

Virtual Provider Learning Sessions for Latent TB Infection: Session 1

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- Remarkably, Liisa is available.

- Great, Liisa, take it away.

- Hi, good morning, I guess we're in the afternoon now folks. Liisa Randall, I am the Director for the Office of Healthcare Planning with the Bureau of Infectious Disease and Laboratory Sciences. For those of you that I do not know well, just to give you a little a little sense of my role in all of this is, the Office of Health Care Planning works closely across other divisions and offices in the Bureau around capacity building, training, technical assistance, and around monitoring and evaluation. So just as we get rolling into this, I just wanna say we remain incredibly eager for all funded providers to implement and to integrate LTBI services and for those of you who have already begun implementation to further enhance and strengthen their services. And we intend to continue to offer you the tools and resources that you need to do this. Many of you probably recall last fall's Provider Day, which we had intended to reconvene in February or March before things went a little bit in a different direction than we had intended for circumstances beyond our controls. We have this series of virtual learning sessions and associated tools, we are also supporting an LTBI echo program to support your interdisciplinary care teams for treatment. We have some e-learning capacity and opportunities. And part of what we are beginning to sort through is planning for training of frontline and administrative staff moving forwards. And one of the things that we had talked about in planning today's event was there are so many people

that we had wanted to introduce, we felt like we didn't wanna take a huge amount of time doing introductions, but what you see on your screen now is really a representation of the fact that BIDLS is a fully integrated Bureau both functionally in terms of the the notifiable conditions that we work on and for our purposes here today, it is a broad cast of characters primarily across three divisions and offices within the bureau that are working on supporting your efforts to implement and integrate latent TB infection services. And so the Office of HIV AIDS, who I know that you are all incredibly familiar with led by Dawn Fukuda, is of course a key player, the Division of Global Pops as we refer to it, that manages our TB response led by Jennifer Cochran, and my office, Office of Health Care Planning and I think you're familiar with Sophie and Laura and Monica. So I just wanted to let you all know that we are bringing all of our resources to support this. And look forward to today and the next couple of sessions in this series. Linda or Jennifer, do you have anything to add?

- Just a general thank you to everybody taking the time to participate in this today. Again, we and the team of contract monitors, some in Health Promotion and Disease Prevention Services Unit are eager to begin or to continue working with you on integrating latent TB infection, testing and treatment into your contracts. And I hope you enjoy this session, JSI has worked really hard on it. And I think it's gonna be really valuable for you all.

- Great, thank you.

- Hi. This is Jennifer, I was trying, I had to double unmute, so sorry. So I'm Jennifer Cochran as also with BIDLS and I will just very briefly also extend my thanks both to our colleagues here at DPH in the JSI, but mostly to those of you signing in today's participants, and we really, so much enjoyed the opportunity to join the Provider Day. It seems like it was eons ago. But we learned a lot and learned a lot from your plans or your next steps documents. And we certainly look forward to today and what comes from today and the next few sessions. So thank you.

- Can we have the next slide please. We also have several members of the TA4SI team joining us today. In addition to myself we have Sabrina Eagan, Technical Advisor, Molly Rafferty, Project Associate, Mira Levinson, Project Director, Molly Higgins-Biddle, Project Manager, Mikey Davis, consultant and Christine Luong, consultant. Next slide, please. So TA4SI developed or is in the process of developing a series of fact sheets on latent tuberculosis infection services. The fact sheets address key considerations of each component of testing and treating individuals with latent tuberculosis infection. The fact sheets were developed for use by clinical and non clinical providers and agencies receiving funding from the Bureau of Infectious Disease and Laboratory Science to provide TB testing and latent TB infection services. Next slide, please. This graphic depicts the components for testing and treating individuals with latent tuberculosis infection. It gives an overview of the cascade of care for latent tuberculosis infection, including the steps to deliver each component to the individuals that you are working with. It's important to remember that individual agencies may offer all of these components or they may only offer some of these components in their menu of services. Next slide, please. We wanted to zoom in a

bit on the component documents so that you could see the details under each of the, particularly the first two components on this document, risk assessment and testing. It shows the steps that are listed under the risk assessment and testing components because these are the components that we're gonna be covering today. The steps under risk assessment are identify individuals appropriate for TB testing because they are either at increased risk for infection and or at increased risk of disease progression, explain the results of the risk assessment and next steps to the individual, and document assessment results. Underneath testing, the steps are, choosing an appropriate tuberculosis test, administering tuberculosis test, confirm and document the test result that was read or received by the healthcare provider and providing test results to the individual. Next slide, please. All of the fact sheets that we have developed are currently on the TA4SI website. Additional fact sheets for evaluation, treatment adhered support, reporting and analysis and billing encoding are being finalized and will be posted shortly. Molly, do you think that you could open the TA4SI website? So we can quickly just show what the website looks like.

- One minute. Let's see.

- This is all very new and exciting to us, this website. So if you click on the, if you look at the latent TB infection portion on the bottom right hand corner of the screen, when you log into the TA4SI website, you click on that and you're going to see a list and only are you gonna see that component document that I mentioned. But if you scroll down, you're gonna see a list of all the fact sheets that we have currently developed. There's an introduction, there's a fact sheet on risk assessment, testing. And if you click on any of those fact sheets, they'll bring them up in what I believe is, and I believe a PDF. It also gives a bit of a summary of each of the fact sheets contents. Each of the fact sheets offer an introduction describing what is going to be included in the fact sheet. And then it's broken down into sub sections to discuss each topic in a bit more detail. So please feel free to look at these fact sheets. Tell us what you think. We are hoping that they'll be very helpful for you. We think that there'll be very helpful for you as you offer latent tuberculosis infection services to your individuals that you work with. Thanks, Molly. So thanks to everyone who chatted their introduction in the chat feature. It looks like we have a lot of people that really enjoy their Thanksgiving dessert, mashed potatoes, rolls. I'm really personally big on the carbs. I actually I think I like all Thanksgiving food except for the actual turkey, to tell you the truth. So can we go to the next slide, please, Molly. So keep that information coming in if you have not introduced yourself already, feel free to share with us your name, your title and role, the organization that you're from and your favorite Thanksgiving food. Next slide, please. So before we begin with our content today, we would like to get a sense of where your agency is, the agencies that are joining us, where you are with implementing your TB services. We have an anonymous poll question that is going to pop up in Zoom momentarily. The question is, what is your agency stage of implementation for latent tuberculosis infection or LTBI services? So, are you providing LTBI services and it's going swimmingly, you're very happy with how it's going. You're providing LTBI services, but you'd like some help improving them or you're interested in adding more services and you're looking for some help, you could use some help. You're currently not providing any LTBI services and you'd like to start. You're not sure if you'd like to provide more latent tuberculosis infection services or you don't even know what LTBI is. You're very new to this. So please take a moment to read through that and submit your answer. I'll give everyone

about 20 more seconds before we close the poll. Answering these questions too, will really help us to further develop the presentations that we have planned for next week, and then the one in December as well. All right, can we close the poll, Molly. What is your agency's stage of implementation for latent tuberculosis infection services? 15% of respondents said that you're providing services and it's going swimmingly. 15% said that you're providing LTBI services, but you'd like some help improving them or adding more services. 67% of you are not providing any LTBI services and you'd like to start. And then 4% asked what is LTBI? So I think that for those of you who are not providing any LTBI services, and you'd like to start, you're definitely in the right place. Thank you for sharing those answers or us, with us today. Can we go to the next slide, please. So now I'd like to turn the presentation over to Dr. Bernardo and Jennifer Cochran with MDPH. Dr. John Bernardo is the TB medical officer for the Massachusetts Department of Public Health, Bureau of infectious Disease and Laboratory sciences. In addition, he is the professor of medicine and research, professor of biochemistry at Boston University School of Medicine. He attends on the pulmonary consult service and Critical Care Unit at Boston Medical Center. He is active in local and national TB programmatic activities and is a collaborator at the CDC Northeast Tuberculosis Regional Training and Medical Consultation Center at Rutgers Medical School in Newark, New Jersey. He also teaches there, he also teaches courses on tuberculosis and provides regional medical consultation for complex cases. Jennifer Cochran is the Director of the Division of Global Population and Infectious Disease Prevention at MDPH. So welcome to both of you. Thank you very much for joining us today. Next slide, please, Molly.

- [John] Thank you, Amy, this is John Bernardo. Just want to acknowledge, again, the folks who helped us assemble this program and especially you guys who tuned in and I hope you find this useful and valuable and beyond that, find that it provides you a way to get connected with us, the Department of Public Health because we can't do this alone and neither can you. This is a joint effort. And we're in this as a family. Talking about Thanksgiving, and I'm gonna be a little contrary here, I didn't hear lasagna mentioned. But that's another item that might be included on the table here as we speak. So I'd like to just start out by talking a little TB 101 and review how does one get tuberculosis. Can I have the next slide, please. Well, this is a situation that we're all pretty much in tune with these days. Tuberculosis is a respiratory illness, it's spread by the airborne route. And you can see here dad is coughing and he doesn't know he has tuberculosis. Fortunately, it's not as infectious as COVID, where the flu is, but it's transmitted much the same way. The main difference is that it does not get transmitted on objects. So washing your hands is not as important as being careful where you breathe with tuberculosis. But the droplets the dad is coughing out, remain suspended in the air. And these droplets are breathed in by the kids and other creatures in the room who can get infected by tuberculosis if they've never encountered the organism before and have no immune reactivity to the organism. Can I have the next slide. If you were to take the sputum or take some of these droplets and look at them under the microscope, this is what you might see if you're very lucky. And dad has tuberculosis. And these are the bacteria, they're red in color under a special stain we call acid fast stain. It's called acid fast because the bacteria will remain red when they're washed with acid alcohol on the slide. And these are a lot of bacteria that are on the slide, these bacteria get inhaled by the kids in the room or by the people who are associated with the patient in the room and they can establish infection in the new patient. Can I have a next slide please? This is a cartoon that shows what happens to the droplet. And I don't know if my arrows show here. Do they? No. Guess not. So the droplet impacts on the airways of the lung. And where they

remain, they may get swept out by the cilia, by the clearance apparatus in the lung, but they develop a localized pneumonia. And it usually resolves over time. But during the time it takes this pneumonia to resolve and it may not be recognized clinically by the host, by the kids, by the new host, bacteria get cleared by the lymphatics in bloodstream throughout the body. And it takes several weeks for this to occur. And while this is happening, the immune system is learning to recognize TB. And over the eight weeks or so that the bacteria is spreading for the lungs to other parts of the body, the immune system is learning to recognize TB and works to contain it. And indeed it does in the majority of people, most people, over 90% of people who become infected with TB, contain the organism in the lungs and in other sites to which it has migrated over the eight weeks following the initial infection. In fewer than 10% of people or in people who are immune compromised and especially kids under the age of five, they're at risk for developing what we call a progressive primary tuberculosis, here in the lower right corner, where the primary infection does not resolve and it becomes a primary pneumonia or primary infection that we call primary tuberculosis. And we can see this in kids. Can have the next slide, please. So in order to assess who's gonna be at risk for TB, we have to do a risk assessment. And we're going to be going through some of this as we go on. Can I have the next slide. So why conduct a risk assessment? Why not just test everybody? Well, that's a good question. The problem here is that the tests that we have to determine who's been infected with TB, are old tests. And they're not very sensitive or specific. The tuberculin skin test, the TST is over 100 years old. And it was last modified 1936. The IGRA test, the interferon gamma release assay, they came out in the 1990s and have gone through several changes over time. But likewise, they're not very sensitive or specific. And in a test like this, in a person who's at low risk, a positive test is more likely a false positive. So we have to select our people to test carefully to make sure we're testing just high risk people to reduce the risk of false positive reactions. Next slide, please. So the main risks for tuberculosis these days in this country and in this state include, having been born or living in a country with an elevated TB rate. Tuberculosis is the leading killer of human beings among infections in the world today. Most people don't understand that because in The United States, we have around 9,000 cases of TB throughout the entire country. But around the world it kills more people than any other infection. So it's an important disease. I'll get into that in a minute. So other risk factors include, people who are about to be treated with drugs that will suppress the immune system, or have a disease that suppresses the immune system. And lastly, being in close contact, like the dad in that picture I just showed you, in that cartoon, with somebody with active infectious TB since they were last tested or seen. Next slide, please. As I mentioned TB is an important disease around the world. This is a slide that we copied from the WHO TB report from 2020 that shows the incidence of tuberculosis around the world and the case rates are expressed in cases per 100,000 population, which is the convention that we use. The darker you get in color, the higher the case rate of tuberculosis. The United States, North America, by large, has very low case rate, we're running about little under three per 100,000 in The U.S and in Massachusetts. Around the world, this story is different. As you can see the WHO classifies 100 cases per 100,000 or greater as a high case rate. But you can see that people get TB and can come to this country and wind up getting sick and developing TB. And in fact, that's where most of our cases in Massachusetts come from. Last year, we had some 200 odd cases of TB in Massachusetts, over 80% came from other countries, that is they were born in other countries. And more than 50 countries were represented in our patient population. So when you think about that, there are people who come from parts of the world, they don't speak our language, they're not used to our culture, or our healthcare system. Their beliefs or perceptions of prevention and illness are much different than ours. And they're not used to taking medicines if they're not sick. And when we treat latent TB, we're

going to be doing just that, we're going to be asking them to take medications that can make them ill, even if they're not sick. Can I have the next slide. So we put together a risk assessment tool. And I'm just gonna start with saying that, before you go through this, you have to separate out patients who are ill. Patients who have signs or symptoms consistent with tuberculosis should be referred for a medical evaluation, that is people with a cough, fever, chest pains, weight loss, usually more than two to three weeks in duration. And people who are at risk for TB should be sent for a medical evaluation if they're ill. Okay. So the three major categories that I just went through, born or lived in a country with an elevated TB rate, suppression of the immune system, current or planned, or close contact to an active case of TB, are the major risk factors. And somebody would sit down with the patient, assess their symptoms and if they're symptom free, go through this and refer them for TB if any of these boxes is checked, if they have no TB risk factors, TB test generally is not indicated. Next slide, please. And this is a supplementary risk assessment user guide. And it goes into specific conditions that raise one's risk for tuberculosis if you are infected, in the second set of bullets here or the first set of bullets, the second paragraph on the right. And under the third paragraph, importantly, you should know that the U.S Preventive Services Task Force in 2016 recommended testing for TB among high risk people as a big recommendation for the Preventive Services Task Force. That means that high risk people can get tested or should be tested as part of primary care without regard to copay or deductibles. And so they felt that it was important and the evidence supports this. So following a risk assessment, like the one we just showed you, puts you in compliance with the US Preventive Services Task Force in this regard. Next slide. So if a person has an increased risk for TB, they need a TB test. And as I mentioned, we have to understand the patient's perceptions of disease and prevention. And in general for TB. You know, a lot of our patients also come from countries where TB is endemic and TB is embedded in their culture. In many ways it's highly stigmatized and I've got patients who would rather be told they have lung cancer than they have tuberculosis. And so we have to understand that. They're also knowledgeable about the fact that they've gotten a vaccine, in most cases. BCG vaccine is the most widely used vaccine in the world today. Unfortunately, it doesn't really protect persons beyond childhood from developing TB. But people who have gotten the vaccine, believe they've been immunized and they're not at risk for getting tuberculosis. And moreover, that the skin test that we apply is positive because they've gotten the BCG vaccine. Our guidelines and research has told us that we can ignore that, the skin test, falsely signals of infection in somebody who's BCG vaccinated in most cases. And we tend, we're told to avoid using the skin test in people who've been vaccinated with BCG in favor of the gamma interferon test, the blood tests, which are not affected by BCG. They also provide the information about infection in a different context to many of our patients, because they understand that a skin test may be positive because of BCG. But they have no context for framing that in the results of a blood test that may tell them they have TB. So that's a point to remember here. So once you do the assessment, you have to communicate it along with the result and the need for testing to the individual, and document those results in the next steps. And repeat the risk assessment at least annually and this might include travel back to their country where they were born if they're from a high risk country. Next slide, please.

- John, excuse me, you have about five minutes,

- Okay. When explaining the risk factors for TB infection to the patient, explain the BCG vaccine, we need to explain the benefits of testing for TB infection and discuss the differences between active TB disease and latent TB infection to the patient. Address their concerns about exposing others to TB, take time to answer questions and make sure you've explained things in a way the patient understands. I can't emphasize that more. Can I have the next slide, please. So once we identify people at risk, we put them through tests. And like I mentioned there are three tests, there are two types of tests, a skin test and two blood tests. Next slide, please. And the purpose of the test is determining whether or not the person has TB infection. If they have TB infection signaled by the test, it doesn't tell you whether it's latent TB or active TB, and so they have to undergo a medical evaluation. The test only tells you if your immune system has become sensitized to tuberculosis. Next slide. The skin test is called a PPD where a small amount of fluid is injected in the dermis in the skin and the reaction is measured by a trained healthcare worker in 48 to 72 hours. You measure the bump that develops and you read it according to a standard recipe as positive or negative. And as I mentioned before it can be used in BCG vaccinated persons. Next slide. The gamma interferon tests are called IGRAs, they require a blood draw. The CDC prefers them as a method for testing people who are older than two years, who've received the BCG as I mentioned before. There are two tests that are approved by the FDA, there's QuantiFERON and T-SPOT and you get a result in a readout of numbers that are either positive, negative, or indeterminate, and for the T spot a borderline tests. Next slide. There are challenges for both tests. For the skin test you have to purchase, store and monitor the PPD supply. The staff need to be trained in how to administer and read the test. The injection of the test material has to be done in a standard way. And the testing requires two visits, one for administration of the test, and the second for reading the test. However, it's relatively cheap especially compared to the gamma interferon test. And as an aside note as I mentioned before, patient has a prior understanding in many cases of this test in the context of the culture of healthcare from which they come, in many cases. Next slide. The IGRAs have their own problems and issues, you have to have a laboratory that is able to store the tubes correctly and monitor the quality control for these tests. For the QuantiFERON there's over 126 steps to doing it, for the skin test there's only seven steps. So we have to be careful with these tests. It requires a blood draw. For the patient, there's only one visit, but the specimens have to be sent to the laboratory following strict directions. These tests are more expensive than the skin test. And it does not react with BCG. So it's a new test, especially in the context of many patients prior beliefs. Next slide. After this testing is complete the positive test requires further evaluation to rule out TB disease, which includes a history of physical exam and an X ray. If your agency doesn't provide the services, the person must be linked to a clinic or an agency that does. If your agency administered the positive skin test or IGRA, a reporting form must be filled out as soon as possible as well. Next slide. And conversation about the testing will be customized according to the type of test administered and the cultural and beliefs of the patient itself. The test is being done to see if you have TB infection and if the test is positive, we will connect you to a provider for further evaluation to know what the next steps are. As always leave time for a discussion with the patient about the implications of this. Next slide. For more information, we refer you to our website and the CDC websites and the TA4SI website on this slide. And I believe that's it.

- Hey, thank you so much. We definitely appreciate you sharing your knowledge with us.

- [John] I think I have a question, what case rate will I consider high? Do we follow the range of 200? No. The WHO case rate for high case rate is 100 and we generally consider 40 per 100,000 or above, it's all arbitrary here, pretty much. Our case rate in Massachusetts, by the way, is just under 3 per 100,000.

- Thank you. I'd like to continue to ask everyone to enter more questions into the chat box as you, if you think of them. We will have a more formal Q&A session as soon as we get through our next portion of the presentation, where we'll have time to answer some of these questions and your questions in detail. But for the next portion of our presentation I'd like to introduce Rebecca Thal and Alaina Theocles. They're going to be discussing risk assessment and testing operationalization. Rebecca is a family nurse practitioner and an HIV specialist at Family Health Center Worcester. And Alaina Theocles is a special populations nurse at Family Health Center Worcester. So I'd like to welcome both of you and turn the presentation over to you for a few moments.

- Folks, good to see you all. Can you hear me okay?

- Yes, Rebecca, we can. Thank you.

- Alaina and I are gonna try to do this wearing masks but if the audio become too difficult, let us know and we can switch where we're located. Thank you. So do we, are you able to screen share the slides, the JSI slides.

- I think we can pull up. Let's see if we can pull up the one slide.

- Great.

- There we go.

- Perfect. Okay. So thanks, everybody. It's great to have everyone here and to be here with JSI and with the Department of Public Health. I think Alaina and I would like to try to keep this pretty informal and just talk to you a little bit about sort of using our agency as a case in terms of how the things that Dr. Bernardo just described, are made real in our organization. And so thinking first about assessing who is at risk for latent TB infection, right? We can't proceed with testing, we can't proceed with treatment, until we really understand who qualifies for that testing and who would qualify for treatment. So when we think about latent TB risk, I think Dr. Bernardo gave us a great overview. And the first question that I want folks to be thinking about taking to their organizations that we'll talk about, what we do at Family

Health Center, is when is a risk assessment completed? When are we kind of trying to figure out which patients qualify for latent TB testing? And I think maybe Alaina, if you wanna start by discussing how we do that at Family Health Center, then we can kind of get deeper into the nitty gritty, if that makes sense.

- Hi, do we echo? No, okay. Hi, I'm Alaina Theocles. And so like Rebecca was saying, what we do here at Family Health Center is we have a couple of ways that people sometimes request getting either PPD or QuantiFERON Gold. And that can be the tricky part is keeping an organized. If a patient is coming in for say, school clearance, a lot of medical programs require a tuberculosis screen, that can be done with a nurse without a provider involvement. And so the screening has to be taught to whether it's a PPD, whether it's an IGRA, it really depends on sometimes the school, they also want a two step. What we try to do is do the risk assessment appropriately and so people aren't getting confused, or labs aren't being ordered, if there's already a positive PPD. And so if you do the risk assessment with that patient in the beginning, or if you do the tuberculosis screening in the beginning, it doesn't get muddled up along the way. And we don't have a PPD and QuantiFERON-Gold, one can be positive, one can be negative. And that is where it gets a little confusing for the patient. So if we try to do a proper risk assessment in the beginning of a patient's care, it can help them along the way.

- Yeah, I think, at our organization we are really, we're ideally assessing each patient for latent TB risk as early in their care as we can. And we're leaving it mainly to primary care providers. I think, Alaina and I have done a lot of work to try to kind of simplify for providers, what constitutes latent TB infection risk and kind of who to have a higher index of suspicion for. And in particular, thinking about country of origin, Alaina works specifically in our refugee program. And, you know, Worcester has folks from all over the world, I would say the majority of our patients are from countries in which tuberculosis infection is endemic. And so really having a quick reference for providers around which countries of origin qualify for latent TB, qualify one as higher risk for latent TB infection is critical. We have a simple map, which I can try to share on my screen, that sort of circles all the countries that are not qualified for latent TB infection screening, and it's really outside of The US, Canada, Western Europe, New Zealand and Australia, essentially, everyone from places outside of those countries has to be considered high risk and considered for latent TB infection screening. So I'll see if I can pull that up quickly. Let's see. Actually, I'm, I don't want to hold folks up, so maybe I'll send it around after the presentation. Sorry. Oh, here we go. There we go. So can folks see this kind of rule of thumb slide. This is really, this is truly, truly the most basic for providers. If your patient comes from or has spent more than a month in a country outside of those highlighted countries, those are folks that we want screened. And that's, you know, I'd say the bulk of our latent TB risk in our organization is related to geographic origin. We are trying to have providers document a risk assessment in the body of their notes. I think one thing that we do not have that can be really helpful and another organization, could be having a dedicated template for latent TB infection risk assessment. So that for example, when patients are handed off between providers, when there's a transition of care, it's very evident that these questions have been thought about and asked. But our electronic medical record doesn't have that functionality. So it's a little bit harder to consistently document an assessment in a place where everyone could find it. And I think as you build out your organizations latent TB services, that's a really important thing to consider, is where this will be documented and how best to standardize it. And if you don't mind, pull up the slides again,

just so we can move through those questions. That would be great. Thanks. Thanks, Molly. And then Alaina, I don't know if you wanna talk a little bit about the workflow if the risk assessment is positive.

- Sure. So like Rebecca said, most of the patients that I actually interact with are refugees. And it's sort of a standard screening for infectious disease tuberculosis, we do have hepatitis B, HIV. And so like Dr. Bernardo was saying is that a lot of these patients are coming from countries where this is known, that some patients might say, Oh, I had a BCG as a child, that, you know, go ahead, but the test will be positive because of A, B, C or D, or that the countries that they're coming from, you know, tuberculosis can be quite scary as a positive result and how Dr. Bernardo said that one of my patients would have rather had lung cancer than be told they have latent tuberculosis. It's the way you wanna make sure that you're conveying to this patient is, we're gonna do a chest X ray, we're gonna make sure that this isn't something that you are highly can, you know, take away the stigma of something that's highly contagious, highly deadly, and highly dangerous for the patient and that's, when you do the screening, you wanna have that conversation. If it's positive, oh, yes, I know, you've had the BCG but you know, this is actually the truth of the immunity or the coverage for you. And so setting up your patient to understand what the result might be, is an easier way to make sure that when it is positive, or if it is positive, that they're not put into this box of, Oh, my God, I'm infectious, or I'm going to die, or the people in my country mostly die because of this, that it is treatable, that we can follow them up here as primary care that we don't have to send you to a specialist hopefully. And so the way, you know, we keep it in house as much as we can, I think it provides a better outcome for the patient for the follow up, is how I've always kind of come across it in primary cares. If we can keep them, if we can treat them, we don't send them to an infectious disease specialist. They're keeping their care, they're following up with those lengthy monthly visits. It's a successful outcome. It's a proven outcome and you sort of checked that off on their health care box.

- Just wanna jump in for a second, we have about five more minutes.

- Great, thank you. Yeah, I think, if the risk assessment is positive, we wanna test folks for latent TB infection, right? And I think an important point to drive home in your own organizations is that this is never a test that's just added on to a patient's introductory blood work, for example. It's really something that requires some kind of prefacing by the provider, by the nurse to talk about why we're screening for this and to talk about what we'll do with the result. Because I do think you don't wanna have a patient kind of bowled over or surprised by their latent TB infection testing results. I think what I'd love to do is just, you know, when we're screening folks for risk, their risk is positive, and then we're going on to test them, we leave a lot of that to our primary care providers. And to make that a little bit easier for them we have a decision aid, which I'm just going to pull up and show for you all. That kind of walks them through algorithmically, whom to screen and how to screen. So I'll just pull it up now, thank you for all the back and forth screen sharing. I appreciate it. Here we go. So we have a clinic wide guideline on latent TB that I've abridged somewhat that will send around to your organization's afterwards. But basically, this algorithm helps providers understand first of all, whom to screen for latent tuberculosis. Okay. So looking up here at risk factors and then thinking about how to perform this

testing. Primarily testing for latent TB infection in our clinic is ordered by providers and interpreted by providers and in part that's because we're really moving away from the tuberculin skin test and towards the interferon gamma release assay, which for us in our clinic is the QuantiFERON Gold, especially in the time of COVID we found that it is worth it to not bring patients back for a repeat, you know, for reading of a PPD. So we're using the QuantiFERON Gold in every patient over two years old, basically, and we sort of have this little kind of workflow that takes providers through which tests to order, what to do if it's positive, right, the first thing being ensuring that the patient does not have active tuberculosis, and then thinking a little bit about how we would move forward with treatment for latent tuberculosis infection. And I don't wanna jump too far ahead here but I do have within this guideline, some kind of quick reference discussion of how to consider a patient for treatment for latent TB in the primary care setting. And I'm happy to talk about that a little bit, perhaps in the breakout rooms. So we have this algorithm for folks who are non pregnant and folks who are pregnant as well. And that as I mentioned, kind of a reference guide to who, which patients would qualify for latent TB treatment within our health center. Again, that may be getting ahead a little bit but I think it's important to have something simple, algorithmic and available to all providers when we're screening for latent TB infection risk. So I'll go ahead and stop sharing at this point. I do want to be mindful of time, I think we have about a minute left. Did you wanna add anything Alaina?

- The only, yeah not jumping camp, but the only thing I want to add is, which sounds silly, is the importance of reporting positive results has to be reported to DPH. It's not something that's automatically done, at least not in our lab, automatically done with the lab. So that is the one part that everyone hates to do, the paperwork, I think the way we've been able to actually keep track of patients is because the paperwork is completed, it goes into their medical record. It's also faxed to DPH. So that's just one little takeaway, is there is a little bit of paperwork involved. But it matters. DPH wants to know those results, they wanna do the tracking, it goes to the specialist as well if we have to do the infectious disease, they count that as a referral. So it's all monitored work.

- Okay, great. Thank you, Rebecca, and Alaina for for that presentation. I think that was really useful to hear about your real world experiences with risk assessment and testing. And thanks, also to John and Jennifer, for putting together that presentation and John, for presenting. We've been keeping track of some of the questions that have come through in the chat box, we've got about 12 minutes for questions now. If you have other questions, go ahead and enter them in the chat box. You can also raise your hand. But since we've got a couple queued up, we're gonna go ahead and get started with those. But definitely keep them coming in if you have some. So one of the questions actually that had come in, and I'm gonna direct this to Jennifer and I think John might be able to jump in as well, or Rebecca and Alaina. But it had actually come in prior to starting the session. The question was about IGRA and TST and their relationship with health insurance. And so do we only give these tests to clients who have health insurance, or what are the options for clients who do not have insurance? So I'm gonna ask Jennifer to start us off and if anybody else has anything to add, please jump in.

- Sure, thanks. And thanks to Rebecca and Alaina for your discussion of how you operationalize it. So in terms of insurance, where Dr. Bernardo mentioned that this has a grade B from the US Preventive Services Task Force, that means that the IGRA or skin test, the test for TB infection is a covered service under all plans that meet the qualifications to be offered. And so that means there's no copay, there's no coinsurance, or out of pocket costs for patients for that test. It does need, from the provider side, it does need to be coded as a screening test. So when it's coded post exposure, it is a different test altogether, and it may come out with some charges associated with it. So again, when it's a screening test, then there isn't a charge to patients. So there's another group of patients who are not insured. And in the case of people who are not insured, typically we would recommend skin test because it is a much less expensive to offer and for health centers or other health care providers, they're buying PPD in a 10 test vial, and it's about \$60 for that. So it's not a particularly, it's not a super expensive test when done that way. And we do like to kind of reinforce constantly that the skin test is a good test, it does require somebody to come back but it's a valid test. And because there's some opportunity to look at the number value associated with a read, I think it does provide additional information to providers in thinking about the likelihood that this is due to TB infection.

- Okay, thank you. Does anybody else want to add to that? Any other presenters?

- Okay, we had a link to question come in, which was about what are the reasons for choosing TST or IGRA? And so I think that came in during Dr. Bernardo's presentation. So I don't know if you wanna add anything, John, or if any of the other presenters wanna add anything to what Jennifer just explained. Other considerations for choosing one test or another?

- Yeah, well, it's usually the the providers and the patient's choice, you know, the CDC has been pushing the gamma interferon tests and they have their drawbacks, but so does the skin test. You know, most people at risk come from countries where BCG has been given. So to eliminate that as a confounder, or as a possible confounder, a lot of people will just go ahead and do an IGRA. But the cost is a concern for some people. And they're not 100% sensitive or not 100% specific either, although the specificity is better. And importantly, neither tests can tell you who's gonna develop TB. They tell you who's been immunized but they don't tell you who is gonna develop TB. If you have a positive skin test, your lifetime risk of getting sick with TB is between five and 7% in the United States today. But we don't know who those five to 7% of people with a positive test is gonna be and these tests do not tell us that. So, getting back to a question, it's a provider choice.

- Just to jump in with the Family Health Center perspective a little bit. Yeah, I agree with Dr. Bernardo that I think folks from countries where the BCG is given routinely often have that concern about cross reactivity. And even though we know that the cross reactivity between the BCG and the skin test really wanes after early adolescence, I found that a lot of folks who had an initial skin test push for the IGRA. And so although you are getting some cost savings with the skin test, to get a skin test and then think about sort of the complications involved in confirming with an IGRA, that sort of obliterates the cost

differential. I think, also from a workflow standpoint, particularly when providers are seeing new patients and maybe ordering other lab work, particularly in populations that are at higher risk, it is convenient to add the QuantiFERON Gold on, we have that for example, as part of a routine HIV program intake labs. So for the folks in our Ryan White funded HIV program, that's a routine lab that they get at the beginning. We additionally have that as one of our intake labs for our office based opioid treatment program. So for folks coming in, who are gonna be starting on Suboxone or on Vivitrol through us, those folks who have sufficient risk in terms of congregate settings and so forth, that we have integrated the QuantiFERON Gold into their routine and take lumps. And I think what this does is take some of the decision making burden off of a provider's shoulders in what may be a hectic visit, and just gently nudges them to remember latent TB. And that's really what we want. I think from a kind of busy primary care provider standpoint.

- Just one thing, from a nurse's standpoint, it's a very technical thing to do with PPD. It takes practice, it takes training. You might also not be the person to place it and read it. It could be, I placed it, somebody else read it, which gives you a little bit of room for error. Another thing to think about which I'm so happy to me, the CDC pushed it to the age of two, is that kids are not going to sit still for you to give them a PPD at the age of three and four and five. So, yes, it is a little bit easier to click and do a lab but it is a technical skill to do a PPD and it should be something that you are confident to do and trained to do. And if the provider is gonna do it, that's fine. But here at the Health Center, it's mostly nursing staff only.

- Okay, Thank you. We did get another question come in, it's a little bit linked to test choice and certainly related to what we're all experiencing. In these days of COVID, and social distancing, things we would not want patients to have to come back for a reading and I think some of the presenters mentioned that, does this make a difference as far as what tests we can and should use? And maybe Rebecca and Alaina had mentioned that, so maybe you can expand on that a little bit.

- Amy, it's Jennifer. And I'll jump in a little bit is that a PPD has to be read by a trained provider, and if somebody can't return to have that reading done, then we shouldn't be planting in the first, you shouldn't be administering it from the outset. So you really have to think through is, do I want this person to come back in or could this person come back? Or would this person return for a reading? There is no, I mean, there's just no reading at home and calling it a result.

- [John] Yeah, and this is, John. One other thing, although the guidance tells us to read the test at 48 to 72 hours, a positive test after 72 hours, is still a positive test. So if the patient comes in at 96 hours or or four days later and it's positive, you can use that as a positive test.

- Okay, thanks very much to everybody for answering that. We've got another question. I think this one, Liisa, maybe best placed to start answering this and bring in others as needed. So for programs that are not a health center or hospital, how are you suggesting these programs implement such a model for

people who are not insured? What is expected for non clinical care programs who were funded to do HIV, STI and viral hepatitis? And is the Bureau moving towards doing testing as they do with other tests, for example, like using the state lab? Did you get all that?

- I got all that, I think. So, the short answer to the question about incorporating this into our state public health laboratory capacity is at the moment we are not able to do that. We have episodically discussed it and presently, we just, we can't bring that capacity in house. The suggestion about setting up an arrangement with a commercial or clinical laboratory is appropriate in the near term. And we can assist you, I think, we're thinking through that including potentially how program resources might be used to support some of those services for individuals without insurance. Linda your furrowing your brows? My short answer is I think we have to discuss that to figure it out with the individual agencies. So the overarching is we're not doing this in the state lab currently, we would support, I think, working with a commercial or clinical laboratory. And off to Linda and her furrowed brow.

- No, I can only, I the of trouble seeing so, when I put my glasses on nobody's furrowing my brow. So yeah, I agree with Liisa. That's all fine. We haven't added that yet because we haven't worked with a non clinical provider at that stage of this yet. So I think we'll figure it out together.

- Great. And that was actually a two part question. And the second part because it is complex, just so you guys know, posted it in the chat box. And then he went on to ask, are we able to outsource laboratory cost if we set up a service with quest diagnostics? And for uninsured clients, can we charge to the program? My concern is that most clients are insured by a health connector who are not able to seek services through us but yet the only provider in Metro West are unable to see new clients or able to test new patients unless they are patients of the Health Center and the Metro West Medical Center. They will not take it to Health Safety Net insurance. So I think this gets to, that can't be covered. What are the options?

- Yeah, this is actually an issue that we struggle with in many contexts for services delivered, public health services delivered in the context of some of our funded programs, but also in the context of services delivered by public health is the networks and how those are set up and relative to what providers will cover. And so we're trying to do some policy work at a higher level to address that. In the interim, I think the answer that Linda and I agreed on before, still goes is we're gonna try to figure out how to use contracts and resources to be able to address this and remove those barriers in the interim.

- Okay, super. We've got one last question before a break and I don't think it will be a long one. And Dr. Bernardo, if you can answer this, it came in during your presentation. Can you talk about the possibility of reinfection for patients with Tb?

- Sure. There we are, I almost mute. Yeah, yeah, we used to think that once you're infected, you cannot get infected once again. But we know now that that's not true. We can do genotyping on patients who have TB isolated from different parts of their body, for example, sputum, and a retroperitoneal lymph node and we've seen different organisms from those two sites. And we've had patients who have been infected with TB, have become ill with it. And we have isolates from that illness, they were treated and several years later they came back with tuberculosis again, and we have isolates from that second illness. And genotyping would show us that the two organisms are different. So we know now that people can be reinfected with TB, which actually bodes poorly for a vaccine. Because if the natural illness doesn't protect one from getting infected again, a second time, what will a vaccine have to do to protect us?

- Okay, Thank you very much. So that concludes our Q&A session for now. If you guys have questions, as you move along in the session, please go ahead and post them in the chat, we can then share them with the presenters and send out responses afterwards. We're gonna move into our break portion of the session. Well, welcome back, everybody. I know the breakout rooms kind of, tend to end a little bit abruptly. So I know like in our room, somebody was in the middle of talking and sounds like that happened in some other rooms as well. But, so I'm sorry for that. But thanks to everybody who participated in the breakout rooms, we hope that that was helpful. Just to recap, you guys can go in, if you're still in the , you can go up top to the and find a way to export that document if you like, if you wanna save it for yourself. If not, we will be saving it, we'll be sending them out afterwards. So you will be hearing more from that. So I wanna go ahead and just you know, hopefully those sessions were helpful, just as preliminary sessions to start you on the path to planning to add in some of the latent TB services to your agencies or scale them up for those of you who are already doing those kinds of services. We have a few minutes left, we're gonna move into the wrap up and talk about next steps. And I will pass it on to Liisa, in a minute for her to do a wrap up and then it will come back to me and we will also talk about, we'll send out a link to the evaluation at that point. Just quick, Molly Higgins-Biddle, if you can put on the screen, I think there should be a slide with information about the next two sessions. So as a reminder, if you haven't registered for our next two sessions, please do so. Our next session is next week, we will be talking about adherence support for patients who are getting treatment for latent TB infection. That one will be at a different time, it will be on Thursday, but starting at 9:30 in the morning. And then, because of the Thanksgiving holiday and World AIDS Day and a lot of the activities that happened that week, our next session will happen a few weeks after that on December 10. And that will be from 10 a.m to 12 p.m. That session will cover reporting and analysis across all of those components that Amy referred to earlier that you can find on our website. The different components involved in providing LTBI services, risk assessment, testing, adherence support and a couple of more. So please go ahead and register for those if you haven't already. If you need more information on those sessions, please reach out to anybody from the TA4SI team. And with that, I'm gonna turn it over to Liisa and she can do a quick wrap up for us and talk about next steps.

- A quick wrap up, that was such a rich discussion we were having. I feel like I wanna bask a little bit in that afterglow and we don't have the the time unfortunately for that today but just a couple of things, in the short amount of time that we had together, I think that folks are, one of the things that we heard is,

we did an awful lot of thinking early on and then COVID hit. And so I wanna reassure you that we all, you know, we recognize that as well and we're thinking of this very much as let's begin to get back into this, to rethink it. I think you also heard in the breakout sessions that,, process map, process map, process map. And so we really intentionally framed today's session and you'll hear that in the next couple of sessions as well, and really, what we're talking about is that we wanna help and encourage and support you in going through a systematic process for mapping out your service model, your enhancements to your service model and the processes and the workflows. And at the same time, going through sort of a systematic process should help you to identify areas of opportunity or gaps or issues that may negatively impact you achieving your objectives and getting done what you wanna get done. So in advance of making any adjustments to your workflow, to your staffing plans, to your budgets, as you're thinking through the model that you want to implement or adjustments to your current model to enhance it, we're gonna ask you to develop for us a formal written process map. And we don't have a set date for that, we're not sending you out of here today with homework and a deadline. But we wanted you to leave here today with some of the tools to begin thinking in a systematic way with your team, to begin thinking through at least these first two components of LTBI implementation, to begin filling in those those process maps, at least conceptually. And I wanna assure you, again, that we don't have homework specifically for you today in terms of you have a deadline to give us something, we're gonna continue to work with you individually. But we do want to have you start thinking more systematically and revisiting maybe some of the plans and activities that you had initially thought about prior to everything going kablooney in February and March. And we also wanna use this and the process mapping process as an opportunity to help identify other supports and tools and resources that you need. I wanna give Linda just 20 seconds to make sure that I didn't say anything that's gonna make her life difficult in terms of what I said about the contracted services in particular.

- Yeah, not at all, no.

- Okay. Nice one.

- Thank you Liisa, thank you everybody for your time and your energy. I also felt like our breakout was really interesting. And it's obvious that you folks are spending a lot of time trying to think something through that isn't always as simple. It's not actually as simple as the actual treatment, the process can be a lot more complicated. So thank you all.

- Great. So I wanna reiterate, thank you to everybody who attended today and everybody who participated. I think it's great to see your questions come in. It's great to hear the discussion during the breakout rooms and the kinds of things that you're thinking about. And I look forward to your next steps for latent TB. In the chat, you'll find a link to an evaluation form for this session. And we'll also be sending it out afterwards if you aren't able to access it today. But we would love for you to go ahead and fill that out. And please be honest, we will use it to help shape how we organize the next couple of sessions so that we can make sure that we're responsive to your needs. And with that I don't think I

have anything else to say. I'm not sure if anybody else has anything else to say other than thank you very much and have a great afternoon.

- Thank you.

- Thanks, everyone.

- Thank you guys

- Bye bye.

- Thank you