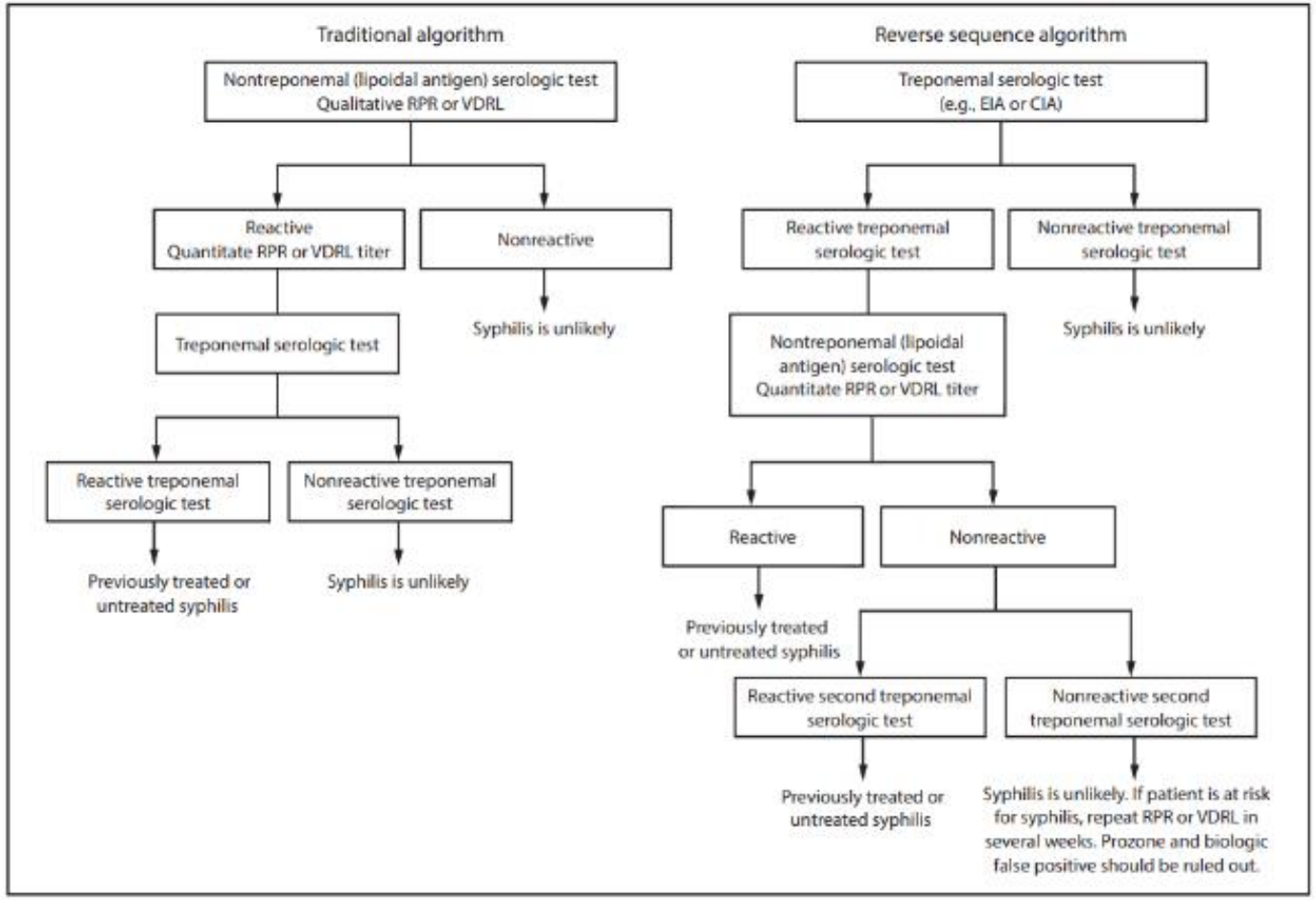
- Known as "the great imitator"
- Divided into stages based on clinical sxs which guides treatment
- Primary:
  - Single painless ulcer or chancre at site of infection (think genitals, anal canal, mouth)
    - Appears in10-90 days and heal in 3-8 weeks
  - Can be multiple, atypical, or painful lesions
- Secondary:
  - Skin rash (generalized body, chest, back, palms, soles), mucocutaneous lesions, and lymphadenopathy
  - Condylomata lata: moist, heaped-up, wart-like papules in warm folds of body
- Tertiary:
  - Cardiovascular involvement, gummatous lesions, tabes dorsalis, and general paresis
- Latent:
  - No clinical sxs
  - If acquired <1 year, early latent
  - If acquired >1 year, late latent
  - Latent syphilis of unknown duration
- Neurosyphilis, ocular syphilis, and otosyphilis can occur at any stage

Syphilis

- Clinical sxs of neurosyphilis, ocular syphilis, and otosyphilis
  - Severe headache
  - Muscle weakness and/or trouble with muscle movements
  - Stiff neck
  - Changes to your mental state (trouble focusing, confusion, personality change) and/or dementia (problems with memory, thinking, and/or decision making)
  - Eye pain and/or redness
  - Changes in your vision or even blindness
  - Hearing loss
  - Ringing, buzzing, roaring, or hissing in the ears ("tinnitus")
  - Dizziness or vertigo (feeling like you or your surroundings are moving or spinning)

Syphilis

FIGURE 3. Algorithms that can be applied to screening for syphilis with serologic tests — CDC laboratory recommendations for syphilis testing in the United States, 2024



Abbreviations: CIA = chemiluminescence immunoassay; EIA = enzyme immunoassay; RPR = rapid plasma regain; TPPA = *Treponema pallidum* particle agglutination; VDRL = Venereal Disease Research Laboratory.

Syphilis

- False positive nontreponemal may be due to HIV, autoimmune conditions, vaccinations, IV drug use, pregnancy, and older age
  - Confirmation with treponemal test
- Use nontreponemal test antibody titers for disease activity, monitoring treatment response, and reinfection
- Titers usually decrease after treatment (at least by fourfold) and might become nonreactive over time

Syphilis

- Treatment:
  - Primary/secondary: Benzathine penicillin (BCN) G 2.4 million units IM single dose
    - Alternative: Doxycycline 100mg 2 times/day for 14 days
  - Early latent: BCN 2.4 million units IM single dose
  - Late latent or unknown duration: BCN 2.4 million units IM single dose for 3 doses at 1-week intervals (total 7.2 million units)
    - Alternative for latent or unknown duration: Doxycycline 100mg 2 times/day for 28 days
  - Tertiary needs CSF examination
- Jarisch-Herxheimer Reaction
  - Acute febrile reaction within first 24 hours after treatment
  - Fever, headache, myalgia
  - Supportive care and antipyretics

Syphilis

- Follow-up:
  - Abstain from intercourse for 7 days after treatment completion and lesions have resolved
  - All sex partners treated if sexual contact within 90 days of diagnosis
  - If sexual contact >90 days, test or treat if testing not possible
  - Retest in 6 and 12 months after treatment
    - 24 months if latent and unknown duration

- Contact Oklahoma Health Department Disease Intervention Services for guidance

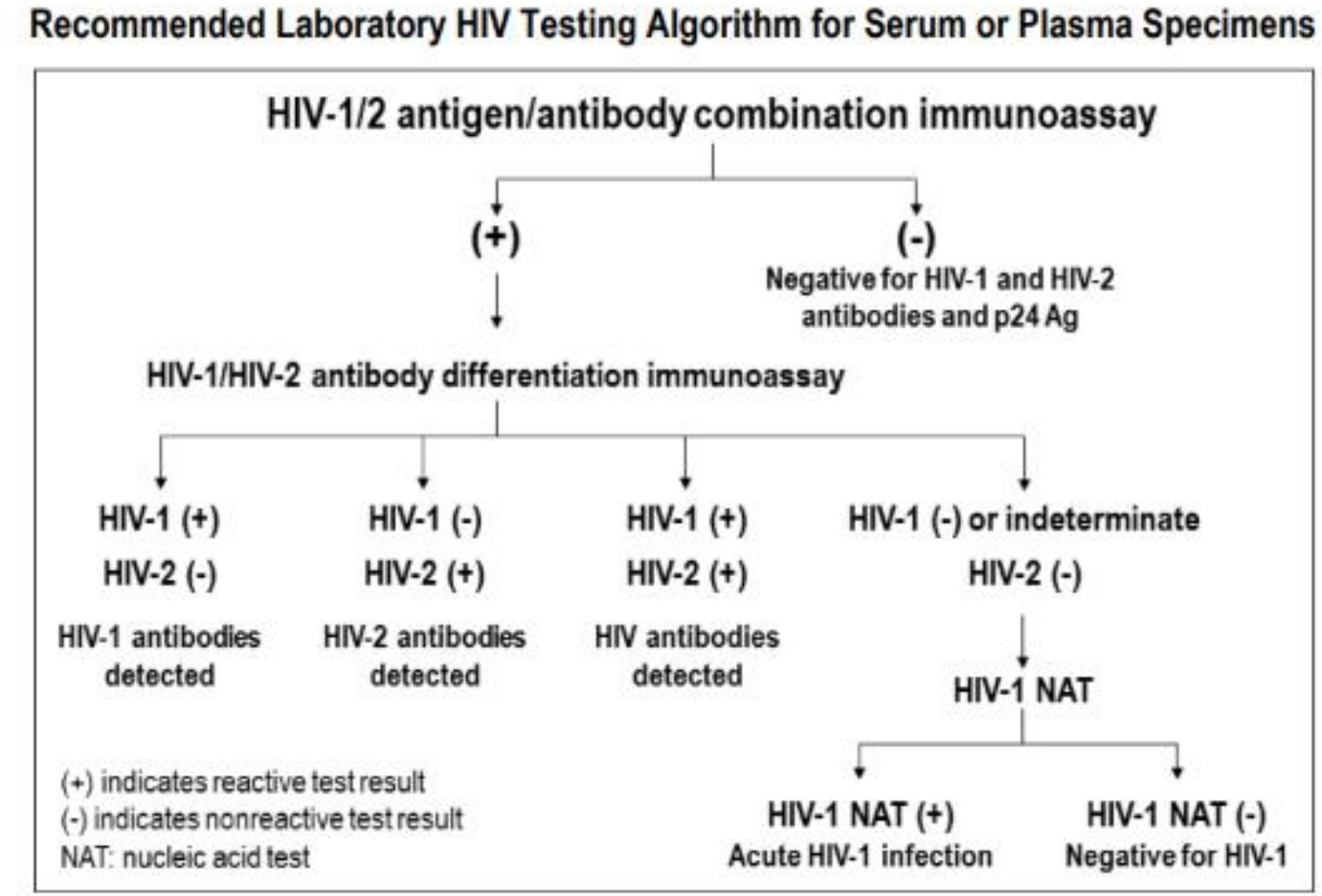
Human Immunodeficiency Virus (HIV)

- Retrovirus that infects CD4+ T lymphocytes
- Oklahoma: 380 new HIV infections in 2022
- Rate of 11.4/100,000 population

Human Immunodeficiency Virus (HIV)

- Acute sxs: fever, malaise, lymphadenopathy, pharyngitis, arthritis, skin rash
  - Can be asymptomatic
  - Highly infectious
- Chronic depletes CD4+ T lymphocytes
  - Can take years-decade
- Untreated HIV leads to symptomatic, life-threatening immunodeficiency or acquired immunodeficiency syndrome (AIDS)

Human Immunodeficiency Virus (HIV)



Human Immunodeficiency Virus (HIV)

- Antigen/antibody tests: detect in 18-45 days after exposure
  - Fingerstick: 18-90 days
- Antibody tests: detect in 23-90 days after exposure
- NATs (RNA): detect in 10-33 days after exposure

Human Immunodeficiency Virus (HIV)

- Refer for treatment to HIV clinical care provider

PrEP and PEP

PrEP: Pre-Exposure Prophylaxis

- Medication to prevent HIV
- Daily oral or long-acting injectables
- Can reduce risk from sex by 99% and by 74% if from IV drug use (hiv.gov)

PEP: Post-Exposure Prophylaxis

- 28-day course of oral HIV medications
- Start as soon as possible and up to 72 hours
- Can reduce risk by more than 80% (hivinfo.nih.gov)

Herpes Simplex Virus (HSV)

- Chronic lifelong viral infection: HSV-1 and HSV-2
- Genital herpes cause by HSV prevalence unknown
  - HSV-1 has replaced HSV-2 as leading cause of first-episode genital herpes
  - Likely several million prevalent genital HSV-1 infections
  - In 2018, 572,000 persons 18-49 y/o newly acquired HSV-2 infections with an estimated 18.6 million persons living with HSV-2
  - Data from National Health and Nutrition Examination Survey (NHANES)

Herpes Simplex Virus (HSV)

- Clinical sxs:
  - Painful vesicular or ulcerative lesions, dysuria, itching, vaginal/urethral discharge, tender adenopathy
  - Primary outbreak most severe
  - Lesions last 2-3 weeks without treatment
- Transmission:
  - Sexual contact or subclinical viral shedding
- Cycles between latent infection and reactivation
- Viral shedding more frequent the first year of infection then decreases over time
- Recurrences and viral shedding more common with HSV-2

Herpes Simplex Virus (HSV)

- Testing:
  - Type-specific virologic testing from lesion with NAAT (preferred) or culture
    - Scrap base of lesion with swab
  - Type-specific antibody serologic testing can aid in diagnosis in absence of genital lesions
    - Antibodies develop in first weeks after infection and persist indefinitely
    - Presence of HSV-2 implies anogenital infection
    - Presence of HSV-1 does not differentiate between oral and genital infection
    - HSV-1 may be oral infection acquired in childhood
    - Use for screening is NOT recommended
    - When to use serologic testing for HSV-2
      - Recurrent/atypical genital sxs
      - Lesions with negative HSV NAAT/culture
      - Clinical diagnosis without laboratory confirmation
      - Partner has genital herpes

Herpes Simplex Virus (HSV)

- Treatment:
  - Antiviral medication
    - Acyclovir
    - Valacyclovir (better absorption, less frequent dosing)
    - Famciclovir (less effective for viral shedding)
  - Initial outbreak for 7-10 days
  - Long-term therapy for episodic treatment for 1-5 days
  - Long-term therapy with daily suppressive treatment
    - Reduces recurrences by 70%-80%
    - Valacyclovir has once daily dosing
  - Topical not recommended

Human Papillomavirus (HPV)

- ~150 types of HPV have been identified
  - 40 infect genital area
  - Most self-limited and asymptomatic
  - High-risk oncogenic HPV (e.g., types 16/18) cause most cervical, penile, vulvar, vaginal, anal, and oropharyngeal cancers
  - Other types (e.g., 6/11) cause genital warts
- HPV prevalence unknown
  - 90% of infections are clinical silent and will resolve on their own
  - In 2018, estimate of 13 million new HPV infections
    - 6.9 million in men, 6.1 million in women
  - Data from National Health and Nutrition Examination Survey (NHANES)
- Estimated 34,800 new HPV-attributable cancers per year 2012-2016
- Transmission through skin-to-skin contact

Human Papillomavirus (HPV)

- Prevention with HPV vaccines
  - 9-valent vaccine (Gardasil) prevents types 6, 11, 16, 18, 31, 33, 45, 52, and 58
    - Types 16/18 66% of all cervical cancers
    - 5 additional types for another 15%
    - Types 6/11 >90% of genital warts
    - Recommend routine HPV vaccination for all adolescents at 11 or 12 y/o
    - Catch until 26 y/o and clinical decision-making for 27-45 y/o
    - 2 doses if >15 y/o and 3 doses <15 y/o

Human Papillomavirus (HPV)

- ASCCP App for cervical cancer guidelines and recommendations
- USPSTF screening guidelines:
  - Pap only 21-29 y/o every 3 years
  - Pap + HPV 30-64 y/o every 5 years
  - Do NOT screen younger than 21 y/o

Human Papillomavirus (HPV)

- Types of anogenital warts:
  - Condylomata acuminata (cauliflower-like appearance, skin-colored, pink, or hyperpigmented)
  - Smooth papules (dome-shaped and skin-colored)
  - Flat papules (macular or slightly raised, skin-colored, smooth surface)
  - Keratotic warts (resemble common warts)
- Treatment:
  - Patient-applied: Imiquimod cream, podofilox solution/gel, sinecatechins ointment
  - Provider-administered: trichloroacetic (TCA)/bichloroacetic (BCA) acid, cryotherapy, surgical removal

Hepatitis B and C

- Hepatitis B:
  - Screen all adults >18 y/o at least once in their lifetime with triple panel test
- Hepatitis C:
  - Screen all adults >18 y/o at least once in their lifetime

Trends: Mycoplasma Genitalium (Mgen)

- Member of Mollicute Class of bacteria
- Prevalence lower than CT but higher than GC
  - Data from National Health and Nutrition Examination Survey (NHANES)
- Transmission through sexual contact
- Clinical sxs:
  - AFAB: vaginitis/cervicitis, urethritis/dysuria, PID
  - AMAB: urethritis/dysuria

Trends: Mycoplasma Genitalium (Mgen)

- Testing:
  - NAAT for Mgen
  - AFAB: endocervical and vaginal swab
  - AMAB: urine and urethral swab
  - Test men with recurrent urethritis
  - Test women with recurrent cervicitis and consider with PID
  - Screening of asymptomatic is NOT recommended

Trends: Mycoplasma Genitalium (Mgen)

- Treatment:
  - Limited available antimicrobials available to treat (no rigid cell wall)
  - If resistance testing is NOT available
    - Doxycycline 100mg po 2 times/day for 7 days FOLLOWED BY
    - Moxifloxacin 400mg po once daily for 7 days
- Follow up:
  - Test of cure not recommended
  - Test partners if symptomatic, can treat partners if testing not possible

Trends: Mycoplasma Genitalium (Mgen)

- Ureaplasma urealyticum and Ureaplasma parvum is a subclass
  - Not enough evidence to link with disease syndromes
  - Per UpToDate: does not cause vaginitis
  - Part of normal genital flora
  - Has been linked to complications in pregnancy
  - Treatment per UpToDate: doxycycline 100mg po 2 times/day for 14 days

Trends: Is Bacterial Vaginosis a STI?

- Vaginal infection when normal *Lactobacillus* is replaced with anaerobic bacteria, *G. vaginalis* and other species
- Associated with multiple sex partners, female partners, new sex partner, lack of condom use, douching, menses
- Protective factors: condom use, circumcised male partners, oral contraceptives
- Diagnosis with Amsel criteria (requires 3 out of 4):
  - Homogeneous, thin discharge (milk-like consistency) that smoothly coats the vaginal walls
  - Clue cells (e.g., vaginal epithelial cells studded with adherent bacteria) on microscopic examination
  - pH of vaginal fluid >4.5
  - A fishy odor of vaginal discharge before or after addition of 10% KOH (i.e., the whiff test)

Trends: Is Bacterial Vaginosis a STI?

- Treatment:
  - Metronidazole 500mg po 2 times/day for 7 days
  - Metronidazole gel 0.75% intravaginally once daily for 5 days
- Treatment in men?
  - Penile flora may harbor BV causing bacterial species
  - Study found that recurrence rate of 35% if both partners were treated vs 63% recurrence rate if only female treated
  - Twice daily 400mg po metronidazole + 2% topical clindamycin applied to penis glans and upper shaft for 7 days
  - Vodstrcil, LA et al. N Engl J Med. 2025

Trends: Expedited Partner Therapy (EPT)

- EPT permissible in OK as of 11/1/2024
- "[A] health care provider who clinically diagnosed a patient with a sexually transmitted infection may provide expedited partner therapy if, in the professional judgment of the health care provider, the patient's sexual partner is unlikely or unable to present for examination, testing, and treatment."

Trends: Doxy-PEP

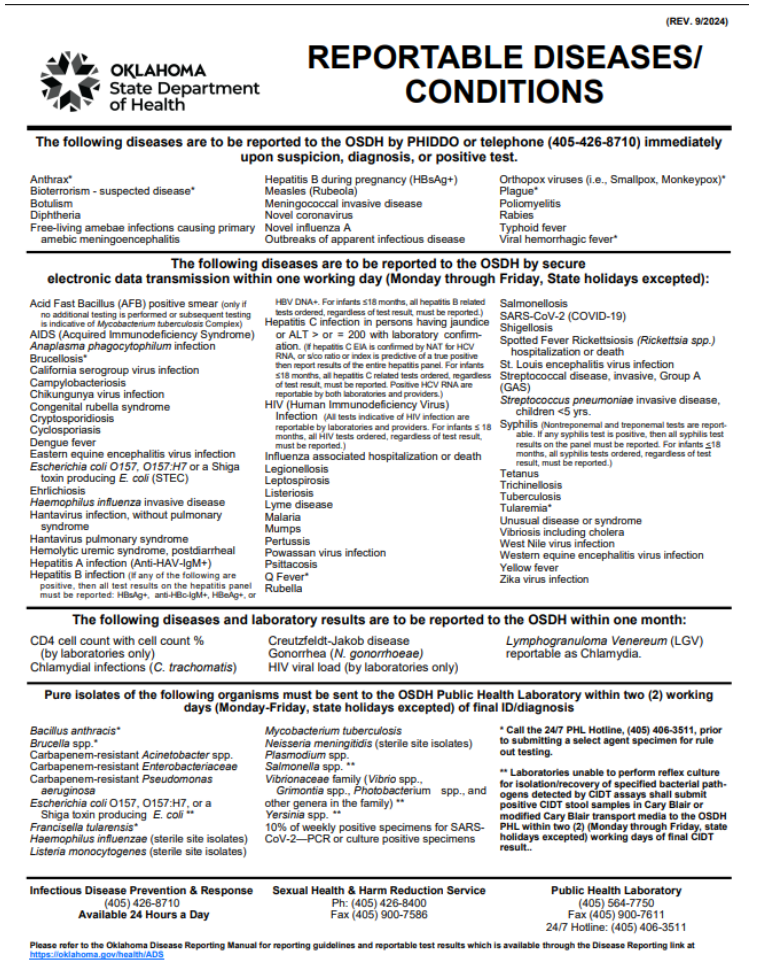
- CDC sites 3 large randomized controlled trails among men who have sex with men (MSM) and transgender women (TGW) that demonstrated significant reduction in risk of bacterial STIs (CT/GC/syphilis)
- Counsel with at risk populations: gay, bisexual, and other MSM and TGW with history of at least one bacterial STI in past 12 months
  - Use shared-decision making with other at risk populations
- Doxycycline 200mg po once within 72 hours of condomless sex

Innovative Practices

- POCT CT/GC/trich: Results in ~30 minutes
- POCT HIV/syphilis: Results in 15-25 minutes
- Oklahoma Health Department Rapid Start Program for HIV
- Tulsa County STI Taskforce
  - Community-wide STI plan
- Oklahoma PEP/PrEP Hotline
- Centralized follow-up
- Others?

Mandated Reporting

- Do not forget to report!



(REV. 9/2024)

OKLAHOMA State Department of Health

REPORTABLE DISEASES/ CONDITIONS

The following diseases are to be reported to the OSDH by PHIDDO or telephone (405-426-8710) immediately upon suspicion, diagnosis, or positive test.

Anthrax*
Bioterrorism - suspected disease*
Botulism
Diphtheria
Free-living amebae infections causing primary amebic meningoencephalitis
Hepatitis B during pregnancy (HBsAg+)
Measles (Rubeola)
Meningococcal invasive disease
Novel coronavirus
Novel influenza A
Outbreaks of apparent infectious disease
Orthopox viruses (i.e., Smallpox, Monkeypox)*
Plague*
Poliomyelitis
Rabies
Typhoid fever
Viral hemorrhagic fever*

The following diseases are to be reported to the OSDH by secure electronic data transmission within one working day (Monday through Friday, State holidays excepted):

Acid Fast Bacillus (AFB) positive smear (only if no additional testing is performed or subsequent testing is indicative of *Mycobacterium tuberculosis* Complex)
AIDS (Acquired Immunodeficiency Syndrome)
Anaplasma phagocytophilum infection
Brucellosis*
California serogroup virus infection
Campylobacteriosis
Chikungunya virus infection
Congenital rubella syndrome
Cryptosporidiosis
Cyclosporiasis
Dengue fever
Eastern equine encephalitis virus infection
Escherichia coli O157, O157:H7 or a Shiga toxin producing *E. coli* (STEC)
Ehrlichiosis
Haemophilus influenza invasive disease
Hantavirus infection, without pulmonary syndrome
Hantavirus pulmonary syndrome
Hemolytic uremic syndrome, postdiarrheal
Hepatitis A infection (Anti-HAV-IgM+)
Hepatitis B infection (If any of the following are positive, then all test results on the hepatitis panel must be reported: HBsAg+, anti-HBc-IgM+, HBeAg+, or HBV DNA+. For infants ≤18 months, all hepatitis B related tests ordered, regardless of test result, must be reported.)
Hepatitis C infection in persons having jaundice or ALT > or = 200 with laboratory confirmation. (If hepatitis C EIA is confirmed by NAT for HCV RNA, or s/co ratio or index is predictive of a true positive then report results of the entire hepatitis panel. For infants ≤18 months, all hepatitis C related tests ordered, regardless of test result, must be reported. Positive HCV RNA are reportable by both laboratories and providers.)
HIV (Human Immunodeficiency Virus) Infection (All tests indicative of HIV infection are reportable by laboratories and providers. For infants ≤ 18 months, all HIV tests ordered, regardless of test result, must be reported.)
Influenza associated hospitalization or death
Legionellosis
Leptospirosis
Listeriosis
Lyme disease
Malaria
Mumps
Pertussis
Powassan virus infection
Psittacosis
Q Fever*
Rubella
Salmonellosis
SARS-CoV-2 (COVID-19)
Shigellosis
Spotted Fever Rickettsiosis *(Rickettsia spp.)* hospitalization or death
St. Louis encephalitis virus infection
Streptococcal disease, invasive, Group A (GAS)
Streptococcus pneumoniae invasive disease, children <5 yrs.
Syphilis (Nontreponemal and treponemal tests are reportable. If any syphilis test is positive, then all syphilis test results on the panel must be reported. For infants ≤18 months, all syphilis tests ordered, regardless of test result, must be reported.)
Tetanus
Trichinellosis
Tuberculosis
Tularemia*
Unusual disease or syndrome
Vibriosis including cholera
West Nile virus infection
Western equine encephalitis virus infection
Yellow fever
Zika virus infection

The following diseases and laboratory results are to be reported to the OSDH within one month:

CD4 cell count with cell count % (by laboratories only)
Chlamydial infections (*C. trachomatis*)
Creutzfeldt-Jakob disease
Gonorrhea (*N. gonorrhoeae)*
HIV viral load (by laboratories only)
Lymphogranuloma Venereum (LGV) reportable as Chlamydia.

Pure isolates of the following organisms must be sent to the OSDH Public Health Laboratory within two (2) working days (Monday-Friday, state holidays excepted) of final ID/diagnosis

*Bacillus anthracis**
Brucella spp.*
Carbapenem-resistant *Acinetobacter* spp.
Carbapenem-resistant *Enterobacteriaceae*
Carbapenem-resistant *Pseudomonas aeruginosa*
Escherichia coli O157, O157:H7, or a Shiga toxin producing *E. coli* **
*Francisella tularensis**
Haemophilus influenzae (sterile site isolates)
Listeria monocytogenes (sterile site isolates)
Mycobacterium tuberculosis
Neisseria meningitidis (sterile site isolates)
Plasmodium spp.
Salmonella spp. **
Vibrionaceae family (*Vibrio* spp., *Grimontia* spp., *Photobacterium* spp., and other genera in the family) **
Yersinia spp. **
10% of weekly positive specimens for SARS-CoV-2—PCR or culture positive specimens

*** Call the 24/7 PHL Hotline, (405) 406-3511, prior to submitting a select agent specimen for rule out testing.**

**** Laboratories unable to perform reflex culture for isolation/recovery of specified bacterial pathogens detected by CIDT assays shall submit positive CIDT stool samples in Cary Blair or modified Cary Blair transport media to the OSDH PHL within two (2) (Monday through Friday, state holidays excepted) working days of final CIDT result..**

Infectious Disease Prevention & Response
(405) 426-8710
Available 24 Hours a Day

Sexual Health & Harm Reduction Service
Ph: (405) 426-8400
Fax (405) 900-7586

Public Health Laboratory
(405) 564-7750
Fax (405) 900-7611
24/7 Hotline: (405) 406-3511

Please refer to the Oklahoma Disease Reporting Manual for reporting guidelines and reportable test results which is available through the Disease Reporting link at https://oklahoma.gov/health/ADS

Questions?