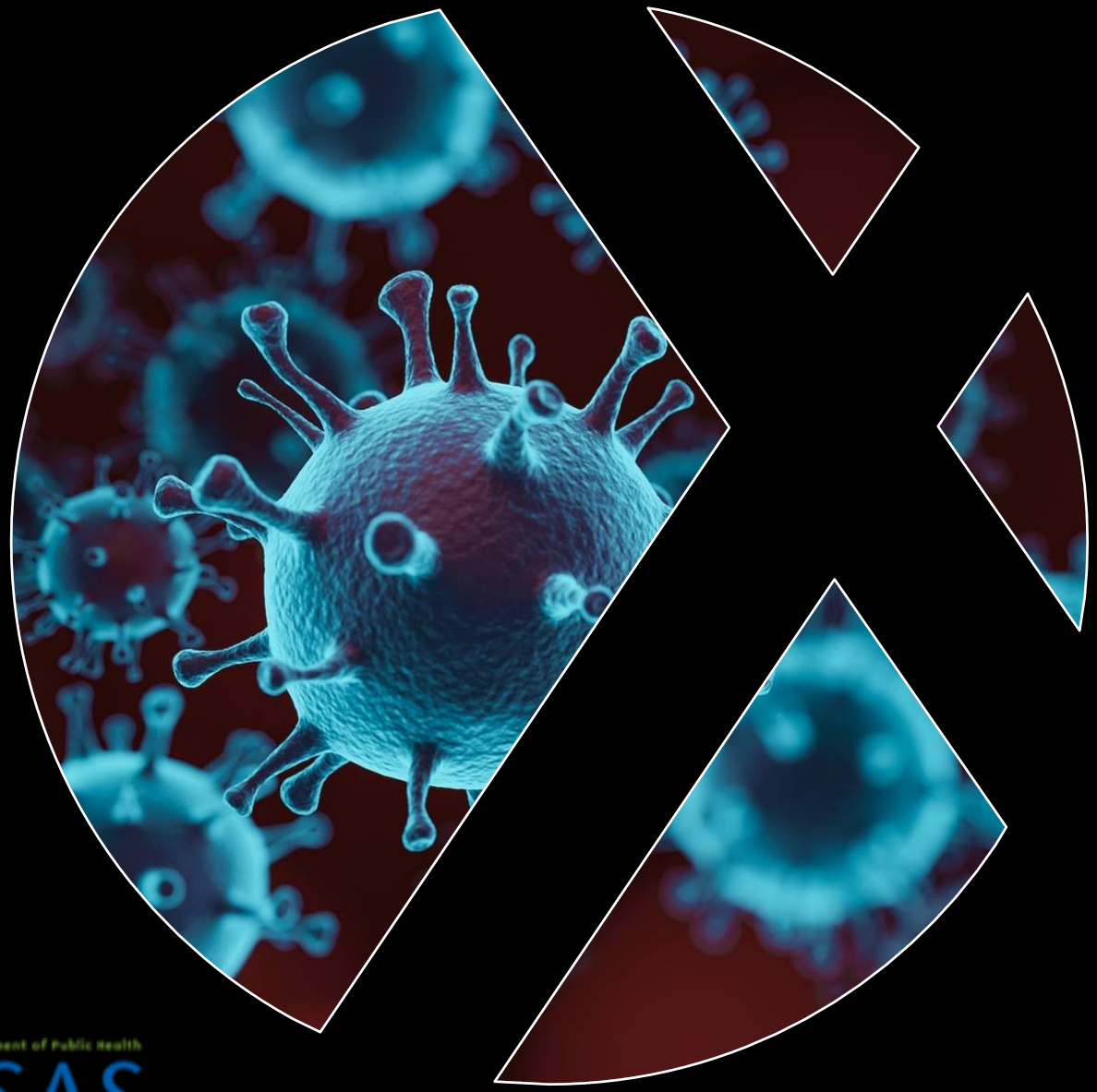
Infectious Diseases

Prevention, Testing, & Treatment



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C4 Innovations

Community & Behavioral Health | Recovery | Social Change

NH Department of Public Health

BSAS

Bureau of Substance Addiction Services

Prevent • Treat • Recover • For Life

Today's workshop is Sponsored by BSAS

The Bureau of Substance Addiction Services:

- Provides access to addictions services for the uninsured
- Funds and monitors prevention, intervention, treatment and recovery support services
- Licenses addictions treatment programs and counselors
- Tracks statewide substance use trends
- Develops and implements policies and programs
- Supports the addictions workforce

Helpful Websites

BSAS:
www.mass.gov/dph/bsas

Helpline:
www.helpline-online.com

Careers of Substance:
www.careersofsubstance.org

BSAS oversees the statewide system of prevention, intervention, treatment, and recovery support services for individuals, families, and communities affected by gambling and substance addiction

Required Disclosures for CEUs

- **ANCC Accreditation Statement**
  This continuing nursing education activity was approved by the Maryland Nurses Association, an accredited approver by the American Nurses Credentialing Center's Commission on Accreditation
- **Activity Purpose and/or Learning Outcomes**
  - Describe common blood borne and sexually transmitted diseases
  - Differentiate between the treatment for viral and bacterial infections
  - Distinguish between latent TB infection and TB disease
  - Explain how TB is transmitted, diagnosed, and treated
  - Identify prevention and harm reduction strategies for reducing transmission of infectious diseases
  - Employ key discussion points to educate clients on prevention, testing, and treatment of infectious diseases
- **Successful Completion of this Continuing Nursing Education Activity**
  In order to successfully complete this activity and receive full credit for this activity, you must attend all 1.5 hours of the course and participate in course discussions
- **Conflicts of interest**
  There is no conflict of interest for any planner or presenter of this activity

Agenda

- Infectious Disease Overview
  - Incidence
  - Transmission
  - Potential signs and symptoms
  - Testing and Treatment
- Prevention Strategies
- Resources and Review

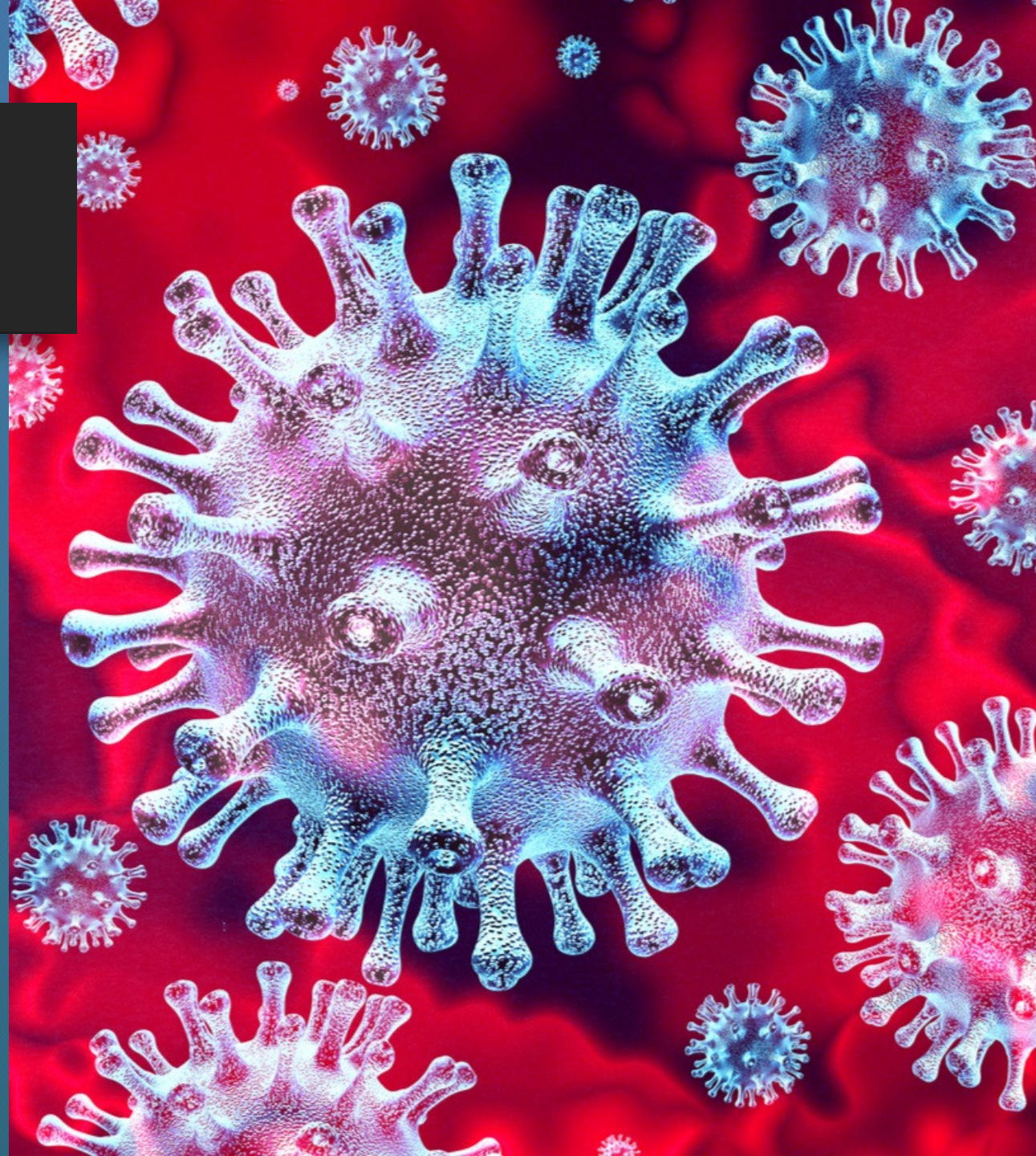
Infectious Diseases

- Infectious diseases are diseases that are caused by pathogens in the body
- Pathogens are micro-organisms such as bacteria, viruses, fungi, and parasites
- Infectious diseases are generally passed:
  - From person to person (Covid, influenza, colds)
  - By consuming contaminated food or water (Hepatitis A, E Coli, Salmonella)
  - Being exposed to organisms in the environment
- Signs and symptoms vary depending on the organism causing the infection
  - Some show no symptoms, but when present, they frequently include fever and fatigue as the body's immune system works to fight the pathogen
- Vaccines (when available) and frequent handwashing provide the best protection against infection

Infectious Diseases & Substance Use

People who engage in high-risk behaviors associated with substance use are at increased risk for infectious diseases, including:

- Blood borne diseases (viral hepatitis, human immunodeficiency virus)
- Sexually transmitted diseases (Gonorrhea, Syphilis, Chlamydia, etc.)
- Tuberculosis

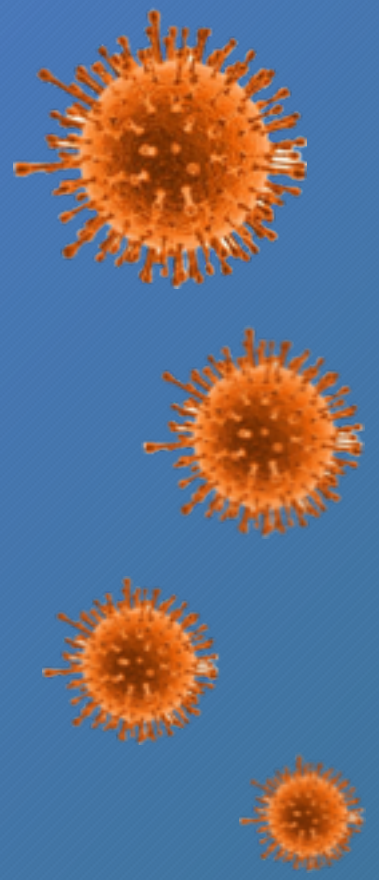


Blood Borne Diseases

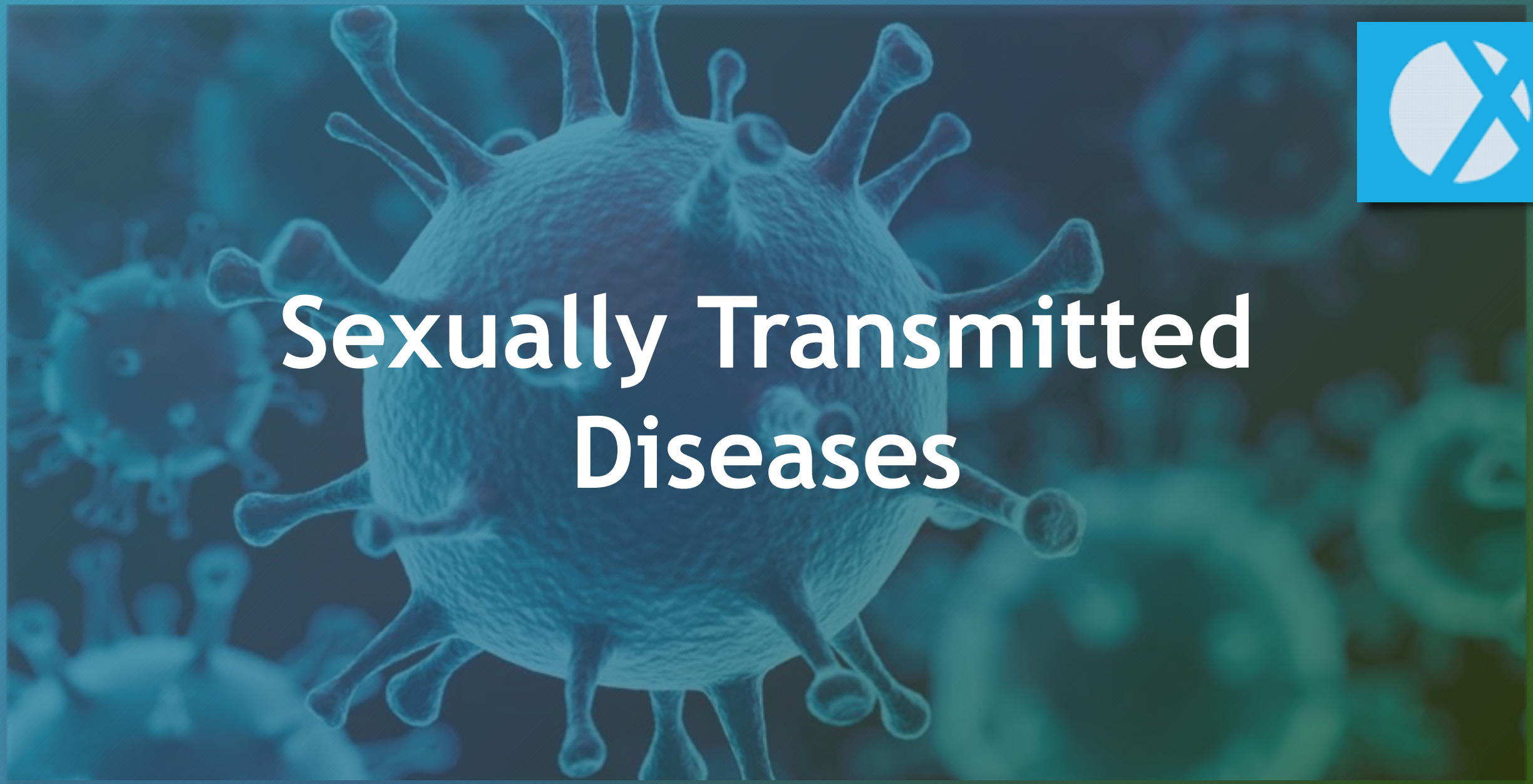
Viral Hepatitis

- Viral hepatitis is a virus that attacks the liver
- Hepatitis B is spread through contact with blood, semen, and vaginal fluid from an infected person
- Hepatitis C is spread through contact with blood of an infected person
- Left untreated, chronic hepatitis can lead to cirrhosis of the liver, liver cancer, and ultimately death
- Vaccine available for Hepatitis B (Covered by MassHealth)
- Treatment available for Hepatitis B & C (but only C can be cured)
- Treatment is covered by MassHealth **WITHOUT** restrictions

HIV



- Human Immunodeficiency Virus (HIV) is a virus which attacks the body's immune system
- Left untreated, HIV leads to Acquired Immunodeficiency Syndrome (AIDS), where the immune system is so compromised, the body succumbs to infection or disease
- Spread through contact with contaminated bodily fluids, primarily through sex or IV drug use
  - Transmitted through blood, vaginal fluid, semen, breast milk, and anal fluid
- No cure currently, but treatment allows for a long life and prevents transmission to others



Sexually Transmitted Diseases

STD Myths to Bust

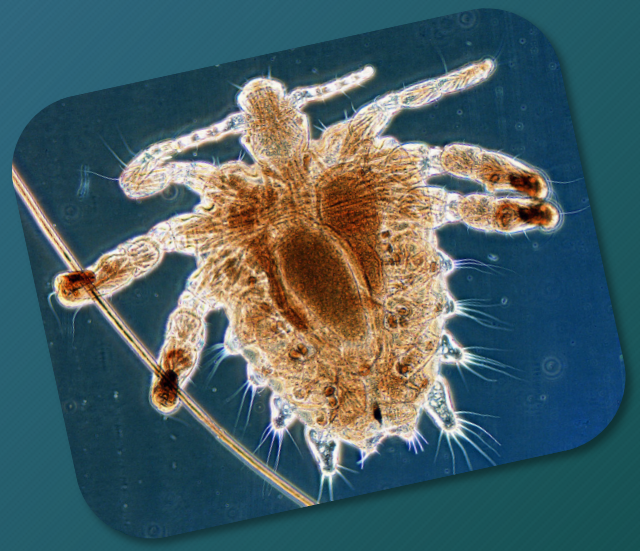
- Once you've had an STD you cannot get it again.
  - *Outside of Hepatitis A & B, all other STDs can be contracted multiple times*
- You can get STDs from a toilet seat.
  - *(Outside of Hepatitis A) STD's cannot be passed from a toilet seat as they cannot survive for long after leaving the human body*
- STDs aren't contagious even when there are no symptoms.
  - *Even with no symptoms, a person can still be highly contagious*
- Pulling out reduces the risk of getting an STD.
  - *Some viral STDs are spread through skin to skin contact and bacterial STDs can be carried in precum*
- You cannot get an STD if you're partner is still a virgin.
  - *There are different ways to define virgin*

Sexually Transmitted Diseases (STDs)

- Sexually Transmitted Diseases are infections spread through sexual contact
- There are more than 20 different types of STDs
- There are about 20 million new cases of STDs each year in the U.S.
- STDs are caused by viruses, bacteria, and parasites

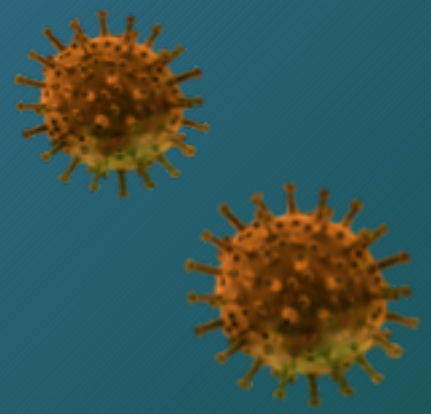
Parasitic STDs

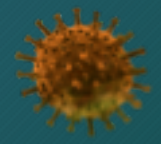
- STDs caused by the transfer of parasites from one person to the other. These include:
  - Trichomoniasis ("Trich"):
    - Caused by a single celled microscopic parasite known as Trichnomonas vaginalis
    - Treated with antibiotics
  - Scabies
    - Skin infestation caused by a mite known as the Sarcoptes scabiei
    - Treated with prescription lotions and creams known as scabicides which kills the mites and their eggs
  - Public Lice
    - Lice that attach to the hair and skin near genitals
    - Treated with over the counter ointments



Viral STDs

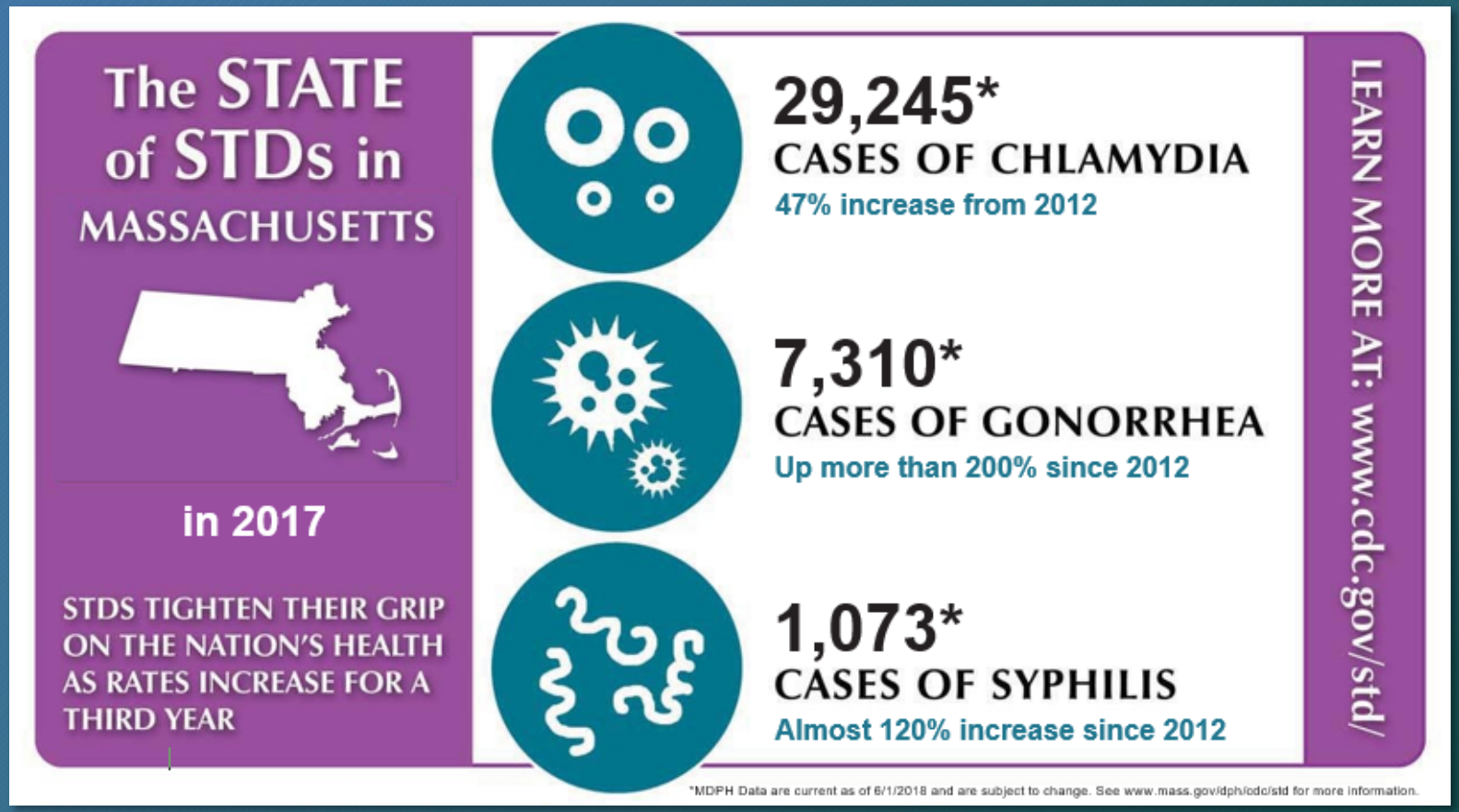
- Viral STDs (or those caused by a virus) have no cure but their symptoms can be alleviated through treatment
- Viral STDs include:
  - **Hepatitis A** (spread through ingestion of contaminated fecal matter)
  - **Hepatitis B**
  - **HIV**
  - **Herpes** (Virus which may present without symptoms or as sores in the genital area)
  - **HPV** (Most common STD; can lead to genital warts and cervical cancer)
- Hepatitis A & B and HPV are the only STDs with vaccinations





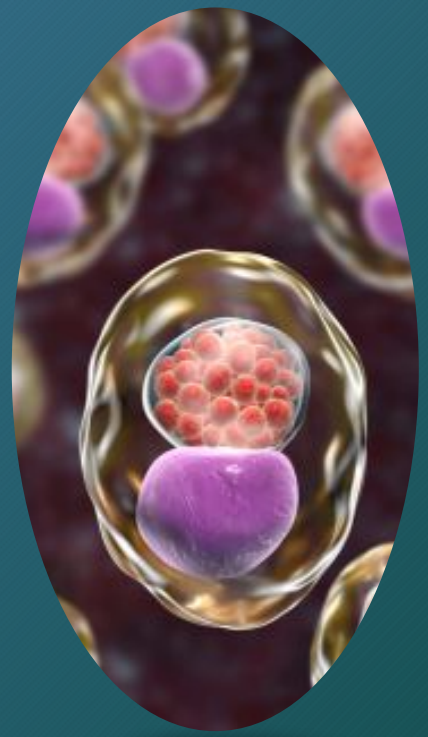
Bacterial STDs

- Bacterial STDs are those caused by different types of bacteria
- Three of the most common ones include:
  - Chlamydia
  - Gonorrhea
  - Syphilis
- Just like the rest of the country, Massachusetts has seen it's numbers skyrocket in recent years

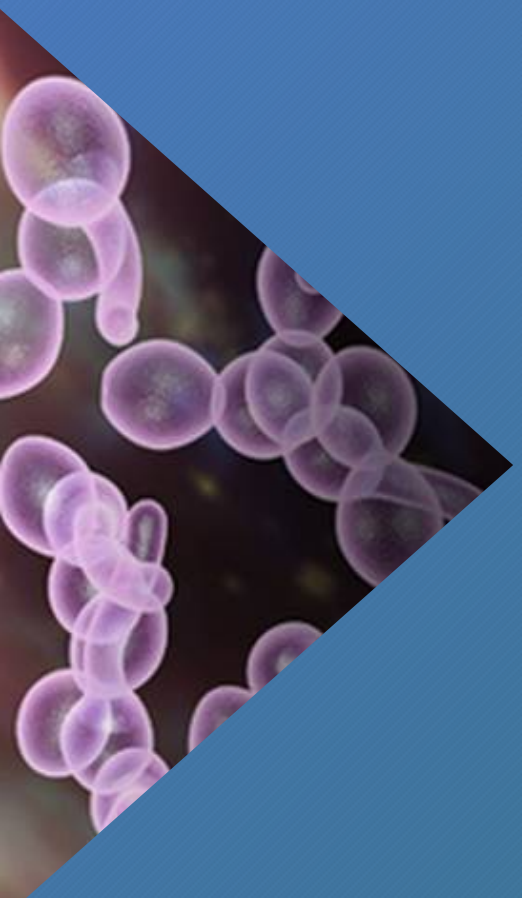


STDs: Chlamydia & Gonorrhea

- Chlamydia & Gonorrhea are STDs caused by bacteria
- Both most commonly infect the cervix (females), urethra, rectum, or throat
- Only about 50% experience any symptoms; when present, they may include:
  - Genital pain
  - Abnormal discharge or bleeding
  - Burning sensation during urination
- Even without symptoms, both are still contagious and can still result in serious health problems



STDs: Chlamydia & Gonorrhea



Left untreated:

- In people who are biologically male, may cause infection and inflammation of the penis and rectum and may impact fertility
- For people who are biologically female, may cause permanent damage to the reproductive system, an inability to get pregnant, and long-term pelvic pain
- For pregnant persons, chlamydia may cause premature birth and low birthweight; the infection can be passed to child during childbirth, potentially leading to eye infection and blindness

STDs: Chlamydia & Gonorrhea

- Testing is done in a lab through a urine specimen or a swab of the genitals
- The CDC recommends regular testing for:
  - **Sexually active women age 25 or younger.** The rate of chlamydia infection is highest in this group
  - **Pregnant persons.** Should be tested during first prenatal exam and again throughout the pregnancy if there is a change in sex partners or suspicion partner might be infected
  - **Persons at high risk.** This includes people who have multiple sex partners, who don't always use a condom, men who have sex with men, & those with a current infection with another STD
- Persons at high risk should be tested annually and/or when there is a new sex partner

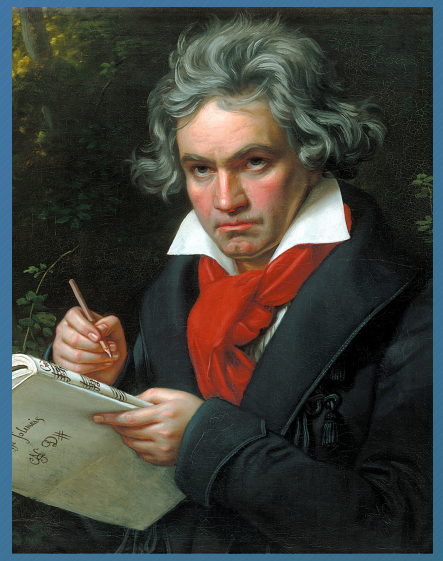
STDs: Chlamydia & Gonorrhea

Treatment

- Chlamydia & Gonorrhea can easily be cured with antibiotics
- Persons should abstain from sexual activity for 7 days after completion of course of antibiotics, to prevent spreading the infection to partners
- It is important to take all of the medication prescribed to cure the infection
- After taking antibiotics, persons should be re-tested in three months to be sure the infection is cured

STDs: Syphilis

- Syphilis is an STD caused by the bacterium Treponema Pallidum
- Early syphilis is easily cured, but without treatment, syphilis can severely damage the heart, brain, or other organs, and can be life-threatening
- Famous people who are thought to have succumbed to Syphilis:


STDs: Syphilis

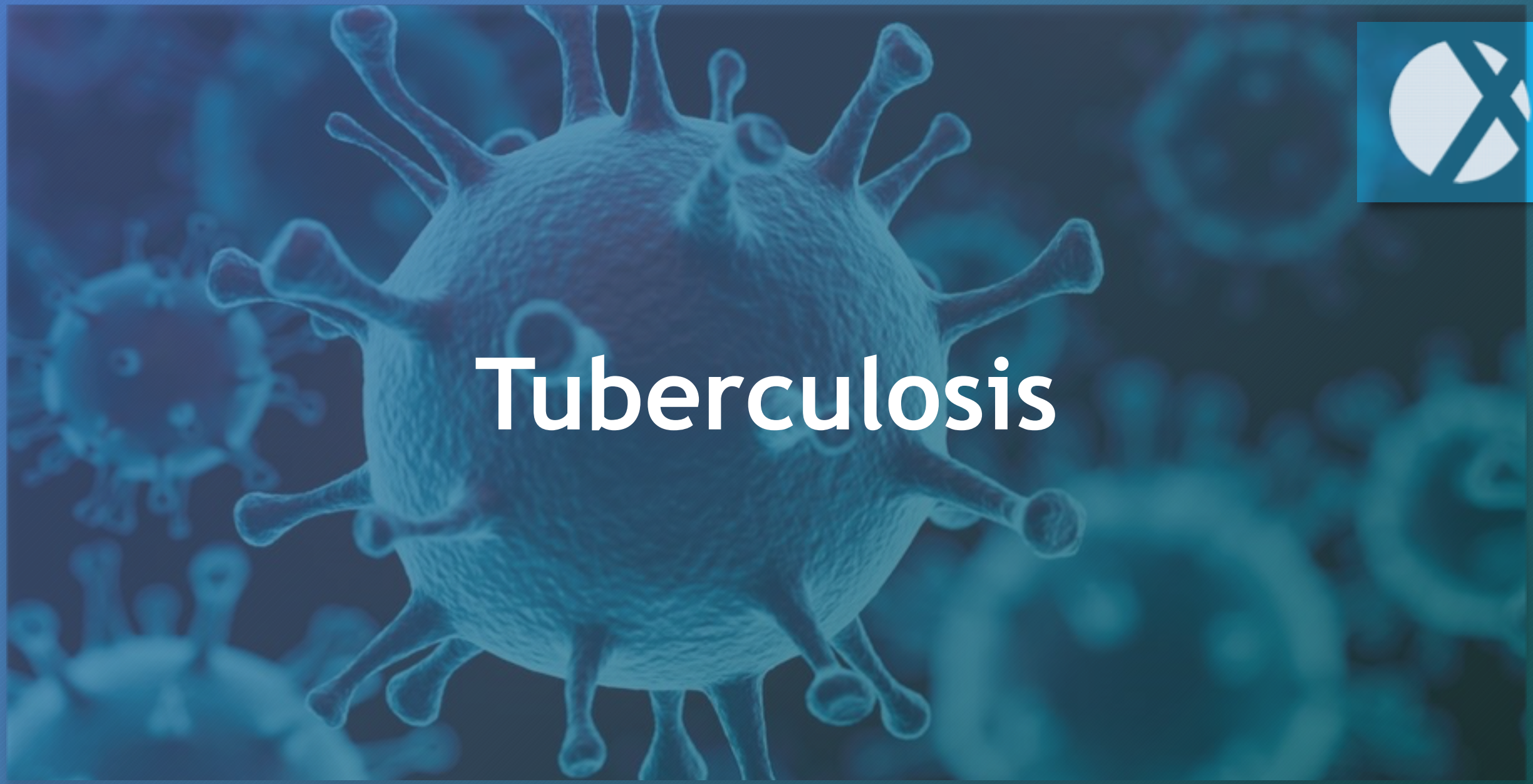
- Syphilis first manifests as a painless sore — typically on the genitals, rectum or mouth
  - Many people who don't notice it because it's usually painless and may be hidden
- Syphilis spreads from person to person during sexual activities via skin or mucous membrane contact with these sores
- Syphilis can also be passed from mothers to unborn children

STDs: Syphilis

- Syphilis is often dubbed “The Great Imitator” because signs and symptoms can mimic those found in many other diseases
- Testing is important to make an accurate diagnosis for early intervention
- Syphilis is diagnosed through a blood draw by using an antibody blood test

STDs: Syphilis

- The preferred treatment is penicillin, an antibiotic medication that can kill the bacteria that causes syphilis
  - Though if allergic to penicillin, physician can prescribe another antibiotic
- Follow up blood tests will be needed to ensure the penicillin is effective
- Sexual contact is to be avoided until the treatment is completed and blood tests indicate the infection has been cured



Tuberculosis

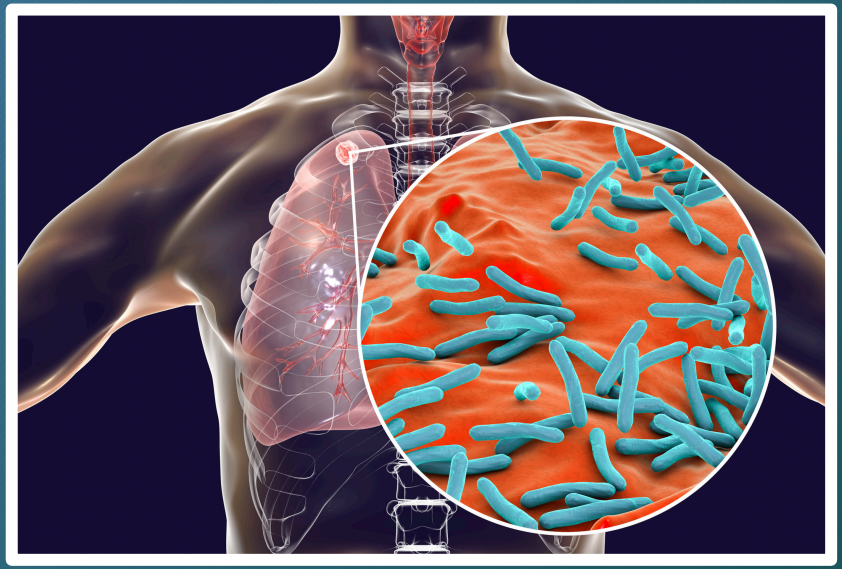
Tuberculosis

TED Ed

LESSONS WORTH SHARING

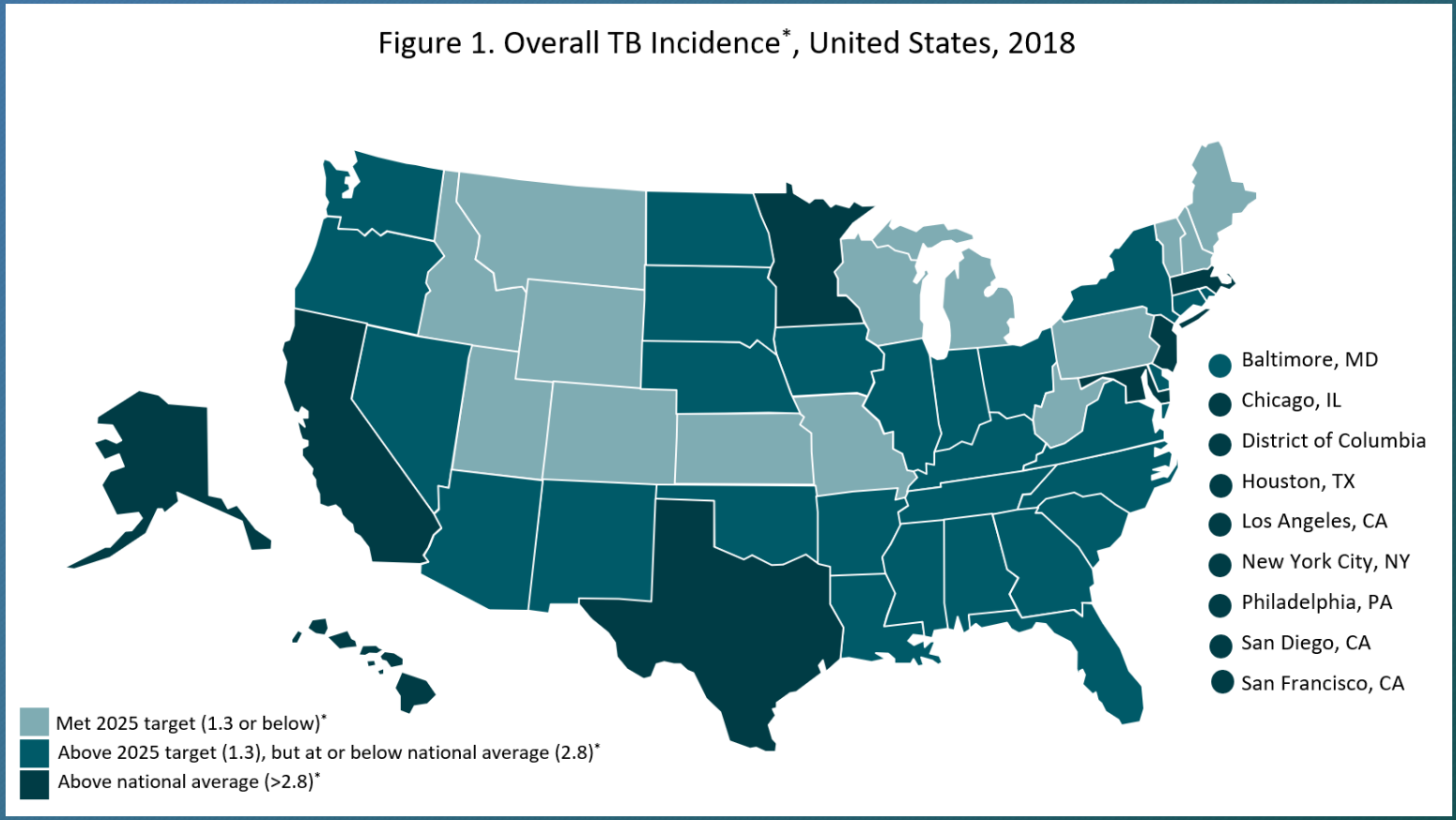
Tuberculosis

- Tuberculosis (TB) is a potentially serious diseased caused by bacteria which usually attack the lungs (but can also attack other parts of the body)
- People who inject drugs are at higher risk of contracting TB than the general population
  - This is due to sharing drug equipment and living in cramped conditions with poor ventilation
- TB is treatable and curable but if not treated properly, TB disease can be fatal



Tuberculosis

13 million people in the U.S. are estimated to have Tuberculosis (CDC, 2020)



Tuberculosis

- TB bacteria are spread from person to person through microscopic droplets released into the air
  - This happens when a person with active TB coughs, laughs, speaks, or sneezes
  - If another person breathes in those droplets, they may become infected
- People with TB disease are most likely to spread it to people they spend time with every day (family members, friends, and coworkers, etc.)

TB is NOT spread by

- shaking someone's hand
- sharing food or drink
- touching toilet seats
- sharing toothbrushes
- kissing

Tuberculosis

Tuberculosis is distinguished between **latent TB infection** and **TB disease**

- **Latent TB Infection (LTBI)**:
  - For most people who become infected, the body is able to fight the bacteria and keep them in an inactive state
  - People with LTBI have no symptoms and are not contagious
  - For most people with LTBI, the TB bacteria remain inactive for a lifetime without causing disease. But for others, especially those who have a weak immune system, the bacteria become active, multiply, and cause TB disease

Tuberculosis

- **TB Disease**:
  - TB bacteria become active (multiplying in the body) if the immune system can't stop them from growing
  - For people whose immune systems are weak, especially those with HIV, the risk of developing TB disease is much higher than for people with normal immune systems
  - Symptoms of TB Disease include bad cough, coughing up blood or phlegm, weakness or fatigue, loss of weight and/or appetite, fevers, chills, and night sweats
  - Without treatment, TB disease can be fatal

LBTI vs TB Disease

A Person with LTBI	A Person with TB Disease
Has no symptoms	Has symptoms that may include • A bad cough that last 3 weeks or longer • Pain in the chest • Coughing up blood or sputum • Weakness, fatigue • Weight loss, no appetite • Chills, fever, night sweats
Cannot spread TB bacteria to others	May spread TB bacteria to others
Usually has a skin test or blood test result indicating TB infection	Usually has a skin test or blood test result indicating TB infection
Has a normal chest x-ray and a negative sputum smear	May have an abnormal chest x-ray, or positive sputum smear or culture
Needs treatment for latent TB infection to prevent TB disease	Needs treatment to treat TB disease

Tuberculosis & HIV

- Untreated latent TB infection can quickly progress to TB disease in people living with HIV since the immune system is already weakened
  - Among people with latent TB infection, HIV infection is the strongest known risk factor for progressing to TB disease
- Without treatment, as with other opportunistic infections, HIV and TB can work together to shorten lifespan
- Worldwide, TB is one of the leading causes of death among people living with HIV

Tuberculosis & Health Disparities

- People of color (POC) in the United States continue to have a disproportionately higher burden of TB.
- The rate of TB disease is 8 times higher for POC than for non-Hispanic whites
- In 2018:
  - TB disease was reported in 1,799 non-Hispanic blacks/African Americans, accounting for 20% of all people reported with TB nationally
  - TB disease was reported in 2,617 Hispanics/Latinos, accounting for 29% of all people reported with TB nationally

POC make up almost 50% of TB, despite only accounting for 30% of the population

Tuberculosis: Testing & Treatment

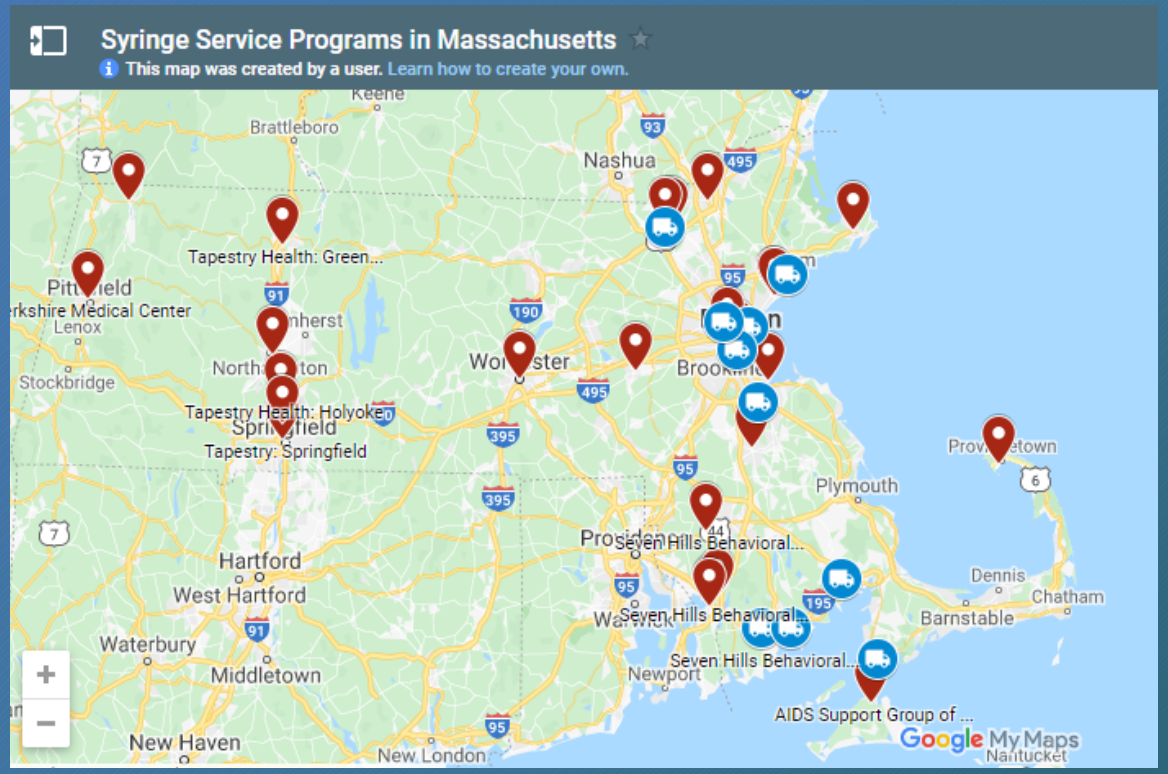
- There are two kinds of tests that are used to detect TB bacteria in the body: the TB skin test (TST) and TB blood tests
- A positive TB skin test or TB blood test only tells that a person has been infected with TB bacteria
- Follow up tests, such as a chest x-ray and a sample of sputum, are needed to see whether the person has LTBI or TB Disease

- Both latent TB infection and TB disease can be treated with different combinations of antibiotics

Infectious Disease Prevention

Infectious Disease Prevention

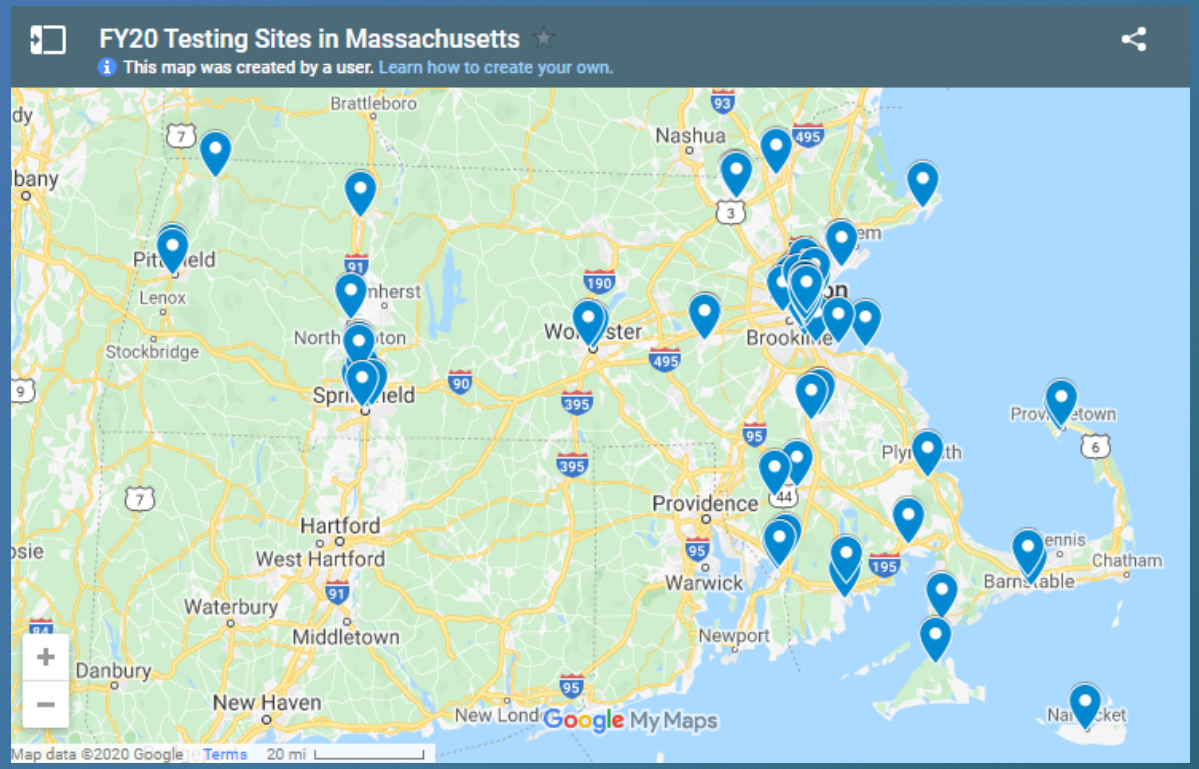
- Using new/clean needles, syringes, and injection equipment



[Syringe Service Programs in Massachusetts]

Infectious Disease Prevention

- Getting tested and treated



Integrated testing and linkage services in Massachusetts

Infectious Disease Prevention

- Notifying partners about potential exposure to STDs

The Partner Services Program (PSP) by MDPH helps people diagnosed with STDs:

- Get treated for their infection
- Notify their partners that they might have been exposed to an STD
- Helps partners get testing and medical care

Partners are notified of potential exposure to an STD and linked with testing and treatment services without revealing the identify of the partner with the infection.

Mass.gov/partner-services-program-psp

Infectious Disease Prevention

- Using condoms or other barriers
- Pre & Post Exposure Prophylaxis (PrEP &PEP)
  - Both are covered by MassHealth
- Limiting number of partners
- Participating in lower-risk sexual behaviors
  - Though there is still risk of exposure to other STDs, nonpenetrative activities like oral or manual reduce the risk of contracting HIV
- Lube!
- Talking with new sexual partners about STDs

Condoms 101
DO's
Use a condom every time you have sex
Use a latex or polyurethane condom
Check the expiration date
Store in a cool, dry place
Use water or silicone-based lubricants
DON'Ts
Don't reuse a condom
Don't use more than on at a time
Don't use scissors to open the package
Keep in your wallet long-term
Use oil-based lubricants

Infectious Disease Prevention

In our programs:

- Handwashing
  - Wash hands often with soap and water for **at least 20 seconds**.
  - Wash hands before eating; after going to the bathroom; after blowing your nose, coughing, or sneezing; and upon entering and exiting the program site.
- Using person protective equipment (PPE) as indicated (masks, glove, etc.)
- Sanitizing surfaces
  - Programs should regularly clean and disinfect high-touch surfaces including elevator buttons, entry and exit buttons, door handles, faucets, railings, knobs, counters, and handrails

Infectious Disease Prevention

Meet Your Praxis Clients

Victor

Victor is a 34-year old man coming to treatment after a nine-month run injecting methamphetamine. He had a severe opioid use disorder for several years, but now he says he uses heroin only “for landing gear.” He also reports using alcohol and cannabis most days.

Victor presents thin and tired-looking; he has a bad cough and complains that his ribs hurt when he coughs. Two days before coming to the program, Victor had a negative test for COVID-19, but that is the only testing or screening that Victor says he has had.

Victor reports that he’s tired and feels unwell. He tells you about his methamphetamine use and how he would sometimes go days without sleep. He wonders if he’s tired now to catch up on all the sleep he missed.

Victor also reports that he had “lots” of unprotected sex with men he did not know well. He worries he may have caught something “bad.”

Renee

Renee is a 20-year old transwoman hoping to find a space in a long-term residential program for women. She has a 2-year history of methamphetamine use with several periods of chaotic use. Renee has been using alcohol and cannabis since she was 13-years old. She has been in treatment for amphetamine use disorder but left treatment prematurely.

Renee reports that she regularly gets tested for HIV/HCV and STDs but cannot remember the last time she was tested. She shares that she has many boyfriends and only one regularly uses condoms. Renee is homeless, staying with boyfriends when she can and outside when she cannot get someone to pay for a hotel room. She avoids shelters because she says that she has been harassed there.

Infectious Diseases: Resources & Review

Our role is to…

- Stay current on information and protocols
  - MedlinePlus
  - CDC Infectious Diseases
  - BIDLS
- Know and connect with our resources
  - Testing services in Massachusetts
  - Syringe Service Programs in Massachusetts
- Educate our clients
  - CDC TB Publication
  - STD Fact Sheets
  - Hepatitis C Overview

Infectious Disease Program Inventory

praxis
Training for Massachusetts Addiction Professionals

Infectious Disease Prevention Program Inventory

COMPONENT	YES	SOME	NO
STAFF			
All new staff receive training on infectious diseases as a part of the orientation process			
All staff receive training yearly on HIV			
All staff receive training yearly on viral hepatitis			
Program has designated a staff member as its Program AIDS Coordinator to oversee programmatic education and prevention efforts			
PROGRAM ACTIVITIES			
Participants are assessed for their risk for HIV, viral hepatitis, and other infectious diseases as part of the intake process			
Identified risks are included in the participant's treatment plan			
Program offers testing and vaccinations to all participants, either onsite or through coordinated services			
Psychoeducational groups on treatment and prevention of infectious diseases are offered to all participants			
Infectious disease prevention, education, and resources are included in each participant's discharge plan			
Program promotes and follows universal precaution practices in all program activities including: • Having an onsite first aid kit which includes protective barriers for open wounds • Offering access to facilities and resources for proper handwashing • Having gloves and other protective wear available for blood exposures			

COMPONENT	YES	SOME	NO
PROGRAM RESOURCES			
Participants have access to educational materials on HIV, viral hepatitis, and other infectious diseases			
Posters or other similar materials are posted throughout program to promote education and awareness of HIV, viral hepatitis, and other infectious diseases			
Program provides or coordinates access to tangible tools for infectious disease transmission like condoms, hand sanitizers, and clean works for those who are at risk of relapse			
Program provides education on and referrals for Pre-Exposure Prophylaxis (PrEP) for HIV			
PROGRAM POLICIES			
Program policy outlines protocol for risk assessment, education, testing, and treatment for all program participants			
PROGRAM NETWORKS			
Program coordinates care with community services that provide prevention services for infectious disease			
Program coordinates care for treatment of infectious diseases			
Program coordinates care as a part of a participant's discharge plan for follow up services and supports in the community regarding the prevention and treatment of infectious disease			

Pop Quiz!

- An STD caused by bacteria?
  - Gonorrhea, Chlamydia, Syphilis
- Treatment for bacterial STDs?
  - Antibiotics
- How syphilis is spread?
  - Contact with painless sores developed in the primary stage of infection
- Percentage of people who will experience symptoms after contracting chlamydia or gonorrhea?
  - 50%
- How testing is done for chlamydia and gonorrhea? Syphilis?
  - Urine, genital swab; blood draw

Pop Quiz!

- Cause of TB?
  - Bacteria
- Two types of TB?
  - LBTI and TB Disease
- Symptoms of LBTI?
  - None
- Symptoms of TB Disease
  - Persistent cough, coughing up blood or sputum, weakness or fatigue, loss of weight and/or appetite, fevers, chills, and night sweats
- Treatment for TB?
  - Antibiotics

Thank You!

To access these slides, please visit us at:

C4Innovates.com

Email us at:

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