



# STI 101: What you need to know

April 2019

Leo Parker– STD Prevention Director

# Learning Objectives

- **Review notifiable disease reporting**
- **Identify the notifiable STDs in Tennessee**
  - **Gonorrhea**
  - **Chlamydia**
  - **Syphilis**
- **Program services**

# Notification of Disease

- **In compliance with Tennessee Laws, all healthcare providers, laboratories, or other persons knowing of or suspecting a reportable disease case, are responsible for reporting to the health departments**
- **Case reports are deemed confidential and not subject to public inspection**
- **There is no universal tracking system that connects medical, criminal, and substance abuse history**

# 2019 Tennessee Reportable Disease List for HEALTHCARE PROVIDERS

The diseases, events, and conditions reportable to Tennessee Department of Health (TDH) by healthcare providers are listed below for 2019. Laboratories in healthcare facilities should refer to Page 2 of this document.

## Report Via Fax

- Local/Regional Health Offices:  
<https://www.tn.gov/health/health-program-areas/localdepartments.html>
- State/CEDEP: (615) 741-3857

## Report Online

- All conditions should be reported online through NBS beginning February 4, 2019: <https://hssi.tn.gov/auth/login>
- To sign up for NBS online reporting, please fill out the REDCap survey: <https://redcap.health.tn.gov/redcap/surveys/?s=8L7CMWHN4M>.

More information about reporting is available on the Reportable Diseases website at <https://www.tn.gov/health/cedep/reportable-diseases.html>. For questions, contact CEDEP at (615) 741-7247 or (800) 404-3006.



## Regular Reporting

PH-1600 only in 1 week (all diseases)

- Phone immediately + PH-1600 in 1 week
- Phone next business day + PH-1600 in 1 week

## Special Reporting

**UT Extension**  
All blood lead test results must be reported electronically or via fax. For more information, refer to <https://www.tn.gov/health/health-program-areas/mch-lead-for-providers.html> or email UT Extension at [leadtrk@utk.edu](mailto:leadtrk@utk.edu) for assistance.

**NHSN**  
Report in 30 days. For more information, see <https://www.tn.gov/health/cedep/hai.html>.

**REDCap**  
Neonatal Abstinence Syndrome in 1 month at <https://www.tn.gov/health/nas.html>

**REDCap**  
Birth Defects in 1 week at <https://tdhnc.health.tn.gov/redcap/surveys/?s=TDHPCHIE1>

**Weekly, every Tuesday for the previous week via REDCap.** For more information, see <https://www.tn.gov/content/tn/health/health-programareas/pdo/pdo/drug-overdose-reporting.html>

Effective January 1, 2019

## Outbreaks and Events of Urgent Public Health Concern:

- Disease clusters or outbreaks !
  - Single cases of pan-nonsusceptible organisms, unusual resistance mechanisms, or other emerging or unusual pathogen\* !
- \*Appendix A of the M100 Performance Standards for Antimicrobial Susceptibility Testing

Anaplasmosis  
Anthrax !  
Babesiosis  
Birth Defects !  
Botulism: Foodborne !, Wound !  
Botulism: Infant  
Brucellosis ☞  
California/LaCrosse Serogroup Virus Infection  
Campylobacteriosis  
Candida auris (includes rule-out) ☞  
Carbapenem-Resistant Enterobacteriaceae, (all genera) ☞  
Carbon Monoxide Poisoning  
Chagas Disease  
Chikungunya ☞  
**Chlamydia**  
Cholera  
Colistin-Resistant Gram Negative Bacteria ☞  
Congenital Rubella Syndrome ☞  
Cryptosporidiosis  
Cyclosporiasis  
Dengue  
Diphtheria ☞  
Ehrlichiosis (including *E. chaffeensis* and *E. ewingii*)  
Equine Encephalitis Viruses: Eastern ☞, Venezuelan ☞, Western  
**Gonorrhea**  
Group A Streptococcal Invasive Disease ☞  
Group B Streptococcal Invasive Disease  
*Haemophilus influenzae* Invasive Disease ☞  
Hansen's Disease (Leprosy)  
Healthcare Associated Infections: ☞ |  
Catheter-Associated Urinary Tract  
Central Line Associated Bloodstream  
*Clostridium difficile*  
Dialysis Events  
Healthcare Personnel Influenza Vaccination  
Methicillin-Resistant *Staphylococcus aureus*  
Surgical Site Infections  
Ventilator Associated Events  
Hemolytic Uremic Syndrome  
Hepatitis A virus ☞  
Hepatitis B virus: acute or perinatal  
Hepatitis C virus: acute or perinatal  
Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome  
Influenza-Associated Deaths:  
Age <18 Years ☞  
Pregnancy-Associated ☞  
Influenza A: Novel !  
Lead Levels ☞

Legionellosis  
Listeriosis  
Lyme Disease  
Malaria  
Measles !  
Meningitis: Other Bacterial ☞  
Meningococcal Disease (*Neisseria meningitidis*) !  
Middle East Respiratory Syndrome !  
Mumps ☞  
Neonatal Abstinence Syndrome !  
Nontuberculous *Mycobacteria* Infection (extra-pulmonary only)  
Opioid Drug Overdose ☞  
Pertussis ☞  
Plague ☞  
Poliomyelitis ☞  
Q Fever ☞  
Rabies: Animal, Human !  
Ricin Poisoning !  
Rubella ☞  
St. Louis Encephalitis Virus Infection  
Salmonellosis: Typhoid Fever ☞  
Salmonellosis: All other species  
Shiga toxin-producing *Escherichia coli*  
Shigellosis  
Smallpox !  
Spotted Fever Rickettsiosis  
*Staphylococcus aureus*: Enterotoxin B  
Pulmonary Poisoning !  
*Staphylococcus aureus*: Vancomycin Non-Susceptible (All Forms) ☞  
*Streptococcus pneumoniae* Invasive Disease  
**Syphilis: Congenital ☞, Other**  
Tetanus  
Toxic Shock Syndrome: Staphylococcal, Streptococcal  
Tuberculosis, infection ("latent")\*  
Tuberculosis, suspected or confirmed active disease ☞  
Tularemia ☞  
Vancomycin-Resistant Enterococcus Invasive Disease  
Varicella Deaths  
Vibriosis  
Viral Hemorrhagic Fever !  
West Nile Virus Infection: Encephalitis, Fever  
Yellow Fever ☞  
Yersiniosis  
Zika Virus Disease/Infection ☞

\* Healthcare providers should only report "Tuberculosis, infection" (formerly, "latent" TBI) for a positive tuberculin skin test (TST) for any child or adolescent < 18 years of age, or a positive interferon-gamma release assay (IGRA) for a patient of any age. Refer to the PH-1600 for additional directions on how to report.

2019 List of Reportable Diseases in Tennessee

Page 1 of 2

<https://www.tn.gov/health/cedep/reportable-diseases.html>

# CDC 2017 STD Surveillance Report Highlights

- **Tennessee Ranks**
  - **16<sup>th</sup> for Gonorrhea**
  - **19<sup>th</sup> for Congenital Syphilis**
  - **21<sup>st</sup> for Chlamydia**
  - **21<sup>st</sup> for Primary and Secondary Syphilis**



Department of  
**Health**

---

# Tennessee STD Epidemiological Profile 2017

Tennessee Department of Health | September 2018

<https://www.tn.gov/health/health-program-areas/statistics/health-data/hiv-data.html>



# Chlamydia: Number and Rate of Reported Cases, 2013-2017

Regions/Metros	2013		2014		2015		2016		2017	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Total cases	30,493	469.5	31,043	474.3	31,607	479.3	32,487	488.4	35,088	522.5
Northeast	772	220.4	841	240.5	874	249.7	947	269.7	1,017	289.2
East	1,802	240.1	2,020	268.3	2,110	278.9	2,193	288.1	2,242	292.6
Southeast	1,038	317.7	1,125	341.7	1,124	340.2	1,132	341.3	1,178	353.9
Upper-Cumberland	957	279.7	929	270.2	864	249.9	1,103	316.7	1,163	330.1
Mid-Cumberland	4,590	395.5	5,031	423.5	4,951	407.4	5,023	403.4	5,779	452.5
South Central	1,310	340.0	1,269	326.5	1,316	334.9	1,375	346.1	1,582	392.9
West	2,581	483.4	2,447	459.4	2,561	482.6	2,703	510.8	2,875	545.9
Shelby	8,504	906.5	8,108	865.2	8,120	867.4	7,871	842.2	9,004	961.0
Davidson	4,000	607.0	4,379	654.9	4,453	656.5	4,544	663.9	4,567	660.7
Knox	1,857	417.9	1,982	442.3	2,191	485.3	2,418	530.1	2,600	562.9
Hamilton	1,914	548.7	1,824	520.3	1,867	528.0	2,069	578.4	1,922	531.5
Madison	779	789.1	729	742.9	784	803.2	730	747.5	725	742.5
Sullivan	389	248.5	359	229.0	392	250.2	379	241.9	434	276.2

All Rates are per 100,000 population.

# Gonorrhea: Number and Rate of Reported Cases, 2013-2017

Regions/Metros	2013		2014		2015		2016		2017	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Total cases	7,406	114	7,294	111.4	8,509	129	10,245	154	12,425	185
Northeast	70	20	109	31.2	115	32.9	116	33	142	40.4
East	191	25.5	225	29.9	226	29.9	408	53.6	583	76.1
Southeast	186	56.9	218	66.2	275	83.2	413	124.5	404	121.4
Upper-Cumberland	56	16.4	50	14.5	86	24.9	166	47.7	372	105.6
Mid-Cumberland	891	76.8	1,117	94	990	81.5	1,346	108.1	1,705	133.5
South Central	168	43.6	243	62.5	273	69.5	293	73.7	321	79.7
West	544	101.9	395	74.2	497	93.7	681	128.7	900	170.9
Shelby	2,514	268	2,163	230.8	2,582	275.8	2,934	313.9	3,694	394.3
Davidson	1,294	196.4	1,325	198.1	1,537	226.6	1,895	276.9	1,656	239.6
Knox	510	114.8	576	128.5	795	176.1	940	206.1	1,333	288.6
Hamilton	633	181.5	598	170.6	838	237	749	209.4	928	256.6
Madison	265	268.4	207	210.9	233	238.7	241	246.8	311	318.5
Sullivan	84	53.7	68	43.4	62	39.6	63	40.2	76	48.4

All Rates are per 100,000 population.



# Syphilis: Number and Rate of Reported Cases, 2013-2017

Regions/Metros	2013		2014		2015		2016		2017	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Total cases	989	15.2	1,002	15.3	1,272	19.3	1,459	21.9	1,456	21.7
Northeast	13	3.7	14	4.0	23	6.6	10	2.8	28	8.0
East	17	2.3	31	4.1	42	5.6	80	10.5	60	7.8
Southeast	16	4.9	32	9.7	23	7.0	28	8.4	35	10.5
Upper -Cumberland	12	3.5	10	2.9	13	3.8	18	5.2	25	7.1
Mid -Cumberland	70	6.0	95	8.0	129	10.6	140	11.2	167	13.1
South Central	16	4.2	9	2.3	20	5.1	28	7.0	33	8.2
West	25	4.7	26	4.9	31	5.8	29	5.5	45	8.5
Shelby	530	56.5	422	45.0	532	56.8	693	74.1	590	63.0
Davidson	185	28.1	237	35.4	268	39.5	264	38.6	236	34.1
Knox	49	11.0	53	11.8	109	24.1	92	20.2	103	22.3
Hamilton	38	10.9	60	17.1	53	15.0	66	18.4	104	28.8
Madison	12	12.2	9	9.2	20	20.5	17	17.4	20	20.5
Sullivan	6	3.8	4	2.6	9	5.7	4	2.6	9	5.7

All Rates are per 100,000 population.

Note: Rates based on counts of < 20 are unreliable. Interpret with caution.

\*Includes all stages of infection, including congenital syphilis.

# Primary & Secondary Syphilis- Number and Rate of Reported Cases, 2013-2017

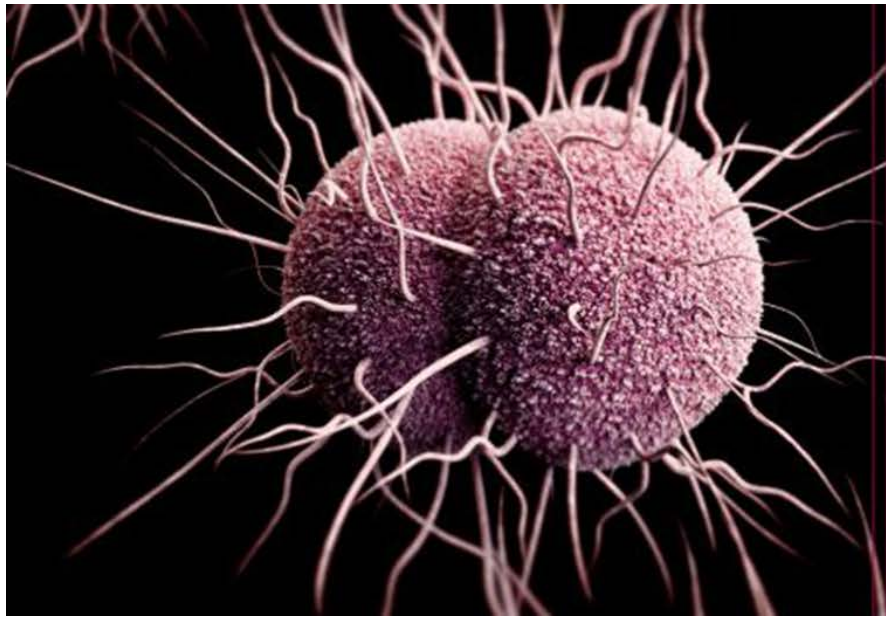
Regions/Metros	2013		2014		2015		2016		2017	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Total cases	215	3.3	239	3.7	356	5.4	390	5.9	489	7.3
Northeast	4	1.1	4	1.1	7	2	2	0.6	8	2.3
East	4	0.5	9	1.2	20	2.6	23	3	24	3.1
Southeast	2	0.6	6	1.8	4	1.2	5	1.5	12	3.6
Upper-Cumberland	12	3.5	10	2.9	13	3.8	18	5.2	25	7.1
Mid-Cumberland	16	1.4	23	1.9	41	3.4	48	3.9	69	5.4
South Central	5	1.3	2	0.5	8	2	16	4	17	4.2
West Total	10	1.9	7	1.3	8	1.5	5	0.9	11	2.1
Shelby	89	9.5	79	8.4	107	11.4	150	16.0	135	14.4
Davidson	45	6.8	58	8.7	90	13.3	73	10.7	107	15.5
Knox	14	3.2	22	4.9	36	8.0	21	4.6	38	8.2
Hamilton	14	4.0	25	7.1	25	7.1	28	7.8	43	11.9
Madison	7	7.1	2	2.0	11	11.3	11	11.3	8	8.2
Sullivan	2	1.3	0	0	4	2.6	1	0.6	5	3.2

All Rates are per 100,000 population.

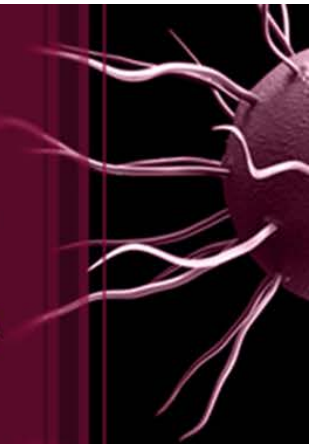
Note: Rates based on counts of < 20 are unreliable. Interpret with caution.



# **The Basics: A breakdown of common STIs**



**ANYONE**  
who is sexually active  
can get gonorrhea.



®

**GONORRHEA**

# Gonorrhea

Sometimes called clap, drip, dose, strain, gleet or the whites

- Incubation period: 1–14 days
- Caused by a bacteria
- Transmitted through unprotected vaginal, anal, or oral sex
- Pregnant females can easily pass it to babies during childbirth



# Complications in Women

- **Bartholin's abscess**
- **Pelvic inflammatory disease (PID)**
- **Disseminated gonococcal infection (DGI)**

# Disseminated Gonococcal Infection (DGI)



# Pelvic Inflammatory Disease (PID)





# Gonorrhea in Infants

- **A mother can pass gonorrhea to her baby during childbirth**



# Testing and Treatment for Gonorrhea


- **Easily detected by a urine test or swab**
- **Easily cured with antibiotics**

## Recommended Treatment Regimen

- **Ceftriaxone 250 mg IM**

**PLUS**

- **Azithromycin 1g orally**



Most people  
who have chlamydia  
**don't know it**  
since the disease  
often has no symptoms.

Although it is easy to cure, chlamydia can  
make it difficult for a woman to get pregnant  
if left untreated.



**TN**

®



**CHLAMYDIA**

# Chlamydia



Women under 25 and older women with risk factors need testing every year.

- **Incubation Period: 1-3 weeks**
- **Caused by a bacteria**
- **Most common STD**
- **Transmitted through unprotected vaginal, anal, or oral sex**
- **Pregnant females can easily pass it to babies during childbirth**

# Symptoms of Chlamydia

## Symptoms in Women:

- Usually asymptomatic
- Abnormal vaginal discharge
- Pain during sex

## Complications, if not treated:

- Pelvic inflammatory disease (PID)

## Symptoms in Men:

- Usually asymptomatic
- Discharge from the penis (may be runny, whitish)
- Burning on urination

## Complications, if not treated

- Swollen and tender testicles (epididymitis)

# Testing and Treatment of Chlamydia

- **Easily detected by a urine test or swab**
- **Easily cured with antibiotics**

## Recommended Treatment Regimens

**Azithromycin 1 g orally**

**OR**

**Doxycycline 100 mg orally  
twice a day for 7 days**

# Extragenital Testing

- **What is Extragenital Testing?**
  - **Testing for STIs at all “sites” (urine/pharyngeal/rectal)**
  - **Usually refers to rectal and pharyngeal**
  - **Typically for gonorrhea and/or chlamydia**
  - **Rectal and pharyngeal infection are generally asymptomatic**
  - **Routinely done only for men who have sex with men (MSM)**
  - **Females who engage in oral and/or anal sex should be screened**

# Extragenital Testing

- **CDC Recommendations (MSM)**
  - **A test for urethral chlamydia or gonorrhea infection in men who had insertive intercourse in the past year**
  - **A test for rectal chlamydia or gonorrhea infection in men who had receptive anal intercourse in the past year**
  - **A test for pharyngeal gonorrhea infection in men who had receptive oral intercourse in the past year**
  - **High-risk MSM should be tested frequently (3-6 months)**





Syphilis can have very serious complications when left untreated.



TN

®



SYPHILIS

# Syphilis

**Sometimes called “bad blood”, pox, lues, or a “zipper cut”**

- **Incubation period: 10-90 days (average 21 days)**
- **Caused by a bacteria**
- **Can cause infections in men, women, and unborn babies during pregnancy**

# Stages of Syphilis

- **Primary Syphilis**
- **Secondary Syphilis**
- **Late Latent Syphilis**

# Symptoms of Primary Syphilis

- **A painless sore called a chancre may be located on the genitals, lips, anus, or other area of direct contact**
- **The chancre lasts 1-5 weeks and heals without treatment**
- **Easily transmitted to sex partners**

# Primary Syphilis Chancre (lesion)



# Symptoms of Secondary Syphilis

- **Skin rashes lasting 2–6 weeks (average of 4 weeks) on the palms of the hands, bottoms of the feet, or any part of the body**
- **Other symptoms include fever, swollen lymph glands, headache, hair loss, and muscle aches**
- **Symptoms go away without treatment**
- **May transmit to sex partners**

# Secondary Syphilis Rash



# Secondary Syphilis Rash (Palmar/Planter)





# Symptoms of Late Syphilis

- **Paralysis**
- **Insanity**
- **Blindness**
- **Damage to knee joints**
- **Personality changes**
- **Impotency**
- **Aneurysm (ballooning of a blood vessel)**
- **Tumor on the skin or internal organs**

# CDC Syphilis Screening/Testing Recommendations

<b>Syphilis</b>	
<b>Pregnant Women</b>	<ul style="list-style-type: none"><li>•All pregnant women at the first prenatal visit<sup>11</sup></li><li>•Retest early<sup>12</sup> in the third trimester and at delivery if at high risk</li></ul>
<b>Men Who have Sex With Men (MSM)</b>	<ul style="list-style-type: none"><li>•At least annually for sexually active MSM<sup>7,13</sup></li><li>•Every 3 to 6 months if at increased risk<sup>7</sup></li></ul>
<b>Persons with HIV</b>	<ul style="list-style-type: none"><li>•For sexually active individuals, screen at first HIV evaluation, and at least annually thereafter<sup>14,15,16</sup></li><li>•More frequent screening might be appropriate depending on individual risk behaviors and the local epidemiology<sup>13</sup></li></ul>

[http://www.cdc.gov/std/tg2015/screeningrecommendations.htm#modalIdString\\_CDCTable\\_2](http://www.cdc.gov/std/tg2015/screeningrecommendations.htm#modalIdString_CDCTable_2)

# Testing & Treatment for Syphilis

- Easily detected by a blood test
- Easily cured with antibiotics
- Some complications of late syphilis are not treatable

## Recommended Regimen for Adults

### *Early Syphilis (Primary & Secondary)*

**Benzathine penicillin G  
2.4 million units IM**

### *Late Latent Syphilis*

**Benzathine penicillin G  
7.2 million units total  
administered as 3 doses of  
2.4 million units IM each at 1  
week intervals**

# CONGENITAL SYPHILIS IS:



INCREASING  
IN THE UNITED STATES

A SOURCE OF MAJOR HEALTH  
PROBLEMS, EVEN DEATH



PREVENTABLE

**TN**

®

# CONGENITAL SYPHILIS

# Complications of Congenital Syphilis

- **Miscarriage, stillbirth or death shortly after birth**
- **Deformed bones**
- **Severe anemia (low blood count)**
- **Enlarged liver and spleen**
- **Jaundice (yellowing of the skin or eyes)**
- **Nerve problems (e.g. blindness or deafness)**
- **Meningitis**
- **Skin rashes**

# Syphilis During Pregnancy

Seropositive pregnant women should be **considered infected unless an adequate treatment history is clearly documented** in the medical records.

## Treatment

- Penicillin is the only approved treatment for pregnant females
- Pregnant women should be treated with the penicillin regimen appropriate for their stage of infection
- Pregnant women who have a history of penicillin allergy should be referred for penicillin desensitization and treatment

# The Law (Tenn. Code Ann. 68-5-602)

- (a) Every physician, surgeon, or other person permitted by law to attend a pregnant woman during gestation shall, in the case of each woman so attended, take or cause to be taken a sample of the blood of the woman at the time of first examination and visit or within ten (10) days after the first examination. If the first visit is at the time of delivery, or after delivery, the standard serological test required by this subsection (a) shall be performed at that time. The blood sample shall be sent to a laboratory approved by the department for testing for syphilis infection, rubella immunity, and hepatitis B surface antigen (HBsAg). In the same manner, a sample of blood shall be taken during or after the twenty-eighth week of gestation for a woman whom the attending physician determines to be at high risk of hepatitis B or syphilis according to the current standards of care. This second sample shall be sent to a laboratory approved by the department for testing for syphilis infection and HBsAg only. Additional testing for rubella immunity is not required in subsequent pregnancies once a positive result is verified or a documented history of vaccination against rubella is available. However, all pregnant women shall be tested for syphilis and hepatitis B during an early prenatal visit in each pregnancy. A positive test for syphilis and hepatitis B shall be reported to the local health department in accordance with this chapter, and regulations governing the control of communicable diseases in Tennessee.
- (b) Every person attending a pregnant woman who is not permitted by law to take blood samples shall cause a sample of blood to be taken by a health provider permitted by law to take the samples at the time of first examination and visit or within ten (10) days after the first examination. These samples shall be submitted to the same approved laboratories for testing for syphilis infection and HBsAg. If no rubella immunity is documented, testing for rubella is required.
- (c) Infants born to HBsAg-positive mothers shall receive, in a timely manner, the appropriate treatment as recognized by the centers for disease control.
- (d) This part shall not apply to any female who files with the attending medical authority a signed, written statement that taking a sample of blood or receiving other preventive measures conflict with the female's religious tenets and practices affirmed under the penalties of perjury.



**Program Services**



# Prevention in Action

- **Provide federal and state funding to 13 Public Health Regions**
- **Provide discounted medications for STD and Women's Health Services in all eligible sites**
- **Serve as members of advisory boards and national workgroups**
- **Coordinate trainings for nurses and STD staff**
- **Provide technical assistance and monitor/respond to outbreaks**
- **Actively participate in screening and health education outreach events**

# Goals of Technical Assistance

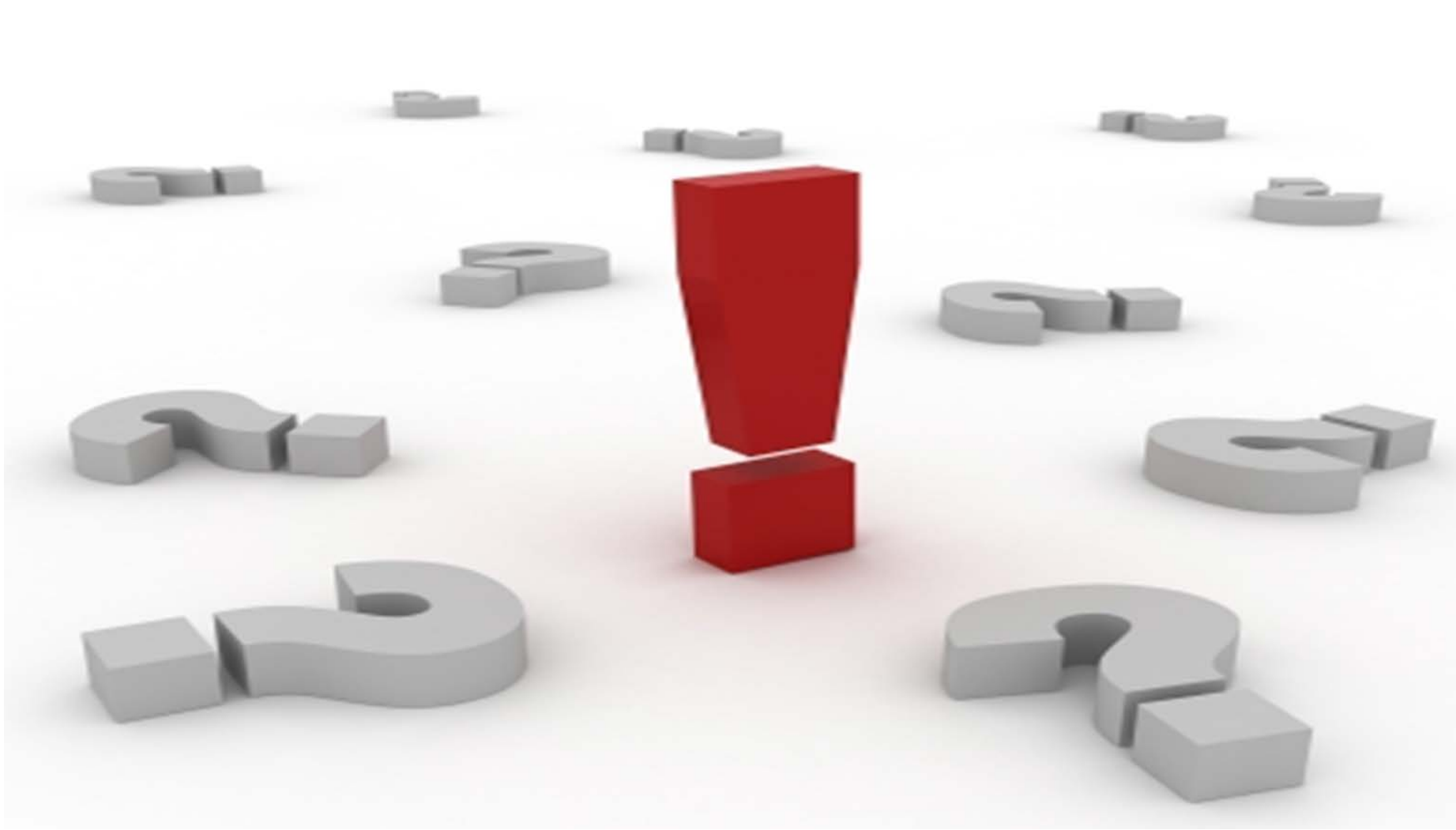
**To provide technical assistance and programmatic support to:**

- **Ensure compliance with partner services management**
- **Reduce the number of delinquent syphilis and HIV cases**
- **Address morbidity increases**
- **Reduce data errors and missing information**

# Examples of Technical Assistance

- **Training and Technical Assistance**
  - **Basic disease intervention strategies**
  - **Partner services activities**
  - **Investigation prioritization**
  - **Case management and case review**
  - **Management strategies for syphilis/HIV co-infections**
  - **MSM/ Cultural Sensitivity**
  - **Surveillance**
  - **SendSS**
- **Direct Assistance: Nursing and Field Services**

# Questions



**Leonardo S. Parker**  
*STD Prevention Director*  
**HIV/STD & Viral Hepatitis**  
**Tennessee Department of Health**  
**710 James Robertson Pkwy**  
**Nashville, TN 37243**  
**Phone: 615-253-5314**  
**Email: [Leo.Parker@tn.gov](mailto:Leo.Parker@tn.gov)**