National STD Curriculum

The National STD Curriculum

Official Launch Webinar

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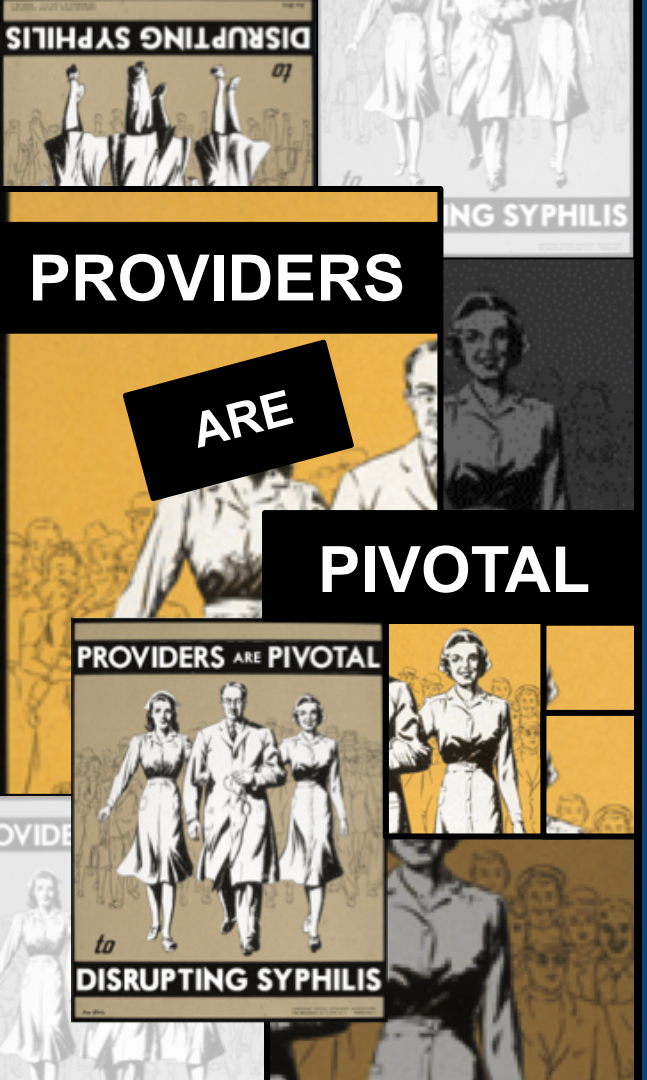
Professor of Medicine, Division of Infectious Diseases
University of Washington

Introductions By:
Jami Fraze, PhD, NNPTC Project Officer
Gail Bolan, MD, DSTDP Division Director

January 25, 2018



Gail Bolan, MD

Director, Division of STD Prevention

Centers for Disease Control and Prevention

Visit: https://www.cdc.gov/std/default.htm

2018 STD PREVENTION CONFERENCE

Call for Abstracts OPEN

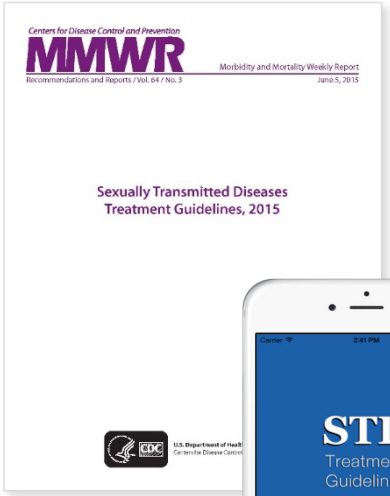
through Feb. 16, 2018

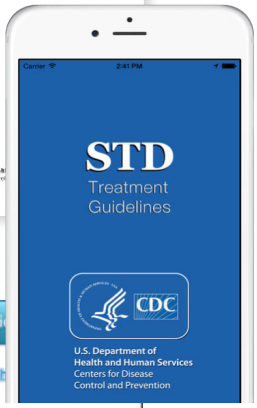
"intersecting epidemics, integrated solutions"

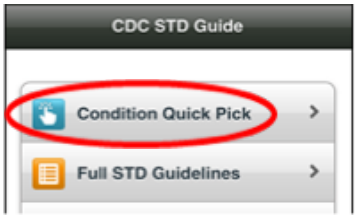
https://www.cdc.gov/stdconference/2018/abstracts.htm

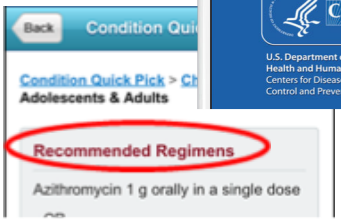
Resources

- **STD Treatment Guidelines**
  - Visit: www.cdc.gov/std/tg2015/default.htm
- **FREE STD Treatment Guidelines App (Apple and Android)**









National Network of STD Clinical Prevention Training Centers (NNPTC)

Resources

- **Visit: www.nnptc.org**
- **Clinical Training and Consultation Network**
  - Visit: www.STDCCN.org.
- **Resources and tools for STD treatment**
- **STD Clinical Toolbox App**

National STD Curriculum

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January 25, 2018

Disclosures: NONE

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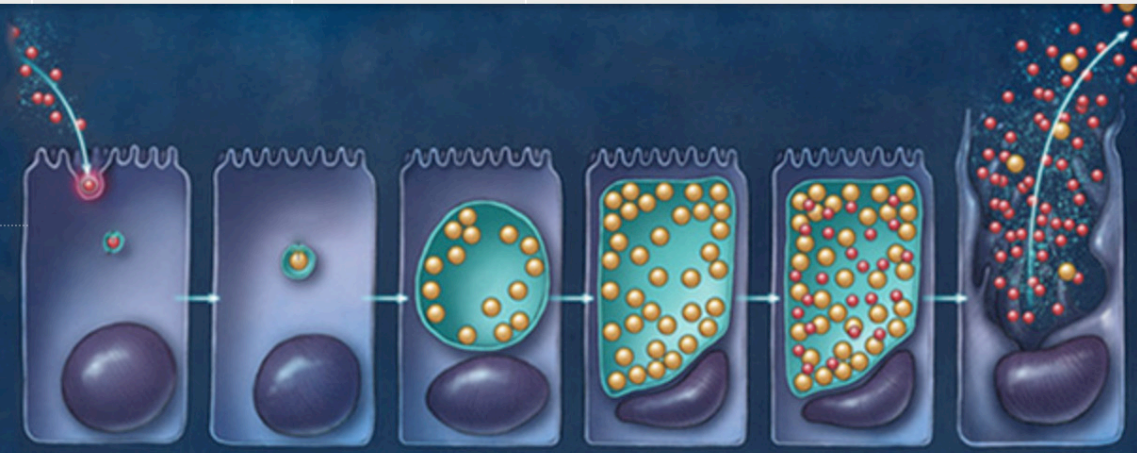

Objectives

- Provide an overview of the *National STD Curriculum* web site
- How to optimize use of the curriculum
- Explain administration functions (register, track progress, CE)
- Summarize “1 Year” site data
- Describe future activities on site

National STD Curriculum

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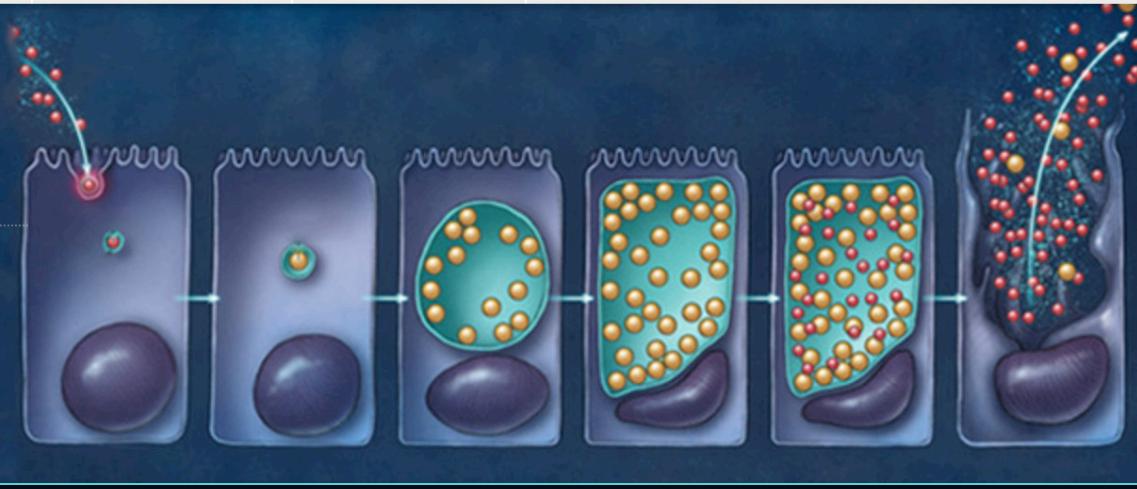

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National STD Curriculum: *Acknowledgments*

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Funding Source: Centers for Disease Control and Prevention

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National STD Curriculum: *Acknowledgments*

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National Network of STD Clinical Prevention Training Centers

Funding Source: Centers for Disease Control and Prevention

National STD Curriculum

NATIONAL STD CURRICULUM

Site Overview

National STD Curriculum

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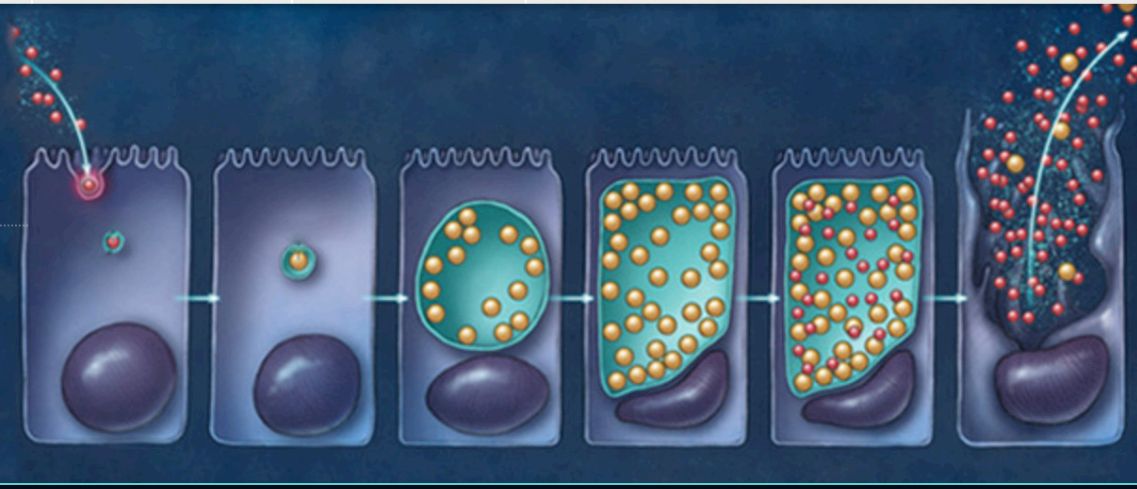


To access the *National STD Curriculum* go to:

www.std.uw.edu

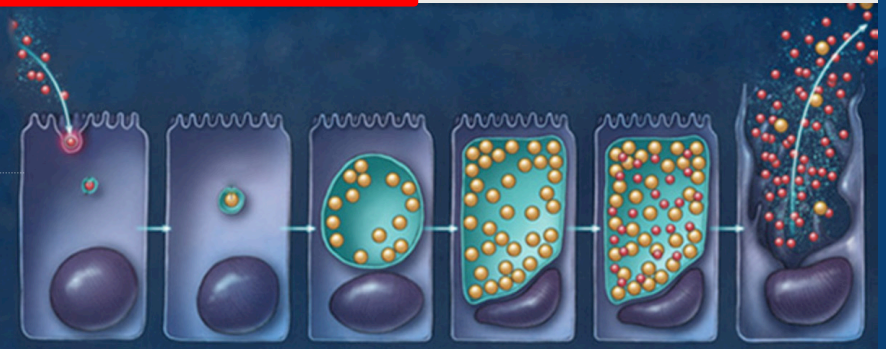
National STD Curriculum: Features

- Interactive self-paced on-line learning and assessment tool
- Free CNE and CME credits
- Expert, up-to-date content consistent with CDC guidelines
- Free module-by-module certificate program
- Group functionality

Intended audience: Medical Professionals

National STD Curriculum

National STD Curriculum



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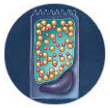
STD Modules

Chlamydia



Chlamydia Self-Study CNE/CME
Track progress and receive CE credit

Quick Reference ›
Rapidly access info about Chlamydia

Question Bank CNE/CME
Interactive board-review style questions with CE credit

Gonorrhea

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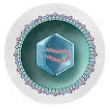
HSV

Herpes Simplex Virus (HSV)



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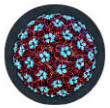

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Rapidly access info about HPV

PID

Pelvic Inflammatory Disease (PID)

PID Self-Study CNE/CME
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Quick Reference ›
Rapidly access info about PID

Syphilis

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Vaginitis

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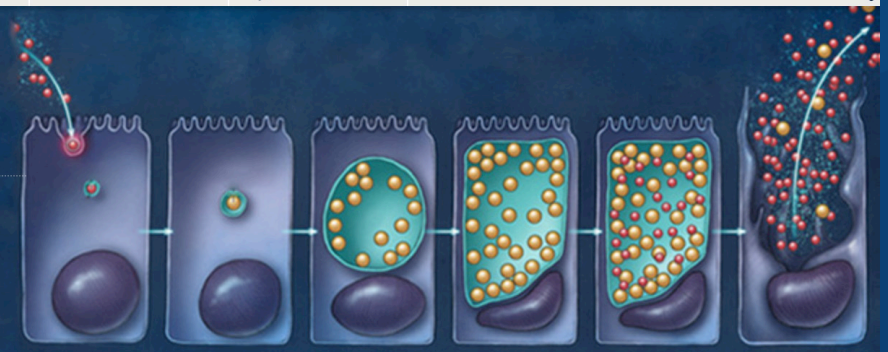
STD Modules

National STD Curriculum



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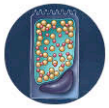

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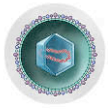

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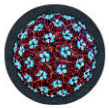

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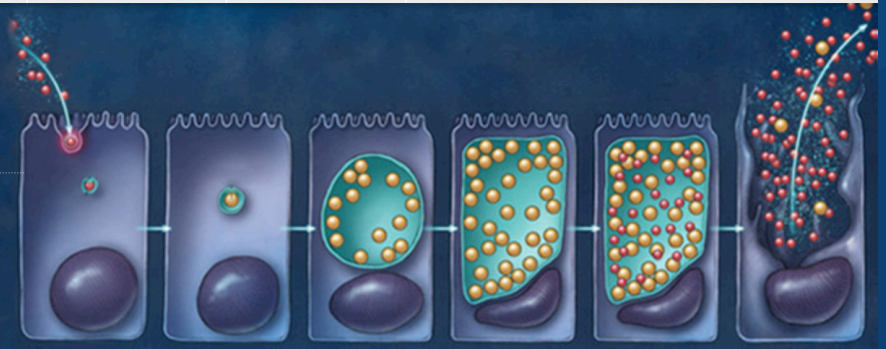

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STD Modules: Dual Functionality

Self-Study

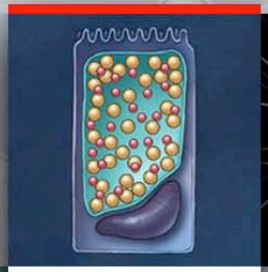
- Sequential (Step-by-Step)
- Flexible modular options
- Certificate program
- Ideal for training programs

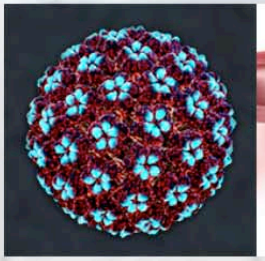
Quick Reference

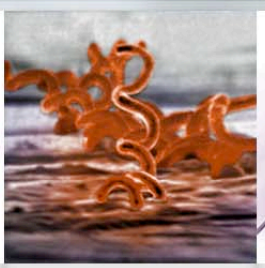
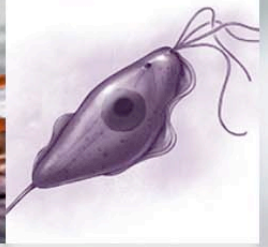
- Highly organized interface
- Quick search
- On demand topics
- Ideal for staying updated

National STD Curriculum

Self-Study STD Modules



Chlamydia | Gonorrhea | HSV | HPV | PID | Syphilis | Vaginitis

Self-Study STD Modules for Clinicians

You are just a few steps away from free CE credits!

1 ★ Sign in or Register

A free account is required.

2 Study the Materials

An entire module, or just a few topics at a time.

3 Take the CE Quiz

5 questions covering the topics in each module.

4 Claim CE Credit

Free CNE and Free CME available!

New Users

Create a free account to get started.

Required for CE

Register ›

Returning Users

National STD Curriculum

Email Address

Password

Forgot password?

Sign in

Syphilis Overview

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About this Module

The **Syphilis STD Module** is a web-based training course designed to guide clinicians in the diagnosis, treatment, and prevention of syphilis. This module is based on original content developed by the National Network of STD Clinical Prevention Training and incorporates recommendations from the 2015 CDC STD Treatment Guidelines. The original online Syphilis STD Module was developed by the Division of STD Prevention, Centers for Disease Control and Prevention.

Last Updated: December 21st, 2017

CNE/CME Continuing Education

This module qualifies for: View CE Notices

- **1 CME AMA PRA Category 1 Credits™**, or
- **1 CNE contact hour**

CNE and CME Origination: February 1st, 2017
CNE and CME Expiration: January 31st, 2020

Steps to Acquire CE for this Activity:

1 ★	2	3
CE Quiz Score 80%+	**Give Feedback** Complete survey	**Print Certificate** Obtain proof of CE

Target Audience

The **Syphilis** Self-Study STD Module is intended for the following clinicians who desire a basic introduction to STD diagnosis and management:

- Physicians
- Physician assistants
- Nurse practitioners
- Nurses
- Nurse-midwives

Lesson Plan

Topic 1. Background

Topic Objective
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BACKGROUND

Syphilis is a systemic infection caused by *Treponema pallidum*, a spirochete bacterium that is transmitted primarily through sexual activity. In the absence of treatment, patients who acquire *T. pallidum* remain chronically infected and syphilis generally progresses in stages, characterized by episodes of active clinical manifestations interrupted by periods of latent infection. Chronic disease can result in significant morbidity, potentially affecting nearly every organ system, and rarely, can result in death. In addition, untreated syphilis in pregnant women can lead to fetal demise and devastating congenital infection for neonates born to an infected mother.

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Topic 2. Epidemiology in the United States

Topic Objective Back Next

EPIDEMIOLOGY IN THE UNITED STATES

INCIDENCE TRENDS IN THE UNITED STATES

In the United States, the reporting of syphilis incidence is usually represented in terms of primary and secondary syphilis.[1] Reported cases of primary and secondary syphilis (P & S syphilis) represent the incidence of syphilis more accurately than reported cases of latent infection, particularly late latent syphilis, which signifies infection acquired more than a year before syphilis is diagnosed. In the past 76 years, in the United States, the syphilis epidemic has undergone major fluctuations (Figure 1).[1] During the 1920s and 1930s, syphilis rates were very high, but declined rapidly in the late 1940s with the introduction of penicillin.[1,2] The number of reported cases rose between 1986 and 1990, but by the late 1990s, syphilis rates in the United States had declined to a point where public health authorities declared syphilis elimination a feasible goal and in 1999 the CDC developed a national plan to eliminate syphilis in the United States.[3] In 2000, the reported rate of syphilis in the United States reached an all-time low, but unfortunately, cases of syphilis have increased since 2001 (Figure 2), primarily due to an increase among men who have sex with men (MSM), including those coinfected with HIV.[1] In 2016, a total of 27,814 cases of primary and secondary syphilis were reported, which corresponds to a rate of 8.7 cases per 100,000 population; the total number cases of primary and secondary syphilis in 2016 represent a 16.5% increase from 2015, a 102% increase from 2010, and the highest reported number of cases since 1994.[1]

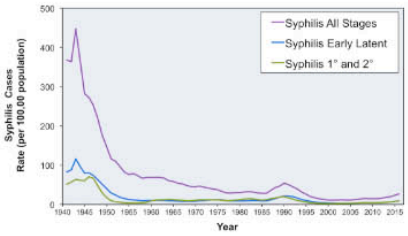


Figure 1. Syphilis Rates by Stage of Infection, United States, 1941-2016

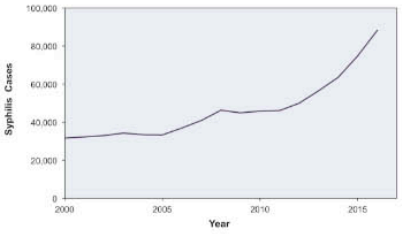


Figure 2. Syphilis Cases, All Stages of Infection, United States, 2000-2016

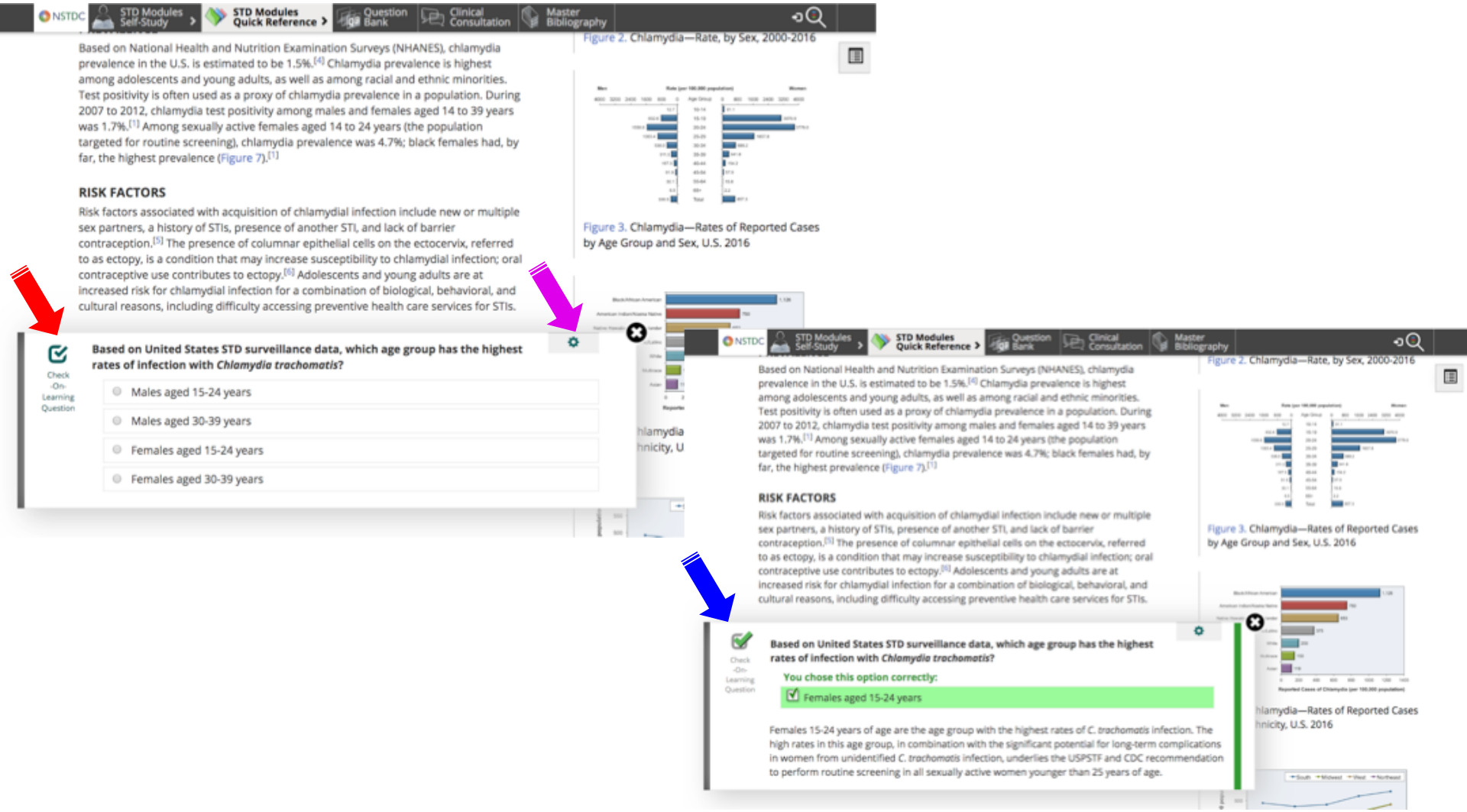
EPIDEMIOLOGY BASED ON SPECIFIC DEMOGRAPHICS

The following summarizes syphilis epidemiology in the United States based on demographics per the 2016 CDC STD Surveillance report.[1]

Geographic Distribution

In the United States, from 2012 to 2016, the rates of primary and secondary syphilis

Check on Learning (optional)



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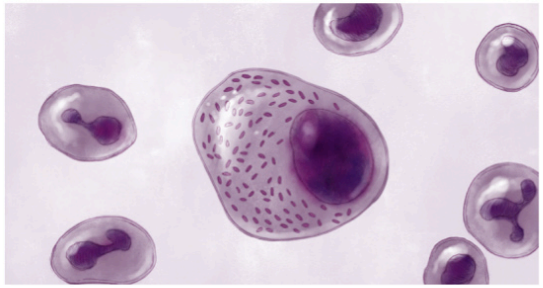
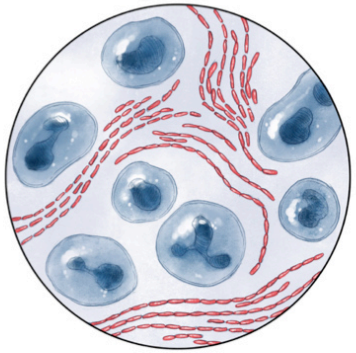
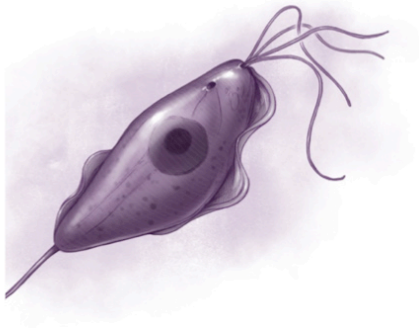
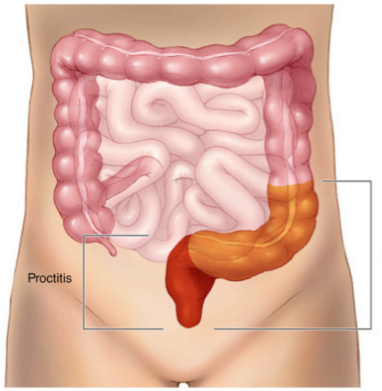
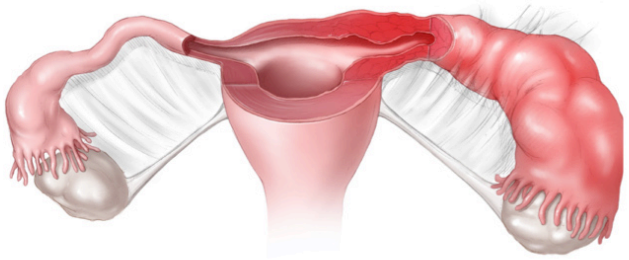
Sample Illustrations on Web Site

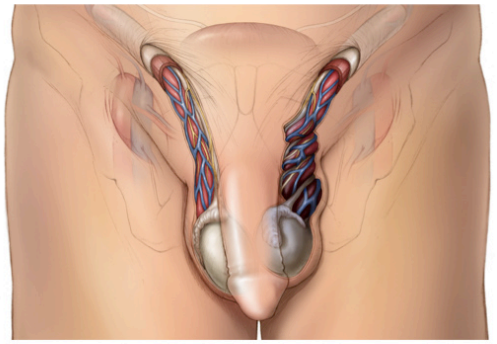












Illustrations by Jared Travnicek and David Ehlert, Cognition Studio

National STD Curriculum

Primary Genital Infection

Primary infection is defined as the first infection with either HSV-1 or HSV-2 with absence of antibody to either HSV type. Primary genital infection is often symptomatic, but patients may have unrecognized or subclinical infection. With symptomatic infection, clinical manifestations of primary infection typically resolve within 3 weeks in the absence of antiviral therapy. Serum antibodies appear wit[illegible]12 weeks of the primary infection in most persons.[54] The following [illegible]mptoms may occur with primary H[illegible] or HSV-2 genital infection:

- Severe multiple bilateral genital ulcers, pain, itchi[illegible]ysuria, vaginal or urethral discharge, and tender inguinal adenopathy (Figure 7 Graphic Image).
- Without antiviral therapy, lesions last 2 to 3 weeks, with evolution of the lesions from vesicle pustule to wet ulcers to dry crusts (Figure 8).[55]
- The median duration of viral shedding is about 10 to 12 days, and correlates with the time from the onset of vesicles to crusting of lesions.[56]
- Systemic symptoms (fever, myalgias, headaches, aseptic meningitis or symptoms of autonomic nervous system dysfunction such as urinary retention) peak within 3 to 5 days of onset of lesions and gradually recede over the next 3 to 4 days.[57]
- In women, HSV shedding from the cervix occurs in 80 to 90% of primary HSV-1 and HSV-2 infections.[52] Cervicitis may involve the ectocervix or endocervix, with or without clinical symptoms. In most cases, the cervix appears abnormal to inspection with ulcerative lesions, erythema, or friability.
- Herpes proctitis typically manifests with fever, pain, discharge, tenesmus, and constipation; some patients will have severe anal ulcerations visible on anoscopy; some patients develop symptoms of autonomic dysfunction, including difficulty urinating.[58] Rarely, herpes proctitis may present as a pseudotumor that mimics epidermoid carcinoma.[59]
- Infection of the urethritis and/or meatus may cause a clear mucoid discharge.[60]

Nonprimary Infection

The term nonprimary HSV infection most often refers to infection with HSV-1 or HSV-2 in an individual with pre-existing antibodies to the other virus. For example, a person may acquire oral HSV-1 infection as a child and later acquire genital HSV-2 as an adult. Manifestations of nonprimary infection tend to be milder than those of primary infection, presumably due to cross-immunity protection from prior infection with the other HSV type.[61,62] Less often, in a different scenario, nonprimary infection can

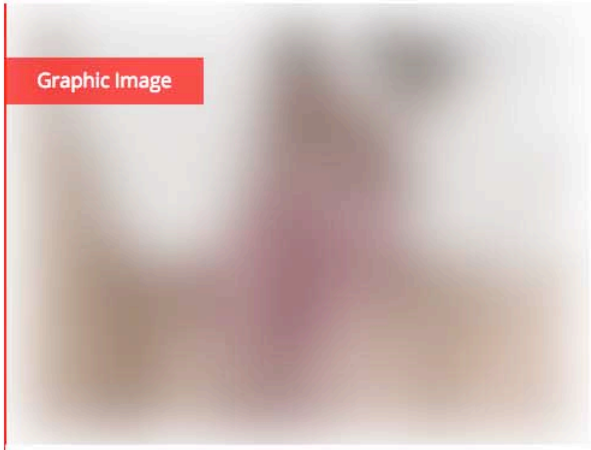


Figure 7. Primary Genital HSV Infection

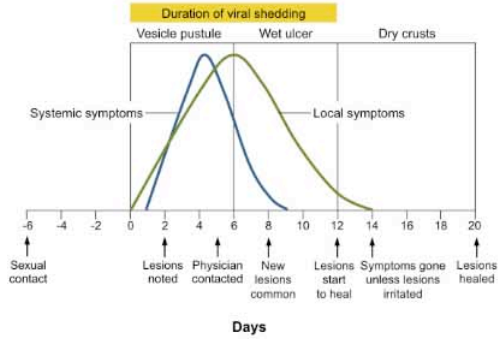


Figure 8. Clinical and Virologic Course of Genital HSV in Primary Infection

data demonstrate that more widespread resistance has emerged with some antimicrobials and might develop in the near future with others, thus highlighting the need for ongoing surveillance. The GISP tracks primary antimicrobial drugs used to treat gonorrhea in the United States and *N. gonorrhoeae* susceptibility to 7 antimicrobials: ceftriaxone, cefixime, azithromycin, spectinomycin, ciprofloxacin, penicillin, and tetracycline (Figure 8).[1,3] These specific drugs are tested because they either Rocephin ntly or were previously used for gonorrhea treatment.

- **Ceftriaxone**: During 2006–2016, the percentage of isolates with reduced ceftriaxone susceptibility (defined as MIC ≥0.125 µg/mL) fluctuated between 0.05% and 0.4%.[1] In 2016, the percentage of isolates with reduced susceptibility to ceftriaxone (MICs ≥0.125 µg/mL) was approximately 0.3%. In the GISP program, five isolates have been reported with a ceftriaxone MIC of 0.5 µg/mL.[1]
- **Cefixime**: The proportion of *N. gonorrhoeae* isolates in the United States with elevated cefixime minimum inhibitory concentrations (≥0.25 µg/mL) increased from 2009 to 2011, fell in 2012 and 2013, increased in 2014, and decreased in 2015 and 2016.[1] In 2016, the percentage of elevated cefixime MICs (≥0.25 µg/mL) was approximately 0.3%, which is a significant decline from the peak of 1.4% in 2010 and 2011.[1]
- **Azithromycin**: Gonococcal azithromycin resistance has been tracked since 1992. From 2012–2016, the percentage of isolates with reduced azithromycin susceptibility (MICs ≥2 µg/mL) ranged from 0.02% to 3.6%; between 2014 and 2016, the percentage increased from 2.4% to 3.6%.[1]
- **Ciprofloxacin**: Fluoroquinolone-resistant *N. gonorrhoeae* is widely disseminated

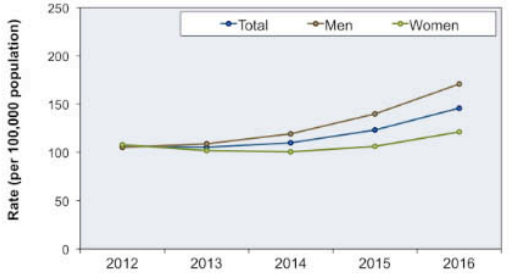


Figure 5. Gonorrhea — Rates of Reported Cases by Sex, United States, 2012–2016

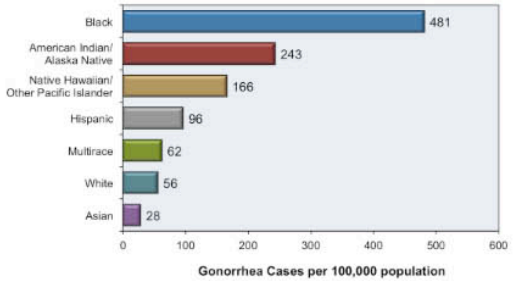


Figure 6. Gonorrhea — Rates of Reported Cases by Race/Ethnicity, 2016

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- Chlamydia
- Gonorrhea
- Herpes Simplex Virus (HSV)
- Human Papillomavirus (HPV)
- Pelvic Inflammatory Disease (PID)
- Syphilis
- Vaginitis

Chlamydia Quick Reference

TOPICS

1. Epidemiology in the United States
2. Microbiology and Pathogenesis
3. Clinical Manifestations
4. Laboratory Diagnosis
5. Screening for Chlamydial Infection
6. Treatment
7. Patient Counseling and Education
8. Summary Points

CNE/CME **Chlamydia Self-Study Module**

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Chlamydia

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Last Updated: December 20th, 2017
Authors: Andrew W. Hahn, MD, William M. Geisler, MD, MPH
Reviewers: Kimberly A. Workowski, MD, Margaret R. Hammerschlag, MD

EPIDEMIOLOGY IN THE UNITED STATES

INCIDENCE

Chlamydia is the most common reportable bacterial sexually transmitted infection (STI) in the United States, with 1,598,354 cases reported in 2016.[1] Since many persons with chlamydial infection may have minimal or no symptoms, the actual number of annual infections is significantly higher than the reported cases.[2] The number of reported chlamydia cases have significantly increased since the early years of reporting that began in the 1980's (Figure 1),[1] which may reflect an increase in the number of true infections, enhanced screening with more sensitive diagnostic tests, or a combination of both. Chlamydial rates of reported cases have consistently been higher in women than in men (Figure 2), with the highest rates (reported cases per 100,000 population) among females 15 to 24 years of age (Figure 3).[3] In the United States, racial and ethnic minorities are disproportionately affected by chlamydia, particularly blacks (Figure 4).[1] Factors contributing to these inequities may include differential access to quality health care, social and economic conditions, higher prevalence of disease in sexual networks, and differences in immunogenetic determinants that influence the immune response to chlamydia. The South has consistently had the highest rate of reported chlamydia cases, although the difference

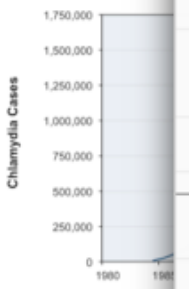

Figure 1. *Chlam*
Cases in U.S., 1

LABORATORY DIAGNOSIS

The selection of a laboratory test to detect the presence of *C. trachomatis* is a critical component of disease management and prevention.[36] The testing technology has shifted from culture-based methods to molecular-based techniques and this represents a substantial improvement in test sensitivity and ease of specimen collection.

NUCLEIC ACID AMPLIFICATION TESTS (NAATS)

Nucleic acid amplification tests (NAATs) amplify nucleic acid sequences (either DNA or RNA) that are specific for the organism being detected. Similar to other nonculture tests, NAATs can detect live or non-viable organisms. *C. trachomatis* NAATs are FDA-cleared for use on urine specimens from men and women, urethral swabs in men, and endocervical swabs in women; some tests are cleared for vaginal swabs.[2] The use of *C. trachomatis* NAAT for pharyngeal and rectal specimens is not FDA approved; however, laboratories can perform certain validation procedures, such as Clinical Laboratory Improvement Amendment (CLIA)-defined performance specifications, to enable them to test specimens for clinical purposes. In men, NAATs are the most sensitive and recommended test for detecting *C. trachomatis* from a urethral swab or first-catch urine specimen.[2] For chlamydia screening in women, vaginal swabs are preferred over urine samples and several studies have shown that self-collected vaginal swabs are preferred by women and perform equal to or better than clinician-collected vaginal swabs.[40,41,42,43,44] In addition, in men and women, self-collected rectal swabs for NAAT have also performed well.[45] There is currently insufficient evidence to support the use of self-collected oropharyngeal or penile meatal swabs for the diagnosis of chlamydia.[2] Multiple NAATs are commercially available for the detection of *C. trachomatis*.

NON-AMPLIFICATION MOLECULAR TESTS

Molecular tests that do not use nucleic acid amplification encompass a variety of antigen detection and nucleic acid hybridization methods. These include enzyme-immunoassays (EIA), direct fluorescent antibody tests (DFA), and nucleic acid hybridization tests, a distinct non-NAAT methodology that detects *C. trachomatis*-specific DNA or RNA sequences in rRNA, genomic DNA, or plasmid DNA. All have significantly

Question Bank

STD Question Bank

Pathogen-Based Diseases

- Bacterial Vaginosis
- Candidiasis – Vulvovaginal
- Chancroid
- Chlamydia
- Gonorrhea
- Granuloma Inguinale
- Herpes Simplex Virus – Genital
- Lymphogranuloma venereum
- *Mycoplasma genitalium*
- Trichomoniasis

Syndrome-Based Diseases

Progress Tracker

Gonorrhea

14 questions

Treatment of Antimicrobial-Resistant Gonococcal Infection

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Explore Topic Questions ▶

Learning Objectives

1. Summarize recommendations regarding routine screening for *Neisseria gonorrhoeae* infection in women and men.
2. List CDC-recommended treatment of uncomplicated urogenital and rectal gonococcal infection.
3. State treatment recommendations for persons with pharyngeal gonorrhea.
4. Describe appropriate management of sex partners of persons diagnosed with gonorrhea.
5. Summarize epidemiology and treatment of antimicrobial-resistant *Neisseria gonorrhoeae*.

Authors

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This question bank topic qualifies for **1.5 CME AMA PRA Category 1 Credits™** or **1.5 CNE contact hours**. View CE Notices.

CNE and CME Origination: February 1st, 2017
CNE and CME Expiration: January 31st, 2020

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- Chancroid
- Chlamydia
- Gonorrhea
- Granuloma Inguinale
- Herpes Simplex Virus – Genital
- Lymphogranuloma venereum
- *Mycoplasma genitalium*
- Trichomoniasis

Syndrome-Based Diseases

Progress Tracker

Gonorrhea

1 2 3 4 5 6 7 8 9 10 11 **12** 13 14

A 21-year-old male patient comes in for a return visit to the STD clinic with urethral discomfort and purulent discharge. Five days prior he was diagnosed with urethral gonorrhea and was treated with recommended therapy. He states his symptoms have not improved and he has not had any type of sexual contact with anyone since receiving treatment for gonorrhea. A diagnosis of antimicrobial-resistant *Neisseria gonorrhoeae* infection is suspected and a urethral swab for culture is obtained.

Which one of the following is the best choice for treating gonorrhea when there is a high suspicion for antimicrobial-resistant *Neisseria gonorrhoeae* infection?

- "High-dose" therapy with ceftriaxone 1 g intramuscular as a single dose plus azithromycin 2 g orally as a single dose
- Moxifloxacin 400 mg orally once daily for 3 days plus doxycycline 100 mg orally twice daily for 7 days
- Gentamicin 240 mg intramuscularly as a single dose plus azithromycin 2 g orally as a single dose
- Clindamycin 600 mg three times daily for 7 days plus atovaquone 1500 mg twice daily for 7 days

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Syndrome-Based Diseases

Progress Tracker

Gonorrhea

1 2 3 4 5 6 7 8 9 10 11 12 13 14

A 21-year-old male patient comes in for a return visit to the STD clinic with urethral discomfort and purulent discharge. Five days prior he was diagnosed with urethral gonorrhea and was treated with recommended therapy. He states his symptoms have not improved and he has not had any type of sexual contact with anyone since receiving treatment for gonorrhea. A diagnosis of antimicrobial-resistant *Neisseria gonorrhoeae* infection is suspected and a urethral swab for culture is obtained.

Which one of the following is the best choice for treating gonorrhea when there is a high suspicion for antimicrobial-resistant *Neisseria gonorrhoeae* infection?

You chose this option correctly:

Gentamicin 240 mg intramuscularly as a single dose plus azithromycin 2 g orally as a single dose

Summary

Evolving drug resistance, particularly to the cephalosporin class, is a significant threat to the treatment of *Neisseria gonorrhoeae*, and clinicians should remain vigilant for cases of treatment failure. If a cephalosporin-resistant isolate is highly-suspected or documented on susceptibility testing, retreatment is recommended with either:

- Azithromycin 2 g orally as a single dose plus gemifloxacin 320 mg orally as a single dose, or
- Azithromycin 2 g orally as a single dose plus gentamicin 240 mg intramuscularly as a single dose

Note that in the United States, there is currently a drug shortage of gemifloxacin related to a legal dispute regarding the license to manufacture and distribute gemifloxacin. Clinicians who are treating patients with suspected or confirmed cephalosporin resistance should also consult an infectious disease expert and report treatment failure to the Centers for Disease Control (CDC) within 24 hours of diagnosis. In cases of retreatment after treatment failure, a test-of-cure is recommended 7 to 14 days after retreatment. In addition, sexual partners of patients who are found to have an antimicrobial-resistant strain of gonorrhea will require treatment with the same regimen as the source patient.

Links to Other National Network of STD Clinical Prevention Training Centers

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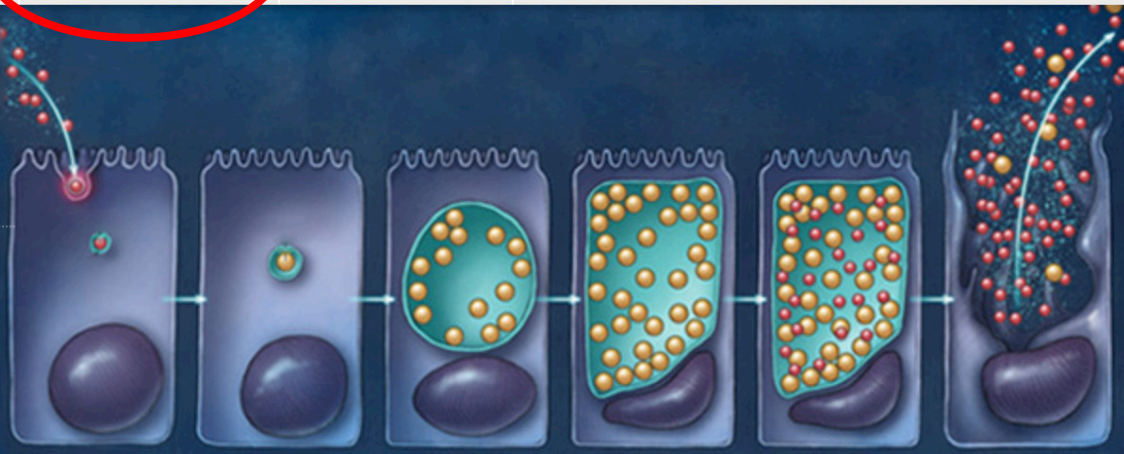

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The *National STD Curriculum* is a free educational Web site from the University of Washington STD Prevention Training Center and the University of Washington. This project is funded by a grant from the Centers for Disease Control and Prevention (CDC).

The *National STD Curriculum* addresses the epidemiology, pathogenesis, clinical manifestations, diagnosis, management, and prevention of STDs.

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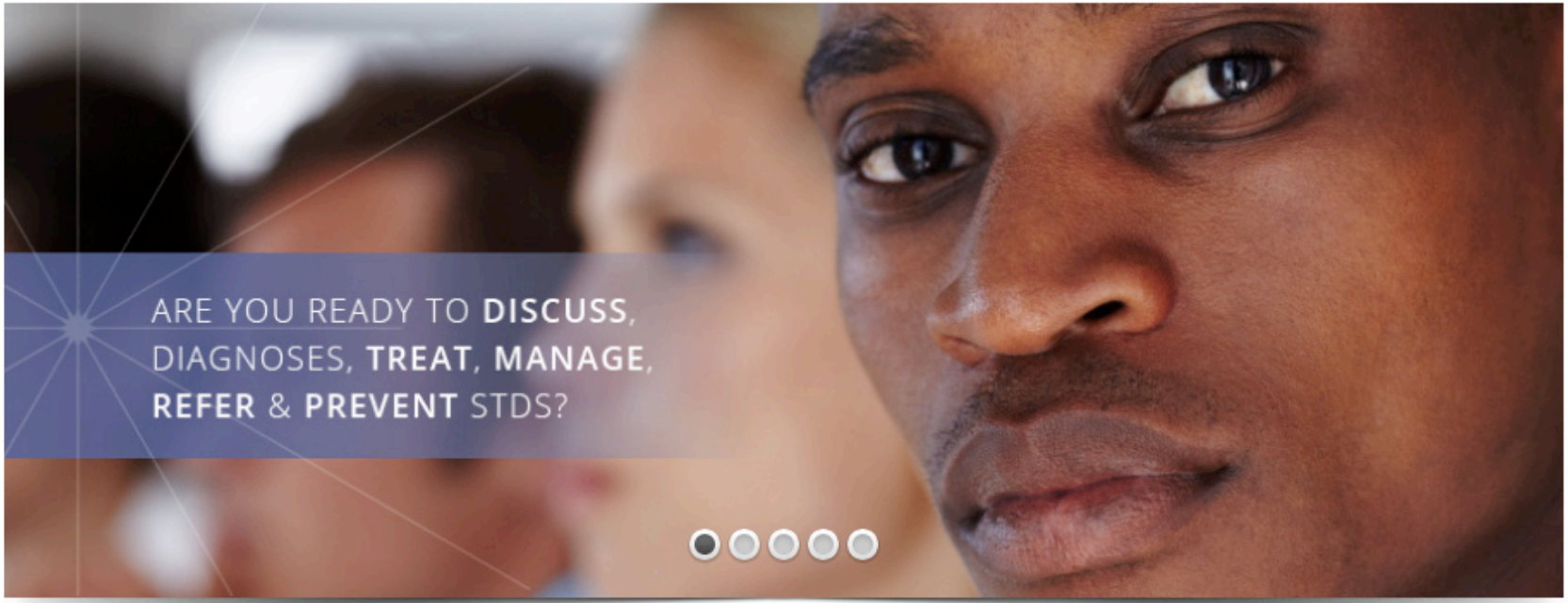

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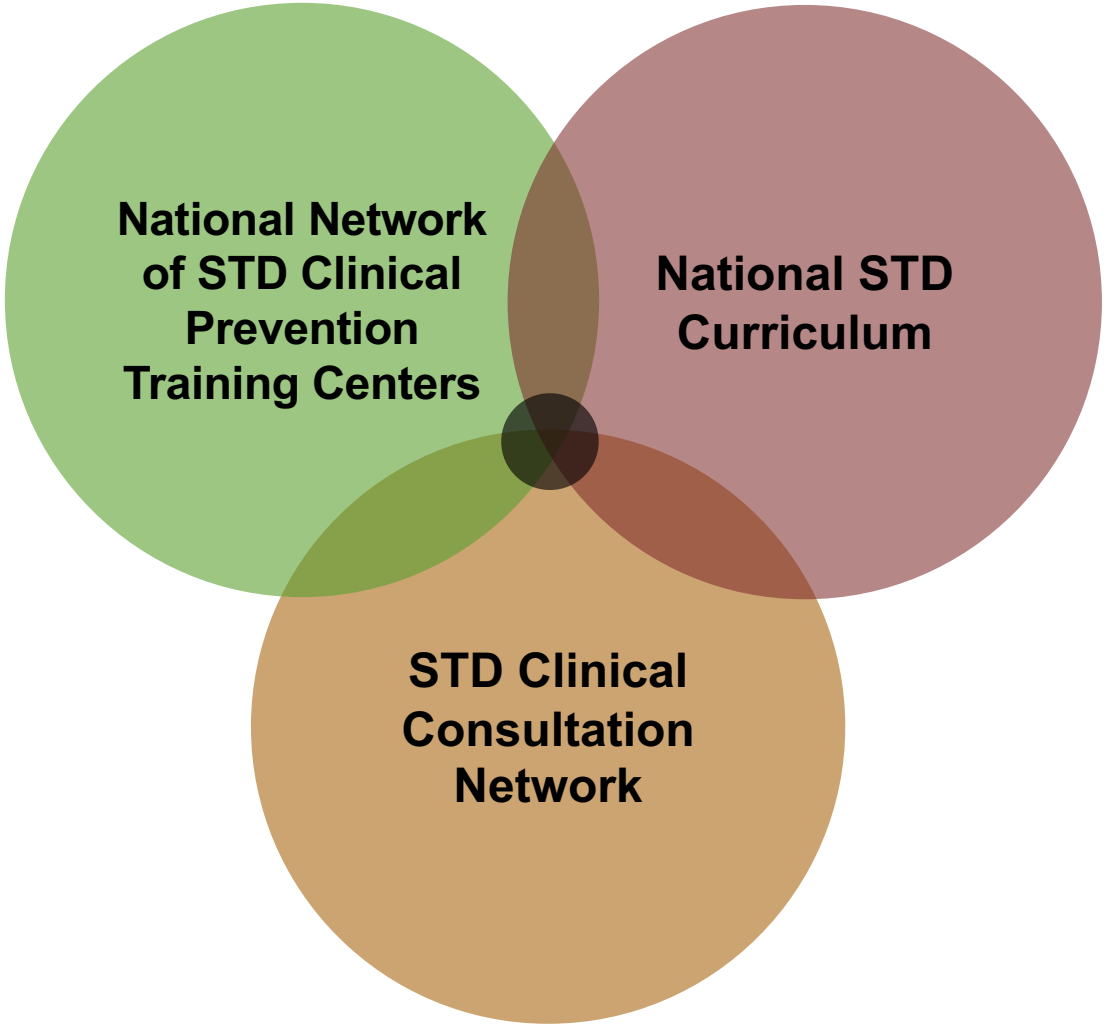

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Modules

- Pathogen-Based Diseases 1
- Syndrome-Based Diseases 2

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- 1.1. Bacterial Vaginosis
  - 1.1.A. Additional References
- 1.2. Candidiasis – Vulvovaginal
  - 1.2.A. Additional References
- 1.3. Chancroid
  - 1.3.A. Additional References
- 1.4. Chlamydia
  - 1.4.1. Epidemiology in the United States
  - 1.4.2. Microbiology and Pathogenesis
  - 1.4.3. Clinical Manifestations
  - 1.4.4. Laboratory Diagnosis
  - 1.4.5. Screening for Chlamydial Infection
  - 1.4.6. Treatment
  - 1.4.7. Patient Counseling and Education
- 1.6. Gonorrhea
  - 1.6.1. Epidemiology in the United States
  - 1.6.2. Microbiology and Pathogenesis
  - 1.6.3. Clinical Manifestations
  - 1.6.4. Laboratory Diagnosis
  - 1.6.5. Screening for Gonococcal Infection
  - 1.6.6. Treatment
  - 1.6.A. Additional References

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Bibliography

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Disease Type 1. Pathogen-Based Diseases

Disease 1. Bacterial Vaginosis

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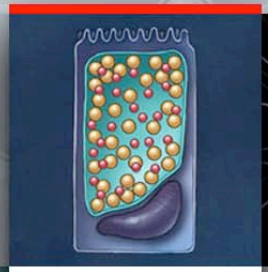
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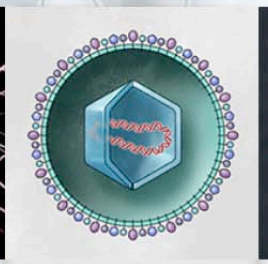
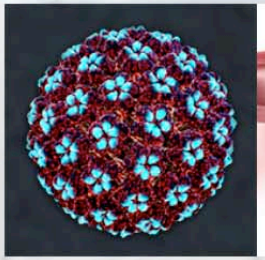

HSV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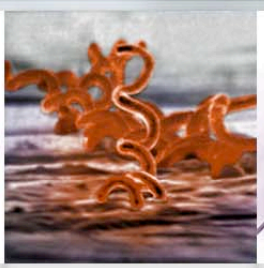
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Topic 7	✓	✓			✓	✓	
Topic 8	✓	✓	✓			✓	
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Pathogen-Based Diseases

Bacterial Vaginosis	1 2 3 4 5 6 7		
Candidiasis - Vulvovaginal	✓1 2 3 4 5 6 7 8		13%
Chancroid	✓1 ✓2 ✓3 ✓4 ✓5	CE Earned	100%
Chlamydia	✓1 ✗2 ✓3 ✗4 ✗5 ✗6 ✗7 ✗8 ✓9 ✓10 ✓11		45%
Gonorrhea	1 2 3 4 5 6 7 8 9 10 11 12 13 14		
Granuloma Inguinale	✓1 ✓2 ✓3 ✗4 ✗5		60%
Herpes Simplex Virus - Genital	✗1 ✗2 ✗3 ✗4 5 6 7 8 9 10 11 12 13 14 15 16 17		0%
Lymphogranuloma venereum	✓1 ✓2 ✗3 ✓4 ✓5 ✓6	CE Earned	83%
Mycoplasma genitalium	✗1 ✓2 ✓3 ✓4 ✓5	CE Earned	80%
Trichomoniasis	✓1 2 3 4 5 6 7 8		13%

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Tip **The Progress Tracker gives you an overview of all of the questions.** You can view it on your dashboard, or access it from any other page from the bottom of the screen. You can also access it from the User menu at the top of the page.

Tip **Use the Folder icon next to a topic to compare sets of answers.** The icon only shows up for topics which have multiple sets of answers.

CE **A tag will be displayed next to topics for which CE is claimed.** CNE/CME displayed next to the score means that's the set of answers during which the CE was earned.

Pathogen-Based Diseases

Bacterial Vaginosis	1 2 3 4 5 6 7		
Candidiasis - Vulvovaginal	✓1 2 3 4 5 6 7 8		13%
Chancroid	✓1 ✓2 ✓3 ✓4 ✓5	CE Earned	100%
Mar 27, 2017, 10:10 am	✓1 ✓2 ✗3 ✓4 ✗5		60%
Mar 27, 2017, 9:46 am	✓1 ✗2 ✗3 ✗4 ✗5		20%
Chlamydia	✓1 ✗2 ✓3 ✗4 ✗5 ✗6 ✗7 ✗8 ✓9 ✓10 ✓11		45%
Gonorrhea	1 2 3 4 5 6 7 8 9 10 11 12 13 14		
Granuloma Inguinale	✓1 ✓2 ✓3 ✗4 ✗5		60%
Herpes Simplex Virus - Genital	✗1 ✗2 ✗3 ✗4 5 6 7 8 9 10 11 12 13 14 15 16 17		0%
Lymphogranuloma venereum	✓1 ✓2 ✗3 ✓4 ✓5 ✓6	CE Earned	83%
Mycoplasma genitalium	✗1 ✓2 ✓3 ✓4 ✓5	CE Earned	80%
Trichomoniasis	✓1 2 3 4 5 6 7 8		13%

3
2
1

Syndrome-Based Diseases

Epididymitis	1 2 3 4 5 6 7 8 9 10 11	
Proctitis, Proctocolitis, and Enteritis	✗1 2 3 4 5 6	0%

National STD Curriculum

National STD Curriculum

Certificate created January 20, 2018, 12:05 pm
https://depts.washington.edu/ptcstd/dev/certificate/self-study/akarpy@uw.edu

Certificate of Completion

University of Washington and the National STD Curriculum
certify that

[redacted]

has completed the

Chlamydia, Gonorrhea, HSV, HPV, PID, Syphilis, and Vaginitis

modules of the

Self-Study STD Modules

David H. Spach, MD
Professor of Medicine
University of Washington
Editor-in-Chief
National STD Curriculum

National STD Curriculum

Certificate Details

This certificate shows the progress of **Andrew Karpenko, BS**, a Software Engineer, identified by *akarpy@uw.edu* as of January 20, 2018, 12:05 pm.
You may validate this certificate or obtain a digital copy by visiting https://depts.washington.edu/ptcstd/dev/certificate/self-study/akarpy@uw.edu

The following Modules were completed:

Modules	Learning Objectives	Completed as of
Chlamydia	1.Summarize the epidemiology of *Chlamydia trachomatis* infections in the United States 2.Describe the microbiology, life cycle, and transmission of *Chlamydia trachomatis*. 3.Discuss the clinical manifestations of chlamydial infections in men, women, and children. 4.Compare the common laboratory diagnostic methods used to diagnose chlamydial infections. 5.State routine chlamydial screening recommendations for different patient populations. 6.List the CDC-recommended treatment regimens for chlamydial infections. 7.Summarize counseling and education messages for individuals with chlamydial infection.	May 22, 2017

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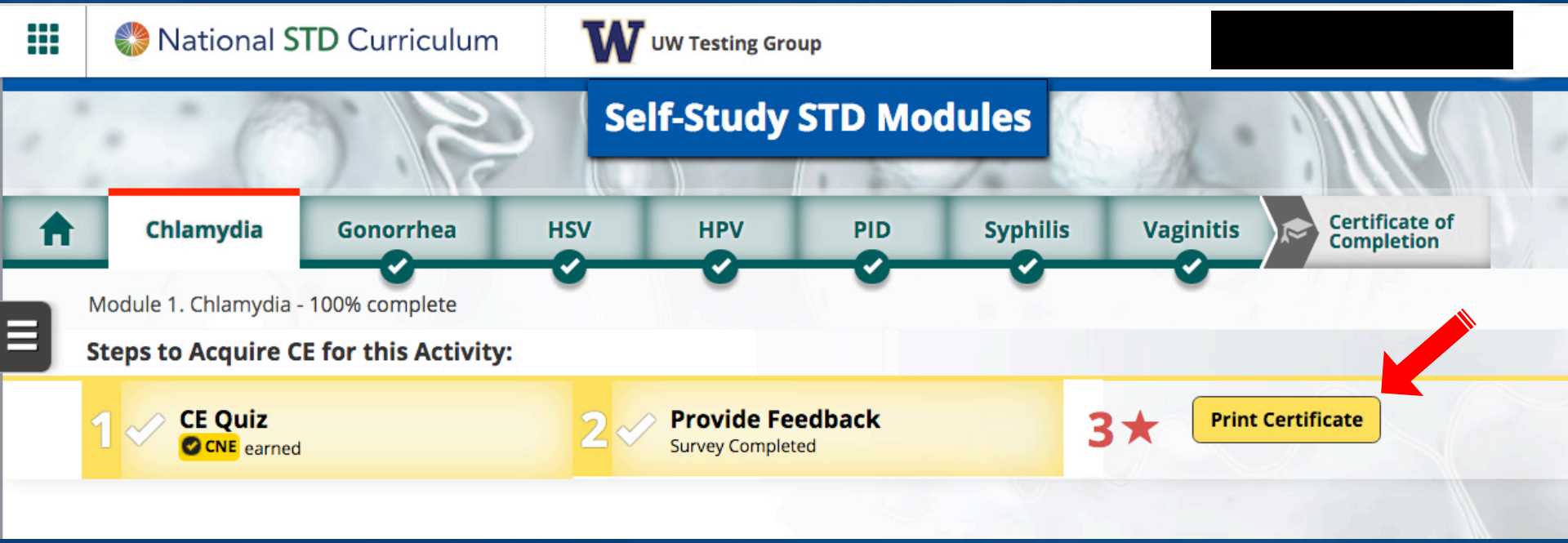

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University of Alabama School of Medicine

Division of Continuing Medical Education

Certifies that

[redacted]

has earned CME credit for the following activities:

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Question Bank

12/05/2017	Granuloma Inguinale	0.5
	Total AMA PRA Category 1 Credits™	0.5

STD Self-Study Modules

011/26/2017	Herpes Simplex Virus – Genital	1
011/16/2017	Human Papillomavirus Infection	1
	Total AMA PRA Category 1 Credits™	2

Funded by the Centers for Disease Control and Prevention, the University of Washington developed the National STD Curriculum, the Hepatitis C Online, and the Hepatitis B Web Study websites to enhance American healthcare professionals' ability to diagnose, treat and manage these diseases. For the same purpose, the U.S. Health Resources & Services Administration funded the University of Washington to develop the National HIV Curriculum.
For information on applicability and acceptance of continuing education credit(s) for your work, please consult your professional licensing board.

Ronan O'Beirne

Ronan O'Beirne, EdD
Director, Continuing Medical Education

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Learning Groups

Director/Administrator/Leader

Account Management

Register

as an Individual »

as an Organization »

Account Retrieval

Join a Group

Register

Why create an account?

- Creating a FREE account will give you access to the Self-Study Modules
- You will be able to claim CE credits CME/CNE
- You will have the ability to resume this curriculum at any point in time

The fields marked by a red arrow are required.

Fields marked by a ✹ are displayed on your Certificate of Completion.

Account Type

Please select the account type that best matches you:

Individual Account

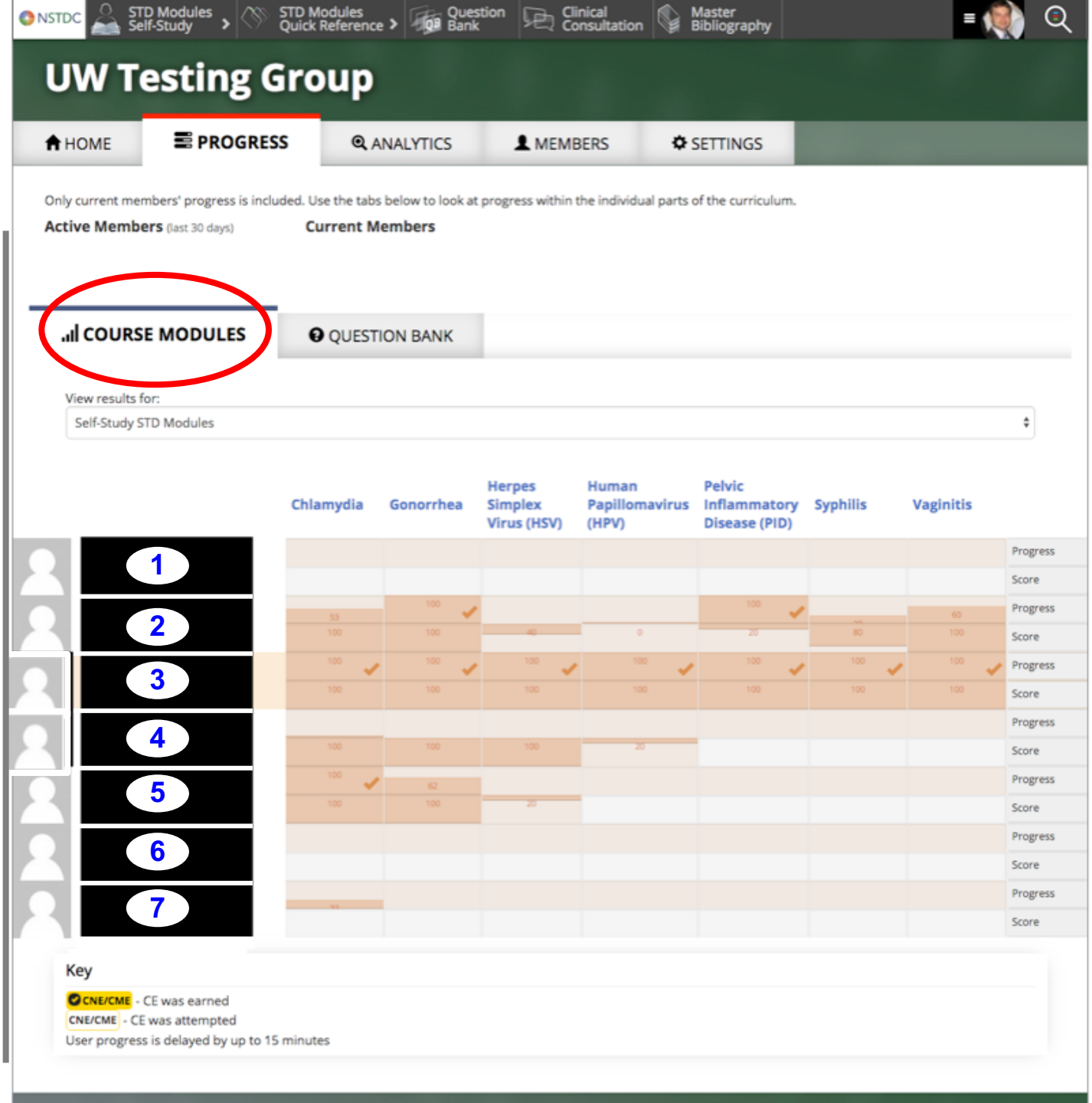
You are an Individual and would like to:

- Track progress for yourself or collect CE credits
- Resume the curriculum at a later time from any internet connected computer
- Join a group or an organization (only by invitation)

Organization/Group Account

You are a Teacher, Coordinator, Manager or Director and would like to:

- Track progress of your staff or students



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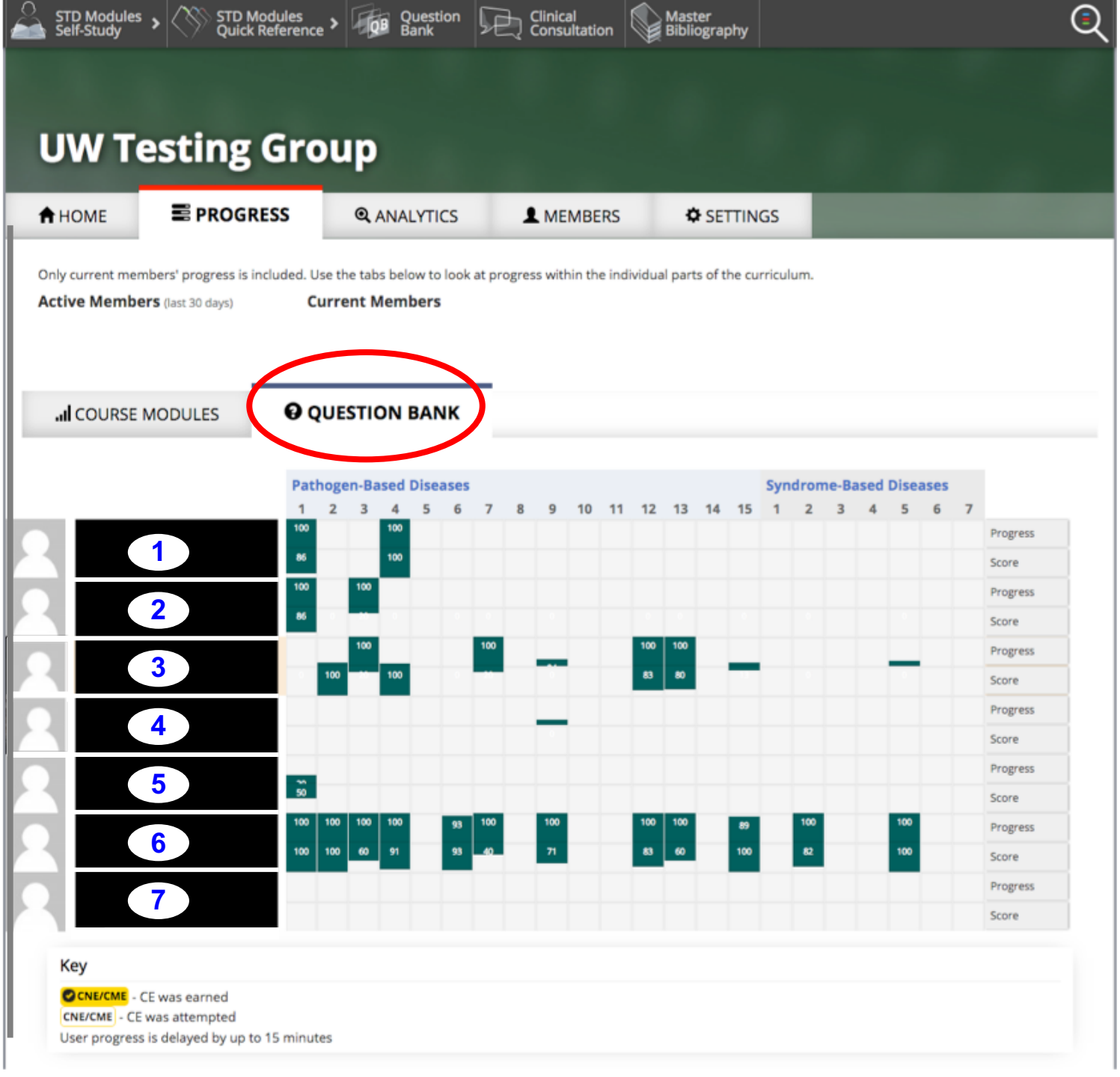

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“1 Year” Data

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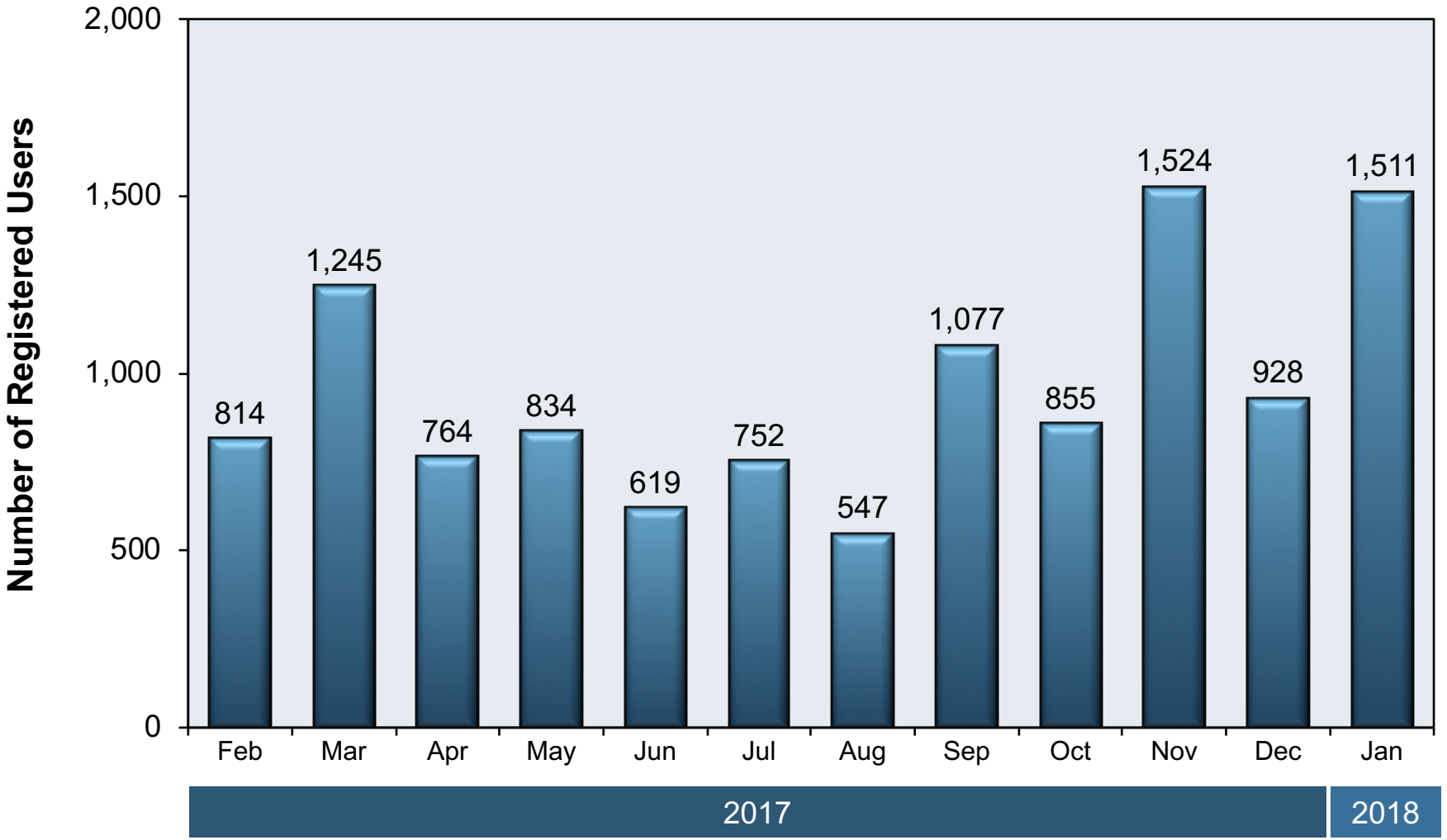
Number of Registered Users by Month



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Through January 24, 2018

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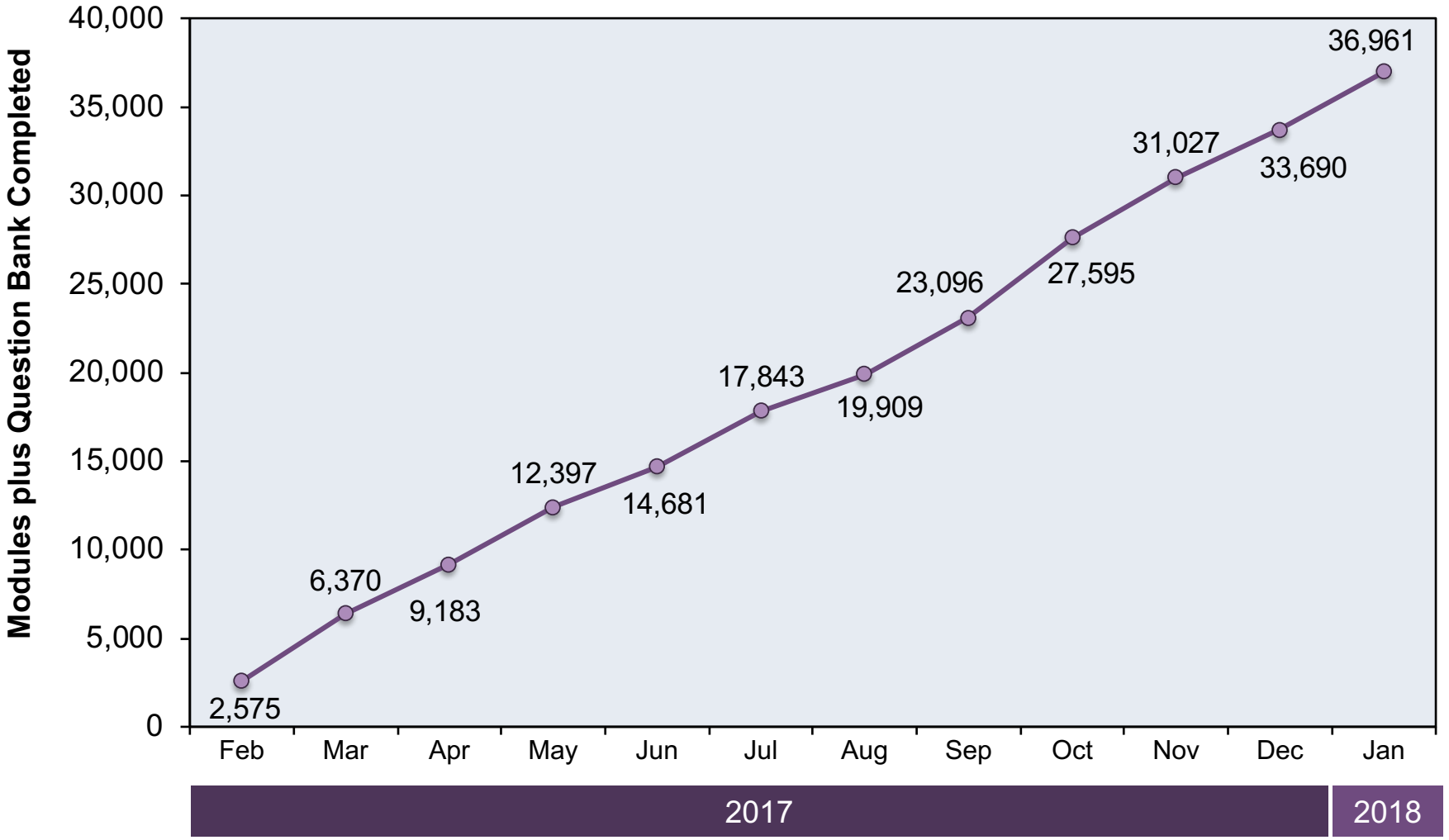
Cumulative Number of Registered Users

National STD Curriculum

National STD Curriculum
Running Sum of Modules + Question Bank Completed



National STD Curriculum

Through January 24, 2018

National STD Curriculum
Running Sum Continuing Education Credits (CNE + CME)

National STD Curriculum

Check on Learning Activity in Self Study Modules

Check on Learning Activity in Self-Study Modules			
Title of Module	# Questions	# Participants	# Answers
Chlamydia	12	6,986	72,046
Gonorrhea	10	5,182	46,814
Herpes Simplex Virus	9	4,426	35,995
Human Papillomavirus	10	3,873	34,856
PID	10	3,292	29,973
Syphilis	10	3,578	31,072
Vaginitis	13	3,726	43,035
TOTAL	74		293,791

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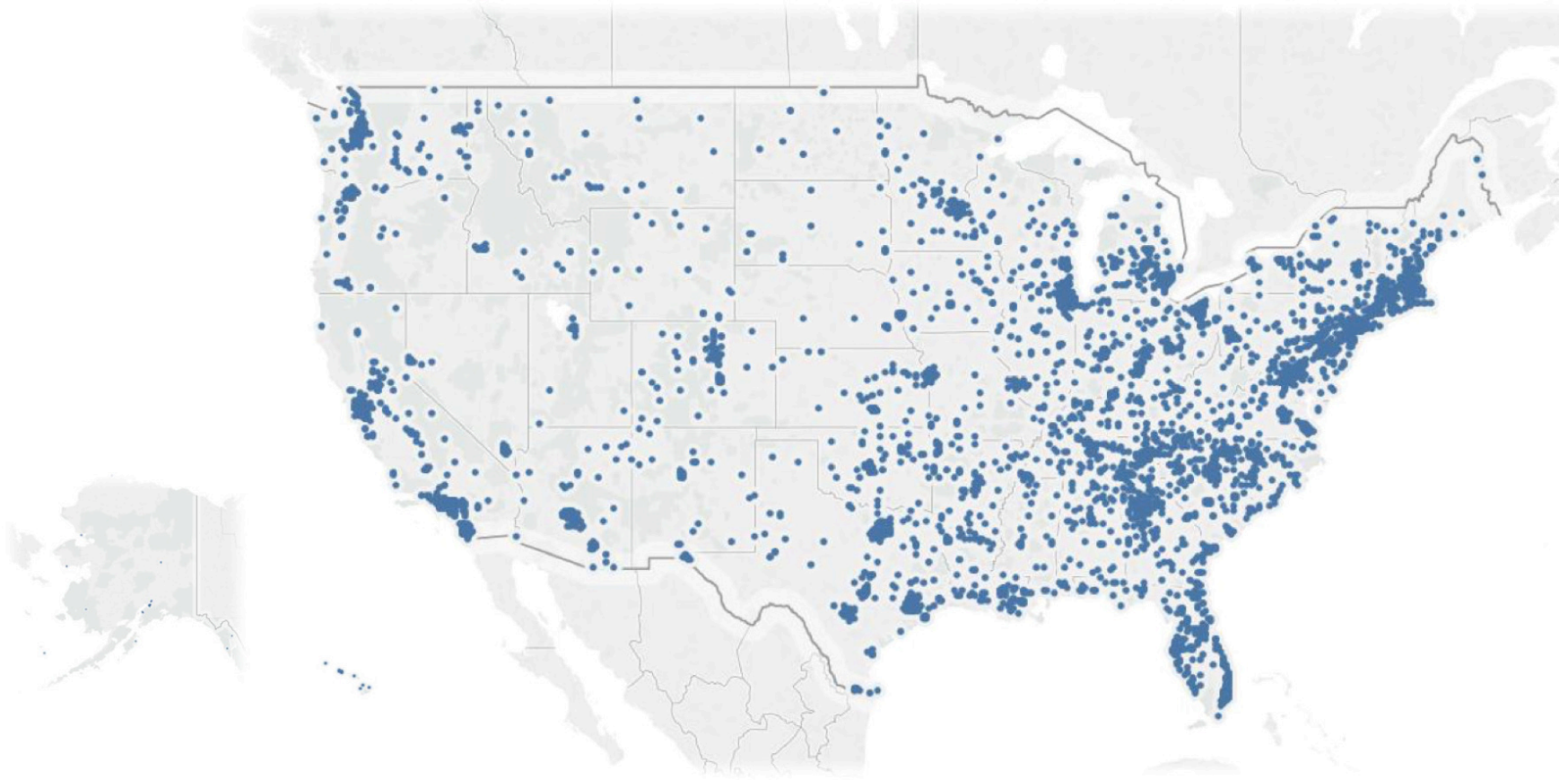
Registered Users by Zip Code



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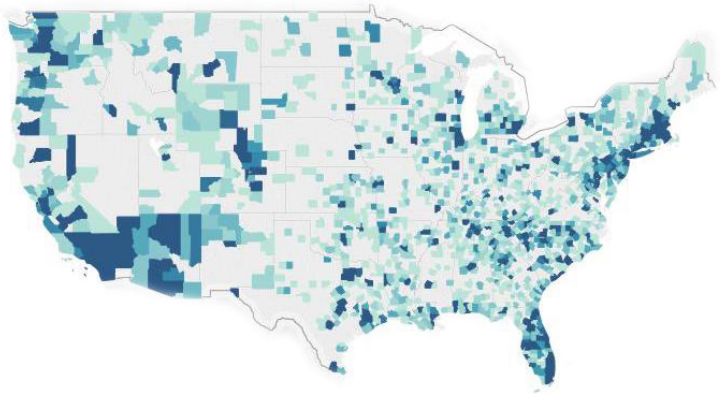
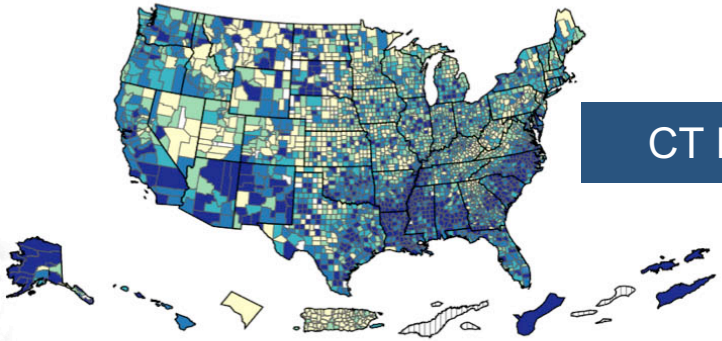
National STD Curriculum

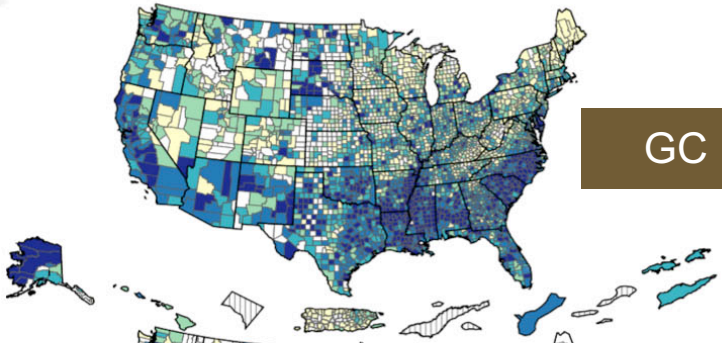
Registered Users by Zip Code

STD Curriculum Registered Users

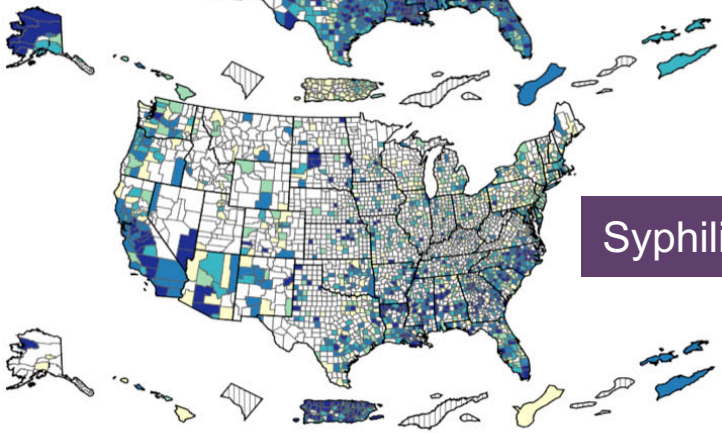




CT Rate by county



GC Rate by county



Syphilis Rate by county

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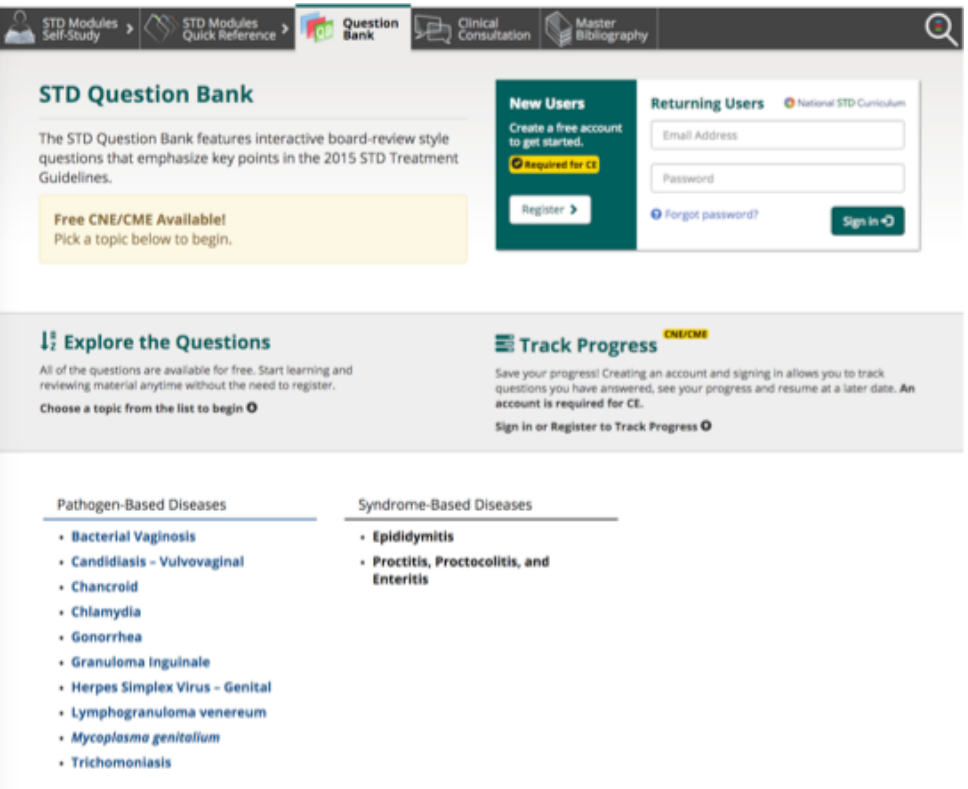
NATIONAL STD CURRICULUM

Future Developments for Curriculum

National STD Curriculum

National STD Curriculum
Expansion of Question Bank



CDC Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

2015 Sexually Transmitted Diseases Treatment Guidelines

CONTENTS

CONTENTS (*Continued*)

STD Treatment Guidelines Learning and Assessment Tool

National STD Curriculum

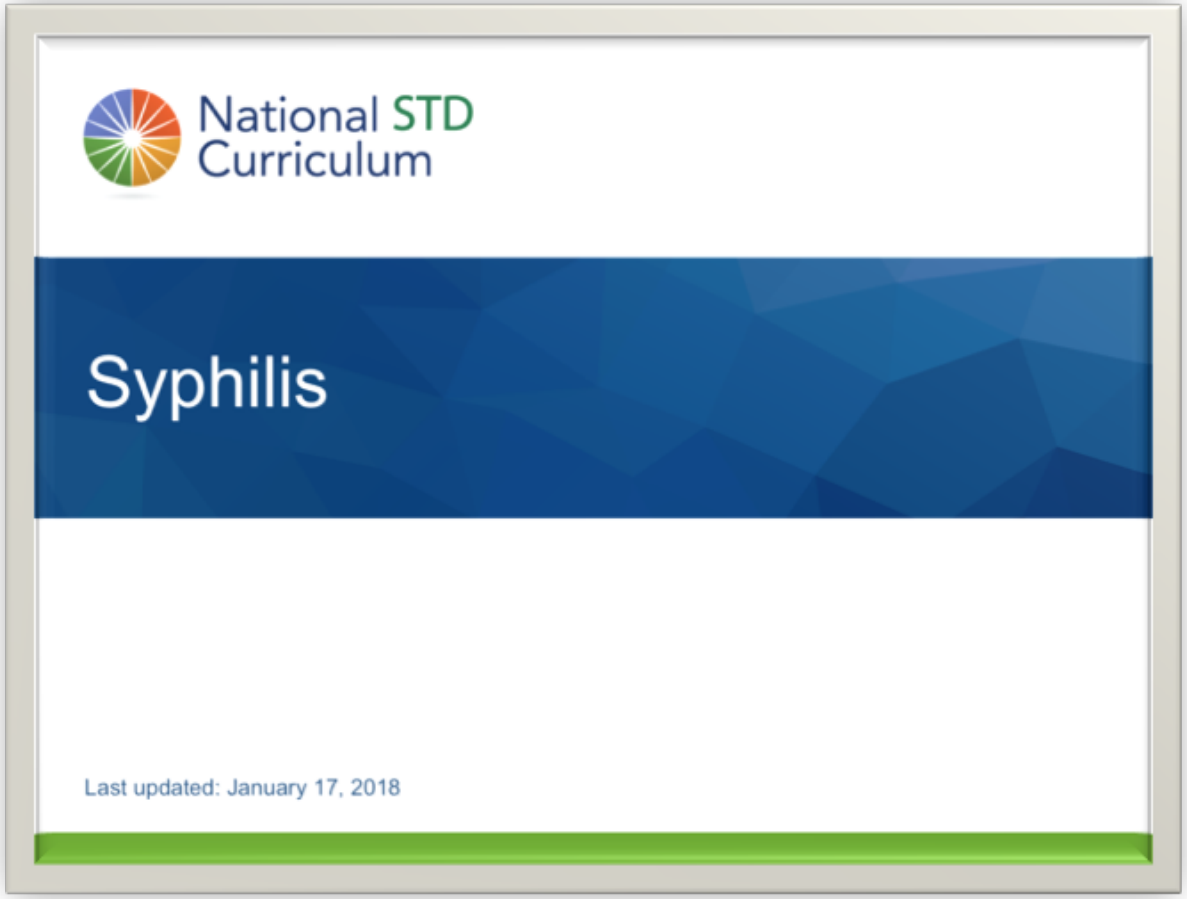
National STD Curriculum: STD Case Studies Revision
Tentative Planned Topics

- Routine STD history and examination
- Genital ulcer
- Cervicitis
- Vaginal discharge
- Urethritis/Urethral discharge
- Proctitis
- Testicular swelling and pain
- Evaluation and management of acute HIV

National STD Curriculum
Clinical Challenges/Expert Opinions

- Expert opinions for challenging cases
- Expert opinions for controversial topics

National STD Curriculum
Power Point Slide Decks



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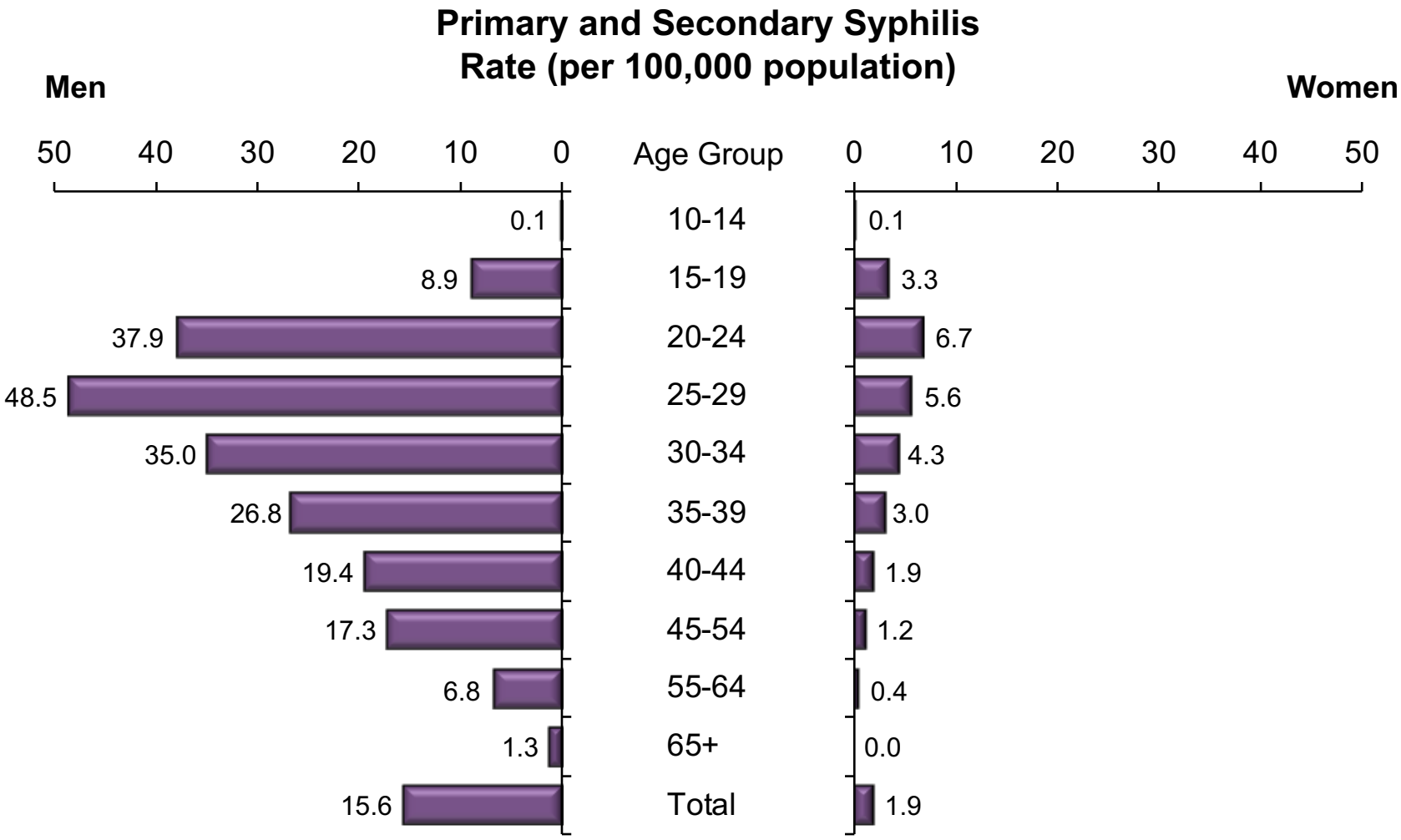
Primary and Secondary Syphilis — Rates of Reported Cases by Age and Sex, U.S., 2016



Source: CDC. Sexually Transmitted Disease Surveillance 2016. Syphilis.

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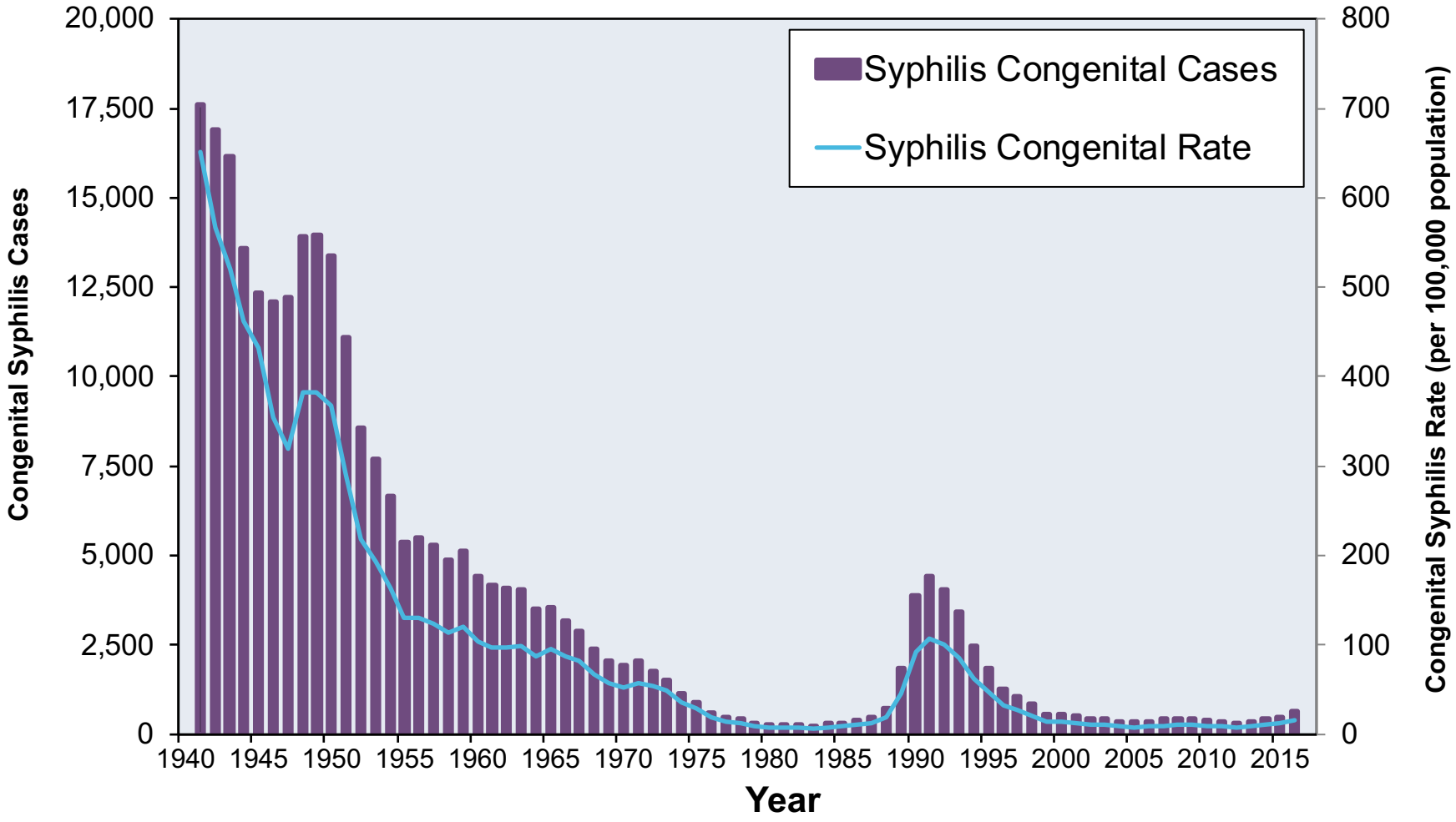
Syphilis — Reported Cases of Congenital Infection, United States, 1941–2016



Source: CDC. Sexually Transmitted Disease Surveillance 2016. Syphilis.

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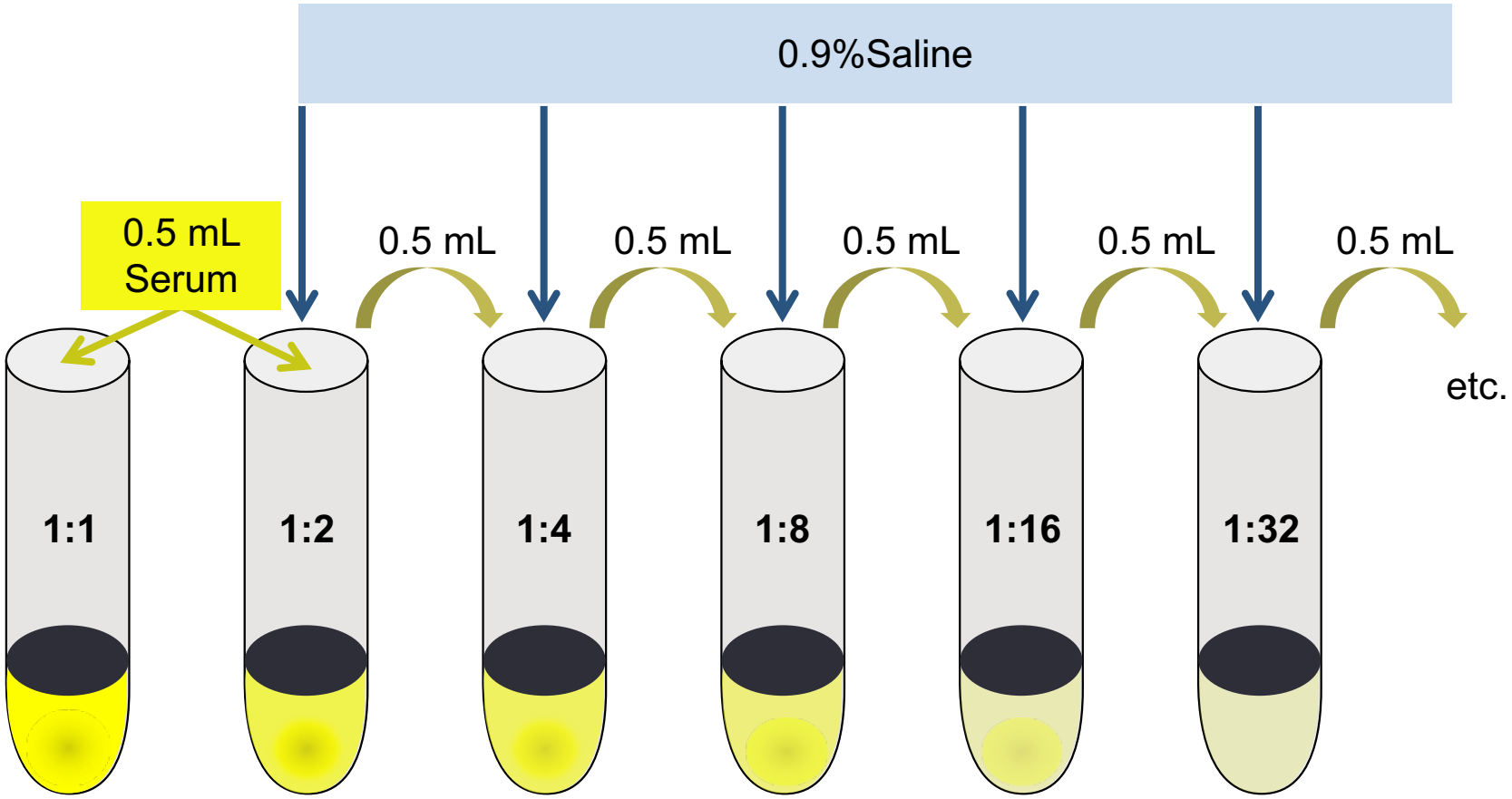
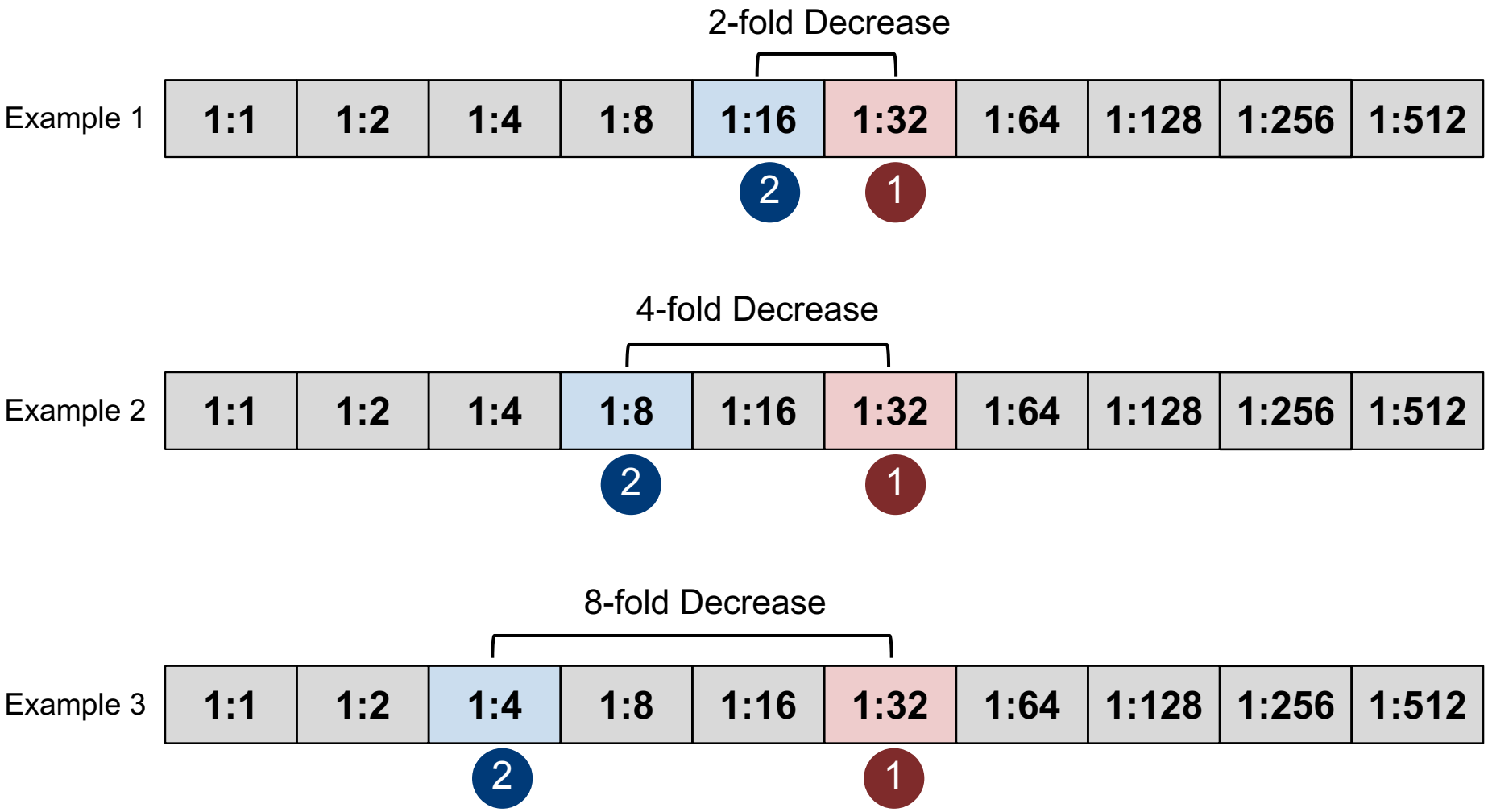
Tube Dilution with Syphilis RRP Testing



Sample Syphilis VDRL Titer Changes



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Long-Range Plans: Learning Platform/Portfolio

- STD Modules Self Study
- Question Bank
- Case Studies
- Clinical Challenges
- Power Point Slide Decks

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Contributors

Funded by a grant from the
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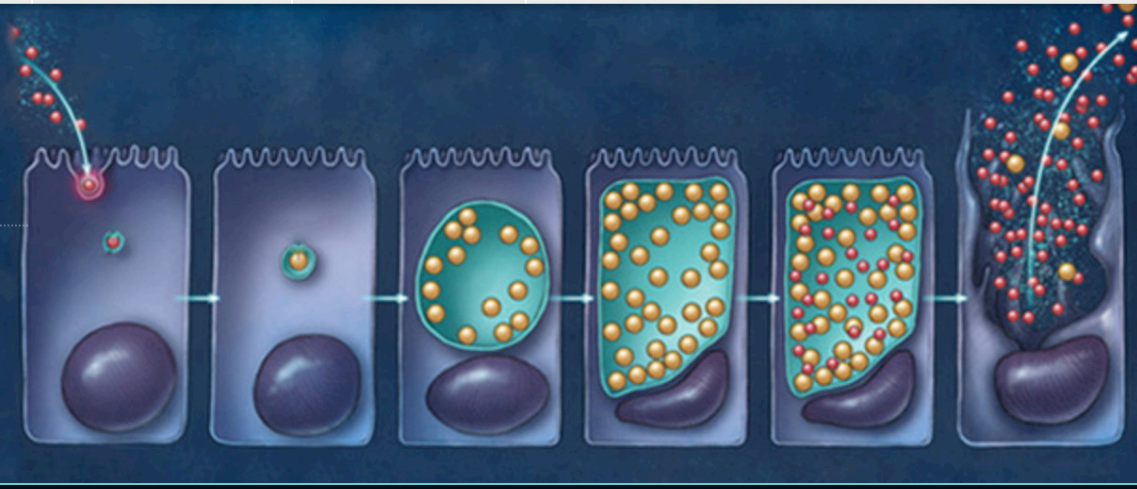

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Questions?

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