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

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

This is the third module of a series of webinars about preventing and controlling tuberculosis in correctional settings and pertains to the treatment of latent tuberculosis infection.
The objectives for this module are:
• State two reasons to screen offenders for TB,
• Describe four methods used to screen offenders for TB,
• List two risk factors for TB infection, and
• Identify two screening tests that detect the presence of *Mycobacterium tuberculosis* infection.
This module will discuss:
• Reasons why we need to be mindful of the risk for TB in prisons and jails,
• How to evaluate individuals for TB risk factors,
• Methods for screening for TB,
• How correctional facility staff should handle an offender who may have active TB,
• How to document your TB screening, and
• We will finish with two case studies designed to illustrate key concepts and resources.
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 Minnesota’s Department of Corrections.
- **IGRA** stands for interferon gamma release assay, which is a relatively new blood test to detect the presence in the body of the bacteria that causes TB.
- **LTBI** stands for latent tuberculosis infection. This is a condition in which TB bacteria are present in the body but are not actively growing or causing disease.
• **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.

• **TB** is an abbreviation for “tuberculosis.”

• A **TB case** is an epidemiologic term for someone with active TB. TB statistics reported by the health department refer only to 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?
Preventing and Controlling Tuberculosis in Correctional Settings: Module II

It’s because TB occurs more often in correctional facilities than in the general public.

Unfortunately, several outbreaks of TB are reported in the media and public health publications in the U.S. 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 continue to spread their infection to others.
Because of this, the primary reason for doing TB screening in jails and prisons is to identify people with active infectious TB as early as possible so that they can be isolated and promptly started on treatment.

The second reason to screen for TB is to detect LTBI. This ensures that you have accurate records on the baseline TB status of everyone in the facility (including employees and offenders). It also identifies individuals who may benefit by a course of treatment for latent TB infection.
Before we go any farther, let’s review the difference between the two phases of TB: latent and active.

It’s important to understand this because the two phases are handled differently and pose different risks to others.

<table>
<thead>
<tr>
<th>LTBI and Active TB Overview (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase 1:</strong> LTBI</td>
</tr>
<tr>
<td>Small amount of TB bacteria in the body. Bacteria are alive but not active.</td>
</tr>
<tr>
<td>Do not have any TB symptoms. TB skin test or TB blood test is positive. Chest X-ray is usually normal.</td>
</tr>
<tr>
<td>Cannot spread TB to others but are at risk for developing active TB. Isolation not necessary.</td>
</tr>
</tbody>
</table>
As you can see in the left column, when someone has LTBI, there are relatively small numbers of TB bacteria present in the body. Those bacteria are alive but not actively duplicating or spreading.

A simple way to think of this is that the bacteria are “asleep.” The body’s immune system is able to “wall off” the bacteria and contain the infection.

People with LTBI do not have TB symptoms. They usually have a positive TB skin or blood test but their chest X-ray shows no signs of active TB.

LTBI is not transmissible. You cannot catch TB from someone with LTBI, and they do not need to be isolated from others. But approximately 10 percent of people with LTBI will progress to the active stage, if they do not take treatment for LTBI.

In Minnesota, health care providers are not required to report LTBI to the health department.
Looking at the right side of this table, in the active phase of TB, the bacteria “wake up” and start multiplying and spreading and causing tissue damage.

People with active TB often, but not always, have certain TB-related symptoms such as a cough, weight loss and night sweats. Often, but not always, their TB skin or blood test is positive.

If the TB is in their lungs, their chest X-ray may be abnormal. Pulmonary TB is often infectious, so individuals with suspected active TB require respiratory isolation until the diagnosis is clear and they have begun TB treatment.

Active TB is treated by taking a combination of several TB drugs for a minimum of 6 months.

State law requires that providers and laboratories report active TB to the Minnesota Department of Health within one working day.
As you are probably aware, state law requires most correctional facilities to provide a basic level of TB screening for offenders and/or employees.

In addition, CDC has developed a set of recommendations that, if followed, will contribute greatly to the prevention and control of TB in correctional facilities.

These training modules include information both on what is legally mandated and what is considered “best practice.” Depending on the type of facility you work in and where it is located, you may want to consider implementing some of these best practices in your setting.
Let’s talk for a minute about how to evaluate individuals for factors that increase their risk for TB.

A history of incarceration is one risk factor for TB, but there are others. Individual offenders or employees may have more than one risk factor.

Newly-admitted offenders should be evaluated for clinical conditions and factors that increase their chances of being exposed to TB. In addition, there are other factors that increase the likelihood that they will develop active TB if they are infected.
Factors that increase someone’s chances of being exposed to TB and therefore becoming infected with the TB bacteria include:

- A history of substance abuse,
- Having been homeless,
- Being born in a part of the world where TB is common,
- Known exposure to someone with active, infectious TB, and
- Living or working in certain types of congregate settings (for example, correctional facilities, homeless shelters, and some health care settings).

As I mentioned in a previous slide, someone who is infected with TB has about a 10 percent risk of developing active TB at some point in their lifetime if they don’t complete treatment for LTBI.
There is a different set of factors that increase someone’s chances of developing active TB if they are infected with the TB bacteria.

The most significant factor by far is infection with HIV. Individuals who are infected with both TB and HIV have a 7 to 10 percent annual risk of developing active TB if their LTBI is not treated. Other factors include:
- Having been infected with TB within the last 1 to 2 years,
- Drug and alcohol abuse,
- Smoking,
- A history of incomplete treatment for TB,
- Chest X-rays with scarring or fibrosis that suggest previous TB, and
- Certain medical conditions such as:
  - Diabetes,
  - Kidney dialysis,
  - Immune suppression caused by disease or medications,
  - Silicosis, and
  - Being at least 10 percent underweight.
Next we’ll talk about the methods that are used to screen for TB.
Preventing and Controlling Tuberculosis in Correctional Settings: Module II

TB screening consists of 4 complementary methods. Not all individuals require the use of all 4 methods.

The first is to evaluate the person for symptoms of active TB.

Second, perform either a TST or TB blood test. These tests detect the presence of *Mycobacterium tuberculosis* in the body.

If the symptom screen, TST, or TB blood test is positive or abnormal, a chest X-ray and medical evaluation are the next steps.

One key point to remember about TB screening is that no method is 100 percent reliable. This is why a combination of methods is used.

We will go into more detail about each of these in the next several slides.
Step one is the symptom screen.
All offenders should be screened for TB-related symptoms when they are admitted to the facility.

A symptom screen is a way to quickly identify any individuals with clear signs of TB so that they can receive a medical evaluation as soon as possible.

When at all possible, the symptom screen should be done by a health care worker. If other persons, for example, corrections officers, are responsible for this, they should receive training.
Symptom screens are important also because a negative TST or TB blood test does not necessarily mean that the person doesn’t have TB. In fact, up to 25 percent of people with active TB have a false negative TST.

A symptom screen is also a quick way to identify people with clear signs of TB so that they can be isolated and evaluated and not allowed into the facility where they could expose others.
Persons with active TB may have one or more of these symptoms:
• Prolonged cough that has lasted for at least 3 weeks,
• Night sweats,
• Unexplained weight loss and/or poor appetite. In advanced TB, the weight loss can be severe - up to 30 to 40 or more pounds,
• Chest pain,
• Coughing up blood-tinged sputum,
• Fever or chills, and
• Fatigue.
If may be helpful to ask some “probing questions” to pick up on subtle signs or symptoms or to see if the offender’s answers are consistent with what you are observing.

For example, if they have a chronic cough, you can ask whether it has changed recently.

Question may include:
- When did your cough start?
- Has there been a change in your cough? (if chronic cough)
- Do your clothes fit more loosely than usual?
- Has the amount you are eating changed?
- Have you lost weight without dieting?
- Have you woken up during the night full of sweat?

If an offender has a significant cough and other TB symptoms at the time of booking, they should be given a mask and isolated. The appropriate staff should be notified, according to your facility’s procedures.

For more information on handling active TB in a correctional setting, see Module 4 of this series.
The second step in TB screening is to do a TB skin test or TB blood test.
Many people are familiar with the TB skin test, which has been around for over a century. It is sometimes called the “Mantoux” or the “PPD”; the preferred term is “TST.”

The TB blood test, or interferon gamma release assay, is a much newer test. It was approved by the FDA for use in the U.S. in 2005, but had been used in Europe and Australia for several years before that.

Both the TST and the IGRA detect the presence of TB bacteria in the body, but as we learned earlier, neither test is 100 percent reliable.
For purposes of TB testing in correctional facilities and employee health, it is not appropriate to accept someone’s verbal report that they were positive in the past. There is simply too much confusion about the tests.

If you don’t have written documentation of a positive test (or of having been treated for latent TB), you should do a TST or TB blood test and document the results. If the test is positive, you should follow-up as though it was a newly positive result.

If an offender does have a documented history of positive TST or TB blood test, a chest X-ray must be done at the time of admission to your facility, unless there is documentation of a negative chest X-ray within the last 6 months and the person has no TB symptoms.
Minnesota law doesn’t specifically address what to do if correctional staff refuse TB screening.

However, the Commissioner of the Department of Corrections can legally order an offender to submit to TB testing.

In either case, you should explain to the individual how important testing is to protect themselves and others in the facility from TB.

If someone refuses a TST, offer a TB blood test if it is available through your facility.
Next we will briefly discuss how a TB skin test works.

The TST is a way to measure whether a person is likely infected with the TB bacteria. The test does not tell us how long the person has been infected, or whether they are likely to develop active TB.

The TST works via a delayed hypersensitivity reaction. This means that if the person is infected with TB, T cells move to the injection site and release protein mediators called lymphokines. They group together and form a hard raised area called an induration. An induration is a hard, raised area with clearly defined margins around the injection site.

The reaction usually begins 5 or 6 hours after the tuberculin is injected and peaks between 48 and 72 hours.

A TST can detect TB bacteria in a person’s body as soon as 2 to 8 weeks after they became infected.
The TST is performed by injecting tuberculin intradermally, generally on the inside surface of the forearm.

The injection should leave a 6 to 10 mm diameter wheal. If there isn’t a 6 to 10 mm diameter wheal, repeat the test on a site at least 2 inches from the first injection site.

Do not apply pressure on the wheal during or after removing the needle.

Do not cover the injection site with a bandage.

Whether to use gloves is an agency decision.
Measure the size of the induration between 48 and 72 hours after injection.

Measure the induration, in millimeters, across the forearm, as shown in this photo. Read only the induration; disregard any redness or erythema.

For standardization purposes, the measurement should always be across the forearm and consist of one measurement. Do not measure the induration parallel with the forearm, even if it is larger than the induration perpendicular (or across) the forearm.

You should not be recording two different readings for a skin test. For example, the correct reading of a skin test would be 12 mm of induration. An incorrect recording would be 12 mm by 10 mm.
Whether or not a TST reading is positive or negative depends on the individual’s risk factors for having latent TB infection and risk for progression to active TB if infected.

I’ll go over the cut-off points on the next few slides.
≥5 mm of induration is classified as positive in:
• Persons who are HIV-positive,
• Recent contacts of a TB case,
• Persons with fibrotic changes on chest X-ray consistent with old healed TB, and
• Persons with organ transplants or receiving treatment that affects the immune system.
### Classifying the Tuberculin Reaction (2)

≥10 mm is classified as positive in:

- People who have lived in high-prevalence countries
- Injection drug users
- Residents and employees of high-risk congregate settings (correctional facilities, nursing homes, health care workers)
- Persons with clinical conditions that place them at high risk for progressing to active TB
- Children < 4 years of age, or children and adolescents exposed to adults in high-risk groups

Adapted from: *Latent Tuberculosis Infection: A Guide for Primary Health Care Providers, CDC (2010)*

≥10 mm is classified as positive in:
- Persons who have lived in countries where TB is common,
- Persons who inject drugs,
- Residents and employees of high-risk congregate settings (including correctional facilities, nursing homes, and health care workers),
- Persons with clinical conditions that place them at high risk for progressing to active TB, and
- Children younger than 4 years of age, or children and adolescents exposed to adults in high-risk groups.
≥15 mm is classified as positive in persons with no known risk factors for TB.
As I mentioned earlier, TST results are not 100 percent accurate.

Some people will have a TST result that is positive but they don’t have TB bacteria in their body. Possible reasons for a false positive include infection with nontuberculous mycobacteria or history of having had the BCG vaccine. I’ll provide more information about the BCG vaccine on the next slide.

It is also possible to be infected with TB but have a negative TST. Possible reasons for a false negative include:
- Being infected with TB within the last 2 to 8 weeks,
- Being less than 6 months old,
- Having had a live-virus vaccine in the past 4 weeks,
- Having overwhelming active TB,
- Anergy (meaning that the person has an unresponsive immune system), and
- Human error, such as administering or reading the test incorrectly.

### Factors that May Affect the Skin Test Reaction

<table>
<thead>
<tr>
<th>Type of Reaction</th>
<th>Possible Cause</th>
</tr>
</thead>
</table>
| False-positive   | • Nontuberculous mycobacteria  
                  | • BCG vaccination          |
| False-negative   | • Recent TB infection (< 2-8 wks)  
                  | • Very young age (< 6 months old)  
                  | • Recent live-virus vaccination  
                  | • Overwhelming active TB  
                  | • Anergy (unresponsive immune system)  
                  | • Administration and reading errors |
BCG is a vaccine for TB that is used in countries where TB is common. The vaccine may prevent childhood TB. It is rarely used in the U.S.

As I mentioned on the previous slide, BCG vaccination may cause a "false positive" TST reaction, but this effect wanes over time. Because this “false positive” effect wanes over time, people who have been vaccinated with BCG should not be exempted from TSTs unless they have an appropriately documented positive result from a prior test.

Disregard history of BCG vaccination when interpreting TST results.

Strongly consider using a TB blood test instead of a TST for persons who have had the BCG vaccine because BCG won’t cause a “false positive” test result.
Common Errors in TST Administration and Measurement

- Incorrect storage of tuberculin
- Injecting tuberculin too deep or too shallow
- Tuberculin leaking out when needle extracted
- Measuring erythema instead of induration
- Measuring along and across the arm (e.g., 24 x 12 mm)

Training is essential for health care workers who administer and read TSTs. Common errors that can occur include:

- Incorrect storage of tuberculin,
- Injecting the tuberculin at the wrong angle,
- Tuberculin leaking out,
- Measuring redness instead of only the induration, and
- Measuring along and across the arm (e.g., 24 x 12 mm).

For information on free TST training resources, see the resources slides at the end of this presentation.
A two-step TST is performed at baseline because some people who were infected with TB many years ago may have a negative reaction to an initial TST. The first "step" may stimulate (or boost) the immune system's ability to react to the test.

If the second "step" is not performed as part of baseline screening, a subsequent positive TST reaction could be misinterpreted as a new infection.

Two-step TSTs are not practical for testing offenders in the jail setting.
This table summarizes how to do two-step TB skin testing.

If the first TST is negative, repeat the TST in 1 to 3 weeks.

If the second TST is also negative, the person probably does not have TB infection.

If the second TST is positive, the person probably was infected with TB in the past.

The dates and results of both tests should be documented in the record.
Next I'll give some information on Interferon Gamma Release Assays (IGRAs).
Two TB blood tests are available:
- QuantiFERON®-TB Gold In-Tube (QFTG-IT), and
- T-SPOT®.TB.
One of the advantages of IGRAs is that they detect only *Mycobacterium tuberculosis*. There is no risk of a false positive result because of prior BCG vaccination or the presence of non-tuberculous mycobacteria.

Also, there is no boosting effect like there can be with the TST.

IGRAs require only one visit compared to two visits for a one-step TST or four visits for a two-step TST.

There is no bias when obtaining the test result.

Although an IGRA may be more costly than a TST, the cost may be offset by having fewer false positive results, fewer visits and chest X-rays, and unnecessary treatment for LTBI.

Routine testing with both a TST and an IGRA is not recommended.

If you don’t already offer IGRAs, contact clinics or labs in your area for test availability.
This table shows the possible results for both types of tests.

There are three possible test results for QuantiFERON®-TB-GIT:
- Positive
- Negative, and
- Indeterminate.

If the QuantiFERON test result is indeterminate, the usual recommendation is to redraw a new blood sample and repeat the test.

There are four possible test results for T-SPOT®.TB:
- Positive
- Negative
- Indeterminate, and
- Borderline.

If the T-SPOT test result is either indeterminate or borderline, the usual recommendation is to redraw a new blood sample and repeat the test.

Laboratories should also include quantitative results when documenting IGRA.
If the symptom screen and the TST or IGRA are negative, TB screening is complete.

If the symptom screen and/or the TST or IGRA are positive, a chest X-ray and medical evaluation are required.
The chest X-ray is a way of determining whether there are any changes in the lungs that might be caused by active TB.

The chest X-ray does not tell us whether or not the person is infected with the TB bacteria.
This slide lists some of the common chest X-ray findings that may be associated with active TB:
- Infiltrates (especially in the upper lobes),
- Pleural effusion,
- Cavity,
- Lung nodules (non-calcified),
- Non-calcified granulomas (walled off areas of inflammation),
- Enlarged lymph nodes.

Someone with active TB may have one or more of these on their chest film, but some of these findings also occur with other diseases.

It is important to remember that a chest X-ray does not diagnose active TB by itself.
This slide lists chest X-ray findings that are not consistent with active TB. These findings include:

- Normal,
- Calcified, normal size lymph nodes,
- Calcified nodules,
- Calcified granulomas (walled off areas of inflammation),
- Single lung nodule,
- Pleural thickening (tissue covering the lungs).
If the chest X-ray is consistent with possible active TB, immediately initiate medical evaluation and TB diagnostic work-up, even if the offender doesn't have symptoms.

If the chest X-ray is not consistent with active TB and there are no TB symptoms, conduct a medical evaluation and consider treatment for LTBI.
Next I’ll discuss the components of a medical evaluation.
The medical evaluation includes obtaining the person’s risk factors for previous exposure to TB, history of TB treatment, medical conditions and factors that may increase risk for progression from LTBI to active TB or complicate therapy, a symptom screen, and a physical examination.
Immediately evaluate offenders with LTBI who develop TB symptoms after their intake screening.
Refer to Module III (Treatment of Latent TB Infection) for more information about LTBI.

Refer to Module 3 in this series, titled “Treatment of Latent TB Infection” for more information about LTBI.
The next few slides provide specific action steps to take to protect others if you have an offender who may have active TB.
Immediately initiate TB airborne precautions for any offender with:

- Signs or symptoms of active TB, or
- Documented active TB who has **NOT** completed treatment **OR** has **NOT** been determined previously to be noninfectious.
When you have an offender with possible active TB, have the offender wear a surgical mask, initiate your facility’s airborne isolation protocol, and promptly discuss the situation with your facility’s health officer to determine the plan for further evaluation.
Persons with TB outside of the lungs are rarely infectious, so respiratory isolation is usually not needed.

Additional information about responding to possible active TB is included in Module 4 of this series, titled “Active TB.”
Next I’ll discuss how to document TB screening.
If possible, your TB screening records should be part of a retrievable database.

Documented results are always preferred over verbal reports of previous screening results.
Consider using a screening tool that includes:
- Questions about factors that might affect a TST result, such as recent live virus vaccines or organ transplant or conditions that suppress the immune system, or
- Consent to perform screening, or
- A place to indicate whether exposure control measures were implemented.

If you don’t already have a screening tool that you like, templates and samples are available so you don’t have to start from scratch.
One example of a screening tool is the “Early Detection of TB Questionnaire” found in “TB Infection Control: A Practical Manual for Preventing TB,” a manual produced by the Curry International TB Center.

This tool includes probing questions and space for documenting whether exposure control methods were implemented.

This screening tool is available at the web address shown on this slide.
Another example of a screening tool is MDH’s “Baseline TB Screening Tool for Jail Inmates.”

This example is easily adaptable. It is available at the web address shown.
Next I’ll share two case studies that illustrate some of the key principles we have just discussed.
Case number 1 is an offender born in the U.S. This was his first incarceration.

During booking, he denied any symptoms of TB, but reported that he has a chronic cough that has remained the same for many years.

He reported long term cigarette use. He denied TB risk factors and stated that he’s never had a TST.
Knowing this information, what is the next appropriate step?
Because you have observed a cough throughout his intake process, you should ask some probing questions about it.

This should be done immediately. Do not wait for the TST or TB blood test results. Remember, 20-25% of persons with active TB have a negative TST.
He tells you that he is a smoker and has had this cough for many years.

Although a prolonged cough can be a symptom of TB, this person’s cough has not changed and is likely caused by something other than TB. He also has no other TB symptoms such as weight loss, night sweats, fatigue or blood-tinged sputum.
Your next step is to administer a TST or TB blood test.
A TST was administered; the result was 0 mm of induration.

Because there were no symptoms of TB and the TST was negative, screening is completed.
Is there anything else that needs to be done?
Yes. The symptom screen and TST result should be documented in the offender’s medical chart.
This case study illustrates the importance of:

- Screening offenders upon entry into the correctional facility,
- Asking probing questions to clarify responses,
- Asking the offender to identify risk factors for TB infection, and
- Documenting screening results.
Case number 2 is an offender born in the U.S. He has previously been incarcerated.

During booking, he reported a 15 pound weight loss in last year. He denied having night sweats, but did report that his cough was “worse lately.” He denies any known exposure to others with TB but stated that “all my friends are coughing.”

He also reported a history of substance abuse and that he lived in a homeless shelter in the past year.
What are the offender’s risk factors for TB infection and TB disease?
This individual has a history of substance abuse, homelessness and repeat incarceration. These risk factors all increase this person’s risk for TB infection.
Knowing this, what is the next appropriate step?
The next steps are to look for documentation of previous screening results. It was found that he has a history of a positive TST and a negative chest X-ray 4 months ago.
To summarize, the offender has a history of a positive TST and is now symptomatic. His most recent chest X-ray was 4 months ago.

Because the offender has symptoms consistent with active TB and the chest X-ray is several months old, he requires further workup.
Screening: Case Two (7)

Questions

- What is the next appropriate step?
The next steps should be to place a surgical mask on the offender, initiate airborne isolation according to your facility’s protocols, and discuss the situation with your designated health care officer.
Lessons learned include:
- The value of screening offenders for symptoms of active TB upon entry into the facility,
- The importance of asking probing questions during symptom review to clarify responses, and
- The benefit of identifying TB symptoms and risk factors for TB infection and progression to disease increases the likelihood of finding active TB early.
Screening results should be documented and accessible so that they can be available in the future.

Each facility should have a written airborne isolation protocol for offenders who have symptoms consistent with active TB. Essential components of the protocol will be presented in Module 5 of this series.
In summary, the key messages from this module are:

• Early identification and treatment of persons with TB are the best ways to prevent transmission,

• Newly-arrived offenders should be evaluated for clinical conditions and factors that increase risk for TB as steps in screening may change for individuals with TB risk factors.
TB screening includes several components including a symptom screen, TST or TB blood test, chest X-ray, and medical evaluation.

Offenders who exhibit or report signs or symptoms of active TB should be isolated immediately and evaluated promptly.

TB screening results should be well documented and accessible.

- TB screening includes several components including a symptom screen, TST or TB blood test, chest X-ray, and medical evaluation.
- Offenders who exhibit or report signs or symptoms of active TB should be isolated immediately and promptly evaluated, and
- All TB-related screening should be appropriately documented and accessible in the offender’s medical record.
Next I’d like to share some resources with you.
Our primary resource for this module 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.
The "Mantoux Training Materials Kit" from CDC includes a 30-minute DVD and a facilitator guide. It can be ordered at no cost from CDC at the address listed.
MDH has a “Mantoux TST Models Kit” for loan to organizations in Minnesota.

The kit includes two soft rubber arm models with indurations, rulers for measuring indurations, an answer key, a grid for determining if a result is positive or negative, a quiz to practice interpretation skills, and the CDC DVD that I mentioned on the previous slide.

Contact me if you are interested in borrowing this kit.
This poster from CDC shows step by step how to perform a TST. It is available at no cost from CDC at the address listed on this slide.

You may also find the MDH fact sheets for patients useful. They are available in English and 15 other languages and can be downloaded from MDH’s website.
The web address for Minnesota Department of Corrections is [www.doc.state.mn.us](http://www.doc.state.mn.us) and the address for MDH’s TB Program is [www.health.state.mn.us/tb](http://www.health.state.mn.us/tb). The home page for CDC’s TB pages is [www.cdc.gov/tb](http://www.cdc.gov/tb).
If you are interested in obtaining a certificate of participation that includes nursing credits, please go to www.health.state.mn.us/divs/idepc/diseases/tb/rules/correctmod.html. 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 me. My contact information is noted on this slide.
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.