Hello. Welcome to this webinar titled “Preventing and Controlling Tuberculosis in Correctional Settings.”

This webinar was produced by the Minnesota Department of Health Tuberculosis Program.

This is the introductory module of a series of webinars about preventing and controlling tuberculosis in correctional settings.
The objectives for this module are listed on this slide. (long pause)
This module will discuss:

1. Reasons why we need to be mindful of the risk for TB in prisons and jails.

2. What is TB disease and how does it spread from one person to another.

3. Epidemiologic data.

4. Legal requirements.

5. Best practices for TB control, including ways in which best practices may differ from legal requirements.

6. What are the roles and responsibilities for correctional staff, public health agencies and others.

We will finish with a case study designed to illustrate key concepts.
Throughout these training modules, we will use several acronyms. Here are several that you should be aware of:

**CDC** is the U.S. Centers for Disease Control and Prevention, which is the public health agency of the United States government.

**DOC** stands for the Department of Corrections.

**IGRA** stands for interferon gamma release assay, which is a relatively new blood test for the presence in the body of the bacteria that causes TB.

**LTBI** stands for latent TB infection. This is a condition in which TB bacteria are present in the body but are not actively growing or causing disease.
### Definitions (2)

- **MDH** = Minnesota Department of Health
- **OSHA** = Occupational Safety and Health Administration
- **TB** = tuberculosis
- **TB case** = person with active TB (does not include LTBI)
- **TST** = tuberculin skin test, aka “Mantoux” or “PPD”

**MDH** stands for the Minnesota Department of Health, which is the public health agency for the State of Minnesota. MDH and local public health departments work closely together and with others to protect the public from TB.

**OSHA** is the Occupational Safety and Health Administration.

**TB** is a shortcut for “tuberculosis.”

A **TB case** is an epidemiologic term for someone with active TB disease. TB statistics reported by the health department refer only people with active TB. LTBI is not reportable to the health department in Minnesota and is not included in our statistics.

**TST** stands for TB skin test, sometimes referred to as the “Mantoux” or “PPD,” which is an abbreviation for purified protein derivative.
Why do we need to be particularly mindful of the risk for TB in prisons and jails?
It’s because TB occurs more often in correctional facilities than in the general public.

Unfortunately, several TB outbreaks occur in correctional facilities in the United States every year.

The greatest risk for TB is from offenders (and employees) who have infectious TB that has not been recognized and dealt with. Individuals with undiagnosed (and therefore, untreated) TB who continue to share air space with others can continue to spread their infection.
In some ways, correctional settings are a “perfect storm” for the spread of TB. This is because:

Offenders and employees interact continuously in enclosed and sometimes crowded quarters.

Poor ventilation greatly increases the chance of spreading TB.

There is a lot of movement from one facility to another, increasing the number of people who are exposed to an infectious person.

And finally, offenders may share other risk factors for TB such as homelessness, drug or alcohol abuse or HIV infection. Incarcerated persons are more likely than the general public to have latent TB infection. Even if their TB is latent when they are first incarcerated, they may develop active TB months or years later, either while still incarcerated or after being released to the community.
Correctional facilities and public health agencies face a number of challenges related to TB.

On-site medical staffing may be intermittent.

TB is one of many other health concerns that facilities and offenders face.

It is expensive and time-consuming to transport individuals to medical appointments.

After an offender is discharged from a facility, it may be difficult to locate them in the community.

And release planning and making referrals to public health takes time and resources.
Other obstacles to coordinating care for TB include the following:

Individuals may be admitted and released from short-stay facilities more than once over a period of time. This often requires them to be tested repeatedly if there is no record of previous testing results. Treatment for latent TB infection lasts from 3 to 9 months, which may not be feasible during short stays.

The correctional facility may be located outside of an offender’s home community. This makes discharge planning more challenging.

Offenders may be released from custody with very short notice.

There typically is no standard way to share information between correctional facilities.
Despite the challenges, it is important to keep in mind that there can be serious consequences if an offender or employee with untreated TB is present in a correctional facility.

Someone with active TB who is not appropriately isolated and started on treatment with anti-TB drugs may spread TB to others.

This can lead to backlash and concerns among offenders and staff.

The facility may lose the trust of others, including the general public.

The work involved in following up on the exposure is complex, expensive and require a significant amount of staff time. TB “contact investigations” must be coordinated with the public health department and may last months to over a year.

Clearly, the best approach is to prevent TB exposures from happening in your facility whenever possible.
Although TB exposure can occur in any correctional setting at any time, the risk is greater at some facilities than others.

Therefore, certain TB control procedures that are required in one setting may or may not be necessary in another.

Because of this, state and local laws and regulations may vary by the type of facility. We will discuss the differences in settings in more detail in a few minutes.
But first, let’s review some basics of TB and how it is spread.
TB is a serious infectious disease caused by an organism called *Mycobacterium tuberculosis*.

Although TB is usually treatable, it can be fatal.

TB is transmitted from one person to another when someone with infectious TB coughs, sneezes or otherwise expels tiny droplets containing the TB bacteria into the air. Because these droplets are so small, they can remain suspended in the air for long periods of time, where others can breathe them in.

The bacteria initially go to the lungs. If the body’s immune system is not able to contain the infection, it may spread to other parts of the body.

There are two phases of TB: latent TB, or “LTBI,” and active TB disease.

It is important to remember that TB is not spread by shaking hands, or from food, dishes, linens or other objects.
It typically takes several hours of exposure to TB to become infected. Brief exposure to someone with active TB does not usually pose a risk.

If a person is closely exposed to the TB bacteria, there is approximately a 30-40% chance that they will become infected with TB (see orange boxes).

Of those who become infected, 90% will remain in the latent phase for the rest of their lives.

However, up to 10% will develop active TB disease. Half of the risk of active TB occurs within the first 1-2 years after the infection occurs. The remaining half will develop active TB disease sometime later in their lives.

Certain medical conditions, most notably HIV infection, increase the likelihood that the person will develop active TB disease.
Not all TB exposures are equal. The likelihood of someone transmitting TB to others depends on several factors.

First, the risk of transmission depends on the infectiousness level of the person who is sick. Someone with advanced TB who has a heavy, productive cough is much more likely to expel TB bacteria into the air than someone with little or no cough. But if their TB is diagnosed early, when symptoms are milder, the person is less likely to infect others.

Second, the environment plays a big role. For example, someone who is coughing in a car with the windows closed is much more likely to spread TB than someone who is outdoors or in a large, well-ventilated room.

The last factor is the duration of the exposure. Typically, the longer the exposure lasts, the more likely it is that another person will become infected.
This table compares the two phases of TB: LTBI and active TB disease.

With LTBI, a small number of TB bacteria are present in the body but the immune system walls them off so that they do not spread or damage tissue. Someone with latent TB usually has a positive TB skin or blood test. The person does not have a cough or other TB symptoms and their chest X-ray is usually normal. They do not need to be isolated from other people. Treatment for LTBI is optional, but is recommended for most people to prevent them from developing active TB.

In contrast, for someone with active TB, the TB bacteria begin to multiply and can spread to other parts of the body, causing damage to organs or tissues. People with active TB usually experience symptoms related to the disease. Their chest X-ray may show damage to the lungs. They may require isolation until they have started TB treatment. People with active TB need to take the appropriate treatment in order to be cured.
Typical symptoms of active TB disease include the following:

- A prolonged cough or a change in a chronic cough
- Night sweats
- Unexplained weight loss
- Chest pain
- Coughing up blood
- Fever and
- Fatigue.

People with TB usually do NOT have ALL of these symptoms.
Although TB usually affects the lungs (called pulmonary TB), it can appear in other parts of the body. Some of the more common areas affected include:

- The pleural cavity (the chest lining surrounding the lungs)
- Lymph nodes (especially in the neck)
- Brain and nervous system
- The genitourinary system, and
- Bones

TB in areas outside of the lungs is called “extrapulmonary TB.”
Next, let’s quickly go over some basic figures about how often TB occurs in the United States, in Minnesota, and in correctional facilities.
This slide shows the number of reported TB cases in the United States over the last 30 years.

TB had been decreasing steadily in this country since the 1950s, until there was a resurgence that started in the mid-1980s and peaked at almost 27,000 cases in 1992. This increase was due to a decrease in funding for public health TB control programs at the same time that there was an increase in HIV, homelessness and international migration.

In response to this increase in TB, public health TB control programs were revived. Institutions such as health care and correctional facilities implemented new TB infection control measures.

As a result, the number of TB cases began decreasing again in 1993 and has continued to decrease every year since then. In 2012, a total of 9,945 cases were reported in the United States.
The Minnesota Department of Health receives reports of approximately 140-210 persons with active TB disease each year.

The number of cases per 100,000 residents (AKA the TB "rate") is slightly lower in Minnesota than nationwide. In 2012, there were 3 TB cases reported for every 100,000 persons living in Minnesota.
Most of the TB cases occurring in Minnesota are in the Twin Cities metropolitan area.

However, during the 5 year period from 2008-2012, almost half of Minnesota’s 87 counties had at least one case of TB.
Preventing and Controlling Tuberculosis in Correctional Settings: Module I

In the United States and Minnesota, TB is no longer common in the general population. TB primarily affects certain high-risk groups of individuals, such as those born in areas of the world where TB is widespread, substance abusers, homeless persons, and those with HIV infection or certain other medical conditions such as diabetes and conditions that suppress the immune system.

This table compares how often certain risk factors are reported in all Minnesotans with TB with those who are incarcerated at the time of diagnosis.

Approximately 80% of persons with active TB were born in an area of the world where TB is common. However, only 38% of incarcerated cases were foreign-born.

Substance abuse was more than 7 times as common among incarcerated TB patients (43% vs. 6%).

None of the incarcerated TB patients reported having been homeless within the year before they were diagnosed, and none were co-infected with HIV.

Certain medical conditions that increase the risk of active TB occurred almost twice as often among incarcerated TB cases than TB cases overall.
As we mentioned earlier, TB is more common in correctional facilities than in the general public.

Nationwide, 4.2% of adults reported with TB in 2012 were incarcerated.

We also know that latent TB is more common among offenders that in the general public.
This slide compares the number of persons with active TB in United States correctional facilities, by type of facility.

The majority of these individuals with TB are in local jails, as shown by the yellow bars in this graph.

State prisons (in blue) typically account for the next largest group.

Federal prisons and other types of facilities (red and green) have fewer cases of TB.
Here in Minnesota, TB was diagnosed in 14 incarcerated individuals between 2008 and 2012.

Of these, 1 was in a federal medical center, 2 were in state prisons, and 11 were in local facilities or jails. This total of 14 is higher than normal because it includes an outbreak of TB at a local correctional facility in Minnesota in 2008.

During the same time period, active TB was reported in four persons who worked in correctional facilities. Again, this is higher than normal because of the effect of the 2008 outbreak.

These last several slides have shown use that TB is decreasing somewhat in the United States and Minnesota. However, TB occurs more often in correctional facilities than among the general public, so we must remain vigilant in our TB control efforts in order to avoid another increase like that seen in the 1980s.
Now I will address TB-related laws and regulations that apply to correctional facilities in Minnesota.
...these include:

1. The Department of Corrections, Administrative Rule 2911,

2. Minnesota Department of Health, Statute 144.445, and

3. MN OSHA.
The Department of Corrections Rule 2911.5800 addresses serious infectious diseases in general.
The Department of Corrections added additional TB-specific language to Rule 2911 in late 2013. This language requires correctional facilities to screen all inmates for specific signs and symptoms of active TB at the time of admission. The screening must be done by trained personnel and the results documented.
Next we'll discuss the second part of rule 2911.
Correctional facilities must have written policies and procedures addressing serious infectious diseases, including separating inmates with infectious diseases, including TB.

The rule also mandates that correctional facilities follow the current requirements in the Minnesota Department of Health statute 144.445 for testing offenders and employees for TB.
The next eight slides provide more detailed guidance on the requirements for correctional facilities, as stipulated in the Department of Health Statute.
Correctional facilities must perform a TB skin test (TST) or a chest X-ray on or before the 14th day of an offender’s stay. This means that persons who are confined for short periods of time may not have been tested for TB.

MDH also recommends that offenders should be evaluated for TB symptoms and risk factors, in addition to having the skin or blood test. This is consistent with the recommendations of the United States Public Health Service and also is required under Statute 2911 (discussed earlier).

The TB blood test, or IGRA, may be used in place of the TST for screening offenders and employees. You can find more information about IGRA’s in Module 3 of this webinar series.
If an offender refuses TB testing, the Commissioner of Corrections may order the inmate to be tested.
Juvenile facilities are exempt from TB screening requirements. This is because the risk for TB in such facilities is considered to be lower than in facilities housing older offenders.

Offenders in other facilities may be exempted from TB screening if the facility has a written record of:

1. A negative test within the past 3 months (or 12 months if the person is transferring between facilities),

2. Completion of a full course of TB therapy in the past, or of complying with ongoing TB therapy if they currently have TB, OR

3. A negative chest X-ray within the previous 6 months (12 if transferring between facilities).
However, offenders who currently have symptoms of active TB, or who have been exposed to someone with active TB, or who have certain medical conditions, are NOT exempt from TB screening.

For example, offenders with significant exposure to an unrecognized case of TB in the correctional facility must be tested to determine whether they have become infected as a result.

In addition, offenders with TB symptoms such as prolonged cough and weight loss need to be tested upon admission. This will be covered in more detail in Module 4 of this series.
An offender with a record of a previous positive TB skin or blood test AND a negative chest x-ray done after the positive test result does not need a chest x-ray at the time of admission to the facility.

If this documentation isn’t available, they will need to have a chest X-ray.

Keep in mind that if these offenders have TB symptoms or are exposed to TB again, or have certain health conditions (such as HIV infection) that increase their risk of developing active TB, a chest X-ray or medical evaluation may be needed.
Correctional facilities must also screen their employees for TB when they are hired, and once a year after that.
Exceptions to employee testing are similar to those for offenders.

First, an employee with a documented record of a previous positive TB test, or who is taking or has completed treatment for active or latent TB, does not need testing unless they currently have symptoms of active TB or have a new exposure to someone with active TB.

Second, an employee who has had a positive TB test and who has not been treated for latent TB does not need another TB test, but they must have a record of a negative chest X-ray that was done sometime after the initial test was positive. If documentation isn’t available, they will need to have a chest X-ray before they start work.

Keep in mind that if these employees develop TB symptoms or are exposed to TB again, a chest X-ray or medical evaluation may be needed.
In 2005, the Food and Drug Administration approved the use of certain TB blood tests, or interferon gamma release assays, for TB screening in the United States.

Correctional facilities may choose to use the IGRA instead of the TST for screening offenders and/or employees, as long as they follow current CDC guidelines for their use. At the current time, this test is not widely used in Minnesota correctional facilities, but it is an acceptable option.

More information about the use of IGRAs is available from the CDC and the MDH TB Program.
Correctional facilities also must follow the requirements of the Minnesota Occupational Safety and Health Administration. Keep in mind that OSHA addresses worker safety only and not offenders.

Minnesota OSHA’s general TB directive was updated in 2008 and is based on recommendations issued by the Centers for Disease Control and Prevention in 2005.

A summary of these requirements is presented here, but an employer should consult MN-OSHA for more detailed information.
MN-OSHA requires all facilities to have a written TB infection control plan and to determine their risk level for TB. Facilities are categorized as “low,” “medium,” or “potential ongoing transmission” risk for TB.

Low risk facilities have fewer requirements to follow regarding TB control. **However, OSHA considers all correctional facilities to be at least medium risk for TB.** Because of this, employees should be screened for TB when they are hired and once a year after that.

Correctional facilities should periodically assess their risk for TB transmission, to determine whether the “medium” classification still applies to them.

In rare instances, such as an outbreak of TB or an unexpected increase in the number of positive annual TB tests, a facility may be classified as having a “potentially ongoing transmission” risk level. This category is usually temporary but it requires that the more frequent testing of employees and consultation with the health department.
In summary, correctional facilities in Minnesota are required by law to:

1. Test employees and offenders for TB
2. Have a written TB control plan
3. Isolate individuals with infectious diseases
4. Protect employees from TB.
The next section of this module will cover a variety of “best practices” related to preventing and controlling TB in correctional facilities. This section builds on what is required by law in order to help you keep your facility even safer from TB.
These best practices are covered in more detail in the national guidelines for controlling TB in correctional facilities, a document published by the Centers for Disease Control and Prevention in 2006. You can find out how to obtain this document in our “resources” section.
We will cover the following best practices here:

1. Determining your facility’s risk level
2. Screening offenders and staff for TB
3. Staff training and education AND
4. How corrections and the public health department can work together.
Module 3 in this series addresses LTBI and Module 4 in this series will talk about what to do if an offender or employee has active TB.
We will talk about several other, more specialized topics in the remaining modules of this series.

(allow time for them to read the list)
The first step that we will cover is determining your facility’s risk level for TB.

This is helpful because the risk of encountering TB can vary a lot by geographic area and the type of facility. For example, a county jail in a rural area with very little TB is a much different situation than a jail in a large city with high rates of TB.

The TB risk assessment is a simple process that helps you determine the type of TB screening you should do, and how often.
When doing your risk assessment, consider the following factors:

1. The type of facility. Is it a local jail, a state prison, a federal prison medical center?

2. How much TB has been encountered in the facility in recent years?

3. How much TB is in the community served by the facility?

4. Whether the offenders in your facility have other risk factors for TB, such as homelessness, HIV-infection, substance abuse, or being foreign-born.

5. Lastly, do your offenders have short or long stays?
The risk assessment should be done once a year.

The health department can supply data on the number of TB cases reported in your area. The number of TB cases reported by county in Minnesota is available on our web site (see resources section).
There are 2 categories of risk levels for correctional facilities: “minimal” and “non-minimal.”

You can consider your facility to be minimal risk if:
1. You have not had anyone with active TB in the facility within the last year, AND
2. Your offenders and employees have few or no risk factors for TB, such as substance abuse, HIV infection, homelessness, or being foreign-born.

The Minnesota Department of Health generally recommends that if 50% or more of your offenders have other risk factors for TB (including new immigrants), you should consider yours to be “non-minimal risk.”

Any facility that does not meet the criteria for Minimal TB Risk should be categorized as a “nonminimal” TB Risk Facility.

If in doubt, use the non-minimal classification.
Next we will briefly cover best practices for TB screening of offenders and employees.
There are two primary reasons to screen for TB:

1. To identify people with active TB so they can be treated and not spread the infection to others, and

2. To identify people with latent TB infection who would benefit from treatment. This prevents future cases.

As you will see, the methods used for screening depend on whether you are looking for active or latent TB.
The next two slides cover screening of offenders.
All offenders should be screened for TB symptoms when they are admitted to a correctional facility. If active TB is suspected, they must be isolated and medically evaluated before being in contact with others.

Although MN statute requires that offenders have a TST or IGRA within 14 days of being incarcerated, the best practice is to test within the first 7 days.

Chest X-rays should be done for anyone with a positive skin or blood test. Offenders with HIV or other immunosuppressive disorders or persons at risk for HIV should also have a chest X-ray.

If the chest X-ray is abnormal, a medical evaluation is necessary. If active TB is ruled out, treatment for LTBI should be considered.

Offenders should be screened for TB once a year if they remain incarcerated.
Screening recommendations for minimal risk facilities are similar to non-minimal facilities, with a few exceptions.

First time offenders who have never been incarcerated and who have no other risk factors for TB may need only a symptom review.

In addition, offenders are unlikely to be incarcerated long enough to initiate LTBI treatment.
Best practices for screening employees are similar in some ways to offenders, but also reflect Minnesota OSHA requirements that, as we learned earlier, considers correctional facilities to be medium risk for the purposes of employee screening.
New employees should have a TB history and physical done before they begin work.

Unless the employee has had a positive TB test in the past, a TST or IGRA should be done. Do not accept a verbal report of a previous positive; if documentation is not available, administer a TST or IGRA.

If you are using the TST, do a 2-step test. The only exception is an employee who has had a negative TST within the last year; in this situation the 2\textsuperscript{nd} step is not needed. The 2-step skin test is explained further in Module 2 of this series.

If the TST or blood test is positive, a chest X-ray is the next step.

If the chest X-ray is abnormal OR if the person has TB symptoms, they must have a medical evaluation to rule out active TB before they begin work.

If active TB is ruled out and latent TB is diagnosed, treatment for LTBI should be considered.

In the unusual situation that a new employee is diagnosed with active infectious TB during their pre-employment exam, they cannot begin work until they have started treatment and are no longer considered infectious.
If an employee is negative when they are first hired, they should be re-tested every year. The same testing method should be used. For example, employees who had IGRA testing when first hired should have IGRA testing for their annual repeat testing.

If an employee already has a documented positive TST or IGRA, they do not need to be tested again. However, they should still be screened for TB symptoms every year. At that time, they should also be reminded of the typical symptoms of TB and told to see a doctor if they ever develop TB symptoms.

Annual chest X-rays are no longer recommended for people who have had a normal CXR after a previous positive TST or IGRA, unless TB symptoms develop or their physician recommends one for personal health reasons.
You should consider screening certain others who are in the facility on a regular basis. This might include frequent volunteers, clergy, and service workers. In general, if those individuals interact with offenders for at least 5-10 hours per week, you should consider including them in your testing program.

If you do test these individuals, follow the same protocols as you would for an employee.
Next I will briefly talk about training and education.

TB is no longer as common in our society as it was years ago, so many people don’t know much about it.

But it is important for people in correctional settings to have a basic understanding of TB so that they can identify risks to their health and that of others, and comply with their facility’s TB infection control procedures.
Regardless of job responsibilities, all correctional workers should understand the basic facts about TB. Volunteers who spend a significant amount of time in the facility should be included in employee training.

The specific topics and level of detail needed will depend on the facility’s TB risk level and the employee’s responsibilities.

CDC’s guidelines recommend also providing basic TB education to offenders.

County health department employees also should have information about TB and correctional facilities.
Now I’ll provide more detail about TB-related education for people who work in correctional facilities.
All employees (including full and part time staff and contractors), volunteers, and offenders, should receive basic TB education before they begin working or spending time in a correctional facility.

This education should be tailored to the worker’s job responsibilities and should be repeated at least once a year.

Employee training should cover:

- How to recognize TB,
- Isolating and referring individuals with suspected active TB, and
- Your facility’s written policies and procedures.
Information on how to recognize TB should include:

- what causes TB and how it is spread,
- the signs and symptoms of active TB, and
- the difference between LTBI and active TB.

By understanding how TB is and is NOT spread, employees will be in a better position to recognize situations that may pose risks to themselves and others.
Employees should also be instructed in:

- Initiating airborne precautions for offenders with suspected or confirmed infectious TB, and

- The importance of medical evaluation for persons with TB signs or symptoms.
Finally, employees should receive training on

- your facility’s policies and procedures, including how to isolate and transfer someone with possible active TB when necessary,

- how to locate the policies and procedures, and

- your exposure control plan, and your respiratory protection plan including indications for discontinuing airborne precautions for someone with active TB.
It’s also a good idea to give offenders basic information about TB when they receive their initial TB screening.
Offender Education

- Basic information about TB
- Meaning of positive TST/IGRA; LTBI treatment options
- More detailed education for those with active TB
- Importance of completing treatment
- Consider reading level and preferred language

This should include information about how TB is spread, and signs and symptoms of active TB.

Offenders with a positive TST or IGRA should be taught the difference between LTBI and active TB. If diagnosed with LTBI, they should be told about treatment options and the benefits of treatment.

Offenders with suspected or confirmed active TB need more detailed education that is individualized for their specific situation.

Offenders being treated for LTBI or active TB need to understand the importance of completing treatment and the possible consequences of stopping early.

A variety of educational materials are available from CDC and MDH to assist with offender education. Make every effort to provide TB education at an appropriate literacy level and in the person’s preferred language.
Public health workers may not be aware of the unique challenges faced by correctional facility staff.

Public health workers should receive education about the unique aspects of diagnosing and treating latent and active TB in correctional settings.
The “cultures” of public health and corrections are quite different. It’s helpful to keep in mind that the primary purpose of a correctional facility is to keep offenders in custody, whereas public health’s emphasis is on promoting good health and access to health care services.

Public health staff need to understand the different types of correctional and detention facilities. For example, what are the differences between county jails, state prisons, federal prisons, juvenile facilities, and ICE detention centers?

When managing an offender with LTBI or active TB, the roles and responsibilities of corrections workers, public health staff and clinicians should be clear and lines of communication open.
Effective collaboration promotes good TB control measures inside AND outside of correctional facilities, helps ensure continuity of care, and prevents duplication of effort.
Communication is most effective when a correctional facility designates a specific staff person to be the liaison with health department TB control staff.

Likewise, each health department should designate a staff person to work with local correctional facilities on TB-related issues.

Holding at least one initial meeting face-to-face is an excellent way to get to know each other. You can use this opportunity to discuss your respective roles and develop a plan for contacting each other if there is a need.

In areas of the state or in facilities where TB is an ongoing concern, it may be useful to meet periodically to discuss TB control efforts.
Health departments and correctional facilities can collaborate in a variety of ways.

For example, when you are doing your facility’s TB risk assessment, the Minnesota Department of Health provides data on the number of reported TB cases in the community.

In some counties, the local health department provides TB screening services, follow-up and treatment for offenders and/or employees with latent and/or active TB. Correctional facilities should check with their local health departments for details about what services are available in their area.

Expert medical consultation regarding persons with confirmed and suspected active TB is available through the Minnesota Department of Health TB Program.

Correctional facilities must, by law, report all cases of suspected or confirmed active TB to the state health department within one working day.
Correctional facilities and health departments also collaborate in other ways, including:

- Investigation contacts of persons with active, infectious TB to ensure that they receive appropriate evaluation and, if necessary, treatment.

- Medical release planning to make sure that persons with active or latent TB continue treatment after discharge from the facility, AND

- Training and education of correctional facility staff.
The Minnesota Department of Health plays a somewhat unique role.

All cases of suspected or confirmed active TB must be reported to MDH within one working day of identification. Do not wait for culture confirmation. MDH immediately notifies local health departments of any reported case in their jurisdiction.

Expert TB nurse case managers at MDH oversee the care of patients with active tuberculosis and are an excellent resource for providers, nurses and others working with someone with active TB. MDH nurses will help you monitor the status of individual TB cases to ensure that appropriate medications are supplied and taken as directed, patients receive regular medical follow-up, and that the patient’s response to therapy is documented.

If your facility does not have it’s own pharmacy, MDH can provide TB medications at no cost, upon request, for patients who are receiving treatment for TB disease or latent TB infection.

MDH also works with local health departments and correctional facilities who are conducting contact investigations surrounding infectious TB cases.
MDH staff help ensure that TB treatment is not interrupted by coordinating the transfer of medical information for persons who move between correctional facilities or to other counties or states.

MDH provides training and education to health care providers, facilities, and others, as needed.

And finally, MDH TB staff analyze and summarize statistical data related to the incidence of TB in Minnesota.
We will now present a case study to illustrate some of the key points covered in this module.
In this situation, a male in his 20s was admitted to a county correctional facility.

According to their usual protocol, the nursing staff applied a TB skin test and evaluated him for TB symptoms. The skin test reaction was measured at 5 mm induration. Because he denied having any TB symptoms, this skin test result was interpreted as negative and a chest X-ray and further medical evaluation were not performed.

After spending two months in a large dormitory-style room in the facility, he was hospitalized with a cough, night sweats, chest pain and fever. Although these symptoms can occur with other health conditions, they are also classic symptoms of active tuberculosis.

The Minnesota Department of Health was notified.
The chest X-ray done at the hospital showed several “cavities” (or “holes”) in his lungs, most likely caused by the bacteria destroying lung tissue.

Laboratory tests showed that his sputum contained a very high number of “acid-fast bacilli,” which is a preliminary test for TB.

He also had two risk factors that increased the chances that he had been exposed to tuberculosis in the past.

The patient’s doctors considered advanced TB to be the most likely diagnosis. Because of the high likelihood that this was TB, they immediately started him on the standard 4-drug treatment for active TB, even though the laboratory had not yet confirmed the disease.
A week later, the laboratory confirmed that TB bacteria had been identified.

Because this individual was so ill when he was first diagnosed, it took three months of daily TB drugs before he was no longer infectious and was healthy enough to leave the hospital.

He was discharged to home. The local health department monitored his TB treatment closely and delivered his TB drugs to his home daily until he finished treatment, 11 months after he was diagnosed.
In response to the TB exposure, correctional facility staff worked with state and county health departments to plan and implement an extensive investigation to identify people who had been exposed to this individual and ensure that they were tested for TB.

It was determined that the offender was housed in dorm with dozens of bunk beds.

His bunk was located in front of a ventilation duct that blew air into the rest of the room.

Over the two months that he had been there, hundreds of offenders and dozens of employees had spent a significant amount of time in the dorm with him.
The health department was responsible for locating and testing close contacts outside of the correctional facility. They found that he had infected many people before he was incarcerated. Five individuals had already developed active TB. According to DNA testing, their disease was caused by the same strain as his.

This was particularly concerning because it meant that the offender was infectious at the time he was admitted to the correctional facility.

Testing also indicated that other offenders and officers had become infected with TB. The investigation lasted for 17 months and required many hours of staff time and extensive coordination with the health departments.

The health department also assisted with locating and testing a large number of offenders who had been discharged before the TB case was identified and isolated.
More than ¾ of this individual’s close contacts outside of the correctional facility became infected as a result of being exposed to him before he was incarcerated.

Sixty three (63) percent of his fellow dorm residents and 36% of employees who had worked in that dorm during his 2-month stay were infected with TB.

Among offenders who ate in the same cafeteria with him, 5 (16%) were infected.

Overall, half of the contacts who were tested were positive for latent TB.
Overall, the investigation found 13 individuals with active TB. Six of these were other offenders, 2 were employees and 5 were contacts outside of the correctional facility.

Someone infected with TB can remain in the latent phase for a long time and break down with active TB disease months or years later. Because not all of the original contacts were located and not all of the infected contacts completed treatment for latent TB, additional cases linked to this outbreak continue to occur in Minnesota.
A variety of strategies were used during this outbreak.

- Collaborative meetings and conference calls were held with local and state and federal public health agencies, correctional facility administrators, correctional health unit staff, and private medical providers.

- Talking points were developed to ensure that messages were accurate and consistent.

- Educational sessions were held with offenders and staff.

- Local news media were notified and the publicity helped bring contacts in for testing.

- The results of testing were analyzed and evaluated at every step to determine whether the investigation should be expanded.

- Financial incentives were used to encourage testing and treatment.
We presented this case study as an example to illustrate the critical need for correctional facilities to have adequate TB control strategies in place. Although this is an unusually serious example, you should be aware that although TB is not common in Minnesota correctional facilities, the potential is always there.

Key points to keep in mind include:

1. A negative TST or TB blood test does not rule out the possibility of active TB.

2. Offenders with LTBI can progress to active TB during incarceration, even if they are not ill when admitted.

3. TB can spread easily in crowded quarters with inadequate ventilation.

4. Individuals with symptoms of TB require immediate follow-up.
In addition, you should keep in mind that

- The results of baseline TB tests for employees and offenders should be clearly documented and easy to retrieve so that they can be compared with testing done during a TB investigation, when needed.

- When a case of infectious TB occurs in a correctional facility, state and local health departments should be consulted immediately. Public health experts will provide valuable assistance in planning, carrying out and evaluating a TB investigation.

- Correctional facilities should have written TB infection control plans that include employee training.
To summarize this presentation, I’d like to review a few key points:

1. First, TB is an airborne infectious disease and therefore should be a concern for administrators and staff in correctional facilities.

2. The risk for TB is higher in corrections than in the general community because offenders often have other risk factors for TB and because if TB occurs, it can spread easily in close quarters with large numbers of people.

3. Regulations and recommendations for TB control are designed to protect both employees and offenders at correctional facilities.
Basic strategies for controlling TB in correctional facilities include having a written infection control plan, testing employees and offenders, and isolating persons with infectious TB.

Best practices for controlling TB in correctional facilities include determining your facility’s TB risk level, doing TB screening, providing education, and educating correctional workers and offenders.
And finally, be proactive in working with your state and local health departments.

Collaboration between correctional facilities, medical personnel, and public health is key to preventing and controlling TB.
The information contained in this module is based mostly on two resources from the CDC.
Our primary resource was published in 2006 and is titled: “Prevention and Control of Tuberculosis in Correctional Facilities: Recommendations from CDC”

This document can be downloaded from the website listed on this slide.
Another resource that contains some information pertinent to correctional facilities was published in 2005 and is titled: “Guidelines for Preventing the Transmission of *Mycobacterium tuberculosis* in Health-Care settings”

This document can also be downloaded from CDC’s website.
CDC also can supply you with an educational poster called “Think TB!”

These can be ordered at no cost from the CDC’s web site.

[Image: Think TB! Poster from CDC]

Order:
Contact Information

- Minnesota Department of Corrections
  www.doc.state.mn.us

- Minnesota Department of Health, TB Program
  www.health.state.mn.us/tb

- Centers for Disease Control and Prevention, Division of TB Elimination
  www.cdc.gov/tb

Contact information
The web address for Minnesota Department of Corrections is www.doc.state.mn.us and the address for MDH’s TB Program is www.health.state.mn.us/tb. The home page for CDC’s TB pages is www.cdc.gov/tb.
Continuing education credits
If you are interested in obtaining a certificate of participation that includes nursing credits, please go to the web address listed on this slide. After completing a brief evaluation, you will be directed to your certificate. We appreciate your honest feedback about this webinar.

Questions about obtaining your certificate should be directed to Beth Kingdon at MDH’s TB Program. Her contact information is noted on this slide.
Contributors
The MDH TB Program extends its thanks and gratitude to the Minnesota Department of Corrections, local public health agencies throughout Minnesota, and the Correctional Health Division of the Minnesota Sheriffs’ Association for their assistance in creating this webinar.
I’d like to close by sincerely thanking you for the work you do every day to help prevent and control TB in Minnesota.