TN NHSN User Call

from the Tennessee Department of Health

TN

Tuesday, February 20, 2024

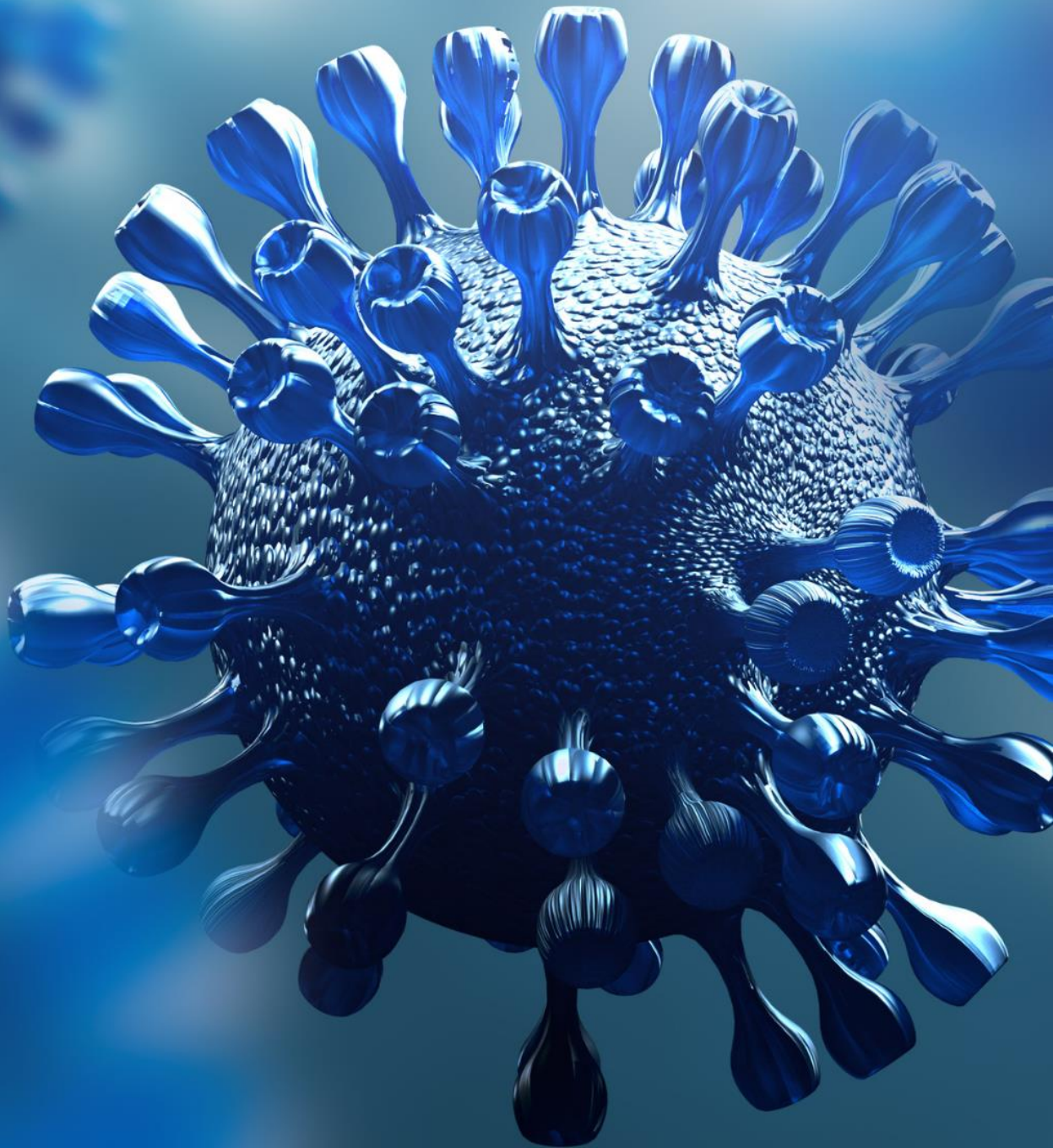
Agenda

- **Respiratory Illness Update**
  - **Abigail Marrero, MPH, CPH**
- **NHSN Update**
  - **Vicky Lindsey, RN, CIC**
- **Congenital Syphilis and Syphilis**
  - **Steffany Cavallo, MPH & Rebecca Moore, BSN, RN**
- **Multi-Drug Resistant Organism (MDRO) Surveillance Team Update**
  - **Alex Kurutz, MPH**
- **NHSN Annual Training – VAE & PedVAE**
  - **Marissa Turner, MPH**

TDH NHSN Team

- **Abigail Marrero, MPH, CPH**
  - **Senior NHSN Epidemiologist**
- **Vicky Lindsey, AAS, RN, CIC**
  - **Senior NHSN Public Health Nurse Consultant**
    - **Lead Technological Assistance**
  - **Infection Prevention and Control Specialist**
- **Ashley Gambrell, MPH**
  - **Assistant NHSN Epidemiologist**
- **Marissa Turner, MPH**
  - **Assistant NHSN Epidemiologist**
- **Alex Kurutz, MPH**
  - **Dialysis Epidemiologist**

Respiratory Illness Update



TN Department of Health

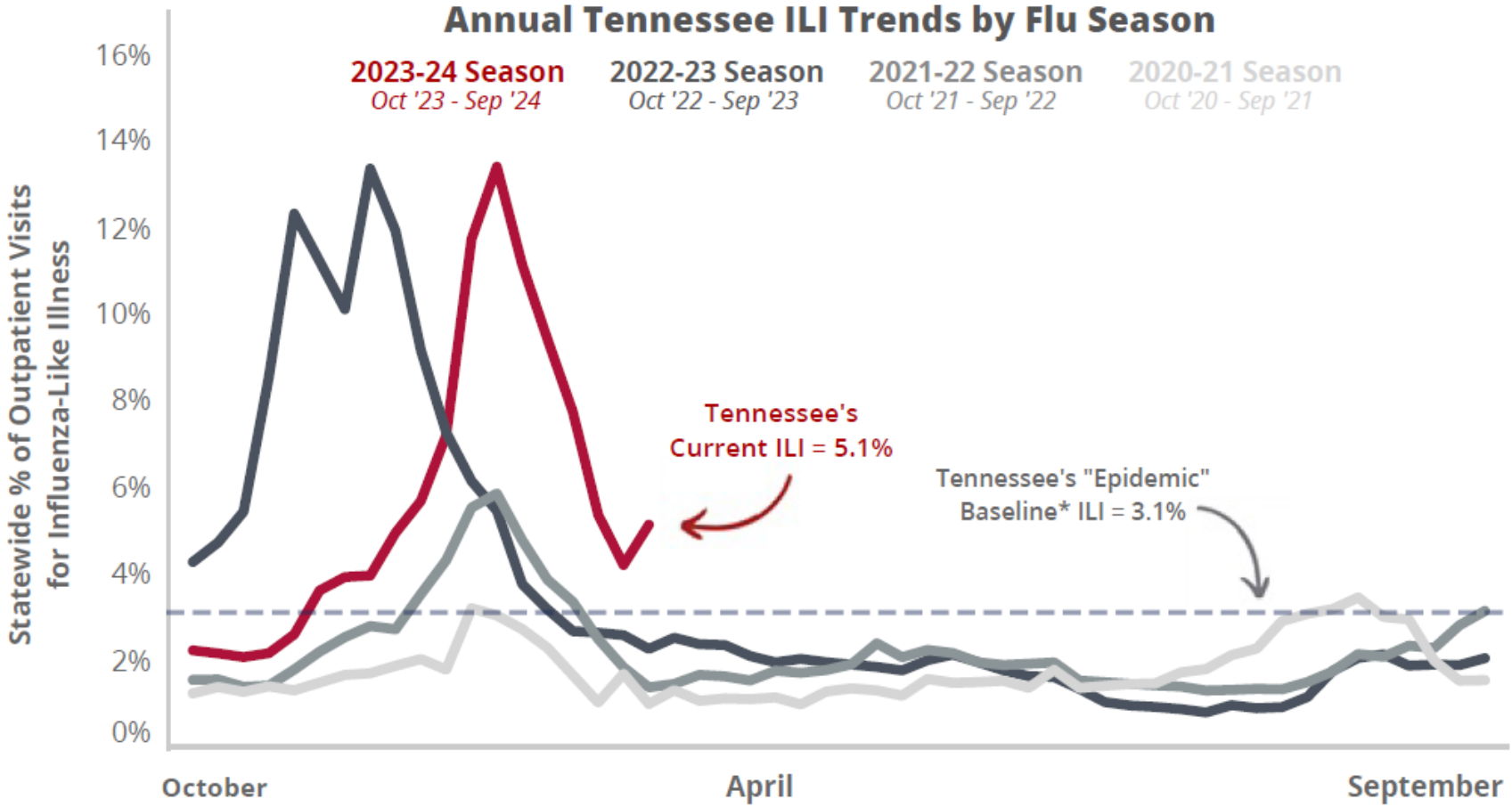
Influenza in Tennessee Snapshot

SURVEILLANCE INDICATOR	TREND	CURRENT WEEK	PREVIOUS WEEK
ILLNESS Percentage of outpatient visits due to influenza-like illness (ILI)	▲	5.1%	4.2%
LABORATORY Percentage of positive specimens & predominant strain of influenza	▼	7.0% Flu B	14.4% Flu B

SURVEILLANCE INDICATOR	NEWLY REPORTED *during week of February 4, 2024*	SEASON TOTAL *since October 1, 2023*
OUTBREAKS 2 or more ill persons of a shared setting	2	10
DEATHS Newly reported and season total pediatric influenza-associated deaths in TN	1	4

Complete Flu Reports Found Here: https://www.tn.gov/health/cedep/immunization-program/ip/flu-in-tennessee.html

Influenza-Like Illness



https://www.tn.gov/health/cedep/immunization-program/ip/flu-in-tennessee.html

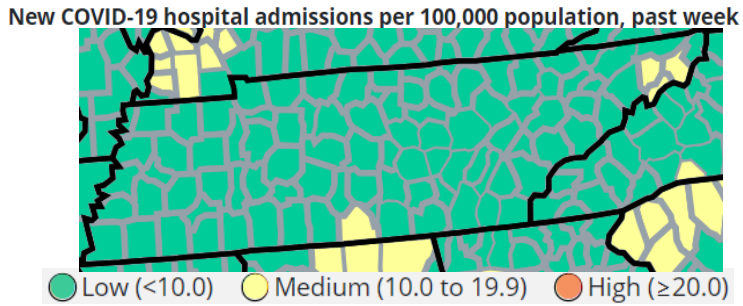
COVID-19 Trends in TN & US

- **Tennessee**
  - **New cases increased ▲**

    (total ~5660/week; ~3710 week prior)
  - **Hospitalizations decreased ▼**

    (328 – hospitalized; 367 – week prior)
  - **Deaths**

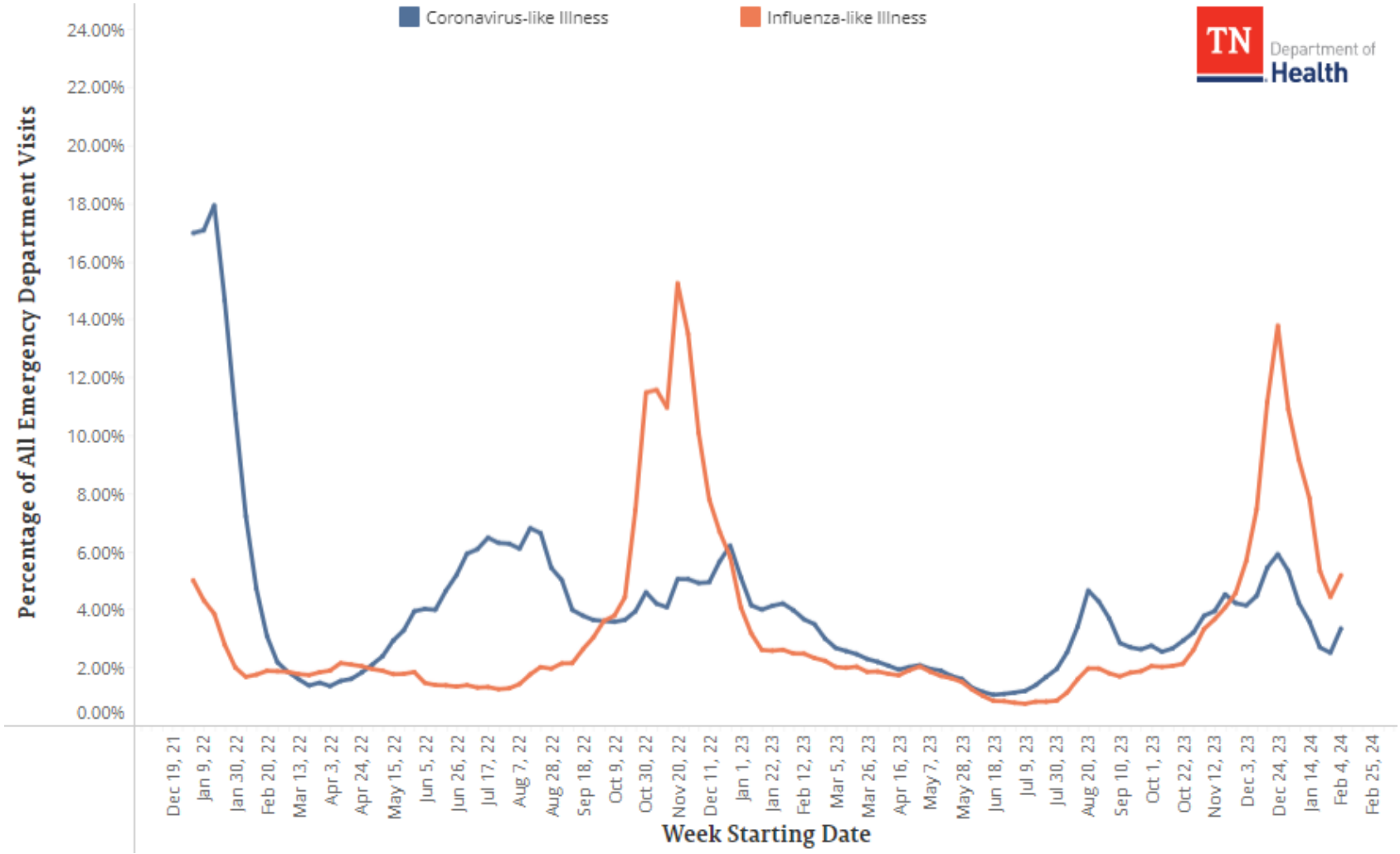
    (No new death totals to report)



- **U.S.A.**
  - **New hospitalizations decreasing ▼**
  - **Deaths slightly decreased ▼**

Syndromic Surveillance

Emergency Department Data of chief complaint and discharge diagnosis

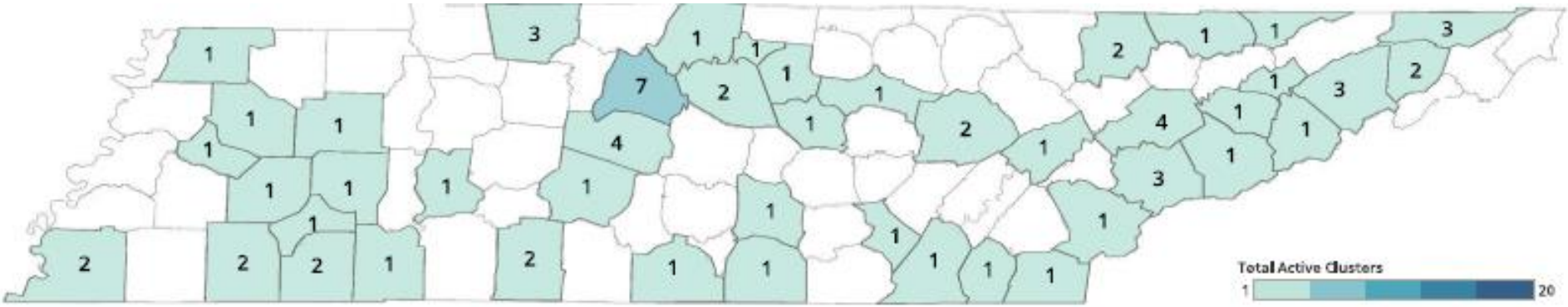


COVID Cluster in High-Risk Settings

73 Total Active Clusters

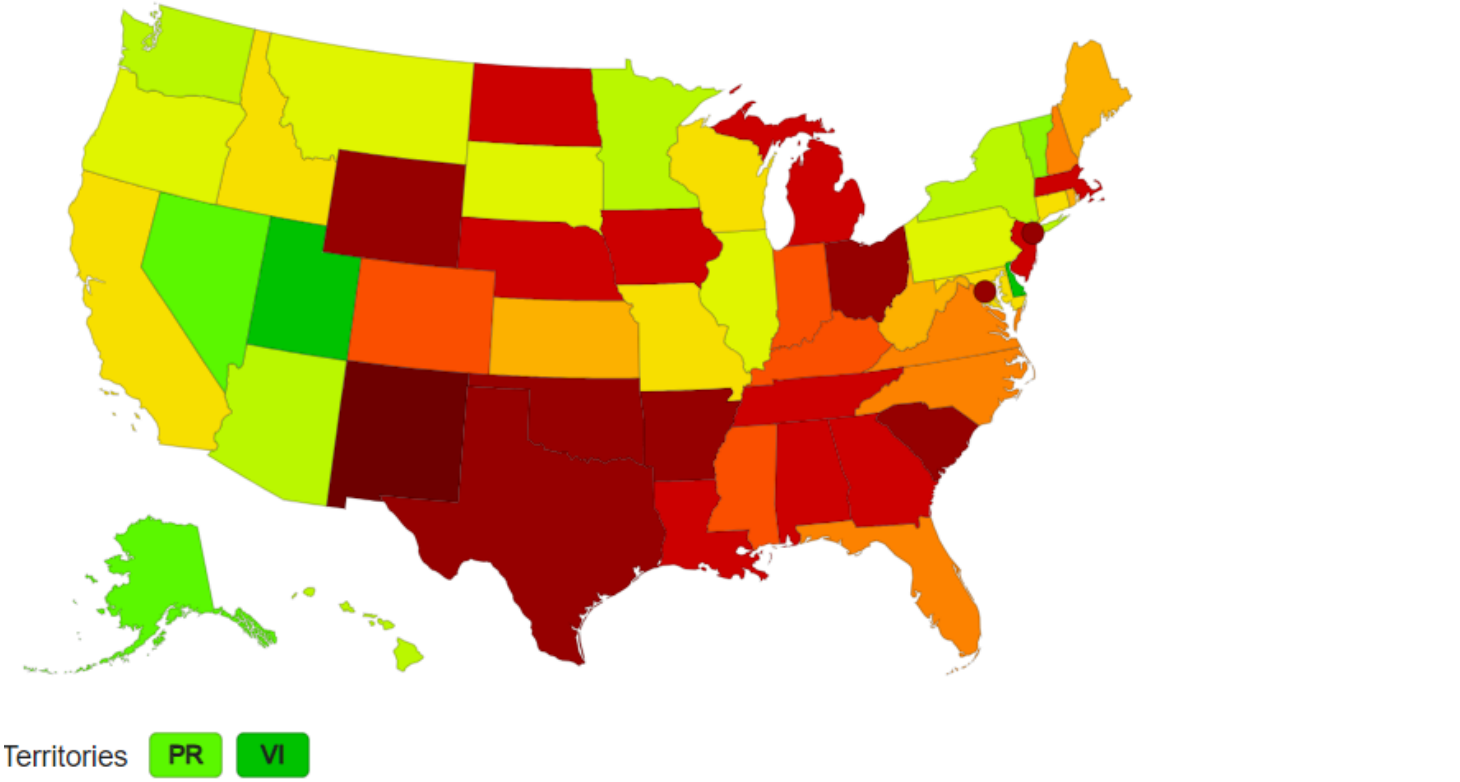
High-risk settings include long-term care facilities, correctional facilities, shelters, and other congregate settings

Active Clusters by County



Bottom Line

- **Respiratory Illness in Tennessee**
  - **Respiratory virus activity in Tennessee is High**



Respiratory Virus Activity Levels (cdc.gov)

CDC Resources

- Resources to Prepare for Flu, COVID-19, and RSV | CDC
- Protect yourself from COVID-19, Flu, and RSV (cdc.gov)
- Weekly Viral Respiratory Illness Snapshot (cdc.gov)
- Choosing the Right PPE for COVID-19 | Project Firstline | Infection Control | CDC
- Infection Control: Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) | CDC
- CDC COVID Data Tracker: Vaccinations in Nursing Homes

NHSN Updates

Vicky Lindsey, AAS, RN, CIC| Tennessee Department of Health | Communicable and Environmental Diseases and Emergency Preparedness

NHSN-PaTT Ask the Experts

- February 21, 2024

Get Annual Training Ready!

NHSN-Cloud Migration

- The DHQP Surveillance Branch is excited to announce that the National Healthcare Safety Network (NHSN) application is expected to migrate to the CDC's Microsoft Azure cloud-based environment on February 24, 2024.
- Operating in a cloud-based environment will improve the NHSN experience for CDC, its partners, and reporting facilities. Some of the benefits include:
  - Faster processing speed for data reporting, analysis, and extraction
  - An improved user interface to enhance the user experience
  - A streamlined interface – fewer clicks to find information and essential screens

NHSN-Downtime

- The NHSN application will be offline beginning at **8pm ET on Friday, February 23 through Sunday February 25th** for a large system upgrade. Users will be unable to access NHSN during this time and should plan accordingly.

- Beginning Monday, February 26th at 8am, users will be able to access NHSN using the same login process and credentials you previously used.

- If you experience issues logging in on Monday morning, please contact the NHSN Help Desk in ServiceNow (accessed through your Secure Access Management System (SAMS) account) to submit a ticket, using the subject line “Post-Upgrade Login”.

NHSN Annual Survey

- Deadline to complete survey March 1, 2024.
- Guidance document on how to add an annual survey.
  - Patient Safety Component - Annual Hospital Survey

- The 2023 NHSN Acute Care Hospital Annual Survey will include several updates to the Sepsis Management and Practices section.

- There are also notable updates to the Facility Water Management Program and Facility Microbiology Laboratory Practices Sections across all PSC Surveys for 2023.

NHSN Annual Survey

- Acute care hospitals completing the 2023 Annual Hospital Survey will have the option to temporarily save an incomplete survey.
  - This functionality can be used when a user is unable to complete the entire NHSN survey in one sitting.
  - To locate an incomplete survey in NHSN, click “Surveys” > “Incomplete”, and select the 2023 annual survey.
  - Complete any additional data entry as needed and select “Submit” at the bottom of the page.
  - Incomplete survey data will not be included in SIR calculations.

- Saving an incomplete survey is currently not unavailable for the LTAC and IRF Annual Surveys but will be available in the future.

Increasing Syphilis Rates

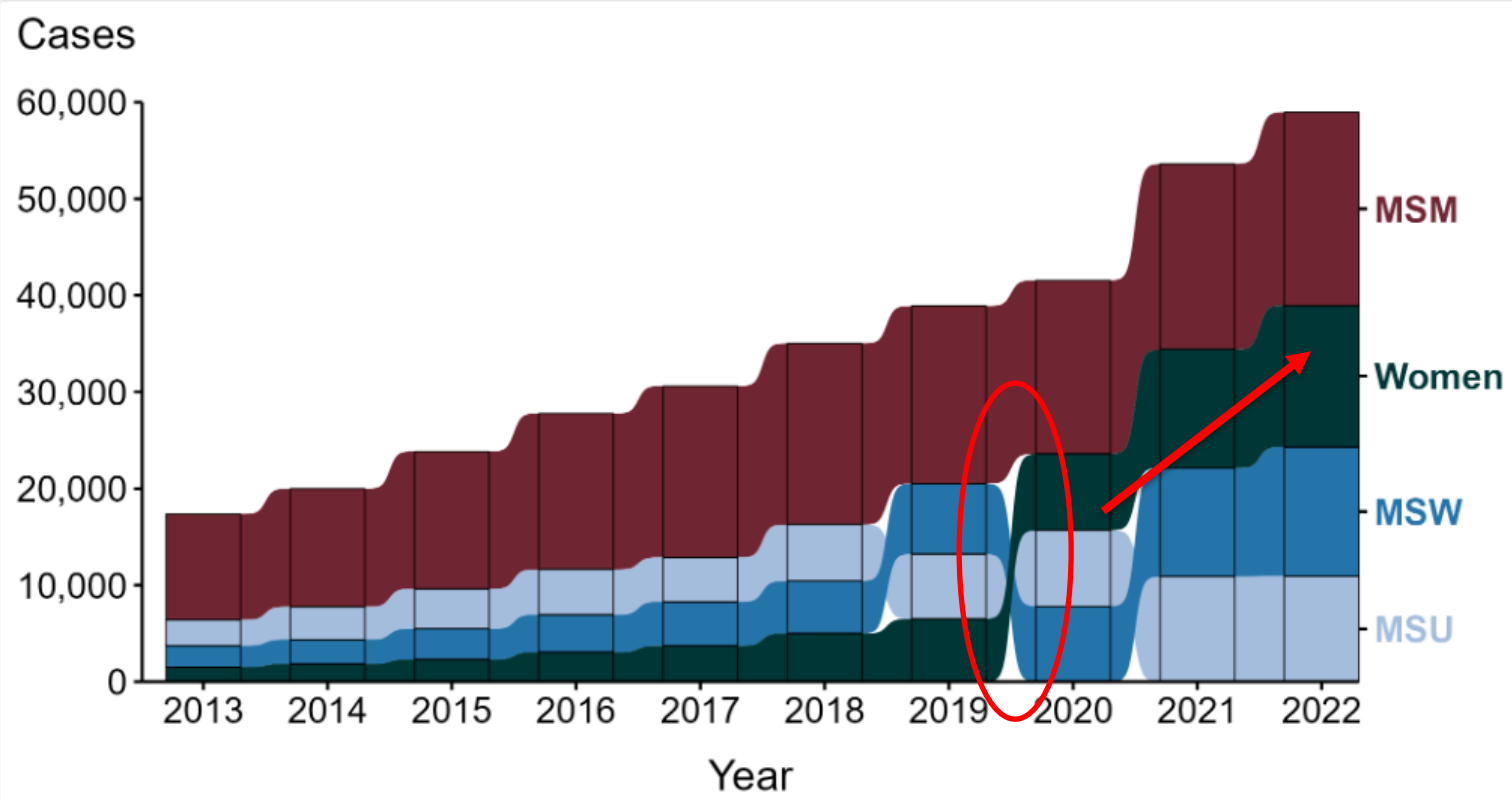
Raising Awareness Can Help Reverse The Upward Trend

Steffany Cavallo, MPH – STI Program Manager | Rebecca Moore, BSN, RN - Perinatal STI Nurse Consultant

Syphilis Rates In United States

Primary and Secondary Syphilis — Reported Cases by Sex and Sex of Sex Partners, United States, 2013–2022

Print



[PNG - 128 KB]

* Per 100,000

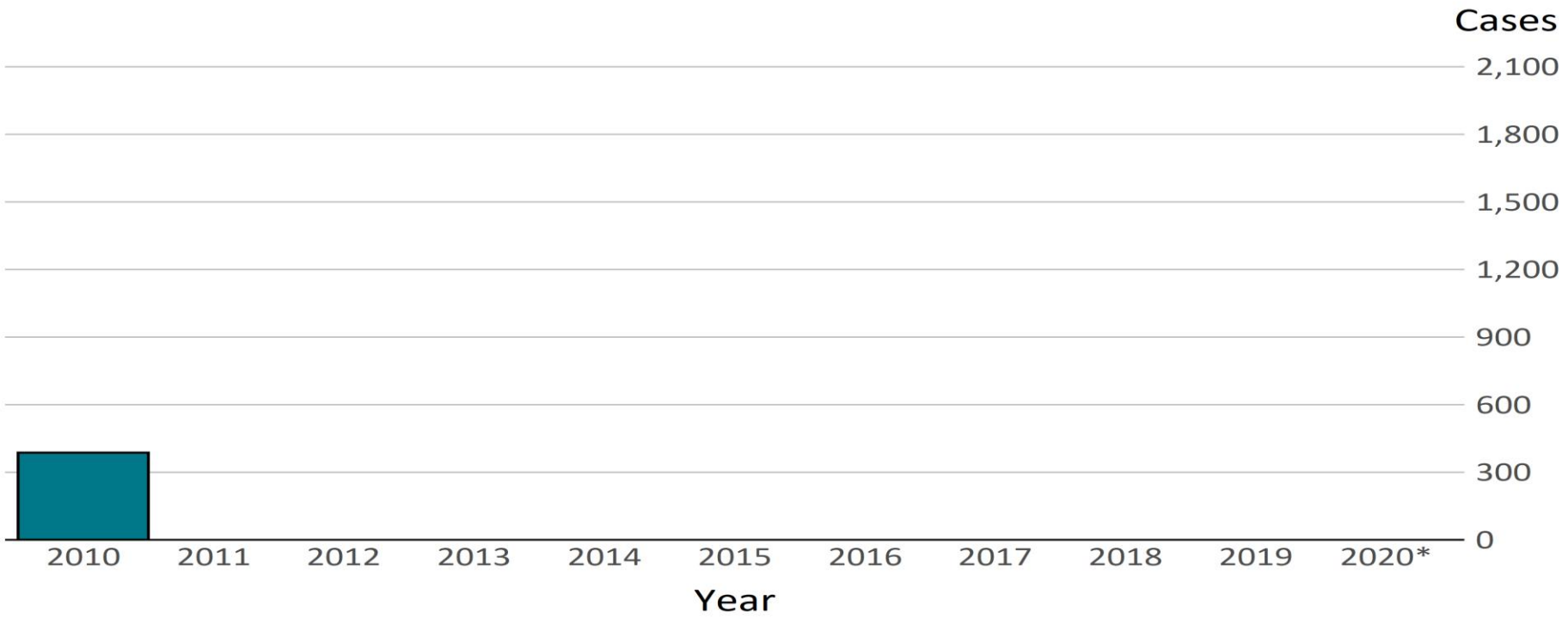
ACRONYMS: AI/AN = American Indian or Alaska Native; Black/AA = Black or African American; NH/PI = Native Hawaiian or other Pacific Islander

https://gis.cdc.gov/grasp/nchhstpatlas/charts.html

TN

Congenital Syphilis Trends — Reported Cases by Year of Birth, United States, 2010–2020*

Over 2,020 infants born in 2020 have already been reported as cases of congenital syphilis,* and this may increase to 2,100 before reporting closes.

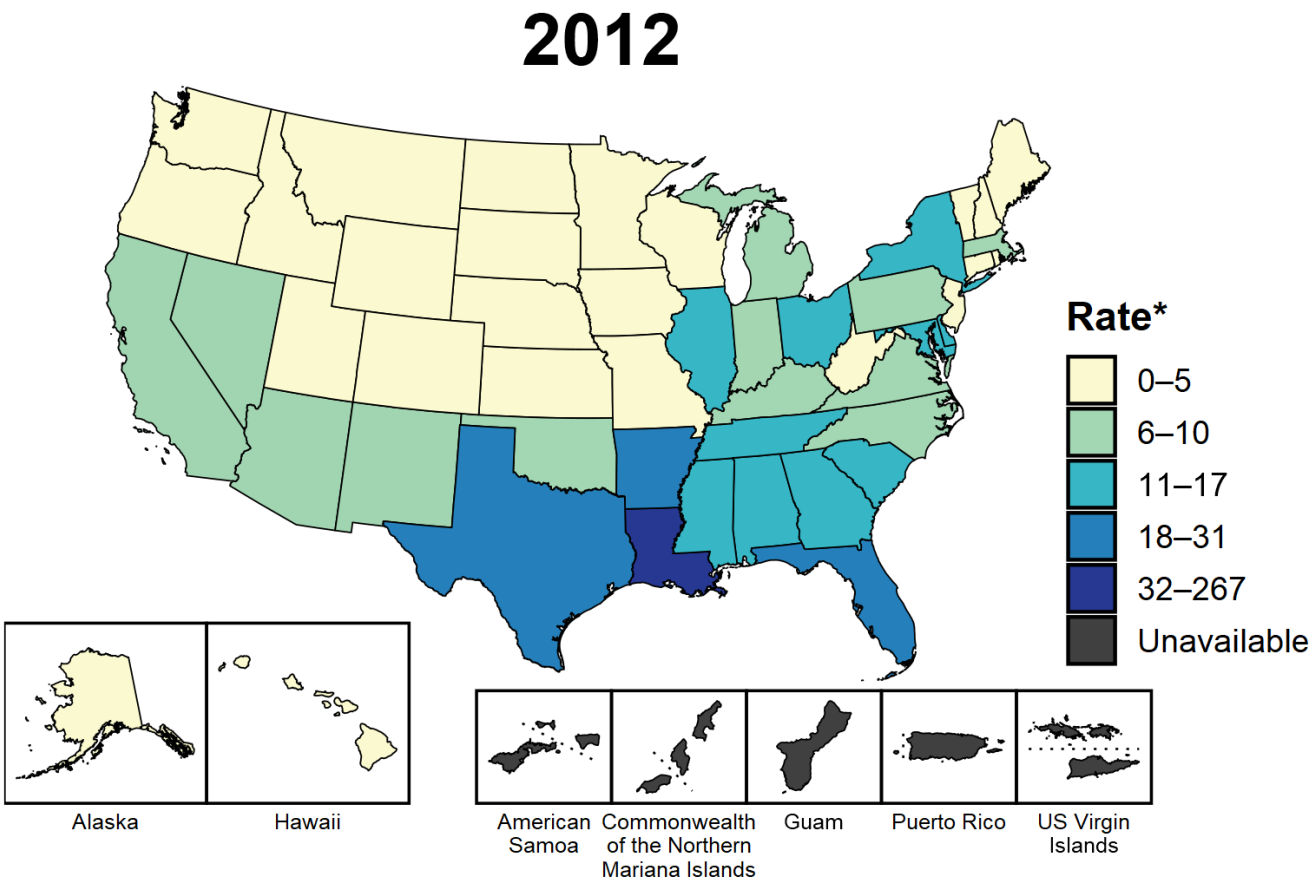


* Reported and projected 2020 congenital syphilis data are preliminary as of July 29, 2021.

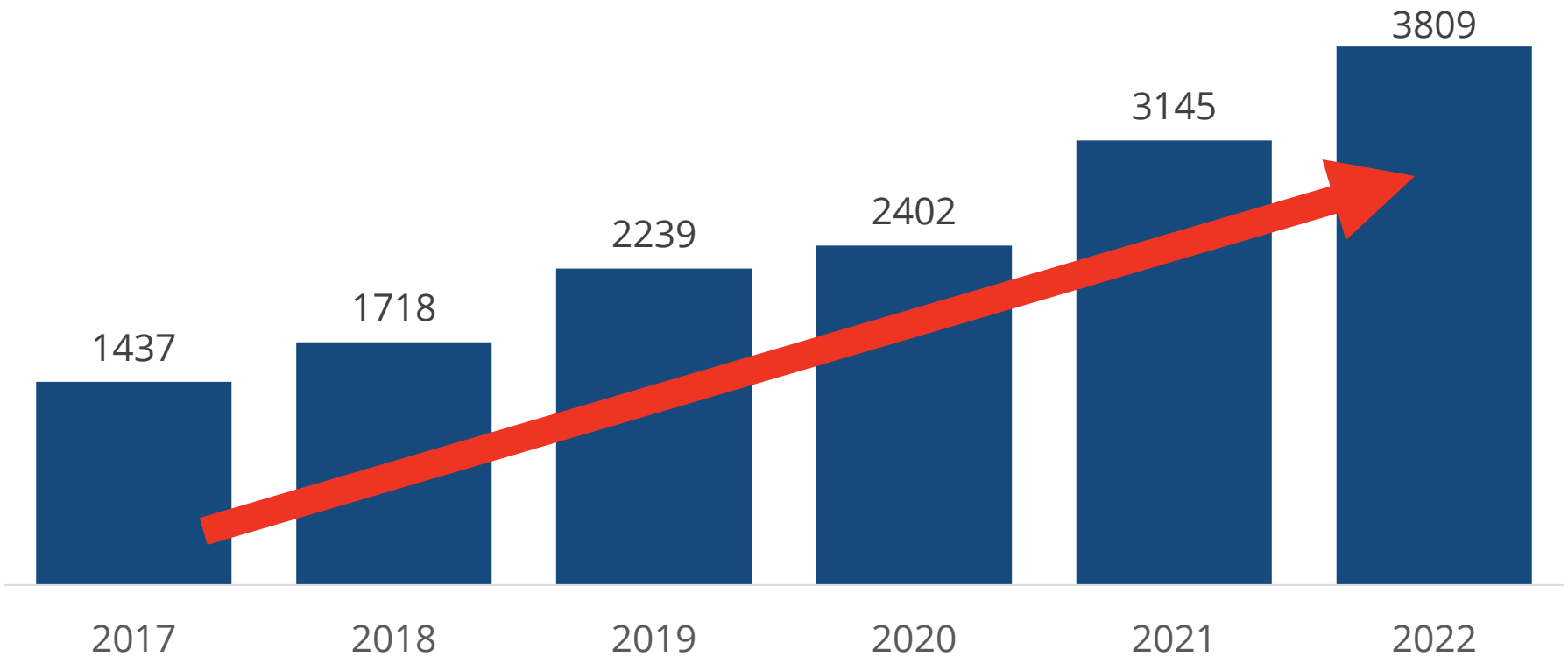
TN Department of Health

Source: Centers for Disease Control and Prevention. *Sexually Transmitted Disease Surveillance 2019*. Atlanta: U.S. Department of Health and Human Services; 2021.

Congenital Syphilis – reported cases by state 2012 - 2021

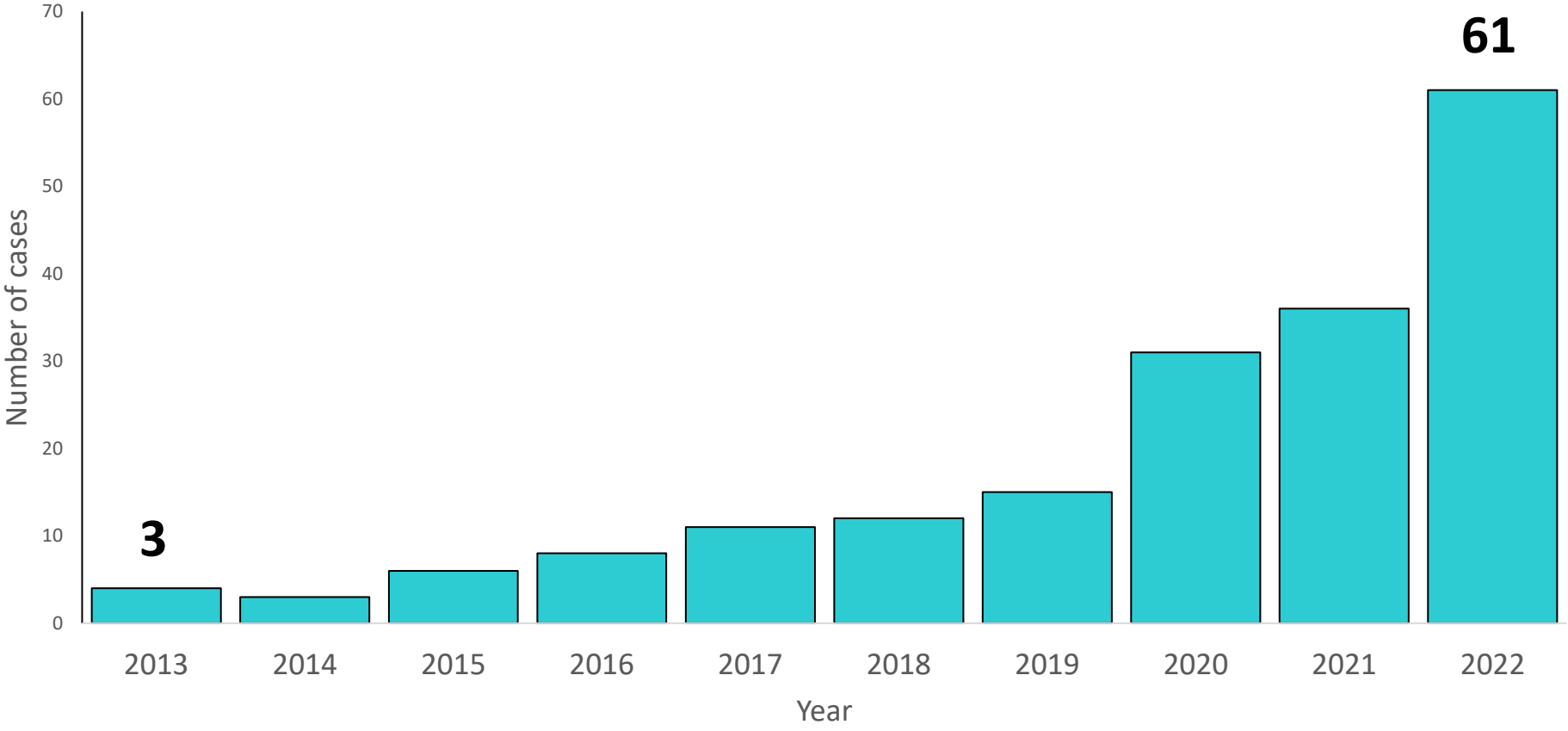


Syphilis (all stages) in TN, 2017–2022



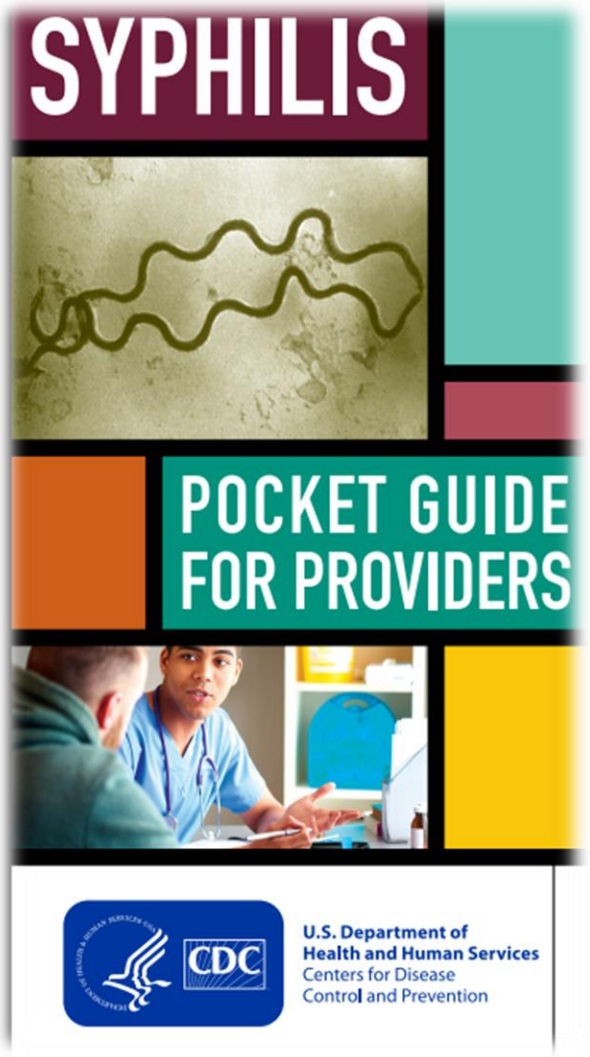
Source: Patient Reporting Investigation Surveillance Manager (PRISM), 2017-2022.

Congenital Syphilis in Tennessee, 2013-2022



Syphilis

Syphilis: Definition & Transmission



DEFINITION & TRANSMISSION

Syphilis is a systemic, sexually transmitted disease (STD) caused by the *Treponema pallidum* bacterium.

Syphilis Transmission

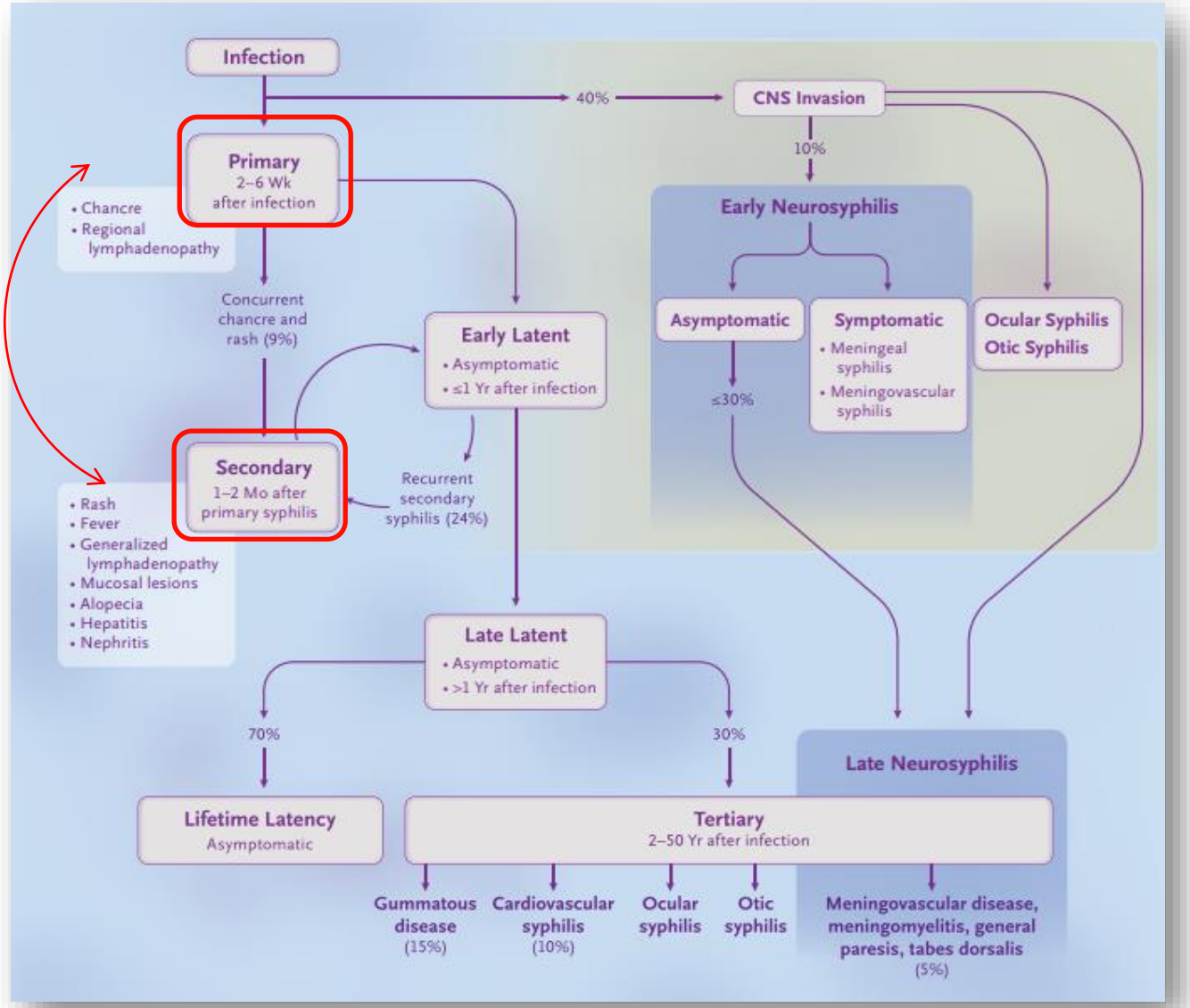
Two means of syphilis transmission: sexual and vertical

- Sexual: Person to person via vaginal, anal, or oral sex through direct contact with syphilis sores or lesions, known as a chancre. Chancres occur at the primary stage of syphilis and can be found around the external genitals or anus, in the vagina or rectum, or in or around the mouth.
- Sexual transmission also occurs at the secondary stage, mainly by direct contact with mucous membrane lesions such as condyloma lata and mucous patches.
- Vertical: From infected mother to her unborn baby via the bloodstream.

https://www.cdc.gov/std/syphilis/Syphilis-Pocket-Guide-FINAL-508.pdf

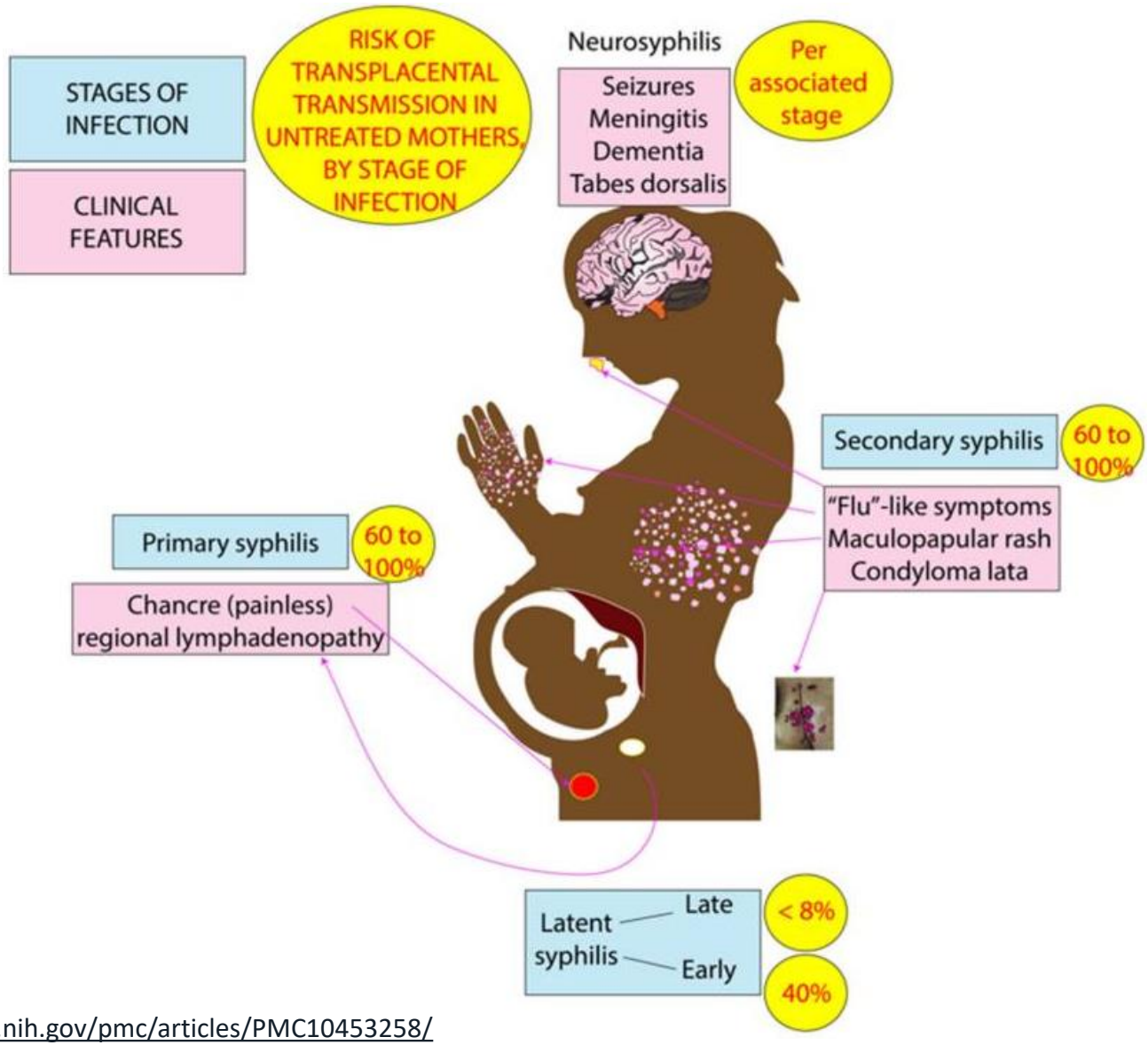
Natural Progression of Untreated Syphilis

Infectious



N Engl J Med 2020; 382:845-854

Syphilis During Pregnancy



https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10453258/

Syphilis During Pregnancy – Birth Outcomes

Up to 40% of babies born to untreated mothers, may be stillborn or die from the infection as a newborn

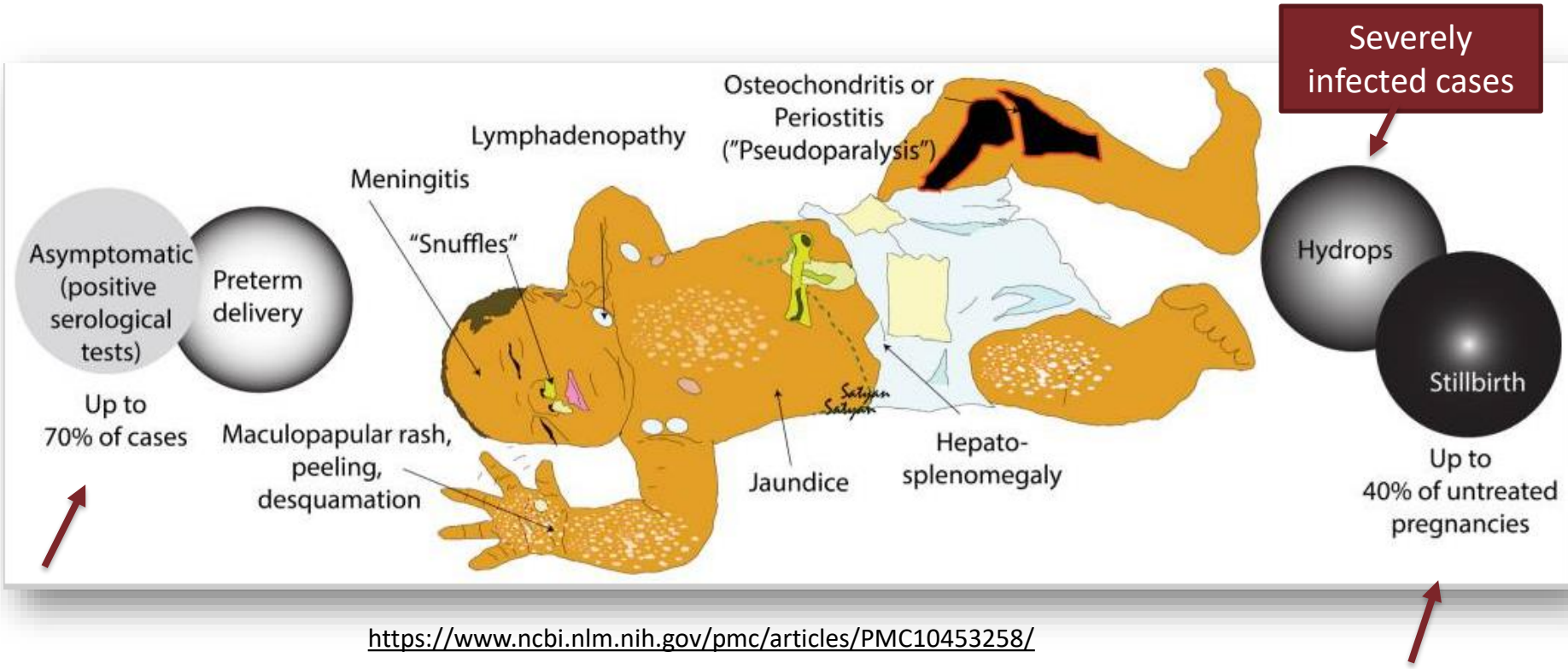
- Stillbirth
- Miscarriage
- Perinatal death
- Preterm delivery
- Low birth weight
- Congenital infection
  - Lifelong disabilities
  - Vision and hearing problems
  - Developmental delays
  - Bone abnormalities
  - Death

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10453258/

Congenital Syphilis – Clinical Features

Clinical features vary – up to 70% asymptomatic

- Untreated asymptomatic infants with congenital syphilis infection may present with clinical features after 2 years of age, resulting in late congenital syphilis



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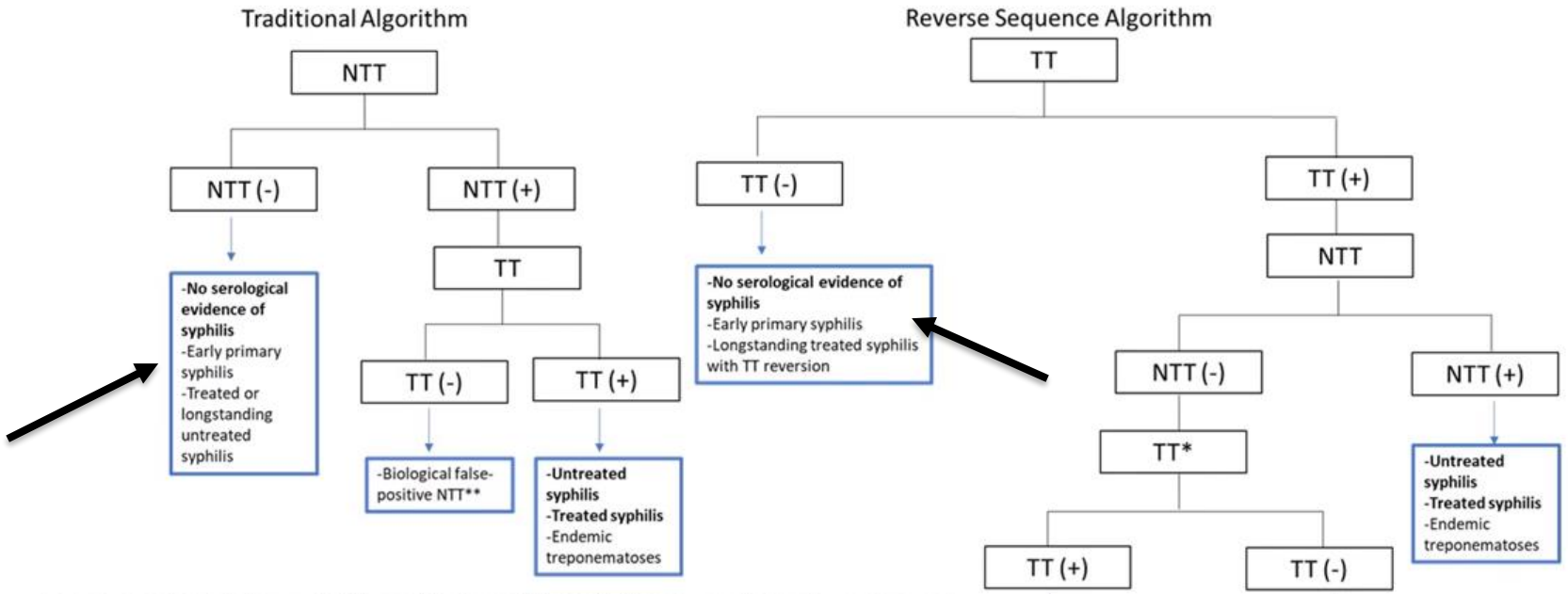
Syphilis Screening

Testing Algorithms

NTT= Non-Treponemal Testing: VDRL, RPR

TT= Treponemal Testing: TPPA, FTA-ABS, etc.

} Reflex needed every screening



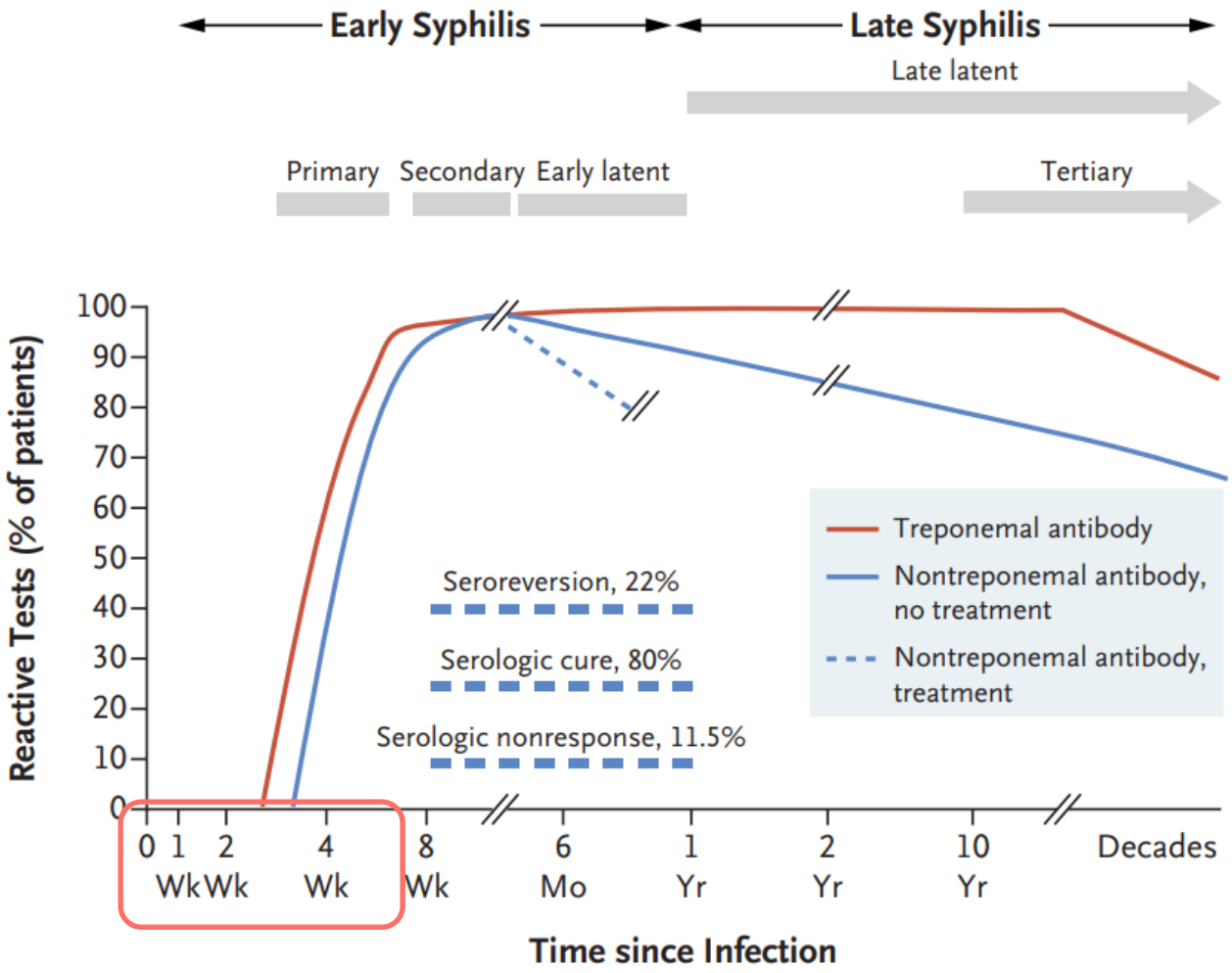
NTT= nontreponemal test [rapid plasma reagin (RPR); venereal disease research laboratory (VDRL)]; TT= treponemal test [e.g. fluorescent treponemal antibody absorption test (FTA-ABS); T. pallidum particle agglutination test (TPPA); automated enzyme or chemiluminescence immunoassays]
Bolded bullets represent the most likely interpretation
* The confirmatory TT should be different than the TT performed in the initial screen
**Causes of a biologic false positive NTT include old age, autoimmune diseases, infections (e.g. HIV), drug use; pregnancy is controversial
*** Causes of a false positive TT include infections (e.g. Lyme disease), autoimmune diseases; older age

N Engl J Med 2020;382:845-854

STD/HIV Prevention Training Center JOHNS HOPKINS MEDICINE

National STD Curriculum

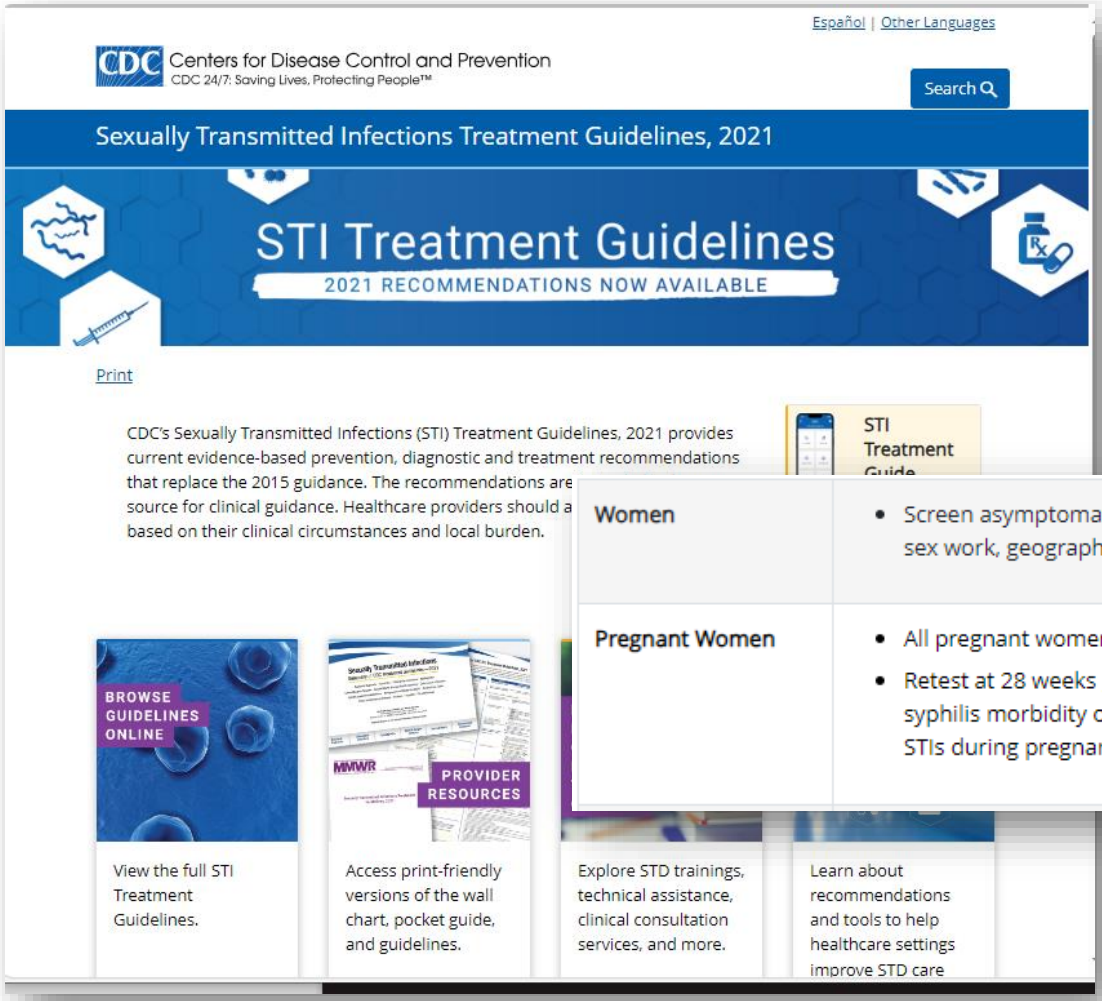
Syphilis Screening



N Engl J Med 2020; 382:845-854

Screening Recommendation Updates

Recent Screening Recommendations



Women	• Screen asymptomatic women at increased risk (history of incarceration or transactional sex work, geography, race/ethnicity) for syphilis infection[2,7]
Pregnant Women	• All pregnant women at the first prenatal visit[8] • Retest at 28 weeks gestation and at delivery if at high risk (lives in a community with high syphilis morbidity or is at risk for syphilis acquisition during pregnancy [drug misuse, STIs during pregnancy, multiple partners, a new partner, partner with STIs])[2]

https://www.cdc.gov/std/treatment-guidelines/screening-recommendations.htm

Healthy People 2030

Reduce the syphilis rate in females — STI-03

Status: Getting worse ⊖

Learn more about our data release schedule

Most Recent Data:
10.8 cases of primary and secondary syphilis per 100,000 females (2020)

Target:
4.6 per 100,000

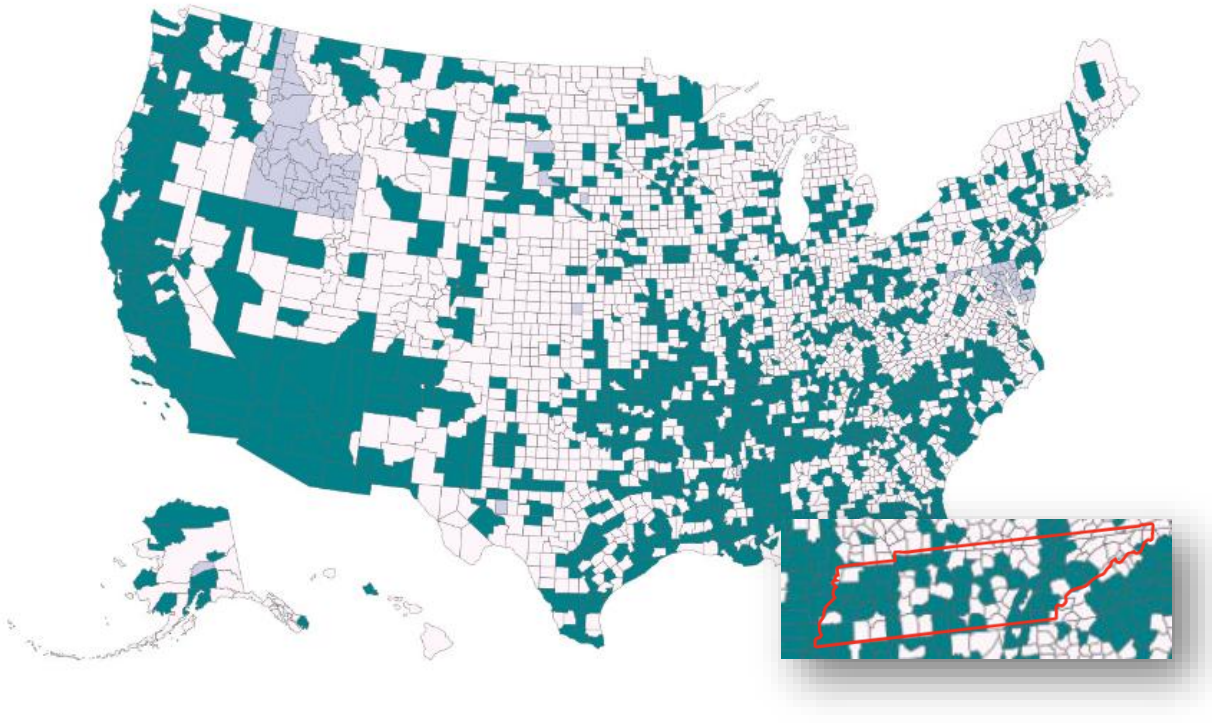
Desired Direction:
Decrease desired

Baseline:
5.1 cases of primary and secondary syphilis per 100,000 females aged 15 to 44 years were reported in 2017

OASH | Office of Disease Prevention and Health Promotion

https://health.gov/healthypeople/objectives-and-data/browse-objectives/sexually-transmitted-infections/reduce-syphilis-rate-females-sti-03

County-level syphilis rates among women can help direct syphilis screening efforts.



https://www.cdc.gov/nchhstp/atlas/syphilis/index.html

73%

TN Department of Health

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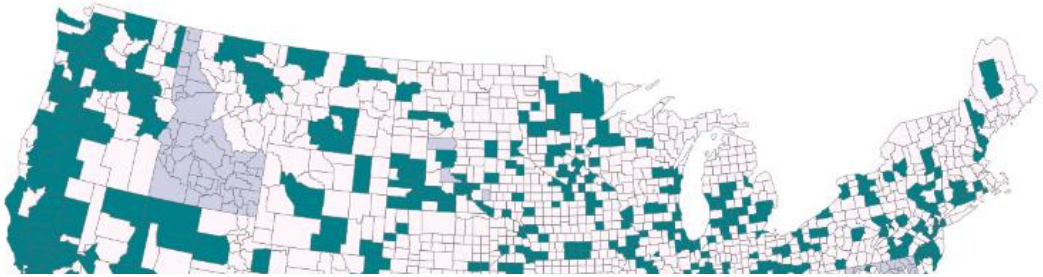

Continue to assess individual risk factors to determine screening needs*

Offer syphilis testing to all sexually active people aged 15-44**

Suppressed†

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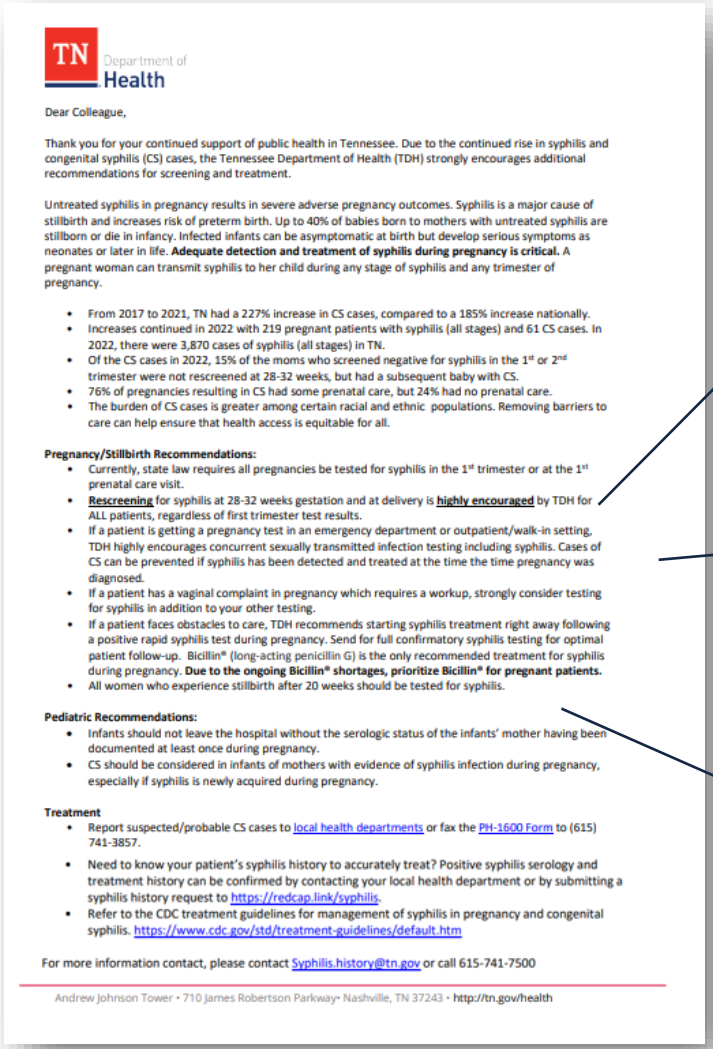
Offer syphilis testing to all sexually active people aged 15-44**
Suppressed†

https://www.cdc.gov/nchhstp/atlas/syphilis/index.html

73%

TN Department of Health

TDH Recommendations - THAN



TN Department of Health

Dear Colleague,

Thank you for your continued support of public health in Tennessee. Due to the continued rise in syphilis and congenital syphilis (CS) cases, the Tennessee Department of Health (TDH) strongly encourages additional recommendations for screening and treatment.

Untreated syphilis in pregnancy results in severe adverse pregnancy outcomes. Syphilis is a major cause of stillbirth and increases risk of preterm birth. Up to 40% of babies born to mothers with untreated syphilis are stillborn or die in infancy. Infected infants can be asymptomatic at birth but develop serious symptoms as neonates or later in life. **Adequate detection and treatment of syphilis during pregnancy is critical.** A pregnant woman can transmit syphilis to her child during any stage of syphilis and any trimester of pregnancy.

- From 2017 to 2021, TN had a 227% increase in CS cases, compared to a 185% increase nationally.
- Increases continued in 2022 with 219 pregnant patients with syphilis (all stages) and 61 CS cases. In 2022, there were 3,870 cases of syphilis (all stages) in TN.
- Of the CS cases in 2022, 15% of the moms who screened negative for syphilis in the 1st or 2nd trimester were not rescreened at 28-32 weeks, but had a subsequent baby with CS.
- 76% of pregnancies resulting in CS had some prenatal care, but 24% had no prenatal care.
- The burden of CS cases is greater among certain racial and ethnic populations. Removing barriers to care can help ensure that health access is equitable for all.

Pregnancy/Stillbirth Recommendations:

- Currently, state law requires all pregnancies be tested for syphilis in the 1st trimester or at the 1st prenatal care visit.
- **Rescreening** for syphilis at 28-32 weeks gestation and at delivery is **highly encouraged** by TDH for ALL patients, regardless of first trimester test results.
- If a patient is getting a pregnancy test in an emergency department or outpatient/walk-in setting, TDH highly encourages concurrent sexually transmitted infection testing including syphilis. Cases of CS can be prevented if syphilis has been detected and treated at the time the time pregnancy was diagnosed.
- If a patient has a vaginal complaint in pregnancy which requires a workup, strongly consider testing for syphilis in addition to your other testing.
- If a patient faces obstacles to care, TDH recommends starting syphilis treatment right away following a positive rapid syphilis test during pregnancy. Send for full confirmatory syphilis testing for optimal patient follow-up. Bicillin® (long-acting penicillin G) is the only recommended treatment for syphilis during pregnancy. **Due to the ongoing Bicillin® shortages, prioritize Bicillin® for pregnant patients.**
- All women who experience stillbirth after 20 weeks should be tested for syphilis.

Pediatric Recommendations:

- Infants should not leave the hospital without the serologic status of the infants' mother having been documented at least once during pregnancy.
- CS should be considered in infants of mothers with evidence of syphilis infection during pregnancy, especially if syphilis is newly acquired during pregnancy.

Treatment

- Report suspected/probable CS cases to local health departments or fax the PH-1600 Form to (615) 741-3857.
- Need to know your patient's syphilis history to accurately treat? Positive syphilis serology and treatment history can be confirmed by contacting your local health department or by submitting a syphilis history request to https://redcap.link/syphilis.
- Refer to the CDC treatment guidelines for management of syphilis in pregnancy and congenital syphilis. https://www.cdc.gov/std/treatment-guidelines/default.htm

For more information contact, please contact Syphilis.history@tn.gov or call 615-741-7500

Andrew Johnson Tower • 710 James Robertson Parkway• Nashville, TN 37243 • http://tn.gov/health

Rescreening for syphilis at 28-32 weeks gestation and at delivery is **highly encouraged** by TDH for ALL patients, regardless of first trimester test results

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All women experiencing stillbirth after 20 weeks should be tested for syphilis

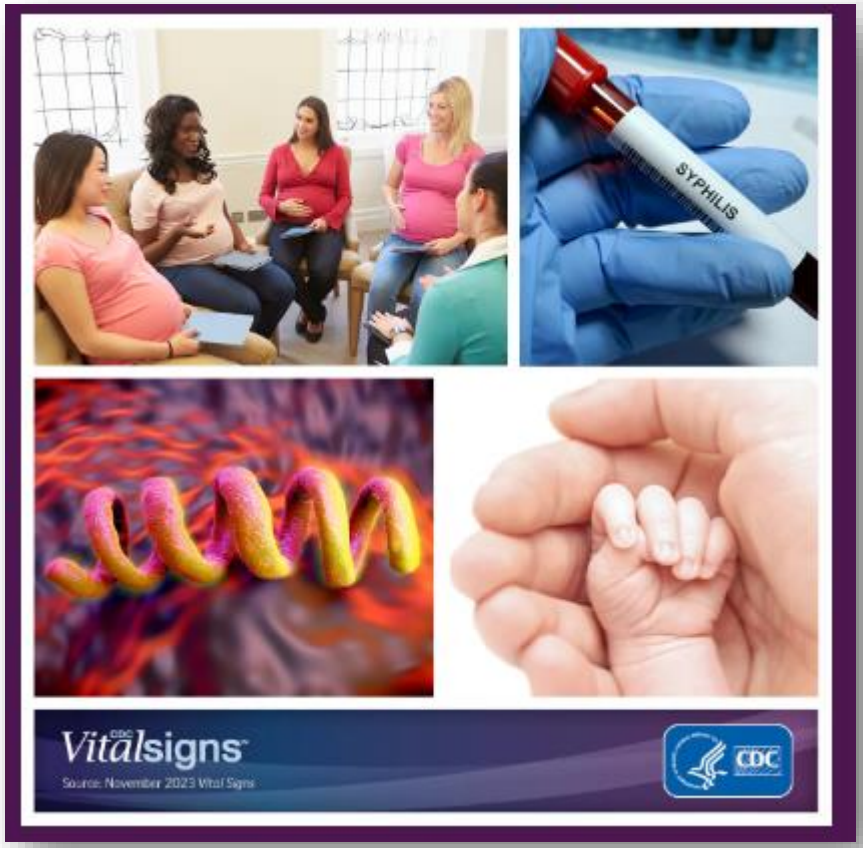
CDC Vital Signs

2 in 5

Two in 5 (40%) people who had a baby with syphilis did not get prenatal care.

https://www.cdc.gov/vitalsigns/newborn-syphilis/index.html

Vital Stats Highlights



https://www.cdc.gov/vitalsigns/newborn-syphilis/index.html

- **Make any healthcare encounter during pregnancy an opportunity to treat and prevent newborn syphilis.**
  - Meet people where they are during pregnancy with syphilis testing and treatment, including outside of usual prenatal care settings.
  - Emergency departments, jails, syringe services programs, and maternal and child health programs play a role in identifying and treating syphilis among people who do not receive adequate prenatal care.
- **Ensure all people get the treatment they need.**
  - Rapid syphilis tests (points of care tests) offer opportunities to test and treat at the same time.
    - This is especially needed for people who might not see a healthcare provider regularly during pregnancy and who may face barriers to coming back for treatment.
  - Local disease intervention specialists, who are public health professionals trained to prevent and contain infectious diseases, also play a vital role in reaching out in communities and ensuring people are diagnosed and treated.

Disease Intervention Specialists (DIS)

Public health professionals who use contract tracing and case investigation to prevent and control infectious diseases

DIS specialize in:

- Public health investigations
- Case management and analysis
- Provider and community engagement, and
- Outbreak detection and response.

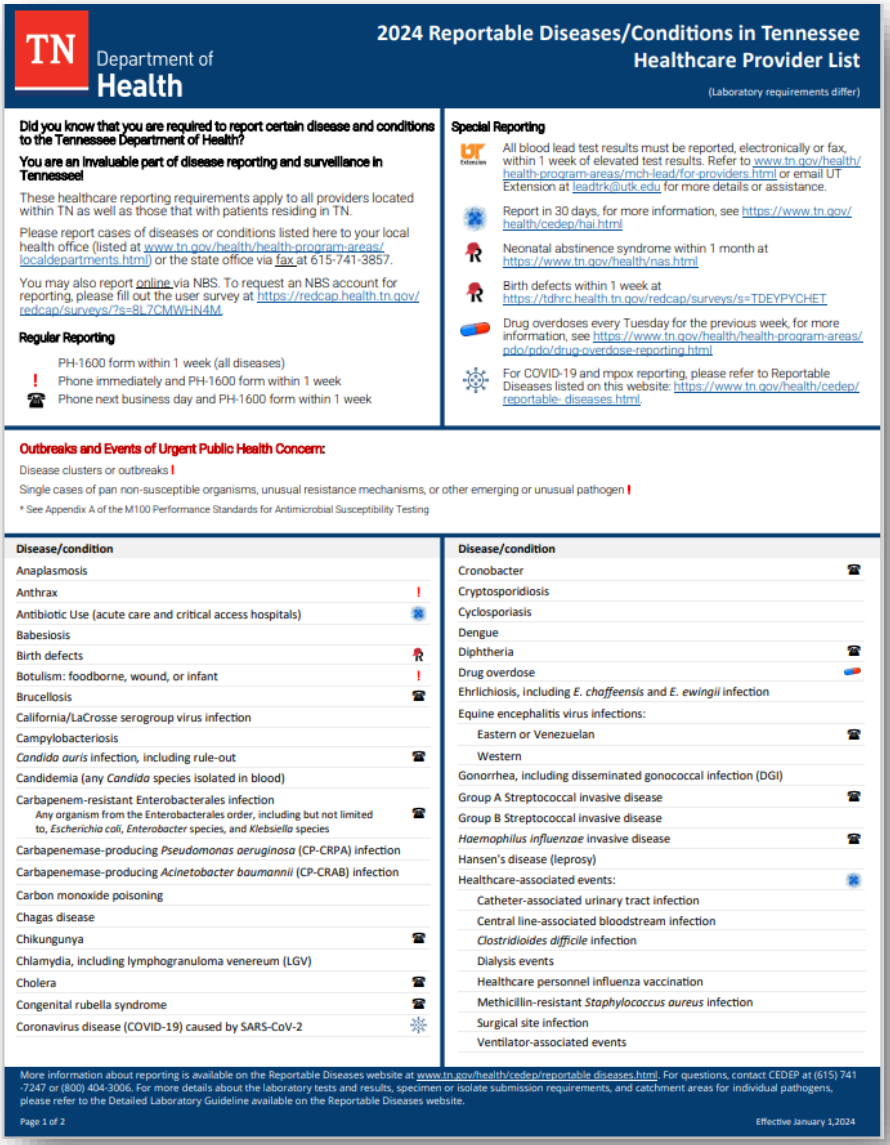
DIS offer partner services to people with STDs, their partners, and others at increased risk for infection.

Notify your patients of potential DIS follow-up.

https://www.cdc.gov/std/projects/disease-intervention/default.html

Disease Reporting

2024 Reportable Disease List



TN Department of Health

2024 Reportable Diseases/Conditions in Tennessee Healthcare Provider List

(Laboratory requirements differ)

Did you know that you are required to report certain disease and conditions to the Tennessee Department of Health?

You are an invaluable part of disease reporting and surveillance in Tennessee!

These healthcare reporting requirements apply to all providers located within TN as well as those that with patients residing in TN.

Please report cases of diseases or conditions listed here to your local health office (listed at www.tn.gov/health/health-program-areas/localdepartments.html) or the state office via fax at 615-741-3857.

You may also report online via NBS. To request an NBS account for reporting, please fill out the user survey at https://redcap.health.tn.gov/redcap/surveys/?s=8L7CMWHN4M.

Regular Reporting

PH-1600 form within 1 week (all diseases)
! Phone immediately and PH-1600 form within 1 week
☎ Phone next business day and PH-1600 form within 1 week

Special Reporting

All blood lead test results must be reported, electronically or fax, within 1 week of elevated test results. Refer to www.tn.gov/health/health-program-areas/mch-lead/for-providers.html or email UT Extension at leadtrk@utk.edu for more details or assistance.

Report in 30 days, for more information, see https://www.tn.gov/health/cedep/hai.html

Neonatal abstinence syndrome within 1 month at https://www.tn.gov/health/nas.html

Birth defects within 1 week at https://tdhrc.health.tn.gov/redcap/surveys/s=TDEYPYCHET

Drug overdoses every Tuesday for the previous week, for more information, see https://www.tn.gov/health/health-program-areas/pdo/pdo/drug-overdose-reporting.html

For COVID-19 and mpox reporting, please refer to Reportable Diseases listed on this website: https://www.tn.gov/health/cedep/reportable- diseases.html.

Outbreaks and Events of Urgent Public Health Concern:

Disease clusters or outbreaks !

Single cases of pan non-susceptible organisms, unusual resistance mechanisms, or other emerging or unusual pathogen !

* See Appendix A of the M100 Performance Standards for Antimicrobial Susceptibility Testing

Disease/condition	
Anaplasmosis	
Anthrax	!
Antibiotic Use (acute care and critical access hospitals)	✱
Babesiosis	
Birth defects	R
Botulism: foodborne, wound, or infant	!
Brucellosis	☎
California/LaCrosse serogroup virus infection	
Campylobacteriosis	
Candida auris infection, including rule-out	☎
Candidemia (any *Candida* species isolated in blood)	
Carbapenem-resistant Enterobacterales infection Any organism from the Enterobacterales order, including but not limited to, *Escherichia coli*, *Enterobacter* species, and *Klebsiella* species	☎
Carbapenemase-producing *Pseudomonas aeruginosa* (CP-CRPA) infection	
Carbapenemase-producing *Acinetobacter baumannii* (CP-CRAB) infection	
Carbon monoxide poisoning	
Chagas disease	
Chikungunya	☎
Chlamydia, including lymphogranuloma venereum (LGV)	
Cholera	☎
Congenital rubella syndrome	☎
Coronavirus disease (COVID-19) caused by SARS-CoV-2	❄

Disease/condition	
Cronobacter	☎
Cryptosporidiosis	
Cyclosporiasis	
Dengue	
Diphtheria	☎
Drug overdose	💊
Ehrlichiosis, including *E. chaffeensis* and *E. ewingii* infection	
Equine encephalitis virus infections:	
Eastern or Venezuelan	☎
Western	
Gonorrhea, including disseminated gonococcal infection (DGI)	
Group A Streptococcal invasive disease	☎
Group B Streptococcal invasive disease	
Haemophilus influenzae invasive disease	☎
Hansen's disease (leprosy)	
Healthcare-associated events:	✱
Catheter-associated urinary tract infection	
Central line-associated bloodstream infection	
Clostridioides difficile infection	
Dialysis events	
Healthcare personnel influenza vaccination	
Methicillin-resistant *Staphylococcus aureus* infection	
Surgical site infection	
Ventilator-associated events	

More information about reporting is available on the Reportable Diseases website at www.tn.gov/health/cedep/reportable diseases.html. For questions, contact CEDEP at (615) 741-7247 or (800) 404-3006. For more details about the laboratory tests and results, specimen or isolate submission requirements, and catchment areas for individual pathogens, please refer to the Detailed Laboratory Guideline available on the Reportable Diseases website.

Page 1 of 2 Effective January 1,2024

Regular Reporting

PH-1600 form within 1 week (all diseases)
! Phone immediately and PH-1600 form within 1 week
☎ Phone next business day and PH-1600 form within 1 week

Pathogen	
Rubella	☎
St. Louis encephalitis virus infection	
Salmonella Typhi/Paratyphi	☎
Salmonella species (other than S. Typhi/S. Paratyphi)	
Shiga toxin-producing *Escherichia coli* infection	☎
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 (formerly "latent") Positive tuberculin skin test (TST) for any child <18 years old, or positive interferon-gamma release assay (IGRA) for any aged patient	

https://www.tn.gov/content/dam/tn/health/documents/reportable-diseases/2024-List-Provider.pdf

Local Health Department

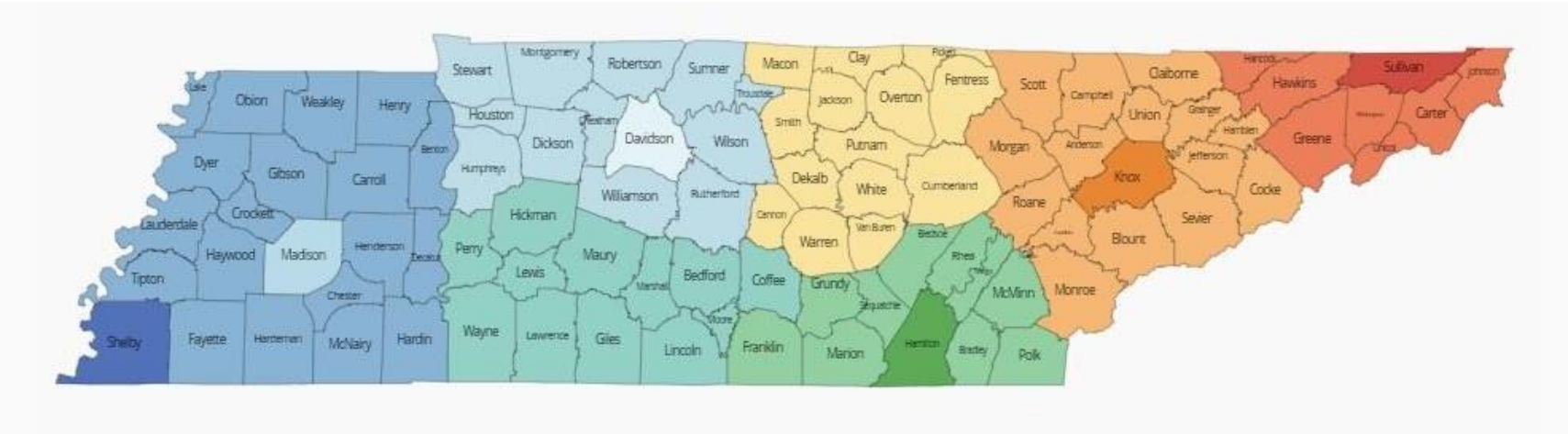
- Report syphilis cases to local health department STI program designee
- Regional health department STI program staff provide support and resources

Local and Regional Health Departments (tn.gov)

Local Health Department Contacts - STI

STI Contacts for Regional Health Departments

West	Mid-Cumberland	South Central	Upper Cumberland	Southeast	East	Northeast
Felicia Stegall STI Manager	Lakesha Marshall STI Manager	Karan Kilpatrick STI Manager	Robin Palmer HIV/STI Manager	Beth Thomas STI Manager	Erika Hampton STI Manager	Samantha Webb STI Manager
P: 731-421-6745 F: 731-421-5000	P: 615-650-7041 P: 615-650-7025	P: 931-490-8362 931-490-8362	P: 931-646-7550 F: 931-520-7575	P: 423-634-5804 F: 423-634-3139	P: 865-601-7688 P: 865-549-5290	P: 423-979-4653 C: 423-202-5879



STI Contacts for Metro Health Departments

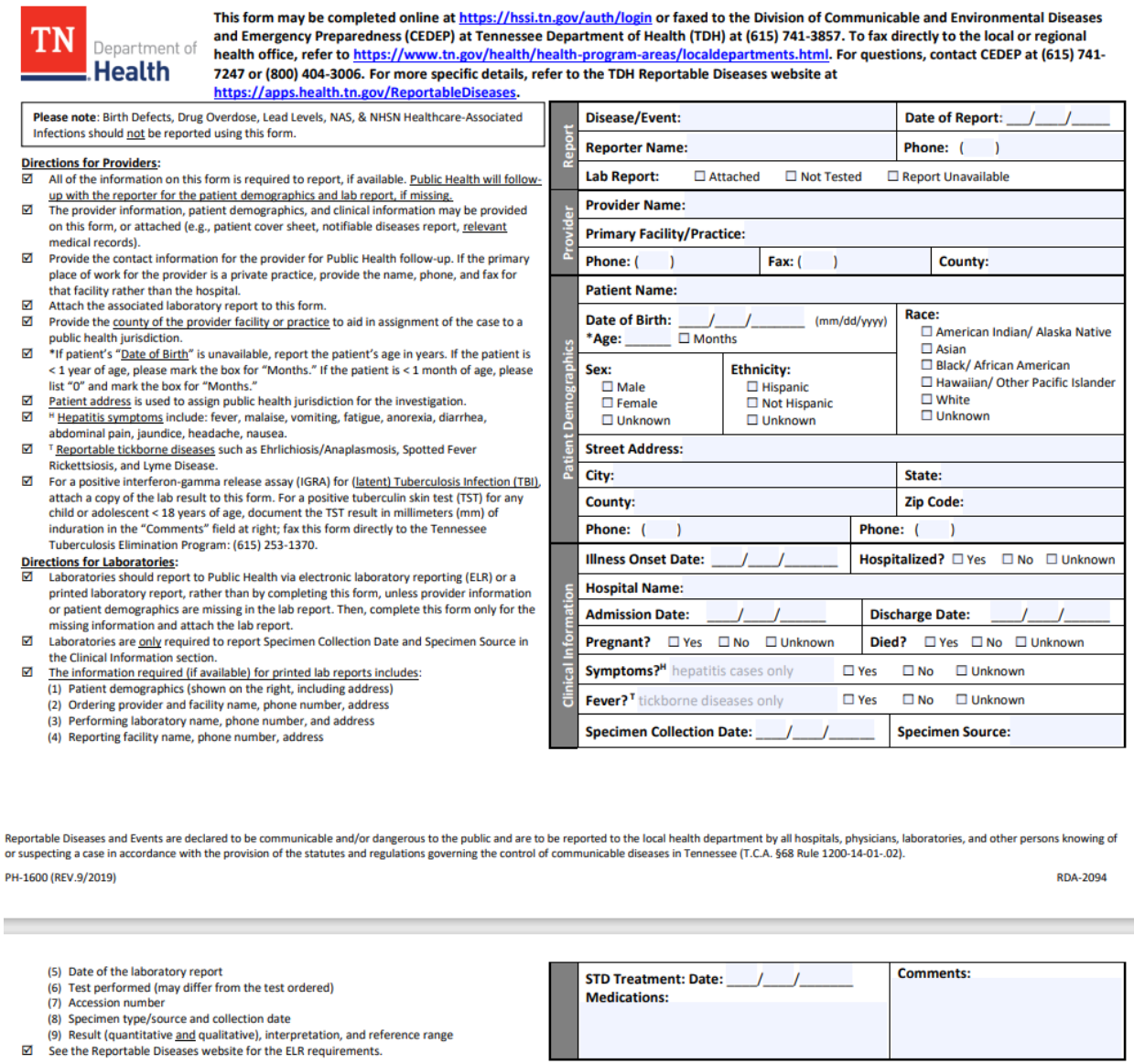
Shelby	Madison	Davidson	Hamilton	Knox	Sullivan
Misty Hayes-Winton Program Manager	Quill Brabham HIV/STI Manager	Norman Foster STI/HIV Manager	Arlisia Craig STI Manager	Chad Burry Patient Services Manager	Heather Mullins Regional EPI/STD Director
P: 901-222-9416 P: 901-222-9427	P: 731-927-8534 C: 731-431-3561	P: 615-340-5695 F: 615-340-8560	P: 423-209-8264 F: 423-209-8259	P: 865-215-5267 C: 865-363-7105	P: 423-279-7545 F: 423-279-2727

Local Health Department – Next Business Day Reporting

Congenital Syphilis Reporting:

- What info is needed?
  - Mother & Infant:
    - DOB
    - Signs & Symptoms
    - Lab results (or pending results like VDRL)
    - Treatment
    - Prenatal Provider
  - Contact info for mother
    - If patient is still in hospital
      - Patients are very hard to locate once d/c'd from hospital

Local Health Department – PH-1600 Reporting



TN Department of Health

This form may be completed online at https://hssi.tn.gov/auth/login or faxed to the Division of Communicable and Environmental Diseases and Emergency Preparedness (CEDEP) at Tennessee Department of Health (TDH) at (615) 741-3857. To fax directly to the local or regional health office, refer to https://www.tn.gov/health/health-program-areas/localdepartments.html. For questions, contact CEDEP at (615) 741-7247 or (800) 404-3006. For more specific details, refer to the TDH Reportable Diseases website at https://apps.health.tn.gov/ReportableDiseases.

Please note: Birth Defects, Drug Overdose, Lead Levels, NAS, & NHSN Healthcare-Associated Infections should not be reported using this form.

Directions for Providers:

- ☑ All of the information on this form is required to report, if available. Public Health will follow-up with the reporter for the patient demographics and lab report, if missing.
- ☑ The provider information, patient demographics, and clinical information may be provided on this form, or attached (e.g., patient cover sheet, notifiable diseases report, relevant medical records).
- ☑ Provide the contact information for the provider for Public Health follow-up. If the primary place of work for the provider is a private practice, provide the name, phone, and fax for that facility rather than the hospital.
- ☑ Attach the associated laboratory report to this form.
- ☑ Provide the county of the provider facility or practice to aid in assignment of the case to a public health jurisdiction.
- ☑ *If patient's "Date of Birth" is unavailable, report the patient's age in years. If the patient is < 1 year of age, please mark the box for "Months." If the patient is < 1 month of age, please list "0" and mark the box for "Months."
- ☑ Patient address is used to assign public health jurisdiction for the investigation.
- ☑ [H] Hepatitis symptoms include: fever, malaise, vomiting, fatigue, anorexia, diarrhea, abdominal pain, jaundice, headache, nausea.
- ☑ [T] Reportable tickborne diseases such as Ehrlichiosis/Anaplasmosis, Spotted Fever Rickettsiosis, and Lyme Disease.
- ☑ For a positive interferon-gamma release assay (IGRA) for (latent) Tuberculosis Infection (TBI), attach a copy of the lab result to this form. For a positive tuberculin skin test (TST) for any child or adolescent < 18 years of age, document the TST result in millimeters (mm) of induration in the "Comments" field at right; fax this form directly to the Tennessee Tuberculosis Elimination Program: (615) 253-1370.

Directions for Laboratories:

- ☑ Laboratories should report to Public Health via electronic laboratory reporting (ELR) or a printed laboratory report, rather than by completing this form, unless provider information or patient demographics are missing in the lab report. Then, complete this form only for the missing information and attach the lab report.
- ☑ Laboratories are only required to report Specimen Collection Date and Specimen Source in the Clinical Information section.
- ☑ The information required (if available) for printed lab reports includes:
  - (1) Patient demographics (shown on the right, including address)
  - (2) Ordering provider and facility name, phone number, address
  - (3) Performing laboratory name, phone number, and address
  - (4) Reporting facility name, phone number, address
  - (5) Date of the laboratory report
  - (6) Test performed (may differ from the test ordered)
  - (7) Accession number
  - (8) Specimen type/source and collection date
  - (9) Result (quantitative and qualitative), interpretation, and reference range
- ☑ See the Reportable Diseases website for the ELR requirements.

Report

Disease/Event:	Date of Report: ___/___/____
Reporter Name:	Phone: ( )
Lab Report: ☐ Attached ☐ Not Tested ☐ Report Unavailable	

Provider

Provider Name:		
Primary Facility/Practice:		
Phone: ( )	Fax: ( )	County:

Patient Demographics

Patient Name:		
Date of Birth: ___/___/____ (mm/dd/yyyy) *Age: ____ ☐ Months		Race: ☐ American Indian/ Alaska Native ☐ Asian ☐ Black/ African American ☐ Hawaiian/ Other Pacific Islander ☐ White ☐ Unknown
Sex: ☐ Male ☐ Female ☐ Unknown	Ethnicity: ☐ Hispanic ☐ Not Hispanic ☐ Unknown	
Street Address:		
City:		State:
County:		Zip Code:
Phone: ( )		Phone: ( )

Clinical Information

Illness Onset Date: ___/___/____	Hospitalized? ☐ Yes ☐ No ☐ Unknown
Hospital Name:	
Admission Date: ___/___/____	Discharge Date: ___/___/____
Pregnant? ☐ Yes ☐ No ☐ Unknown	Died? ☐ Yes ☐ No ☐ Unknown
Symptoms?[H] hepatitis cases only ☐ Yes ☐ No ☐ Unknown	
Fever?[T] tickborne diseases only ☐ Yes ☐ No ☐ Unknown	
Specimen Collection Date: ___/___/____	Specimen Source:

STD Treatment: Date: ___/___/____ Medications:	Comments:

Reportable Diseases and Events are declared to be communicable and/or dangerous to the public and are to be reported to the local health department by all hospitals, physicians, laboratories, and other persons knowing of or suspecting a case in accordance with the provision of the statutes and regulations governing the control of communicable diseases in Tennessee (T.C.A. §68 Rule 1200-14-01-.02).

PH-1600 (REV.9/2019) RDA-2094

Congenital Syphilis Infections

Medical Records Needs:

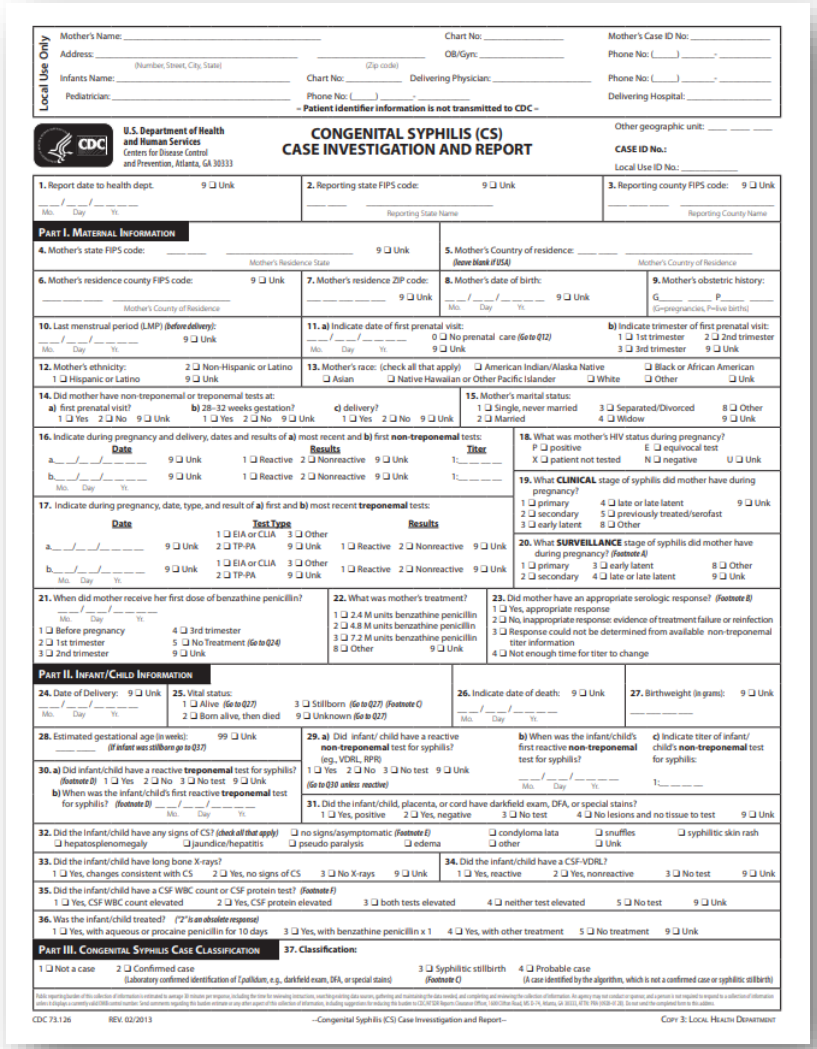
- -Face Sheet
- -H&P
- -MAR with syphilis treatment
- -Consults related to syphilis
- -Discharge Summary
- -TheraDoc, with linked information, if possible

Thank you for the ICNs sending Morbidity Reports with detailed medical records!

CDC Reporting Requirements

Congenital syphilis reporting:

- Obstetric history
- Prenatal care details
- Test results
- Treatment
  - Treatment used
  - Date given
  - Duration of treatment
  - Adequate for stage?
  - Adequate response?
- Clinical presentation
- Risk factors



Local Use Only

Mother's Name: _____ Chart No: _____ Mother's Case ID No: _____

Address: _____ OB/Gyn: _____ Phone No: (____) _____-_____

(Number, Street, City, State) (Zip code)

Infants Name: _____ Chart No: _____ Delivering Physician: _____ Phone No: (____) _____-_____

Pediatrician: _____ Phone No: (____) _____-_____ Delivering Hospital: _____

– Patient identifier information is not transmitted to CDC –

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention, Atlanta, GA 30333

CONGENITAL SYPHILIS (CS) CASE INVESTIGATION AND REPORT

Other geographic unit: ____ ____ ____

CASE ID No.:

Local Use ID No.: _____

1. Report date to health dept. 9 ☐ Unk — Mo. Day Yr.

2. Reporting state FIPS code: 9 ☐ Unk — Reporting State Name

3. Reporting county FIPS code: 9 ☐ Unk — Reporting County Name

PART I. MATERNAL INFORMATION

4. Mother's state FIPS code: 9 ☐ Unk — Mother's Residence State

5. Mother's Country of residence: (leave blank if USA) — Mother's Country of Residence

6. Mother's residence county FIPS code: 9 ☐ Unk — Mother's County of Residence

7. Mother's residence ZIP code: 9 ☐ Unk

8. Mother's date of birth: 9 ☐ Unk — Mo. Day Yr.

9. Mother's obstetric history: G_____ P_____ (G=pregnancies, P=live births)

10. Last menstrual period (LMP) (before delivery): 9 ☐ Unk — Mo. Day Yr.

11. a) Indicate date of first prenatal visit: 0 ☐ No prenatal care (Go to Q12) 9 ☐ Unk — Mo. Day Yr.

b) Indicate trimester of first prenatal visit: 1 ☐ 1st trimester 2 ☐ 2nd trimester 3 ☐ 3rd trimester 9 ☐ Unk

12. Mother's ethnicity: 1 ☐ Hispanic or Latino 2 ☐ Non-Hispanic or Latino 9 ☐ Unk

13. Mother's race: (check all that apply) ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian or Other Pacific Islander ☐ White ☐ Black or African American ☐ Other ☐ Unk

14. Did mother have non-treponemal or treponemal tests at:
a) first prenatal visit? 1 ☐ Yes 2 ☐ No 9 ☐ Unk
b) 28–32 weeks gestation? 1 ☐ Yes 2 ☐ No 9 ☐ Unk
c) delivery? 1 ☐ Yes 2 ☐ No 9 ☐ Unk

15. Mother's marital status: 1 ☐ Single, never married 2 ☐ Married 3 ☐ Separated/Divorced 4 ☐ Widow 8 ☐ Other 9 ☐ Unk

16. Indicate during pregnancy and delivery, dates and results of **a)** most recent and **b)** first **non-treponemal** tests:

	Date	Results	Titer
a.	__/__/__ 9 ☐ Unk	1 ☐ Reactive 2 ☐ Nonreactive 9 ☐ Unk	1:_____
b.	__/__/__ 9 ☐ Unk	1 ☐ Reactive 2 ☐ Nonreactive 9 ☐ Unk	1:_____

Mo. Day Yr.

18. What was mother's HIV status during pregnancy? P ☐ positive E ☐ equivocal test X ☐ patient not tested N ☐ negative U ☐ Unk

19. What **CLINICAL** stage of syphilis did mother have during pregnancy? 1 ☐ primary 2 ☐ secondary 3 ☐ early latent 4 ☐ late or late latent 5 ☐ previously treated/serofast 8 ☐ Other 9 ☐ Unk

17. Indicate during pregnancy, date, type, and result of **a)** first and **b)** most recent **treponemal** tests:

	Date	Test Type	Results
a.	__/__/__ 9 ☐ Unk	1 ☐ EIA or CLIA 2 ☐ TP-PA 3 ☐ Other 9 ☐ Unk	1 ☐ Reactive 2 ☐ Nonreactive 9 ☐ Unk
b.	__/__/__ 9 ☐ Unk	1 ☐ EIA or CLIA 2 ☐ TP-PA 3 ☐ Other 9 ☐ Unk	1 ☐ Reactive 2 ☐ Nonreactive 9 ☐ Unk

Mo. Day Yr.

20. What **SURVEILLANCE** stage of syphilis did mother have during pregnancy? (Footnote A) 1 ☐ primary 2 ☐ secondary 3 ☐ early latent 4 ☐ late or late latent 8 ☐ Other 9 ☐ Unk

21. When did mother receive her first dose of benzathine penicillin? __/__/__ Mo. Day Yr.
1 ☐ Before pregnancy 2 ☐ 1st trimester 3 ☐ 2nd trimester 4 ☐ 3rd trimester 5 ☐ No Treatment (Go to Q24) 9 ☐ Unk

22. What was mother's treatment? 1 ☐ 2.4 M units benzathine penicillin 2 ☐ 4.8 M units benzathine penicillin 3 ☐ 7.2 M units benzathine penicillin 8 ☐ Other 9 ☐ Unk

23. Did mother have an appropriate serologic response? (Footnote B) 1 ☐ Yes, appropriate response 2 ☐ No, inappropriate response: evidence of treatment failure or reinfection 3 ☐ Response could not be determined from available non-treponemal titer information 4 ☐ Not enough time for titer to change

PART II. INFANT/CHILD INFORMATION

24. Date of Delivery: 9 ☐ Unk — Mo. Day Yr.

25. Vital status: 1 ☐ Alive (Go to Q27) 2 ☐ Born alive, then died 3 ☐ Stillborn (Go to Q27) (Footnote C) 9 ☐ Unknown (Go to Q27)

26. Indicate date of death: 9 ☐ Unk — Mo. Day Yr.

27. Birthweight (in grams): 9 ☐ Unk

28. Estimated gestational age (in weeks): 99 ☐ Unk (If infant was stillborn go to Q31)

29. a) Did infant/ child have a reactive **non-treponemal** test for syphilis? (eg., VDRL, RPR) 1 ☐ Yes 2 ☐ No 3 ☐ No test 9 ☐ Unk (Go to Q30 unless reactive)

b) When was the infant/child's first reactive **non-treponemal** test for syphilis? __/__/__ Mo. Day Yr.

c) Indicate titer of infant/ child's **non-treponemal** test for syphilis: 1:_____

30. a) Did infant/child have a reactive **treponemal** test for syphilis? (Footnote D) 1 ☐ Yes 2 ☐ No 3 ☐ No test 9 ☐ Unk

b) When was the infant/child's first reactive **treponemal** test for syphilis? (Footnote D) __/__/__ Mo. Day Yr.

31. Did the infant/child, placenta, or cord have darkfield exam, DFA, or special stains? 1 ☐ Yes, positive 2 ☐ Yes, negative 3 ☐ No test 4 ☐ No lesions and no tissue to test 9 ☐ Unk

32. Did the infant/child have any signs of CS? (check all that apply) ☐ hepatosplenomegaly ☐ jaundice/hepatitis ☐ no signs/asymptomatic (Footnote E) ☐ pseudo paralysis ☐ edema ☐ condyloma lata ☐ other ☐ snuffles ☐ Unk ☐ syphilitic skin rash

33. Did the infant/child have long bone X-rays? 1 ☐ Yes, changes consistent with CS 2 ☐ Yes, no signs of CS 3 ☐ No X-rays 9 ☐ Unk

34. Did the infant/child have a CSF-VDRL? 1 ☐ Yes, reactive 2 ☐ Yes, nonreactive 3 ☐ No test 9 ☐ Unk

35. Did the infant/child have a CSF WBC count or CSF protein test? (Footnote F) 1 ☐ Yes, CSF WBC count elevated 2 ☐ Yes, CSF protein elevated 3 ☐ both tests elevated 4 ☐ neither test elevated 5 ☐ No test 9 ☐ Unk

36. Was the infant/child treated? ("2" is an obsolete response) 1 ☐ Yes, with aqueous or procaine penicillin for 10 days 3 ☐ Yes, with benzathine penicillin x 1 4 ☐ Yes, with other treatment 5 ☐ No treatment 9 ☐ Unk

PART III. CONGENITAL SYPHILIS CASE CLASSIFICATION

37. Classification: 1 ☐ Not a case 2 ☐ Confirmed case (Laboratory confirmed identification of *T.pallidum*, e.g., darkfield exam, DFA, or special stains) 3 ☐ Syphilitic stillbirth (Footnote C) 4 ☐ Probable case (A case identified by the algorithm, which is not a confirmed case or syphilitic stillbirth)

CDC 73.126 REV. 02/2013 –Congenital Syphilis (CS) Case Investigation and Report– COPY 3: LOCAL HEALTH DEPARTMENT

TN Department of Health

TN Congenital Syphilis Review Board

In-depth exploration of the contributors to congenital syphilis infections and the system issues that impact the risk of infection.

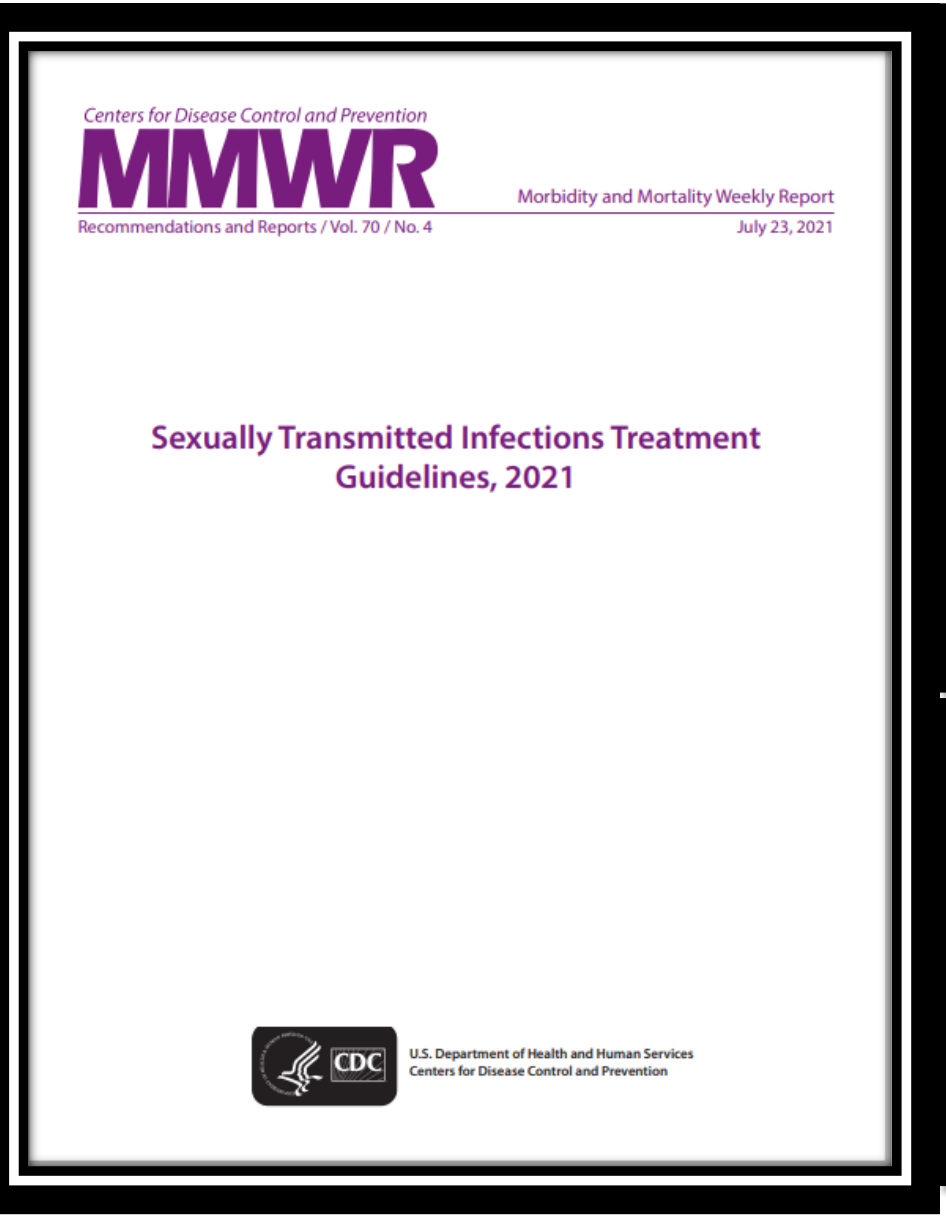
Multidisciplinary Case Review Team

Developing a clearer understanding of underlying risk factors and inequities that may not be identified otherwise.

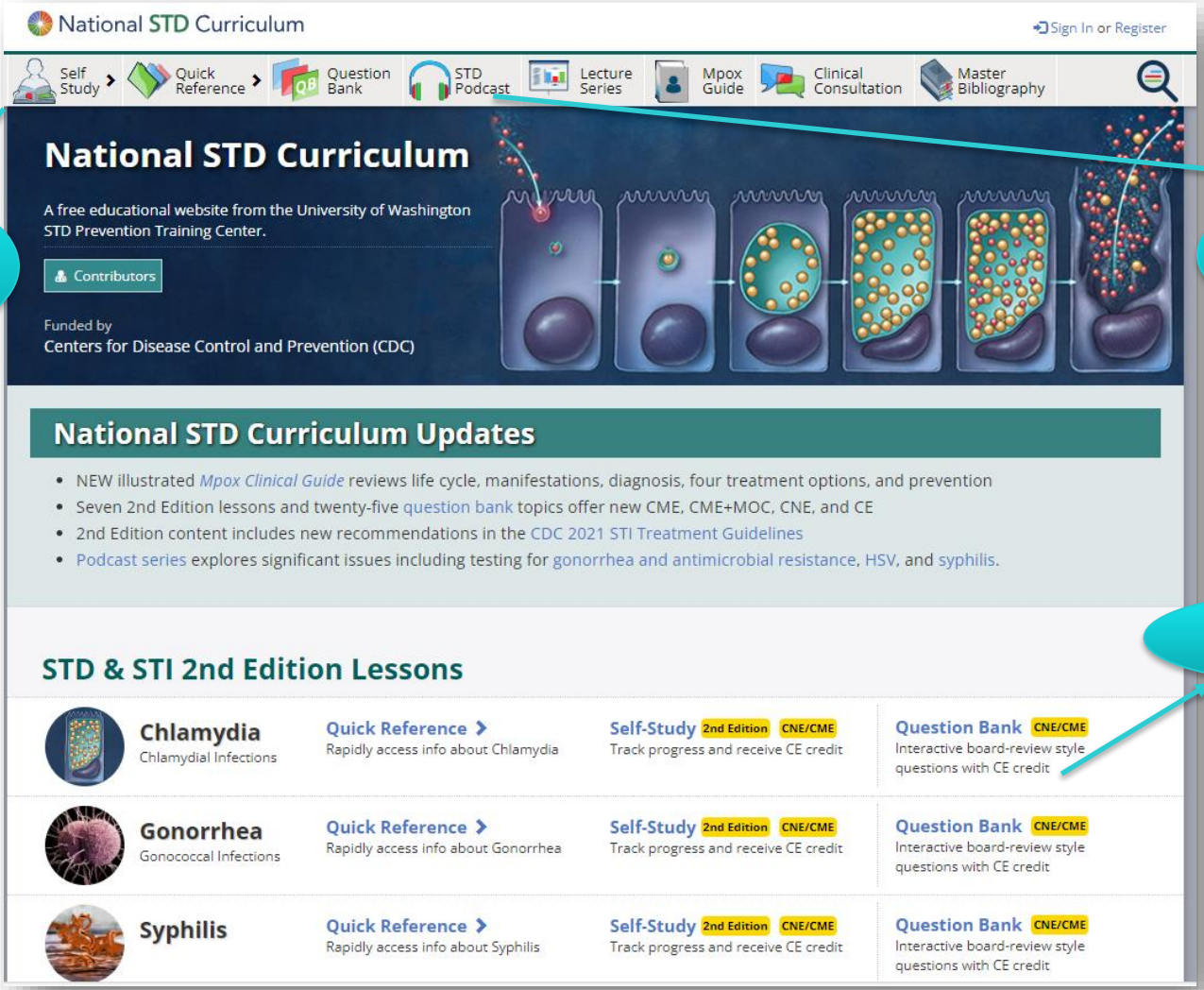
Uses findings to take action that can prevent future cases of congenital syphilis and improve the system of care and resources for women and infants

Provider Resources

Clinical Resources



National STD Curriculum



Self Paced Learning

Podcasts with SME

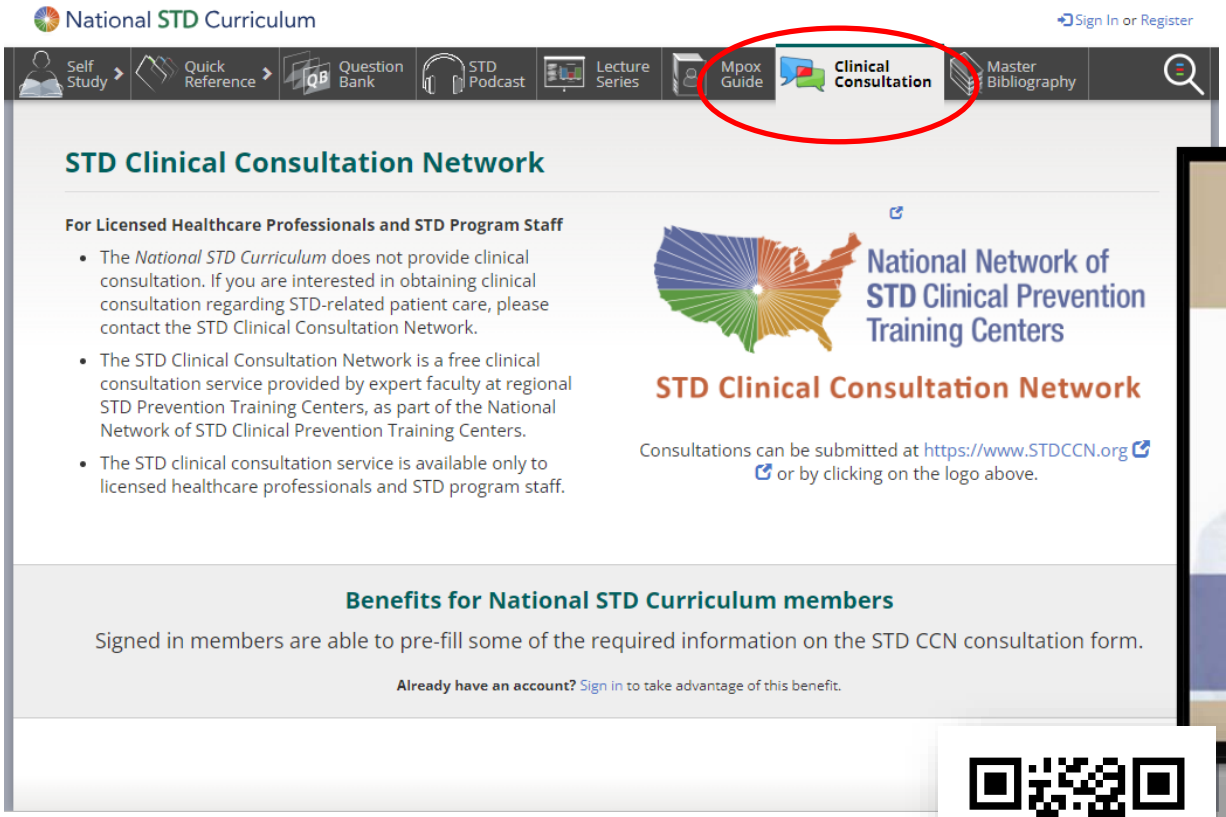
FREE!

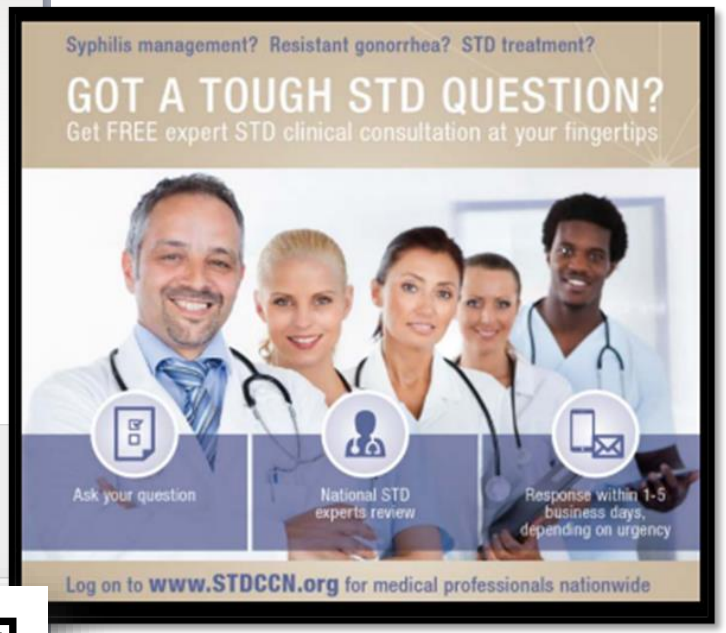
CE Credits

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

TN Department of Health

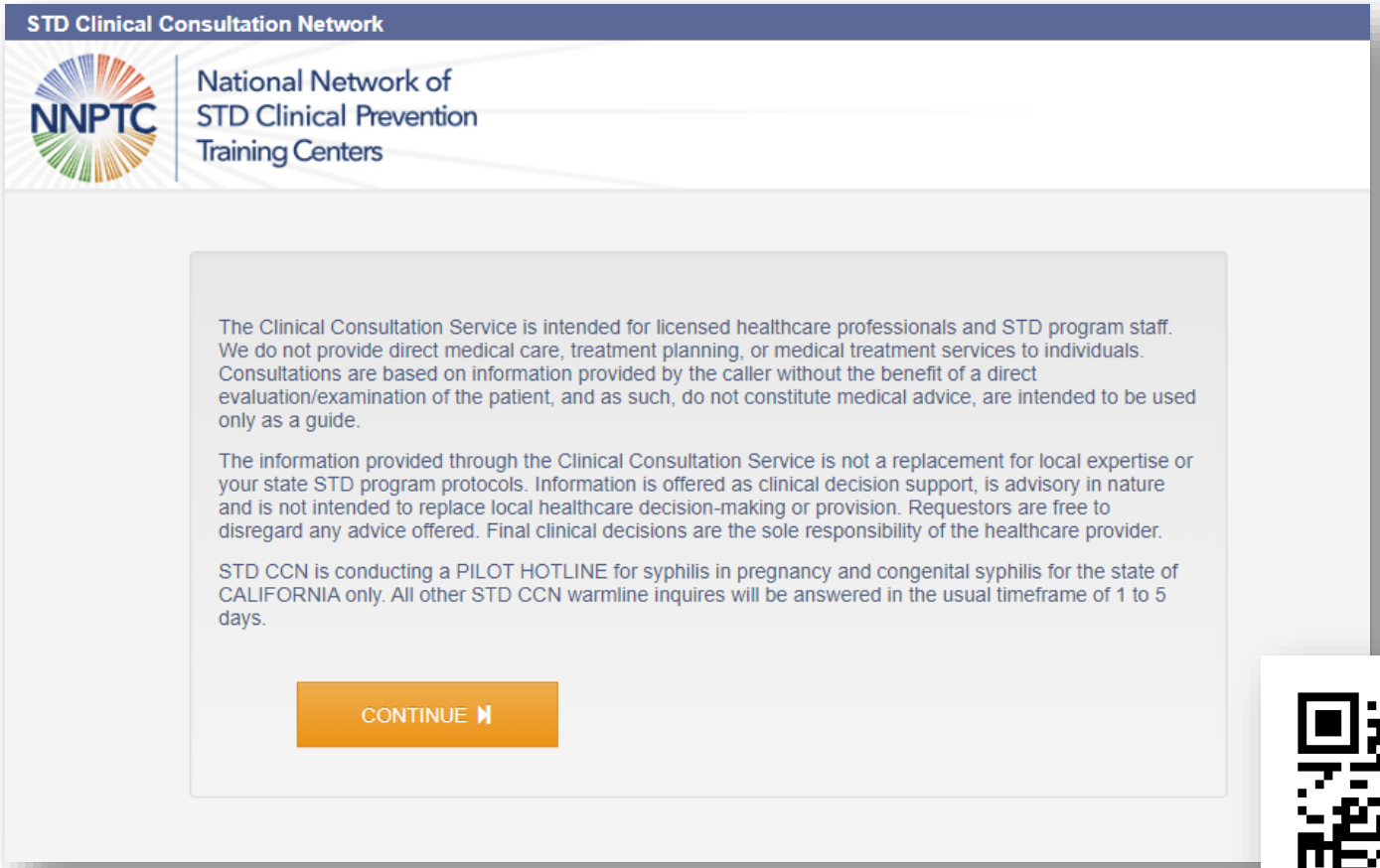
Clinical Consultation





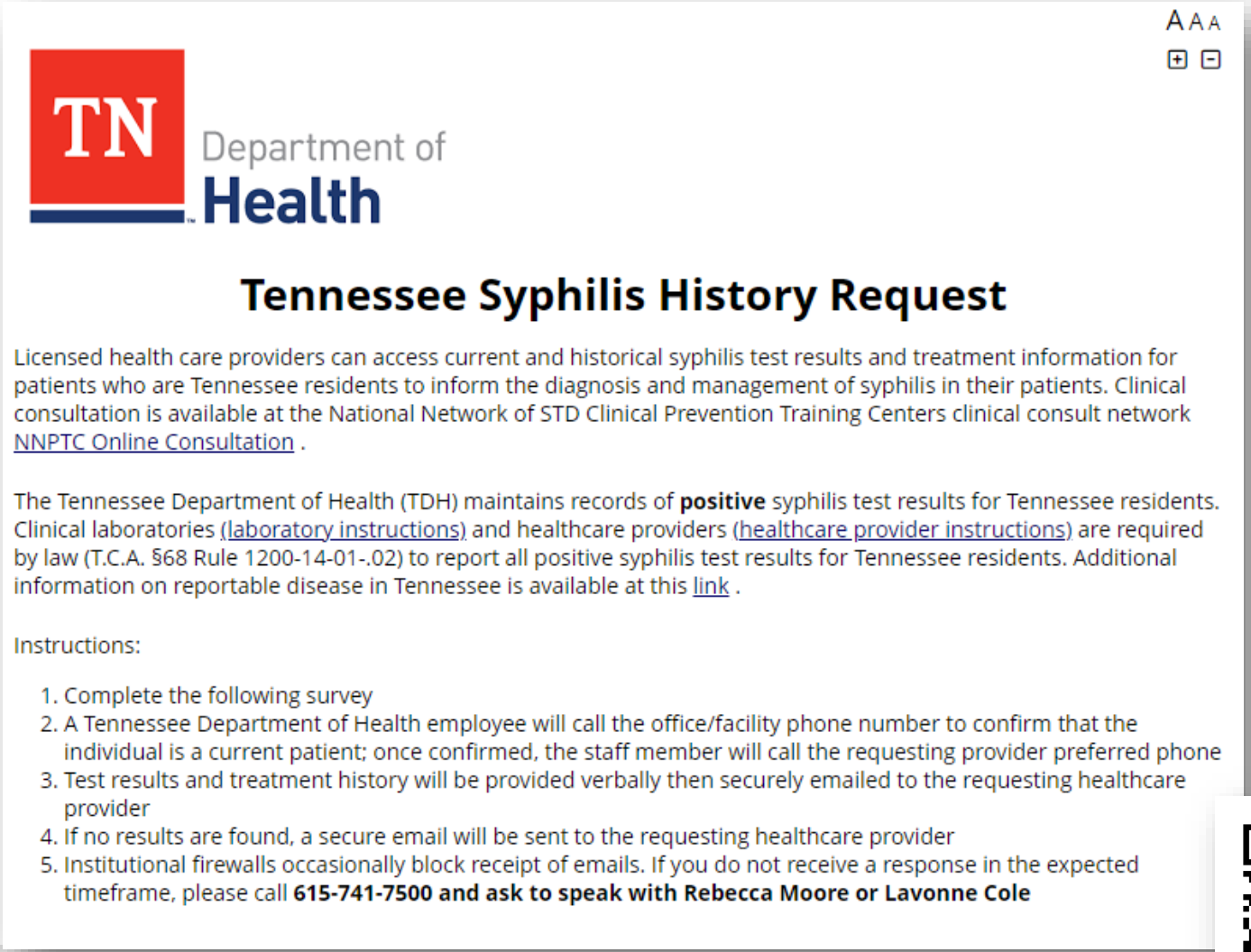
https://www.stdccn.org/render/Public

STI Provider Resources - Consultation



https://www.stdccn.org/render/Public

Provider Resources – REDCap Syphilis History



A A A

TN Department of Health

Tennessee Syphilis History Request

Licensed health care providers can access current and historical syphilis test results and treatment information for patients who are Tennessee residents to inform the diagnosis and management of syphilis in their patients. Clinical consultation is available at the National Network of STD Clinical Prevention Training Centers clinical consult network NNPTC Online Consultation .

The Tennessee Department of Health (TDH) maintains records of **positive** syphilis test results for Tennessee residents. Clinical laboratories (laboratory instructions) and healthcare providers (healthcare provider instructions) are required by law (T.C.A. §68 Rule 1200-14-01-.02) to report all positive syphilis test results for Tennessee residents. Additional information on reportable disease in Tennessee is available at this link .

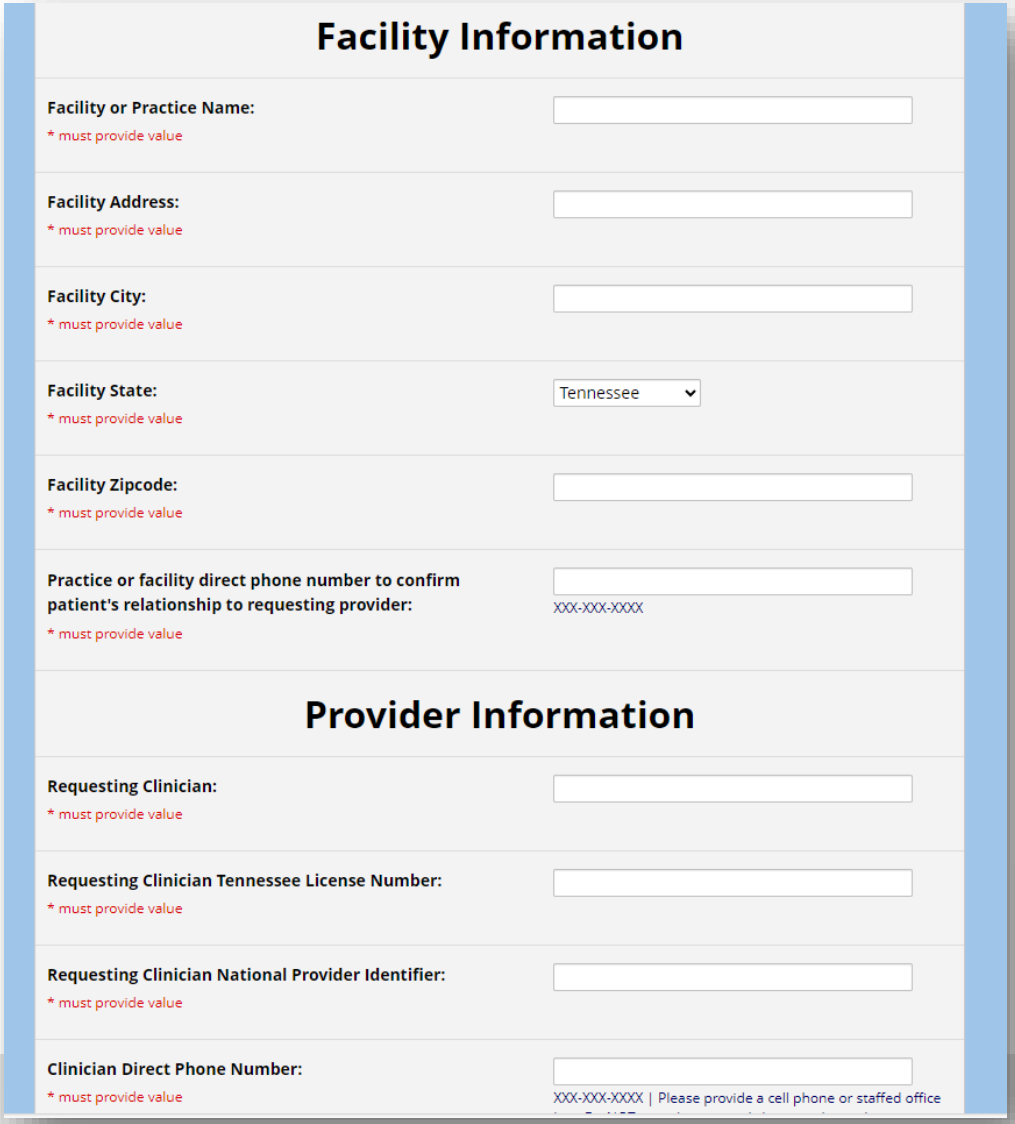
Instructions:

1. Complete the following survey
2. A Tennessee Department of Health employee will call the office/facility phone number to confirm that the individual is a current patient; once confirmed, the staff member will call the requesting provider preferred phone
3. Test results and treatment history will be provided verbally then securely emailed to the requesting healthcare provider
4. If no results are found, a secure email will be sent to the requesting healthcare provider
5. Institutional firewalls occasionally block receipt of emails. If you do not receive a response in the expected timeframe, please call **615-741-7500 and ask to speak with Rebecca Moore or Lavonne Cole**

https://redcap.health.tn.gov/redcap/surveys/?s=MJFDY39AKM3WLKJJ

TN Department of Health

Provider Resources – REDCap Syphilis History



Facility Information

Facility or Practice Name:
* must provide value

Facility Address:
* must provide value

Facility City:
* must provide value

Facility State: Tennessee
* must provide value

Facility Zipcode:
* must provide value

Practice or facility direct phone number to confirm patient's relationship to requesting provider:
XXX-XXX-XXXX
* must provide value

Provider Information

Requesting Clinician:
* must provide value

Requesting Clinician Tennessee License Number:
* must provide value

Requesting Clinician National Provider Identifier:
* must provide value

Clinician Direct Phone Number:
XXX-XXX-XXXX | Please provide a cell phone or staffed office
* must provide value

https://redcap.health.tn.gov/redcap/surveys/?s=MJFDY39AKM3WLKJJ

TN Department of Health

Crisis Hotline – Dial 988

Questions?

Steffany J Cavallo, MPH | STI Program Director
HIV/STI/Viral Hepatitis Section
Communicable and Environmental Diseases & Emergency Preparedness
Andrew Johnson Tower-4th Floor
710 James Robertson Pkwy, Nashville, TN 37243
p. 615-532-8370
c. 615-879-7512
steffany.cavallo@tn.gov

Dreama Phillips, BSN RN | STI Clinical Services Director
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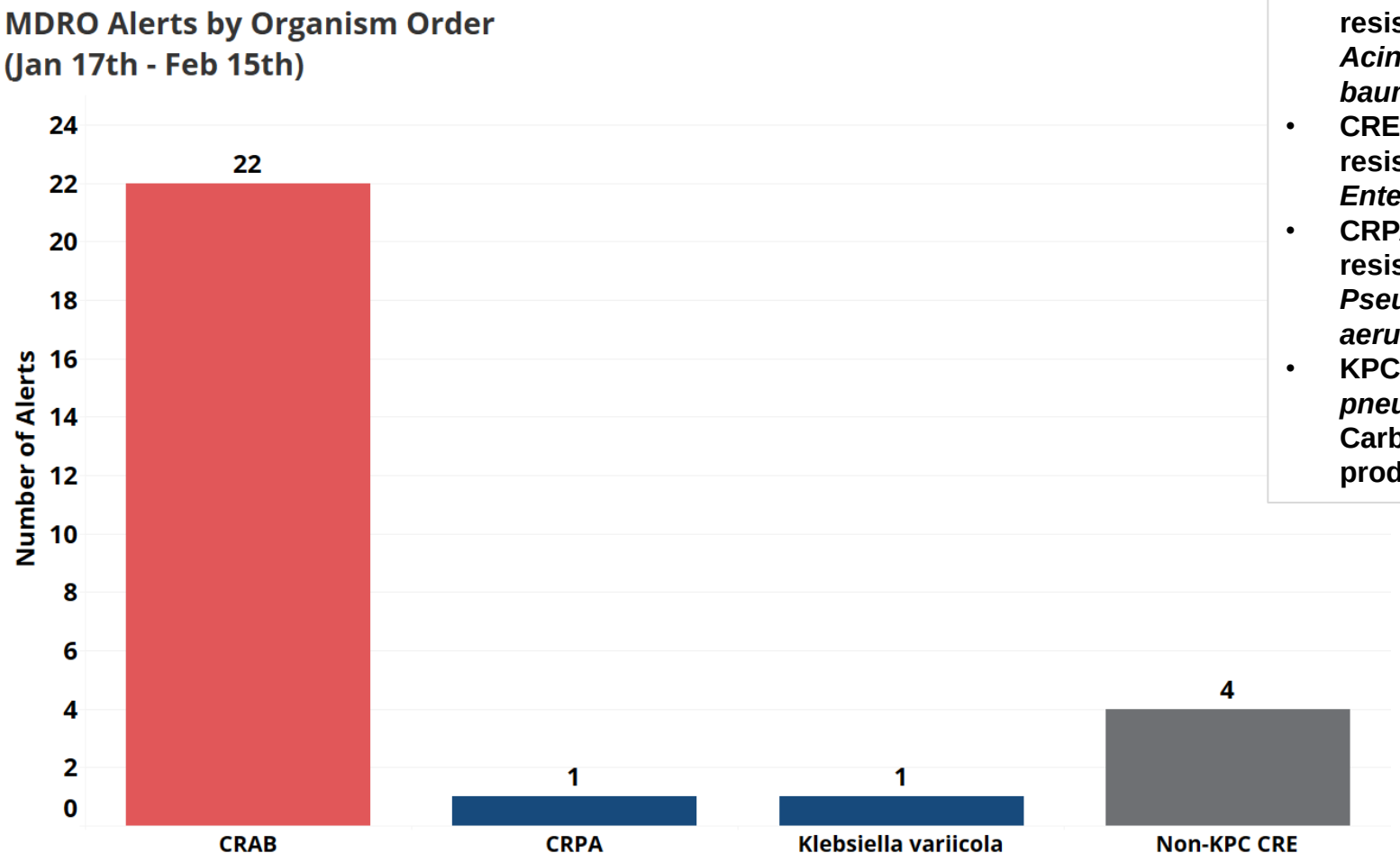
Thank You

Multi-Drug Resistant Organism (MDRO) Outbreak Team Update

January 17th – February 15th, 2024

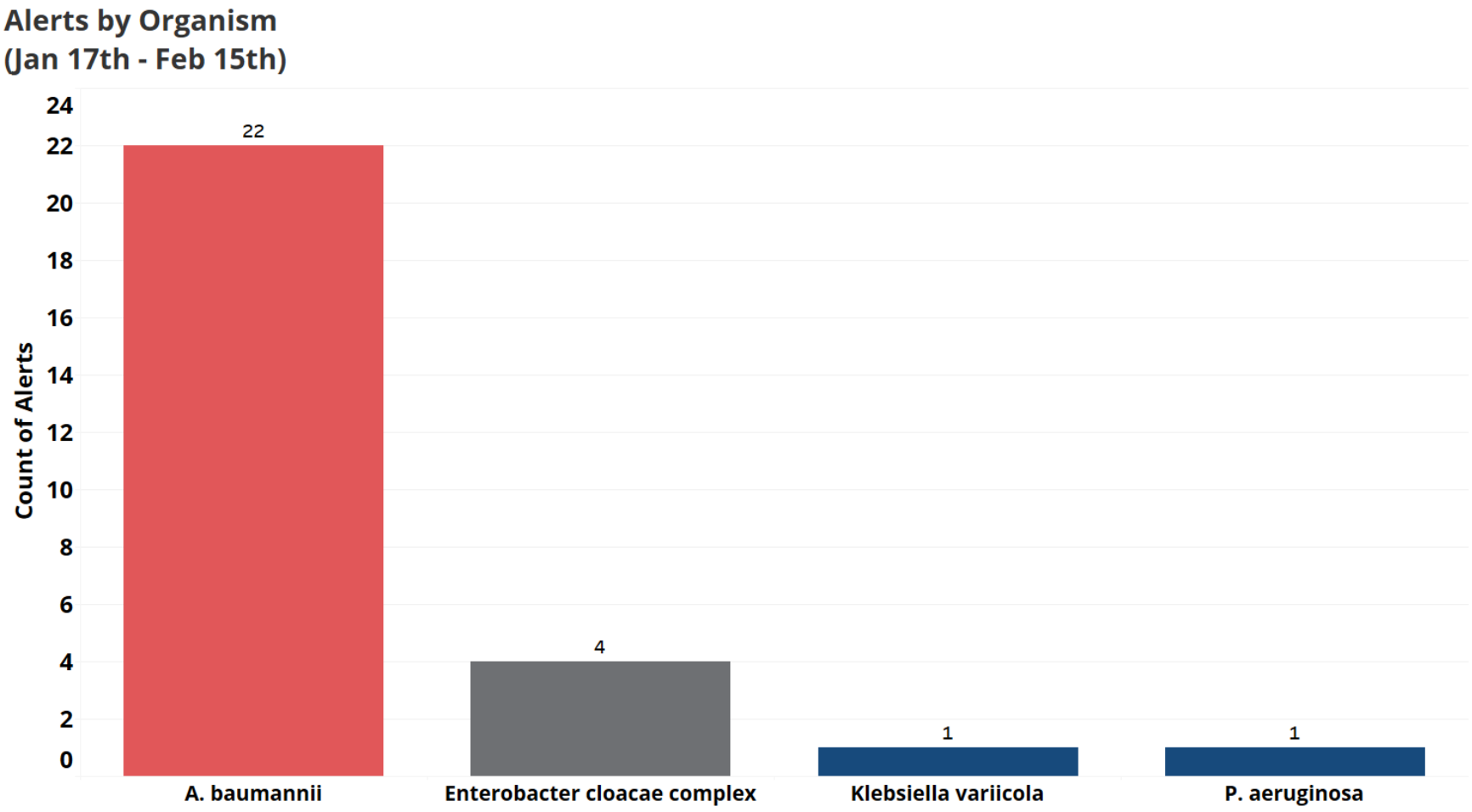
Alex Kurutz, MPH | February 20th, 2024

MDRO Alerts



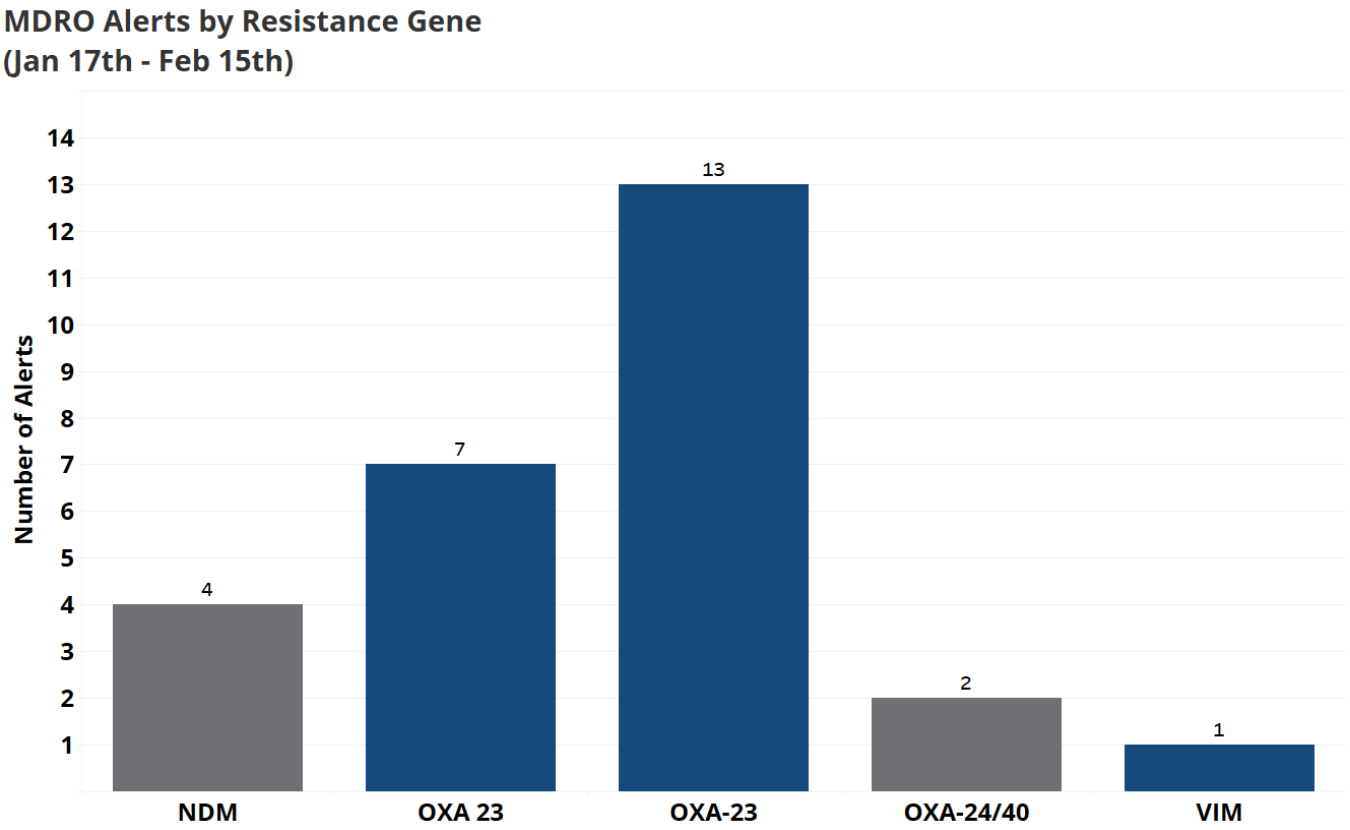
- **CRAB – Carbapenem-resistant *Acinetobacter baumannii***
- **CRE – Carbapenem-resistant *Enterobacterales***
- **CRPA – Carbapenem-resistant *Pseudomonas aeruginosa***
- **KPC – *Klebsiella pneumoniae* Carbapenemase-producing**

MDRO Alert by Organism



Non-KPC CRE Genes

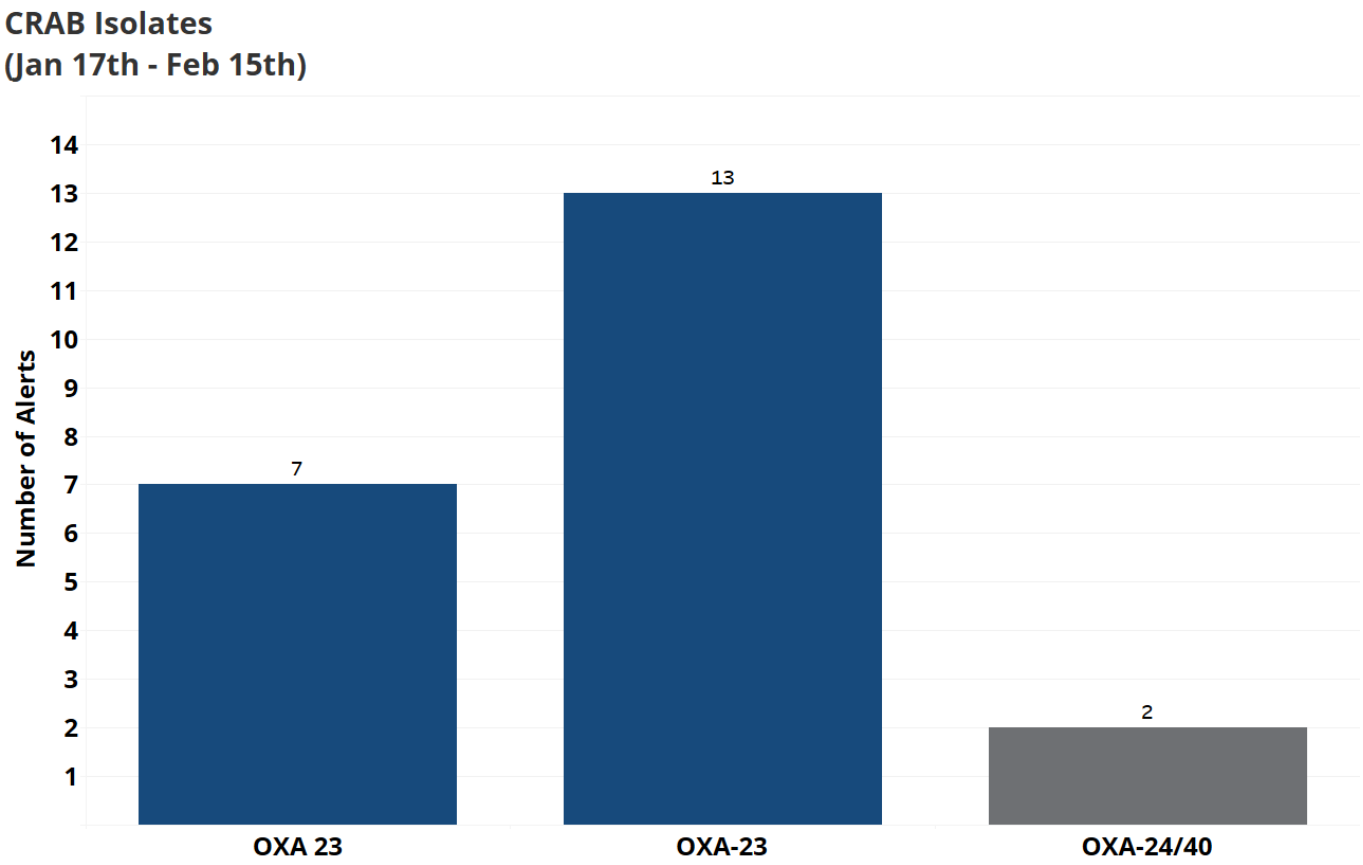
- Carbapenemase-producing Genes:
  - "Big Five"
    - KPC
    - IMP
    - NDM
    - OXA-48
    - VIM



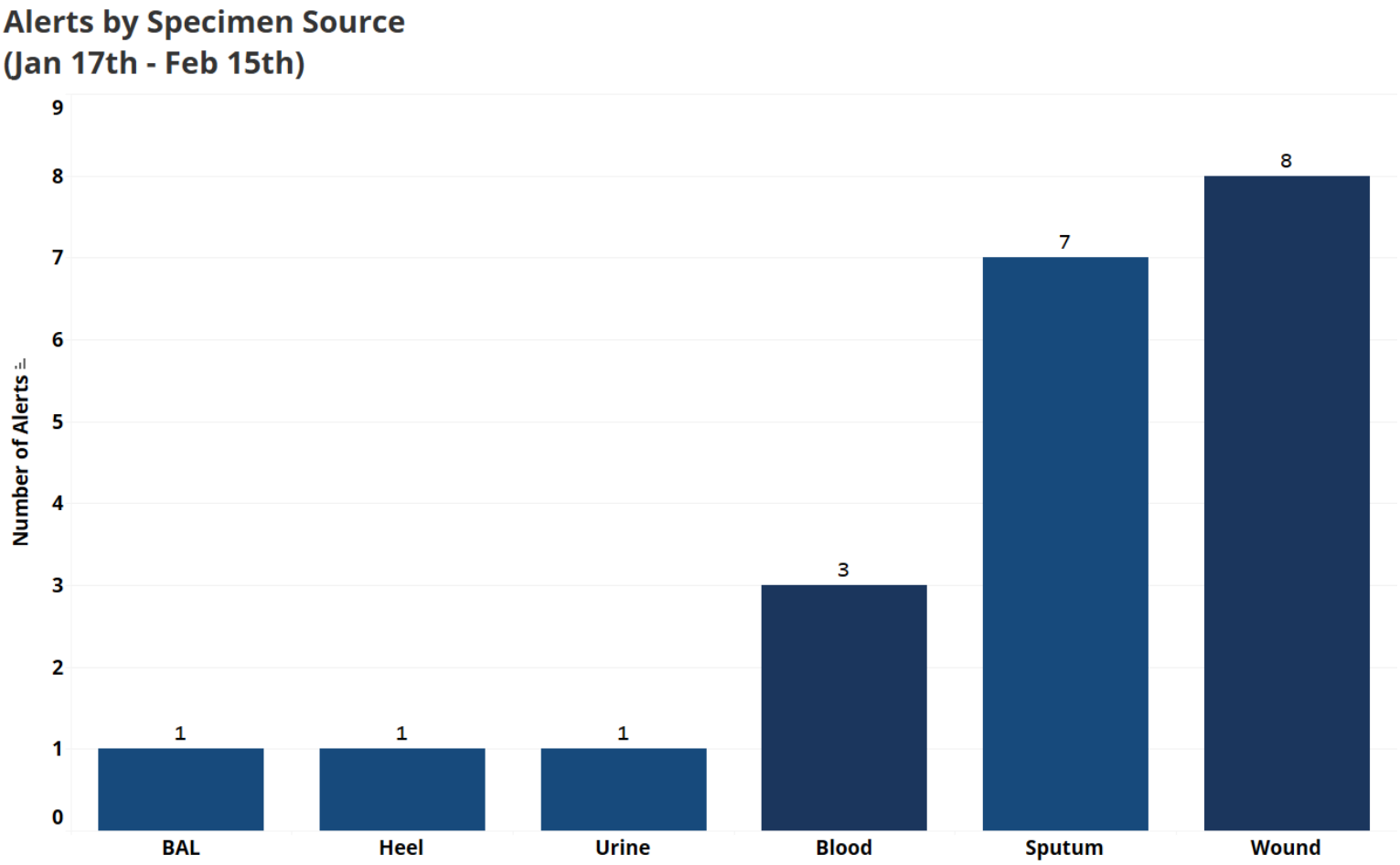
CRAB Alerts

Carbapenemase-producing Genes:

- Other Oxacillinases
  - OXA-24/40
  - OXA-23



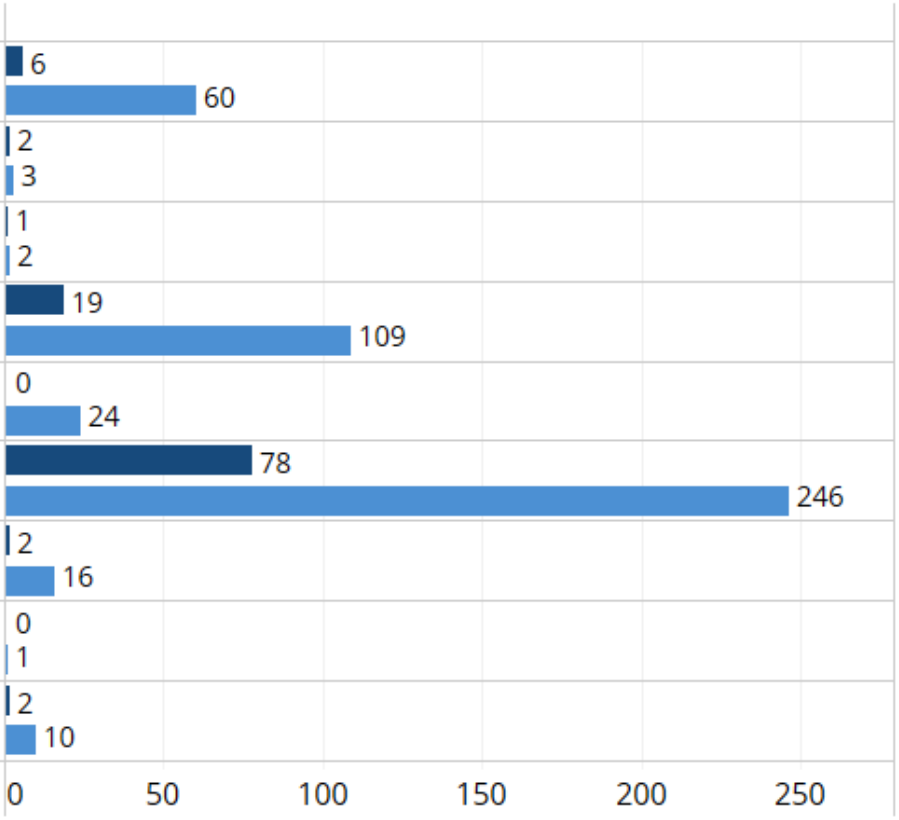
Specimen Sources



C. auris

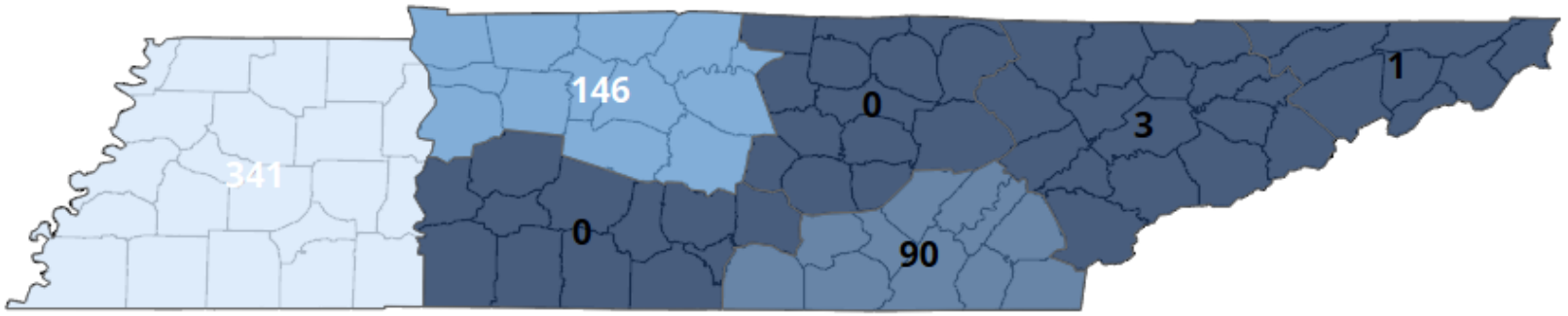
Screening vs Clinical *Candida auris* Cases by Region

Year	Region	# of Facilities		
2022	Southeast	4	Clinical	6
			Screening	60
	West	2	Clinical	2
			Screening	3
2023	East	3	Clinical	1
			Screening	2
	Mid-Cumberland	13	Clinical	19
			Screening	109
	Southeast	1	Clinical	0
			Screening	24
	West	23	Clinical	78
			Screening	246
2024	Mid-Cumberland	5	Clinical	2
			Screening	16
	Northeast	1	Clinical	0
			Screening	1
	West	6	Clinical	2
			Screening	10



C. auris

Combined Clinical and Screening *Candida auris* Cases by Region (as of 2/14/2024 3:39:45 PM)



NHSN Device-Associated Modules: VAE & PedVAE

Housekeeping

- **This call is being recorded, and the recording and slides will be posted to the State HAI website.**
- **Please use the chat-box for any questions.**
- **Questions will be answered at the end.**

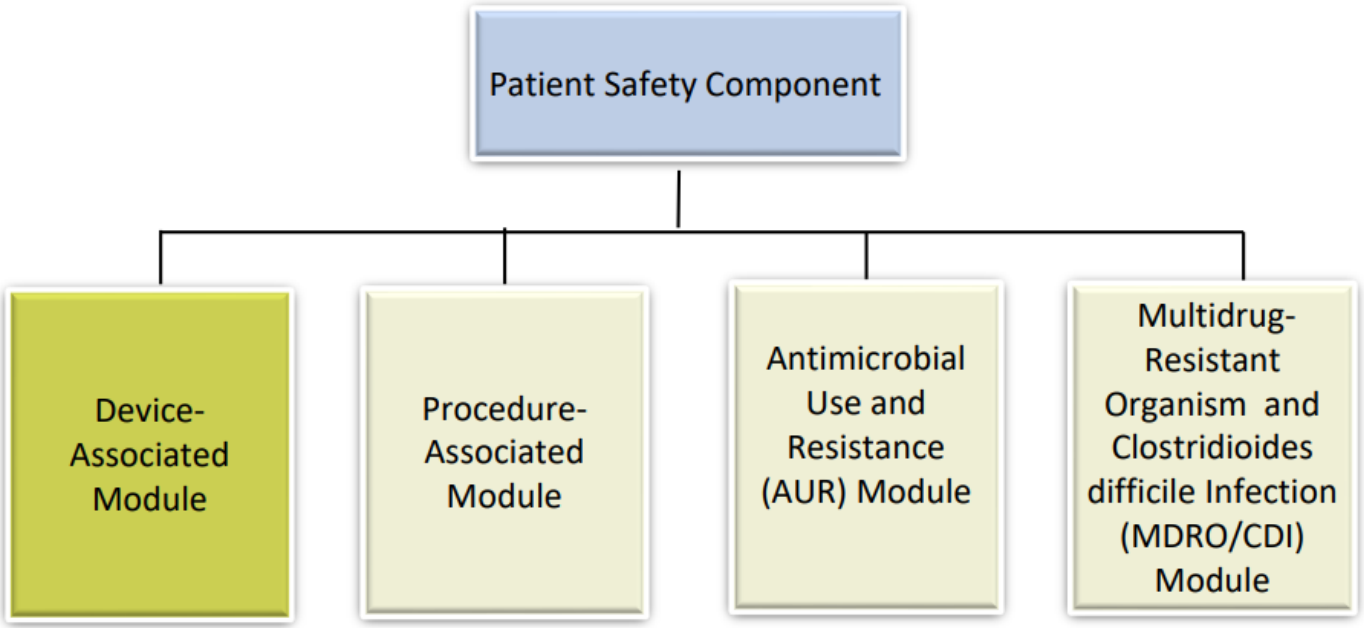
Agenda

- NHSN background
- 2024 Updates
- Reporting requirements
- Surveillance Definitions
- Denominator data
  - Definitions & data entry
- Numerator data
  - HAI Definitions
  - VAE Definitions
  - PedVAE Definitions
- Resources

NHSN Background

NHSN Background

Patient Safety Component Background



VAE Section History

- **Prior to 2013, surveillance for ventilator-associated events was limited to VAP.**

- **One drawback is that radiographic findings of pneumonia were required in VAP event recording.**
  - **Evidence suggests that this is not an accurate way to identify VAP due to the subjectivity in technique, interpretation, and reporting.**
    - **Especially in inter-facility comparisons and public reporting situations.**

- **Another issue, was the lack of a sensitive or specific definition for VAP, with broad criteria and definitions that were unreliable.**

- **These limitations also stunt prevention efforts, as valid and reliable data is critical for prevention strategy assessment.**

VAE Section History

- **The VAE surveillance algorithm was implemented in 2013 to identify a broad range of conditions that occur in ventilated adults.**
  - **These criteria were made specifically to be objective and possibly automated to ensure both easy implementation and utilization of electronic health records to identify events.**

- **The PedVAE section has a similar history, with a group formed also in 2013 to define its criteria.**
  - **Unfortunately, there was insufficient data at the time, so the group was postponed until 2015.**

- **At that time, a study on pediatric events demonstrated that changes in the Fraction of Inspired Oxygen (FiO_2) and Mean Airway Pressure (MAP) were associated with events that prolonged patient stay and increased mortality.**

- **In 2019, PedVAE was introduced as a section following VAE in the Patient Safety Component.**

VAE/PedVAE 2024 Updates

2024 Updates: VAE

- **Additions:**
  - **Inclusion and Exclusion Criteria section created, and inclusion and exclusion criteria moved up from within the Definitions section**
  - **Transfer rule updated to address location of attribution when there are multiple locations within the transfer rule timeframe**
  - **Rezafungin and sulbactam/durlobactam added to Appendix. List of Antimicrobial Agents Eligible for IVAC, PVAP**
- **Clarifications:**
  - **“Ventilator” definition moved to the beginning of the Definitions section. No changes made to the definition.**
- **Deletions:**
  - **Gemifloxacin and quinupristin/dalfopristin removed from Appendix. List of Antimicrobial Agents Eligible for IVAC, PVAP**

2024 Updates: PedVAE

- **Additions:**
  - **Transfer rule updated to address location of attribution when there are multiple locations within the transfer rule timeframe**
  - **Rezafungin and sulbactam/durlobactam added to Appendix. List of Eligible Antimicrobial Agents**

- **Clarifications:**
  - **Inclusion criteria clarified**

- **Deletions:**
  - **Gemifloxacin and quinupristin/dalfopristin removed from Appendix. List of Eligible Antimicrobial Agents**

TDH/CMS Reporting Requirements

Reporting Requirements for VAE

Required Reporting:

Facility Type	Location(s)
Long-term acute care facilities (LTACs)	Adult Inpatient Locations only

Eligible for Surveillance (VAE):

Facility Type	Location(s)
Acute Care Hospitals (ACHs)	Adult inpatient locations
LTACs	Adult inpatient locations
Inpatient Rehabilitation Facilities (IRFs)	Adult inpatient locations

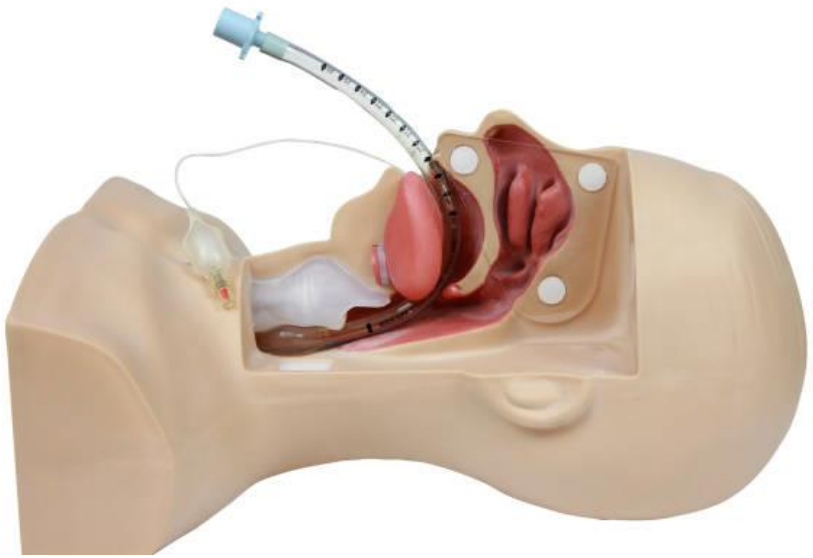
Eligible for Surveillance (PedVAE):

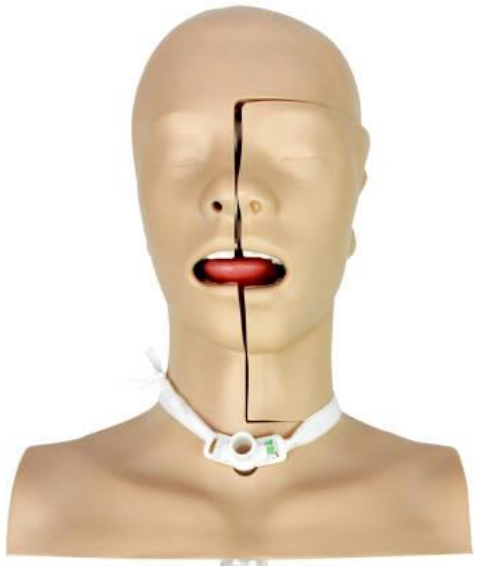
Facility Type	Location(s)
ACHs	Pediatric inpatient locations Neonatal inpatient locations
LTACs	Pediatric inpatient locations Neonatal inpatient locations
IRFs	Pediatric inpatient locations Neonatal inpatient locations

Definitions for Surveillance

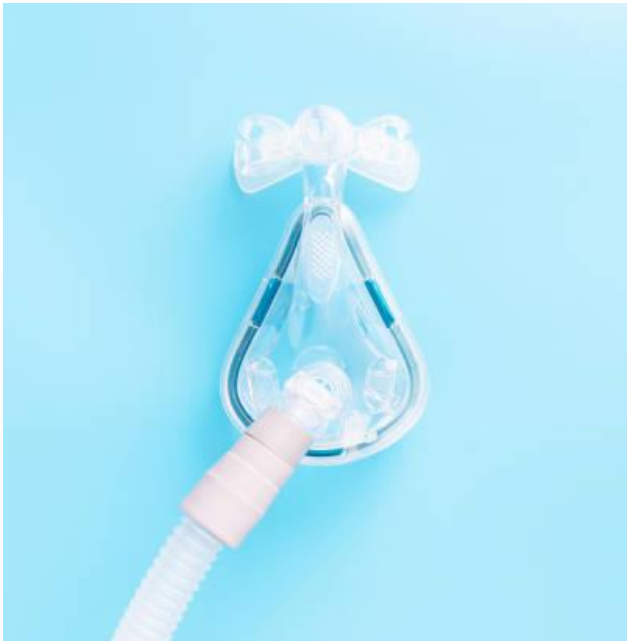
Basic Definitions

- **Ventilator: A device used to support, assist, or control respiration (inclusive of the weaning period) through the application of positive pressure to the airway when delivered via an artificial airway, specifically oral/nasal endotracheal or tracheostomy tube.**
  - **NOTE: Ventilation and lung expansion devices that deliver positive pressure to the airway (for example, CPAP, BiPAP, Bi-level, IPPB, and PEEP) via non-invasive means (for example, nasal prongs, nasal mask, full face mask, total mask, etc.) are not considered ventilators unless positive pressure is delivered via an artificial airway (oral/nasal endotracheal or tracheostomy tube).**





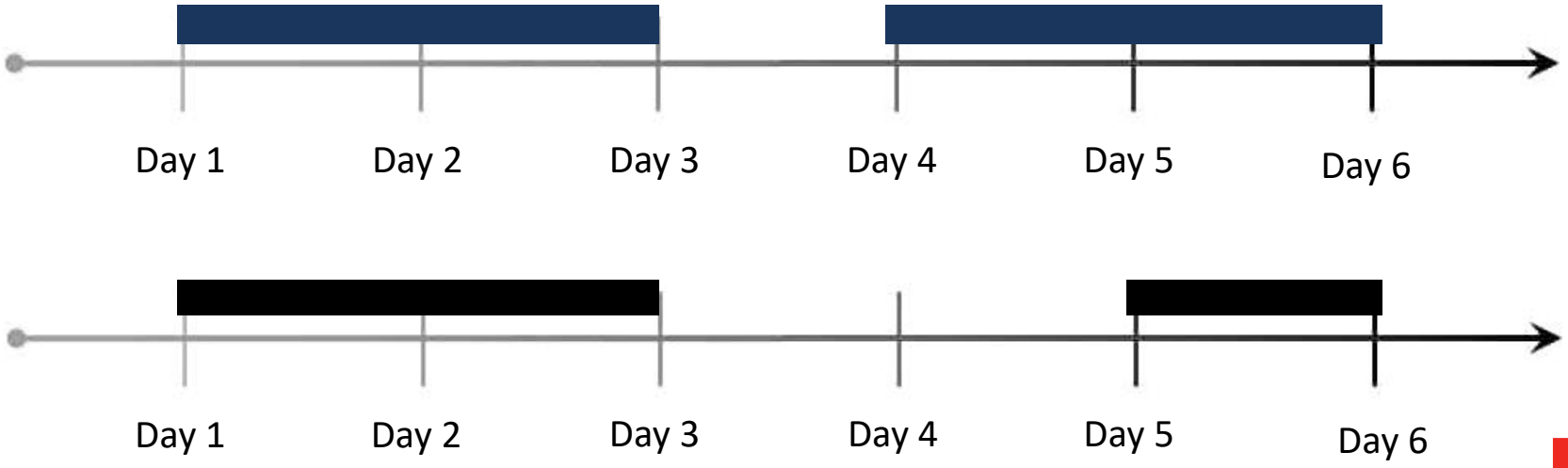
Not a ventilator



Basic Definitions

- **Episode of Mechanical Ventilation: Defined as a period of days during which the patient was mechanically ventilated for some portion of each consecutive day.**
  - **NOTE: A break in mechanical ventilation of at least one full calendar day, followed by reintubation and/or reinitiation of mechanical ventilation during the same hospitalization, defines a new episode of mechanical ventilation.**

Episodes of Mechanical Ventilation:



Basic Definitions

- **Fraction of Inspired Oxygen (FiO2): The fraction of oxygen in inspired gas.**
  - **For example, the FiO2 of ambient air is 0.21; the oxygen concentration of ambient air is 21%.**
- **In patients on mechanical ventilation, the FiO2 is one of the key parameters that can be adjusted depending on the patient's oxygenation needs.**
  - **It is typically in the range of 0.30 (oxygen concentration of 30%) to 1.0 (oxygen concentration of 100%).**

Basic Definitions

- **Daily Minimum FiO2: The lowest value of FiO2 during a calendar day that is set on the ventilator and maintained for > 1 hour. In circumstances where there is no value that is documented to have been maintained for > 1 hour (for example, the lowest value of FiO2 is set late in the calendar day, mechanical ventilation is discontinued early in the calendar day, FiO2 settings are changed very frequently throughout the calendar day) the daily minimum FiO2 should default to the lowest FiO2 setting during the calendar day (regardless of how long that setting was maintained).**

EXAMPLE: The patient is intubated at 6 pm. FiO_2 is set at the following values through the remainder of the calendar day:

Time	6 pm	7 pm	8 pm	9 pm	10 pm	11 pm
FiO_2	1.0	0.8	0.5	0.5	0.8	0.8

In this example, the daily minimum FiO_2 for the purposes of VAE surveillance is 0.5. FiO_2 settings are being monitored and recorded every hour. There are two consecutive hours where the FiO_2 setting is noted to be 0.5 (8 pm and 9 pm), and therefore required minimum duration of > 1 hour is met.

VAE Definitions

- **Positive End-Expiratory Pressure (PEEP): A technique used in respiratory therapy in which airway pressure greater than atmospheric pressure is achieved at the end of exhalation by the introduction of a mechanical impedance to exhalation.**
- **In patients on mechanical ventilation, PEEP is one of the key parameters that can be adjusted depending on the patient's oxygenation needs and is typically in the range of 0 to 15 cmH2O.**

VAE Definitions

- **Daily Minimum PEEP: The lowest value of PEEP during a calendar day that is set on the ventilator and maintained for > 1 hour. In circumstances where there is no value that is documented to have been maintained for > 1 hour (for example, the lowest value of PEEP is set late in the calendar day, mechanical ventilation is discontinued early in the calendar day, PEEP settings are changed very frequently throughout the calendar day) the daily minimum PEEP should default to the lowest PEEP setting during the calendar day (regardless of how long that setting was maintained).**

EXAMPLE: The patient is intubated at 6 pm. PEEP is set at the following values through the remainder of the calendar day:

Time	6 pm	7 pm	8 pm	9 pm	10 pm	11 pm
PEEP (cmH_2O)	10	8	5	5	8	8

In this example, the daily minimum PEEP for the purposes of VAE surveillance is 5 cmH_2O. PEEP settings are being monitored and recorded every hour. There are two consecutive hours where the PEEP setting is noted to be 5 cmH_2O (8 pm and 9 pm), and therefore required minimum duration of > 1 hour is met.

Basic Definitions

- **Mean Airway Pressure (MAP): The average pressure exerted on the airway and lungs from the beginning of inspiration until the beginning of the next inspiration.**
- **In patients on mechanical ventilation, MAP is the most powerful influence on oxygenation and is determined by:**
  - **positive end-expiratory pressure (PEEP)**
  - **peak inspiratory pressure (PIP)**
  - **inspiratory time**
  - **frequency**

PedVAE Definitions

- **Daily Minimum MAP: The lowest value of MAP during a calendar day.**

Basic Definitions

- **Date of Event: The date of onset of worsening oxygenation. This is defined as the first calendar day in which the daily minimum PEEP or FiO2 increases above the thresholds outlined in the VAE definition algorithm (specifically day 1 of the required ≥ 2-day period of worsening oxygenation following a ≥ 2-day period of stability or improvement on the ventilator).**
  - **NOTE: The "date of event" is NOT the date on which all VAE criteria have been met. It is the first day (of a ≥ 2-day period) on which either of the worsening oxygenation thresholds (for PEEP or FiO2) is met.**

EXAMPLE: A patient is intubated in the Emergency Room for severe community-acquired pneumonia and admitted to the MICU (day 1). The patient stabilizes and improves on days 2-5, with a daily minimum FiO_2 of 0.35 (35%) on days 4 and 5. On day 6, the patient experiences respiratory deterioration, and requires a minimum FiO_2 of 0.60 (60%) on days 6 and 7, meeting the criteria for a VAC. The date of the VAC event is day 6.

Basic Definitions

- **VAE Window Period: This is the period of days around the date of event (specifically the day of onset of worsening oxygenation) within which other VAE criteria must be met. It is usually a 5-day period and includes the 2 days before, the day of, and the 2 days after the VAE date of event (specifically the first day of worsening oxygenation, the day of VAE onset).**
  - **In cases where the VAE date of event corresponds to MV day 3 or day 4, the window period described above may only be a 3-day or a 4-day window, because it can NOT include any days before the 3rd day of MV.**

Basic Definitions

- **14-day Event Period: VAEs are defined by a 14-day period, starting on the day of onset of worsening oxygenation (the date of event, day 1). A new VAE cannot be identified or reported until this 14-day period has elapsed.**

Basic Definitions

- **New Antimicrobial Agent: Defined as any agent listed that is initiated on or after the third calendar day of mechanical ventilation AND in the VAE Window Period. The agent is considered new for the purposes of this definition if it was NOT given to the patient on either of the 2 days preceding the current start date.**
  - **The antimicrobial agent(s) must have been given by one of the routes of administration outlined, and therapy with one or more new antimicrobial agents must be continued for at least 4 calendar days.**

Basic Definitions

Appendix. List of Antimicrobial Agents Eligible for IVAC, PVAP

Antimicrobial Agent
AMIKACIN
AMPHOTERICIN B
AMPHOTERICIN B LIPOSOMAL
AMPICILLIN
AMPICILLIN/SULBACTAM
ANIDULAFUNGIN
AZITHROMYCIN
AZTREONAM
BALOXAVIR MARBOXIL
CASPOFUNGIN
CEFAZOLIN
CEFEPIME
CEFIDEROCOL
CEFOTAXIME
CEFOTETAN
CEFOXITIN
CEFTAROLINE
CEFTAZIDIME
CEFTAZIDIME/AVIBACTAM
CEFTOLOZANE/TAZOBACTAM
CEFTRIAXONE
CEFUROXIME
CIPROFLOXACIN
CLARITHROMYCIN
CLINDAMYCIN
COLISTIMETHATE
DALBAVANCIN
DELAFLOXACIN
DOXYCYCLINE
ERAVACYCLINE
ERTAPENEM
FLUCONAZOLE
FOSFOMYCIN
GENTAMICIN
IMIPENEM/CILASTATIN
IMIPENEM/CILASTATIN/RELEBACTAM
ISAVUCONAZONIUM
ITRACONAZOLE
LEFAMULIN
LEVOFLOXACIN
LINEZOLID
MEROPENEM
MEROPENEM/VABORBACTAM
METRONIDAZOLE
MICAFUNGIN
MINOCYCLINE
MOLNUPIRAVIR
MOXIFLOXACIN
NAFCILLIN
NIRMATRELVIR (includes NIRMATRELVIR/RITONAVIR)
OMADACYCLINE
ORITAVANCIN
OSELTAMIVIR
OXACILLIN
PENICILLIN G
PERAMIVIR
PIPERACILLIN/TAZOBACTAM
PLAZOMICIN
POLYMYXIN B
POSACONAZOLE
REMDESIVIR
REZAFUNGIN *added for 2024
RIFAMPIN
SULBACTAM/DURLOBACTAM *added for 2024
SULFAMETHOXAZOLE/TRIMETHOPRIM
TEDIZOLID
TELAVANCIN
TETRACYCLINE
TIGECYCLINE
TOBRAMYCIN
VANCOMYCIN, intravenous only
VORICONAZOLE
ZANAMIVIR

Basic Definitions

Table 1: Definitions of routes of administration

Route of Administration[a]	Definition[b]
Intravenous	An intravascular route that begins with a vein.
Intramuscular	A route that begins within a muscle.
Digestive Tract	A route that begins anywhere in the digestive tract extending from the mouth through rectum.
Respiratory Tract	A route that begins within the respiratory tract, including the oropharynx and nasopharynx.

[a]Other routes of administration are excluded (for example, antibiotic locks, intraperitoneal, intraventricular, irrigation, topical).

[b]Definitions per SNOMED Reference Terminology

Basic Definitions

- **Qualifying Antimicrobial Day (QAD): A day on which the patient was administered an antimicrobial agent that was determined to be "new" within the VAE Window Period. Days on which a new antimicrobial agent is administered count as QADs. Days between administrations of a new antimicrobial agent also count as QADs if there is a gap of no more than 1 calendar day between administrations. By contrast, days between administrations of different antimicrobial agents do NOT count as QADs.**

EXAMPLE: A patient is intubated and mechanically ventilated on hospital day 1 in the MSICU. Ceftriaxone and azithromycin are started on day 1 and administered daily. After 3 days of improving respiratory status, the patient's oxygenation deteriorates on days 4 and 5, with a daily minimum PEEP that is 4 cmH_2O higher than it was on days 2 and 3. Criteria for the VAC definition are met; the date of the event is hospital day 4. Ceftriaxone is discontinued and meropenem is begun on day 5. Azithromycin is continued. In this case, meropenem is a new antimicrobial agent: 1) it was begun on day 5 of mechanical ventilation, and 2) within the VAE Window Period (on the day after VAE onset), and 3) it was not given to the patient on either of the 2 days preceding the current start date. By contrast, ceftriaxone and azithromycin would not be considered new antimicrobial agents, since they were begun on day 1 of mechanical ventilation and continued daily into the VAE Window Period.

Denominator Data

Data Entry

- **Denominator Data Collected:**
  - **Patient Days**
  - **Device Days**
- **Optional Denominator Data:**
  - **Episodes of Mechanical Ventilation**
    - **The EMV denominator is determined by counting all patients in the location who are on mechanical ventilation on the first day of the month regardless of eligibility for inclusion in VAE surveillance. Then, on each subsequent day of the month, count each additional patient that is started on mechanical ventilation.**
    - **This would include those that are admitted to the location already on mechanical ventilation, those that are newly ventilated, and any previously ventilated patients who have new episodes of mechanical ventilation occurring during the same month. The sum of the count for the first day and each subsequent day of the month is entered in NHSN.**

Denominator Data

- **Denominator data collection options**
  - **Daily**
    - **Manual**
    - **Electronic (Post-validation: 3 months of ± 5% of manual counts)**

- **For VAE:**
  - **NOTE: All ventilator days are counted, including ventilator days for patients on mechanical ventilation for < 3 days, and patients on high frequency ventilation and other therapies excluded from VAE surveillance. Patients with tracheostomies who are undergoing weaning from mechanical ventilation using tracheostomy collar trials are included in ventilator day counts if they spend some portion of the day on mechanical ventilation at a time that overlaps with the daily time during which ventilator day counts are performed.**
  - **NOTE: In addition to the total number of patients on ventilators on each day of surveillance, the number of patients on ventilators who are on the APRV mode of mechanical ventilation or related modes (which is a subset of all patients on ventilators) can optionally be indicated on the appropriate form (CDC 57.117 and 57.118).**

- **For PedVAE:**
  - **NOTE: All ventilator days are counted, including ventilator days for patients on mechanical ventilation for < 3 days, and ventilator days for patients on extracorporeal life support or paracorporeal membrane oxygenation who are excluded from PedVAE surveillance. Patients with tracheostomies who are undergoing weaning from mechanical ventilation using tracheostomy collar trials are included in ventilator day counts if they spend some portion of the day on mechanical ventilation at a time that overlaps with the daily time during which ventilator day counts are performed.**

Numerator Data

HAI Definitions: VAE

VAE Surveillance:

VAC → IVAC → PVAP

Exclusions

- **Patients on high frequency ventilation, extracorporeal life support, or paracorporeal membrane oxygenation are EXCLUDED from VAE surveillance during periods of time when the support is in place the entire calendar day.**

- **If the date of event is on or after the date of documentation of evidence of consent AND the patient is being supported for organ donation purposes, the event should not be reported as a VAE.**

Inclusions

- **Patients must be mechanically ventilated for at least 4 calendar days to fulfill VAE criteria (where the day of intubation and initiation of mechanical ventilation is day 1). The earliest date of event for VAE (the date of onset of worsening oxygenation) is day 3 of mechanical ventilation.**

- **Patients on Airway Pressure Release Ventilation (APRV) or related modes are INCLUDED, but when this mode is in use the VAE period of stability or improvement on the ventilator and the period of worsening oxygenation should be determined by changes in FiO2 only, since changes in PEEP as indicated in this surveillance algorithm may not be applicable to APRV.**

- **Patients who are receiving a conventional mode of mechanical ventilation while in the prone position and patients who are receiving a conventional mode of mechanical ventilation while receiving nitric oxide therapy, helium-oxygen mixtures, or epoprostenol therapy are INCLUDED in VAE surveillance.**

HAI Definitions: (VAE) VAC

Patient has a baseline period of stability or improvement on the ventilator, defined by ≥ 2 calendar days of stable or decreasing daily minimum* FiO_2 or PEEP values. The baseline period is defined as the 2 calendar days immediately preceding the first day of increased daily minimum PEEP or FiO_2.

*Daily minimum defined by lowest value of FiO_2 or PEEP during a calendar day that is maintained for > 1 hour.

After a period of stability or improvement on the ventilator, the patient has at least one of the following indicators of worsening oxygenation:

1) Increase in daily minimum* FiO_2 of ≥ 0.20 (20 points) over the daily minimum FiO_2 of the first day in the baseline period, sustained for ≥ 2 calendar days.
2) Increase in daily minimum* PEEP values of ≥ 3 cmH_2O over the daily minimum PEEP of the first day in the baseline period†, sustained for ≥ 2 calendar days.

*Daily minimum defined by lowest value of FiO_2 or PEEP during a calendar day that is maintained for > 1 hour.

†Daily minimum PEEP values of 0-5 cmH_2O are considered equivalent for the purposes of VAE surveillance.

Ventilator-Associated Condition (VAC)

Practice Case 1

- **Sutton is admitted on HD 1 for acute exacerbation of COPD and is intubated the same day. She continues to improve on the ventilator daily with PEEP values between 0 - 5 cm H_2O for HD 2 and 3 and FiO_2 values at .35 both days. On HD 4, her daily minimum PEEP increases from 5 cmH_20 to 8 cmH_20 while her daily FiO_2 remains at 0.35. The next day her daily minimum PEEP remains at 8 cm H_2O.**

Hospital Day	Sign/Sx	DOE	Window Period	Event Period	Qualifying Abx Day
1	Intubated (VD 1)				
2					
3					
4	PEEP increased				
5	PEEP increased				
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					

Practice Case 1

- **Sutton is admitted on HD 1 for acute exacerbation of COPD and is intubated the same day. She continues to improve on the ventilator daily with PEEP values between 0 - 5 cm H_2O for HD 2 and 3 and FiO_2 values at .35 both days. On HD 4, her daily minimum PEEP increases from 5 cm$H_2$0 to 8 cm$H_2$0 while her daily FiO_2 remains at 0.35. The next day her daily minimum PEEP remains at 8 cm H_2O.**

Hospital Day	Sign/Sx	DOE	Window Period	Event Period	Qualifying Abx Day
1	Intubated (VD 1)				
2					
3					
4	PEEP increased				
5	PEEP increased				
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					

VAC – DOE: HD 4

HAI Definitions: (VAE) IVAC

On or after calendar day 3 of mechanical ventilation and within 2 calendar days before or after the onset of worsening oxygenation, the patient meets both of the following criteria:

1) Temperature > 38 °C or < 36°C, **OR** white blood cell count ≥ 12,000 cells/mm^3 or ≤ 4,000 cells/mm^3.

AND

2) A new antimicrobial agent(s) (see Appendix for eligible antimicrobial agents) is started and is continued for ≥ 4 qualifying antimicrobial days (QAD).

Infection-related Ventilator-Associated Complication (IVAC)

Practice Case 2

- **Derek presents to the hospital for admission and is intubated on HD 1. He remains stable on the ventilator with PEEP of 3.0 cmH_2O and FiO_2 of 40%. On HD 4 he is noted to have a temperature of 38.6°C and is started on imipenem/cilastatin IV. On HD 5 his FiO_2 is increased to 60% and is increased again to 70% on HD 6.**

Hospital Day	Sign/Sx	DOE	Window Period	Event Period	Qualifying Abx Day
1	Intubated (VD 1)				
2					
3					
4	Fever				
5	Worse FiO_2				
6	Worse FiO_2				
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					

Practice Case 2

- **Derek presents to the hospital for admission and is intubated on HD 1. He remains stable on the ventilator with PEEP of 2.0 cmH_2O and FiO_2 of 40%. On HD 4 he is noted to have a temperature of 38.6°C and is started on imipenem/cilastatin IV. On HD 5 his FiO_2 is increased to 60% and is increased again to 70% on HD 6.**

Hospital Day	Sign/Sx	DOE	Window Period	Event Period	Qualifying Abx Day
1	Intubated (VD 1)				
2					
3					
4	Fever				
5	Worse FiO_2				
6	Worse FiO_2				
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					

IVAC – DOE: HD 5

HAI Definitions: (VAE) PVAP

On or after calendar day 3 of mechanical ventilation and within 2 calendar days before or after the onset of worsening oxygenation, ONE of the following criteria is met (**taking into account organism exclusions specified in the protocol**):

1) Criterion 1: Positive culture of one of the following specimens, meeting quantitative or semi-quantitative thresholds† as outlined in protocol, without requirement for purulent respiratory secretions:
   - Endotracheal aspirate, ≥ 10^5 CFU/ml or corresponding semi-quantitative result
   - Bronchoalveolar lavage, ≥ 10^4 CFU/ml or corresponding semi-quantitative result
   - Lung tissue, ≥ 10^4 CFU/g or corresponding semi-quantitative result
   - Protected specimen brush, ≥ 10^3 CFU/ml or corresponding semi-quantitative result
2) Criterion 2: Purulent respiratory secretions (defined as secretions from the lungs, bronchi, or trachea that contain ≥ 25 neutrophils and ≤ 10 squamous epithelial cells per low power field [lpf, x100])† **PLUS** organism identified from one of the following specimens (to include qualitative culture, or quantitative/semi-quantitative culture without sufficient growth to meet Criterion #1):
   - Sputum
   - Endotracheal aspirate
   - Bronchoalveolar lavage
   - Lung tissue
   - Protected specimen brush
3) Criterion 3: One of the following positive tests:
   - Organism identified from pleural fluid (where specimen was obtained during thoracentesis or within 24 hours of chest tube placement; pleural fluid specimens collected after a chest tube is repositioned or from a chest tube in place > 24 hours are not eligible for PVAP)
   - Lung histopathology, defined as: 1) abscess formation or foci of consolidation with intense neutrophil accumulation in bronchioles and alveoli; 2) evidence of lung parenchyma invasion by fungi (hyphae, pseudohyphae, or yeast forms); 3) evidence of infection with the viral pathogens listed below based on results of immunohistochemical assays, cytology, or microscopy performed on lung tissue
   - Diagnostic test for *Legionella* species
   - Diagnostic test on respiratory secretions for influenza virus, respiratory syncytial virus, adenovirus, parainfluenza virus, rhinovirus, human metapneumovirus, coronavirus

† If the laboratory reports semi-quantitative results, those results must correspond to the quantitative thresholds. Refer to Table 2 and 3.

Possible Ventilator-Associated Pneumonia (PVAP)

Practice Case 3

- **On HD 7, Derek had a positive diagnostic test on respiratory secretion for adenovirus.**

Hospital Day	Sign/Sx	DOE	Window Period	Event Period	Qualifying Abx Day
1	Intubated (VD 1)				
2					
3					
4	Fever				
5	Worse FiO_2				
6	Worse FiO_2				
7	Adenovirus Positive test				
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					

Practice Case 3

- **On HD 7, Derek had a positive diagnostic test on respiratory secretion for adenovirus.**

Hospital Day	Sign/Sx	DOE	Window Period	Event Period	Qualifying Abx Day
1	Intubated (VD 1)				
2					
3					
4	Fever				
5	Worse FiO_2				
6	Worse FiO_2				
7	Adenovirus positive test				
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					

PVAP – DOE: HD 5
Pathogen: Adenovirus

HAI Definitions: PedVAE

Patient has a baseline period of stability or improvement on the ventilator, defined by ≥ 2 calendar days of stable or decreasing daily minimum* FiO_2 or MAP values. The baseline period is defined as the 2 calendar days immediately preceding the first day of increased daily minimum MAP or FiO_2.

*Daily minimum FiO_2 is defined as the lowest value of FiO_2 documented during a calendar day that is maintained for > 1 hour.
Daily minimum MAP is the lowest value documented during the calendar day.
For patients < 30 days old, daily minimum MAP values 0-8 cm H_2O are considered equal to 8 cmH_2O for the purposes of surveillance.
For patients ≥ 30 days old, daily minimum MAP values 0-10 cmH_2O are considered equal to 10 cmH_2O for the purposes of surveillance.

After a period of stability or improvement on the ventilator, the patient has at least one of the following indicators of worsening oxygenation:

1) Increase in daily minimum FiO_2 of ≥ 0.25 (25 points) over the daily minimum FiO_2 of the first day in the baseline period, sustained for ≥ 2 calendar days.
2) Increase in daily minimum MAP values of ≥ 4 cmH_2O over the daily minimum MAP of the first day in the baseline period, sustained for ≥ 2 calendar days.

Pediatric Ventilator-Associated Event (PedVAE)

Practice Case 4

- **Drew, a 4 y/o boy is admitted and on HD 2 is intubated. From HD 2 to HD 5 his MAP and FiO_2 values steadily improve to 7 cm H_2O and 35% respectively. On HD 6, his MAP increases from 7 cm to 12 cm and then on HD 7 to 13 cm.**

Hospital Day	Sign/Sx	DOE	Window Period	Event Period	Qualifying Abx Day
1					
2	Intubated				
3					
4					
5					
6	Worse MAP				
7	Worse MAP				
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					

Practice Case 4

- **Drew, a 4 y/o boy is admitted and on HD 2 is intubated. From HD 2 to HD 5, his MAP and FiO_2 values steadily improve to 7 cm H_2O and 35% respectively. On HD 6, his MAP increases from 7 cm to 12 cm and then on HD 7 to 13 cm.**

PedVAE – DOE: HD 6

Hospital Day	Sign/Sx	DOE	Window Period	Event Period	Qualifying Abx Day
1					
2	Intubated				
3					
4					
5					
6	Worse MAP				
7	Worse MAP				
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					

VAE Rate

VAE Rate

- **Rate of VAE per 1000 ventilator days**
  - **VAE Rate per 1000 ventilator days =** $\frac{No.of\ VAEs}{No.of\ Ventilator\ Days}$***1000**
- **Rate of VAE per 100 episodes of mechanical ventilation (EMV)**
  - **VAE Rate per 100 EMV =** $\frac{No.of\ VAEs}{No.of\ EMV}$***100**

Reporting VAE/PedVAE in NHSN

Reporting Events in NHSN

View Event

Mandatory fields marked with *
Fields required for record completion marked with **
Fields required when in Plan marked with >

Print Form

Patient Information

Facility ID *: TDH Central (15813)
Event #: 13258951
Patient ID *: 1234565
Social Security # :
Secondary ID :
Medicare # :
Last Name : Duck
First Name : Donald
Middle Name : D.
Gender *: M - Male
Date of Birth *: 03/17/1977
Ethnicity :
Race: ☐ American Indian/Alaska Native ☐ Asian ☐ Black or African American ☐ Native Hawaiian/Other Pacific Islander ☐ White

Event Information

Event Type *: VAE - Ventilator-Associated Event
Date of Event *: 01/30/2014
Post-procedure:
MDRO Infection Surveillance *: No, this infection's pathogen/location are not in-plan for Infection Surveillance in the MDRO/CDI Module
Location *: TRA - TRAUMA ICU
Date Admitted to Facility >:

Risk Factors

Location of Mechanical Ventilation * TRA - TRAUMA ICU
Date Mechanical Ventilation Initiated * 01/20/2014
APRV * Y - Yes

Event Details

Specific Event >:
Secondary Bloodstream Infection >:
Died **: N - No
Discharge Date:
Pathogens Identified >: If Yes, specify below ->

Custom Fields

NOTES:

Reporting Events in NHSN

NHSN
NATIONAL HEALTHCARE SAFETY NETWORK

OMB No. 0920-0666
Form Approved
Exp. Date: 01/31/24
www.cdc.gov/nhsn

Ventilator-Associated Event (VAE)

Page 1 of 4 *required for saving **required for completion

Facility ID:	Event #:
*Patient ID:	Social Security #:
Secondary ID:	Medicare #:
Patient Name, Last:	First: Middle:
*Gender: F M Other	*Date of Birth:
Ethnicity (Specify):	Race (Specify):
*Event Type: VAE	*Date of Event:
Post-procedure VAE: Yes No	Date of Procedure:
NHSN Procedure Code:	ICD-10-PCS or CPT Procedure Code:

*MDRO Infection Surveillance:

☐ Yes, this infection's pathogen & location are in-plan for Infection Surveillance in the MDRO/CDI Module

☐ No, this infection's pathogen & location are **not** in-plan for Infection Surveillance in the MDRO/CDI Module

*Date Admitted to Facility:	*Location:

* Location of Mechanical Ventilation Initiation: _____ *Date Initiated: __/__/____ APRV: Yes No

Event Details

*Specific Event: ☐ VAC ☐ IVAC ☐ PVAP

*Specify Criteria Used:

STEP 1: VAC (≥1 REQUIRED)

☐ Daily min FiO_2 increase ≥ 0.20 (20 points) for ≥ 2 days† **OR** ☐ Daily min PEEP increase ≥ 3 cm H_2O for ≥ 2 days†

†*after 2+ days of stable or decreasing daily minimum values.*

STEP 2: IVAC

☐ Temperature > 38°C or < 36° **OR** ☐ White blood cell count ≥ 12,000 or ≤ 4,000 cells/mm^3

AND

☐ A new antimicrobial agent(s) is started, and is continued for ≥ 4 days

STEP 3: PVAP

☐ Criterion #1: Positive culture of one of the following specimens, meeting quantitative or semi-quantitative thresholds as outlined in protocol,‡ without requirement for purulent respiratory secretions:

☐ Endotracheal aspirate ☐ Lung tissue
☐ Bronchoalveolar lavage ☐ Protected specimen brush

OR

☐ Criterion #2: Purulent respiratory secretions‡ (defined in the protocol) plus organism(s) identified from one of the following specimens:‡

☐ Sputum ☐ Lung tissue
☐ Endotracheal aspirate ☐ Protected specimen brush
☐ Bronchoalveolar lavage

OR

☐ Criterion #3: One of the following positive tests (as outlined in the protocol):‡

☐ Organism(s) identified from pleural fluid ☐ Diagnostic test for *Legionella* species
☐ Lung histopathology ☐ Diagnostic test for selected viral pathogens

‡*collected after 2 days of mechanical ventilation and within +/- 2 days of onset of increase in FiO_2 or PEEP.*

*Secondary Bloodstream Infection: Yes No	COVID-19: Yes No If Yes: ☐Confirmed ☐Suspected
**Died: Yes No	VAE Contributed to Death: Yes No
Discharge Date:	*Pathogens Identified: Yes No *If Yes, specify on pages 2-3

Assurance of Confidentiality: The voluntarily provided information obtained in this surveillance system that would permit identification of any individual or institution is collected with a guarantee that it will be held in strict confidence, will be used only for the purposes stated, and will not otherwise be disclosed or released without the consent of the individual, or the institution in accordance with Sections 304, 306 and 308(d) of the Public Health Service Act (42 USC 242b, 242k, and 242m(d)).
Public reporting burden of this collection of information is estimated to average 28 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to CDC, Reports Clearance Officer, 1600 Clifton Rd., MS D-74, Atlanta, GA 30333, ATTN: PRA (0920-0666).
CDC 57.113 (Front), Rev 8 v8.0

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OMB No. 0920-0666
Form Approved
Exp. Date: 01/31/24
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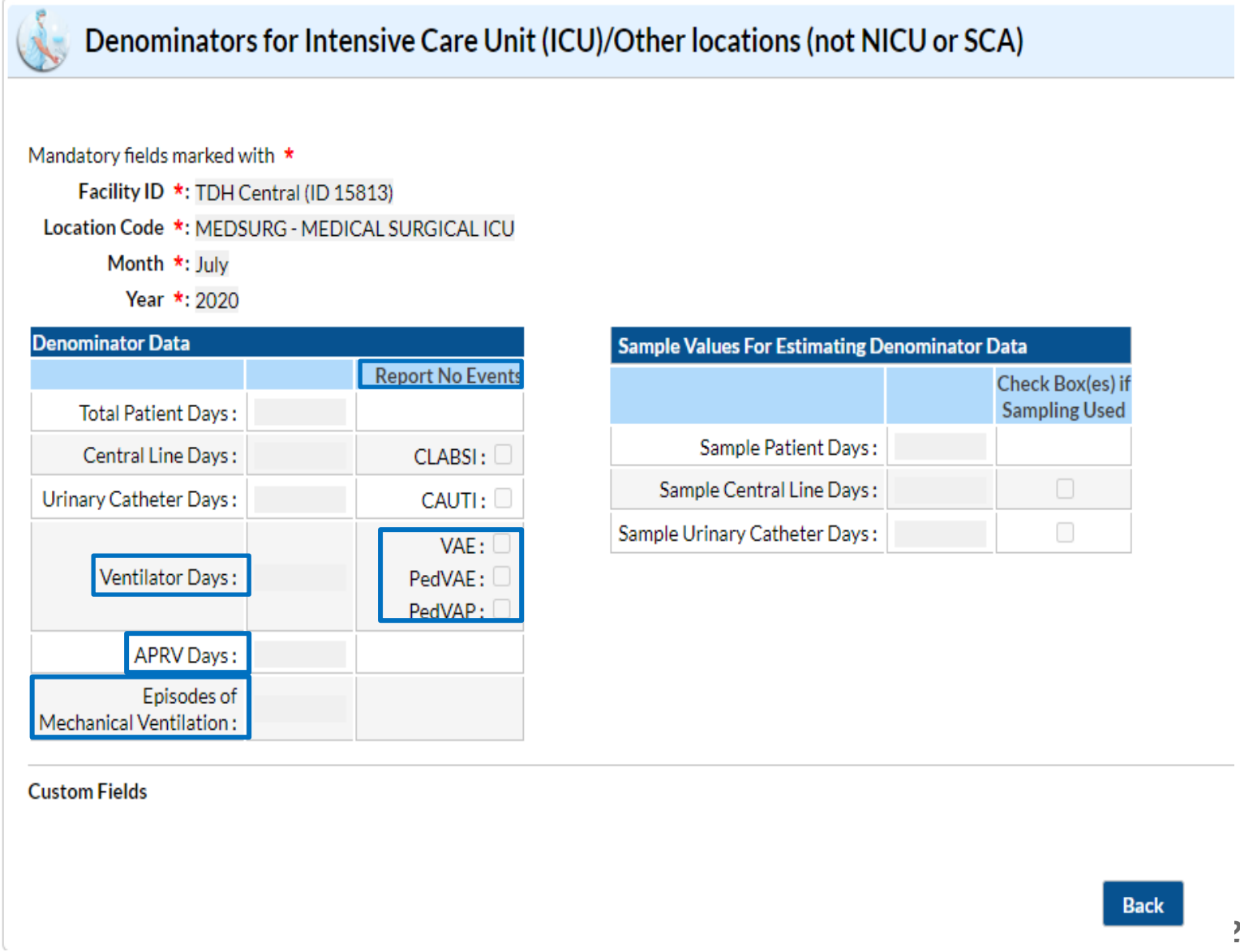
Ventilator-Associated Event (VAE)

Pathogen #	Gram-positive Organisms							
	Staphylococcus coagulase-negative (specify species if available):	CEFOX/OX S R N	VANC S I R N					
	____*Enterococcus faecium* ____*Enterococcus faecalis* ____*Enterococcus* spp. (Only those not identified to the species level)	DAPTO S S-DD N S R N	GENTHL‡ S R N	LNZ S I R N	VANC S I R N			
	Staphylococcus aureus	CIPRO/LEVO/MOXI S I R N	CEFOX/METH/OX S R N	CEFTAR S S-DD I R	CLIND S I R N	DAPTO S N S N	DOXY/MINO S I R N	GENT S I R N
		LNZ S R N	RIF S I R N	TETRA S I R N	TMZ S I R N	VANC S I R N		

Pathogen #	Gram-negative Organisms							
	Acinetobacter (specify species) _____	AMK S I R N	AMPSUL S I R N	CEFTAZ/CEFOT/CEFTRX S I R N	CEFEP S I R N	CIPRO/LEVO S I R N	COL/PB S R N	DORI/MERO S I R N
		DOXY/MINO S I R N	GENT S I R N	IMI S I R N	PIPTAZ S I R N	TMZ S I R N	TOBRA S I R N	
	Escherichia coli	AMK S I R N	AMP S I R N	AMPSUL/AMXCLV S I R N	AZT S I R N	CEFAZ S I R N	CEFTAZ S I R N	CEFOT/CEFTRX S I R N
		CEFEP S I/S-DD R N	CEFTAVI S R N	CEFTOTAZ S I R N	CIPRO/LEVO/MOXI S I R N	COL/PB† I R N	DORI/IMI/MERO S I R N	DOXY/MINO/TETRA S I R N
		ERTA S I R N	GENT S I R N	IMIREL S I R N	MERVAB S I R N	PIPTAZ S I R N	TIG S I R N	TMZ S I R N
		TOBRA S I R N						
	Enterobacter (specify species) _____	AMK S I R N	AZT S I R N	CEFTAZ S I R N	CEFOT/CEFTRX S I R N	CEFEP S I/S-DD R N	CEFTAVI S R N	CEFTOTAZ S I R N
		CIPRO/LEVO/MOXI S I R N	COL/PB† I R N	DORI/IMI/MERO S I R N	DOXY/MINO/TETRA S I R N	ERTA S I R N	GENT S I R N	IMIREL S I R N
		MERVAB S I R N	PIPTAZ S I R N	TIG S I R N	TMZ S I R N	TOBRA S I R N		
	____*Klebsiella pneumoniae* ____*Klebsiella oxytoca* ____*Klebsiella aerogenes*	AMK S I R N	AMPSUL/AMXCLV S I R N	AZT S I R N	CEFAZ S I R N	CEFTAZ S I R N	CEFOT/CEFTRX S I R N	CEFEP S I/S-DD R N
		CEFTAVI S R N	CEFTOTAZ S I R N	CIPRO/LEVO/MOXI S I R N	COL/PB† I R N	DORI/IMI/MERO S I R N	DOXY/MINO/TETRA S I R N	ERTA S I R N
		GENT S I R N	IMIREL S I R N	MERVAB S I R N	PIPTAZ S I R N	TIG S I R N	TMZ S I R N	TOBRA S I R N
	Pseudomonas aeruginosa	AMK S I R N	AZT S I R N	CEFTAZ S I R N	CEFEP S I R N	CEFTAVI S R N	CEFTOTAZ S I R N	CIPRO/LEVO S I R N
		COL/PB S I R N	DORI/IMI/MERO S I R N	GENT S I R N	PIPTAZ S I R N	TOBRA S I R N		

Reporting Summary Data in NHSN



Denominators for Intensive Care Unit (ICU)/Other locations (not NICU or SCA)

Mandatory fields marked with *

Facility ID *: TDH Central (ID 15813)

Location Code *: MEDSURG - MEDICAL SURGICAL ICU

Month *: July

Year *: 2020

Denominator Data

		Report No Events
Total Patient Days :		
Central Line Days :		CLABSI : ☐
Urinary Catheter Days :		CAUTI : ☐
Ventilator Days :		VAE : ☐ PedVAE : ☐ PedVAP : ☐
APRV Days :		
Episodes of Mechanical Ventilation :		

Sample Values For Estimating Denominator Data

		Check Box(es) if Sampling Used
Sample Patient Days :		
Sample Central Line Days :		☐
Sample Urinary Catheter Days :		☐

Custom Fields

Back

TN

Data Entry

Denominators for Intensive Care Unit (ICU)/Other Locations (not NICU or SCA)

Page 1 of 1

*required for saving
Facility ID: *Location Code: *Month: *Year:

Date	*Number of Patients	**Number of patients with 1 or more **central lines**	**Number of patients with a **urinary catheter**	**Number of total patients on a **ventilator**	Number of patients **on APRV**	Number of **Episodes of Mechanical Ventilation**
1						
2						
3						
4						
5						

Data Entry

Denominators for Neonatal Intensive Care Unit

Page 1 of 4

*Required for saving

**Conditionally required

Facility ID: *Location Code: *Month:

Birth Weight Categories

Date:	≤750 g					751-1000 g					1001-1500 g					
	Pt*	**CL	**VNT	UrC	EMV	Pt*	**CL	**VNT	UrC	EMV	Pt*	**CL	**VNT	UrC	EMV	Pt*
1.																
2.																
3.																
4.																
5																

Upcoming Trainings

- **Webinars –**
  - **NHSN Analysis**
    - **Monday, February 26th, 10 a.m. CT**

Resources

NHSN Resources

- **VAE: VAE | PSC | NHSN | CDC**
- **PedVAE: PedVAE | PSC | NHSN | CDC**

- **Patient Safety Component Manual**
  - **VAE: Ventilator-associated Event (VAE)**
  - **PedVAE: Pediatric Ventilator-associated Event (PedVAE)**

Contact

- **TDH HAI Program:**
  - HAI.Health@tn.gov

- **NHSN:**
  - NHSN@cdc.gov
  - **NHSN Website:** NHSN | CDC

Next NHSN User Call

- **Monday, March 18, 2024**
  - **10am CT / 11am ET**

- **NHSN Related**
  - **Vicky.Lindsey@tn.gov**
  - **Ashley.Gambrell@tn.gov**
  - **Abigail.Marrero@tn.gov**

- **AU/AR Module**
  - **Christopher.Evans@tn.gov**

- **Infection Prevention**
  - **HAI.Health@tn.gov**