Transcript

Date of call: 04/17/2023

Welcome
Sean Courtney
CDC Division of Laboratory Systems

Opening Remarks
Victoria Olson
CDC Office of Laboratory Science and Safety

Medical Laboratory Professionals Week
Alexandra Mercante
CDC Division of Laboratory Systems

Marburg Virus Disease Update
Joanna Prasher
CDC Office of Readiness and Response

***Candida auris* Update: Detection and Control**
Joe Sexton
CDC Division of Foodborne, Waterborne, and Environmental Diseases

Sean Courtney: All right. Good afternoon, everybody. Thank you for joining us today. My name is Sean Courtney, and I'm a health scientist in the Division of Laboratory Systems here at CDC.

On the screen is the agenda for today's call. But before we get started, I just want to cover a few announcements and some general housekeeping items. So as you've heard on previous calls, DLS is the CDC division that works closely with clinical and public health laboratories across the country to support laboratory emergency preparedness and response activities. And we've been hosting these calls since March of 2020.

So DLS supports this work across four goal areas. These include quality workforce and training, preparedness and response, and informatics, and data science. As always, we'll be sharing slides from today's call along with audio and transcript. And we will continue to post them online, hopefully, by next week. You can find them on our CDC LOCS page shown at the link here.

And with all this, we want to hear from you. So our training and workforce development branch is interested in hearing more about the education and training gaps that you're currently experiencing. And we invite you to send your feedback to labtrainingneeds@cdc.gov.

And so if you have any questions during today's call, we ask that you please use the question-and-answer function in Zoom, so that we can address it during the call and not use the chat function. We also

like that you please include your email, so that we can follow it up if we're not able to answer it during the call. And also, if you're with the media and you have questions about the presentation or would like to follow up with a speaker, we encourage you to please contact our CDC media relations team at media@cdc.gov.

And so on May 1, CDC's Division of Lab Systems is going to launch OneLab Test. OneLab Test is the newest element of CDC OneLab. And it aims to connect, train, and empower a supportive community among professionals or volunteers who perform or coordinate testing at non-lab sites.

So ultimately, OneLab Test will strengthen connections between CDC and the testing community and support the ever increasing need to expand access to diagnostic testing. And so OneLab Test seeks to meet the testing community's most urgent education and training needs, which includes connecting the testing community and exchanging lessons learned, training the testing community with free educational resources, and empowering testers to train and learn from one another in a community practice.

And so I'd like to remind everybody that these slide decks may contain presentation material from panelists who are not affiliated with CDC and that presentation content from external panelists may not necessarily reflect CDC's official position on the topics covered.

And with that, I'd like to introduce our first speaker today. We have Dr. Vicky Olson. She's the Deputy Director of the CDC's Office of Laboratory Science and Safety. And should be providing us with opening remarks for Medical Laboratory Professionals Week. Vicky.

Victoria Olson: Thank you so much, Sean. And thank you, everyone, for inviting me to join your call today. I know how impactful that these calls can be for engagement with different partners.

As Sean was just mentioning, next week is Medical Laboratory Professionals Week, which is also known as Lab Week. I wanted to take some time as we prepare for this observance to really recognize the essential services that laboratory scientists perform to protect the public health and not just during a public health emergency, but every single day. Your role is not just a support function. Laboratory scientists are critical partners in public health.

The strong clinical and public health laboratories are the foundation for accurate and timely disease diagnosis, prevention, and control to improve the health and safety of Americans. Laboratories are the backbone of our public health system. We have an excellent example just from this past year where the first cases of impacts in the United States were detected through our public health laboratories.

And throughout the impacts of COVID-19 responses, laboratories have supported the critical testing needs in all of our communities. So I want to thank you for coming to work every single day with care and commitment, for not giving up, for bringing your knowledge, your expertise, and your concern for our nation's health. I know the work is not easy and often goes unrecognized, but it is important that while you are taking care of others, you do not neglect yourselves.

I want you to know that we are here with support and resources to help our clinical laboratory science partners meet the demands of their everyday duties and the public health emergency. I want to take this opportunity to personally thank each and every one of you for your stellar work, your continued dedication to improving public health. The CDC is grateful. I am grateful for the dedication and commitment you bring to your work. And I want to thank you for this opportunity to express my gratitude. And now, I'll turn it over to Sean to continue with the call.

Sean Courtney: Great. Thanks so much for joining us today, Vicky, and for sharing those remarks regarding upcoming Lab Week. And with that, we're going to move to our next speaker. Let me get the slides going.

So next, we have Dr. Alex Mercante, who is the Associate Director of Communication at CDC's Division of Lab Systems. And she's going to be talking about DLS' activities for Lab Week.

Alexandra Mercante: Thank you, Sean. Thank you so much for the introduction. And it's a pleasure to join you all today. Every year at DLS, we celebrate Medical Laboratory Professionals Week, also known as Lab Week, like Vicky mentioned, to honor laboratory professionals for their contributions to public health and patient care.

We're so happy to invite all of you to join us as we celebrate the 48th Lab Week that's happening next week from April 23 to April 29. Our theme for this year's Lab Week is *The Future is Lab*, which celebrates laboratory professionals who protect our future by skillfully adapting to meet today's evolving patient care and public health challenges with resilience, innovation, and expertise. This theme also creates awareness and excitement about working in a laboratory setting.

Please join us in celebrating Lab Week next week by showing your appreciation for a laboratory professional and participating in DLS' Lab Week activities. You can download a Zoom or teams background like the one I'm using today. You can also download printable *The Future is Lab* stickers, a coloring page of our Lab Week graphic, and a DLS word search puzzle.

I encourage you to check out and use our digital tool kit to increase awareness about the significant contributions of laboratory professionals by sharing social media messages and digital graphics with your colleagues and through your professional networks. We look forward to celebrating Lab Week with you all next week. And now, I'll turn it back over to Sean. Thank you.

Sean Courtney: Great. Thank you so much for that, Alex. All right. Next, we'd like to please welcome Dr. Joanna Prasher from CDC's Office of Readiness and Response. She'll be providing us with an update on the Marburg virus disease outbreak. And she does not have any slides to share with us.

Joanna Prasher: Thank you so much, Sean. Good afternoon, everyone. And as Sean said, I am with CDC's Office of Readiness and Response. And I'm also currently serving as the lead for CDC's efforts on

domestic preparedness for the ongoing in response to the ongoing outbreaks of Marburg virus disease that are happening currently in Equatorial Guinea and Tanzania.

I wanted to spend just a couple of minutes with you this afternoon to let you know the current status of those outbreaks and the work that CDC is doing with our interagency and international partners to try to stop these outbreaks at their source and to ensure that the United States is prepared if necessary. So on February 13 of this year, the Ministry of Health within Equatorial Guinea declared an outbreak of Marburg virus disease in Kié-Ntem province. This is the first known outbreak of Marburg virus disease in Equatorial Guinea.

And as of April 14, there have been a total of 14 confirmed cases, which unfortunately, have included 11 deaths, including some cases occurring in Bata, which is a large municipal city in that country. As of April 10, the government is reporting 385 contacts under active follow up. CDC's staff has been deployed to Equatorial Guinea and continue to support the Ministry of Health in providing risk assessments for identified contacts in health facilities, including those near the large city of Bata.

In Tanzania on March 21 of this year, Tanzania confirmed that country's also first outbreak of Marburg disease. And as of April 14, there were nine cases in the country of Tanzania, including unfortunately, six deaths all reported in the country's northwest Kagera region in a network of family and neighbor contacts. As of April 10, 82% of the contacts that have been identified of which are a total of 212 had completed their 21-day follow up period. And remaining contacts are being followed up with.

And all cases in Tanzania to date are epidemiologically linked. Currently, there's no evidence to suggest that these two outbreaks are related. Most experts agree that these likely represent to independent animal to human spillover events.

But we are still working with our colleagues in the governments of both Tanzania and Equatorial Guinea to obtain the sequencing information that would help us to further clarify that. To date, there has been no confirmed cases of Marburg virus disease related to these outbreaks either in the United States or in any other countries outside Equatorial Guinea and Tanzania. Therefore, the risk to the United States we feel from these outbreaks is low.

But CDC is working diligently with our interagency international and multilateral partners to support the governments of both Equatorial Guinea and Tanzania and containing these outbreaks as soon as possible, and as I mentioned, ensuring US readiness just in case. So a couple of words about what we're doing. On March 27, CDC updated our travel health notice for Equatorial Guinea to a level two, which is practice enhanced precautions.

And on March 21, we posted a watch level one, practice usual precautions, travel health notice for Tanzania. And those can be found on our website. Given the low risk of an imported case of Marburg to the United States at this time, we are not recommending post-arrival risk assessment or monitoring of

these travelers. But we are providing recommendations to these travelers about what to do and signs and symptoms to self-monitor for after they return to the US.

And to do this, as of March 25, we began text messaging travelers arriving in the US from both countries, Equatorial Guinea and Tanzania, and asking them to self-monitor for 21 days after they return from either impacted country. We are also displaying educational messages about Marburg on airport monitors located at 10 international airports in the United States, which receive the majority of travelers from these two countries. And again, these messages advise travelers that they were recently in Equatorial Guinea or Tanzania to watch themselves for Marburg symptoms for 21 days and what to do should they get sick.

On March 31, we also updated our interim guidance on risk assessment and management of persons with potential Ebola virus or Marburg virus exposure. And these revised recommendations really are aimed to reduce the burden to our state, tribal, local, and territorial health departments. And as part of this support with our STLT partners as of April 4, we are providing them the contact information for the passengers in their jurisdictions arriving from Equatorial Guinea or Tanzania, although, again, it's important to note that we are not currently recommending that they conduct risk assessments for or monitor these travelers at this time. But we are providing them this information for their situational awareness.

On April 6, we also issued a HAN to inform clinicians and public health departments about the two confirmed outbreaks of Marburg virus disease and providing updated resources or background. So again, the risk to the United States is very low. But if we were to have an imported case from either of these two outbreaks, we do have the domestic capability to rapidly detect them using diagnostics that I'm sure many of you are aware of as well as the regional emerging special pathogen treatment centers that are ready to treat either adult or pediatric patients.

So briefly on both of these items, as far as current testing capacity, 33 of our laboratory response network labs are able to now test for both Marburg and Ebola viruses under CLIA using the BioFire Warrior panel. And six additional LRMs are currently working to get Marburg verification under CLIA up and running.

Eight of these regional emerging special pathogen treatment centers can also test for both Marburg and Ebola under CLIA, again, using the BioFire Warrior panel. And the two remaining RESPTCs are also working on this. Testing for Marburg virus into CLIA is also now available at CDC using both the BioFire Warrior panel and a high throughput assay.

And we're also developing an additional high throughput assay that could be submitted to FDA as a pre-EUA, should further laboratory capacity be needed. NIH is also completing BioFire Warrior panel verification for both and Ebola and Marburg viruses. On the treatment side, all 10 of the RESPTCs as I mentioned, can accept both adult and pediatric patients if needed. And NETEC, which is the group that provides education and training for the RESPTCs, is specifically working to expand its in-house pediatric expertise and educational materials and will be developing a global grand rounds in the future focused on pediatric challenges.

With that, I'm happy to take any questions. I'm also joined by my colleague, Dr. Tricia Blevins, who can also speak to any questions that folks may have. Thank you. Back over to you, Sean.

Sean Courtney: All right. Great. Thank you for that update. There's a couple questions in the chat. I think you kind of answered some of them. But I'll kind of put them back to you just in case you want to add any more to it. The first one was, what type of measures are in place to contain the spread of Marburg from the afflicted countries?

Joanna Prasher: Absolutely. So probably, some of the most important efforts that are in place right now, the government of Tanzania has been actively screening travelers and exiting Tanzania, also entering Tanzania for some time. And we're working to support them in any efforts they need to do temperature checks, et cetera, for people that are transiting out of that country.

And we're also working with the Ministry of Health in Equatorial Guinea. We've provided them some remote support around some of the border health measures that they're taking internally as well. The CDC also, as is our custom, has been reaching out to any non-governmental organizations that are working in either of those two countries that are US-based and might have employees or others coming back to the United States and just working to make sure that those travelers are very aware of the situation on the ground in both countries and the measures they should be taking to protect themselves and others as they return.

Sean Courtney: Great. Thank you. The next question we have, is there any way to ensure that the individuals are adhering to 21-day quarantines?

Joanna Prasher: This time, we actually aren't recommending a 21-day quarantine for returning travelers, again, because the risk of actually bringing back a case of Marburg from either of these two countries is really very low right now. We're just asking those folks to self-monitor themselves for signs and symptoms of Marburg disease for 21 days, which is the period of time we usually ask them to watch. So it's not really a quarantine situation.

Sean Courtney: Great. Thank you. All right. The next question is, do we know if the Warrior panel Marburg assay works against this new strain or this outbreak strain?

Joanna Prasher: It does. Yes. It is able to detect Marburg virus.

Sean Courtney: OK, great. Thank you. And at this time, I do not see any additional questions in the Q&A function. So I'd like to, again, thank you for joining our call today.

If you're able to hang around with us for a little bit longer just in case any additional questions pop up and answer them in the chat, that would be great. But yeah, thank you so much for joining us and giving us this update on the Marburg outbreak. So we really appreciate you.

Joanna Prasher: Thank you.

Sean Courtney: All right. And then finally, we have Dr. Joe Sexton from CDC Division of Foodborne, Waterborne, and Environmental Diseases. Joe?

Joe Sexton: Hi. Good afternoon, everyone. My name is Joe Sexton, and I'm a microbiologist and the Laboratory Team Lead for the Mitotic Disease Research Laboratory here at CDC.

And I just wanted to say thanks to the organizers. I appreciate the opportunity to give you guys a high-level *C. auris* update. I'm going to talk a little bit about laboratory detection methods and some control considerations. But this is my first time presenting on the LOCS series. So again, I'm excited to be here and appreciate the opportunity. Next slide, please.

So I'm going to start off with just a little bit of background. *Candida auris* is an emerging fungal pathogen that has spread rapidly around the country and globe over the past 15 years with a notable increase over the past couple of years.

And I do just want to highlight that *Candida auris* was classified by the CDC's 2019 threat report as an urgent threat. That's the highest threat level leading to recommendations of aggressive action to help control. Next slide, please.

So just to summarize, why are we concerned about *Candida auris*? Following the AR threat point, I'll start with highlighting antifungal resistance is a major problem. And I think, relative to bacteria, we have some really unique issues with fungi because fungi are eukaryotic organisms.

That means that their cells operate very similar to our own. And so it's hard to find antifungals that kill the fungal pathogen and don't have toxic effects on us. And that's a problem for the fungal world in general.

And because of that, we have fewer antifungals than there are antibacterials. And so antifungal resistance is something highly concerning to us. And it's particularly concerning with *Candida auris*, where we really only have three major classes of antifungals.

And what we've found domestically is over 80% of isolates are resistant to at least one. Over 25% of isolates are resistant to two classes of antifungals. And over the past couple of years, we've been very concerned to see an increase in the number of pan resistant isolates, isolates that are resistant to all three available antifungal classes.

Another thing that's unique and concerning about *Candida auris* is its ability to colonize patients' skin in the health care setting asymptomatically. Even though they don't have symptoms of a *Candida auris* infection by colonization alone, we have learned that 5% to 10% of colonized patients in the health care

setting do go on to develop an invasive infection. Of those, we see a 45% mortality rate in the first 30 days.

Additionally, compounding the problem, because *C. auris* can colonize the patient's skin, it sheds into the environment causing extensive environmental contamination, facilitating outbreaks in the health care setting that are very difficult to control. And so for these reasons, we're very concerned about the spread of Candia auris domestically and abroad. Next slide, please.

As I mentioned, *Candida auris* continues to spread at an increasing rate. This is a figure from one of our recently published reports titled, the *Worsening Spread of Candida auris in the United States, 2019 and 2021*. I want to highlight the two different colors.

The green bars are clinical cases. So think about bloodstream infections, wound infections. The lighter green bars on the back are colonization cases. So those are cases from skin swabs that are collected for the purpose of surveillance and tracking *Candida auris*.

And so what you'll see here, I want to just highlight at the beginning of 2020, you see a little dip. And that's because of the disruption that a lot of public health labs experienced at the beginning of the COVID-19 pandemic. After that, what you see is a notable increase in the rate of *Candida auris*, both infection cases and colonization cases to be three to four times higher than they were before the pandemic. Next slide, please.

So you may be asking, how are we able to keep track of that? How do we know that the rates increased? And much of that data is thanks to our public health partners at the state public health labs that are participating in the AR lab network.

So there are seven state public health labs who have learned how to do colonization screening and have essentially represent the domestic public health lab capacity for tracking *Candida auris*. So next slide, please. So now, I'm going to go briefly into some of the methodologies that are used to detect *Candida auris* in the public health laboratory.

So for colonization screening, I'm going to start here at the bottom. But essentially, it's a colonization screening swab, a skin swab that's collected from the axilla and groin. And the first method was an enrichment broth.

It's essentially a high salt, high temperature enrichment that helps increase the prevalence of *Candida auris* relative to all the other yeasts and bacteria that are going to be in those skin swabs. And that makes it possible to isolate a colony and confirm its identity through MALDI-TOF or DNA sequencing. The enrichment broth works very well, but it has a downside in that it takes time. It's slow because you've got multiple culturing steps.

And so shortly after our real time PCR was developed-- and most labs are currently running real time PCR for rapid result to provide a rapid report of their colonization screening results. I want to highlight that public health labs are running this as a lab developed test. There's currently no FDA approved test for colonization screening specifically.

Even though we recommend that labs perform colonization screening with a real time PCR, there is still important value to the enrichment broth. First, it serves as a very valuable reference method in your lab when you're bringing on a lab developed real time PCR. As I mentioned, there is no FDA approved test for colonization screening.

And because the enrichment broth works well and has been well characterized, it serves as a very useful reference to know to measure your false positive, true positive rate, all your performance characteristics. It's a valuable method. Additionally, depending on the situation, antifungal susceptibility testing or whole genome sequencing may be needed in the public health laboratory on the isolates recovered.

And so most of the public health labs currently doing *Candida auris* colonization screening will first do real-time PCR to provide the report. And then if it's positive, they will then secondarily attempt culture to try to recover an isolate. For everyone's reference, we've included two SOPs for example SOPs for both the PCR and the culture method that we use in our lab.

There's other ways to do it. As I mentioned at this point, labs have found different extraction methods and different thermal cyclers that work. So don't interpret this as the only way to do it. But it is a useful example. Next slide, please.

So just to distinguish colonization screening from clinical specimens, I do want to highlight that there are FDA approved tests now for positive blood culture for the clinical setting. Next slide, please. OK, so I see there's some animations here. If you could go ahead and cycle through some of these--

So if you start to think about how do you control *Candida auris* in the health care setting, considering that it can colonize patients' skin, it's constantly seeding into the environment-- and I do want to highlight that currently, there is no strategy to decolonize patients to manage their colonization burden. So really, where we're at is we're back to the basics of hand hygiene, transmission-based precautions, PPE, and environmental cleaning and disinfection. But we did run into a problem with disinfectants early on academics.

Our lab, other government labs were all finding the same thing that some products with even those with fungicidal claims were not effective against *Candida auris*. And that was concerning because many of them were hospital disinfectants. It was important for us to advance that guidance, so health care facilities can have confidence in the effective products. Next slide, please.

So in collaboration with EPA and other partners, we invested in advancing the available data on what disinfectants worked and did not work. And EPA to follow up on that, created a list. It's called List P. And it

is a constantly growing list. But it provides a list of products that can be referenced that show what disinfectants work with confidence for *Candida auris*.

And an interesting trend is that it really seems to be quaternary ammonia compounds that are the poor performers against *Candida auris*. Many other disinfectants that are based on hydrogen peroxide chemistries, alcohol chemistries, sodium hypochlorite chemistries, those tend to have worked better. So we hope that this is a useful resource for health care facilities and for testing labs to make sure that the disinfectants that they're using are effective against *Candida auris*.

I would also highlight a last point about control, and then I'll conclude my talk. There is a lot of interest in *Candida auris* and technologies, such as UV lights, foggers, and things of that nature. Those are really interesting and exciting technologies.

But I think additional work really needs to be done to better understand the efficacy of some of these products, especially not just reducing the burden of *Candida auris* in the environment, but to actually show it translates into a reduced rate of infection, so just highlighting that that's an exciting area that is, in my opinion, needing additional work and follow up. Next slide, please.

So with that, I do want to leave you guys with our common motto to think fungus and save lives. I appreciate the organizers, again, for inviting me. And I'm happy to take any questions.

Sean Courtney: All right. Thank you for that update, Joe. I really appreciate you joining today's call. There were a few questions that came in while you were presenting. So I'm going to go over a few of those with you.

And hopefully, you're able to answer. If not, maybe, we could try to get back to them at a later time. But the first question is, I know that hospitals clean all materials used for each patient. And I'm wondering why the 70% outbreak percentage in hospitals is so high. Not sure if you have any insight into that.

Joe Sexton: Well, I think it's just very challenging when you think about skin colonization of an otherwise-- a patient that's not symptomatic for *Candida auris* infection. They have something because they're in the hospital. But essentially, it's just a constant source.

And we've done studies. And partners have done studies showing that there's a positive relationship between the amount on a patient's skin and the amount in their environment. And the burdens are actually surprisingly high, just kind of an anecdote to communicate.

In the early days when we first started looking at these colonization swabs and developing the first test, we did some studies to quantify *Candida auris* in these swabs. And we were really surprised to find-- another group found this as well, that you can regularly find 10^6-10^7 viable CFUs in these skin swab samples that you get. So I think it really speaks to not just this isn't low-level colonization. We're really seeing very high burdens on the skin that it just makes management very difficult.

Sean Courtney: All right. Great. Thank you. The next question is, our state's department of health has stated that we do not need to do entrance screening for *C. auris* on our patients, unless they've received health care outside of the country within the last year and that their department of public health will reach out for tracing as needed. Is that something that's recommended across the board?

Joe Sexton: That's a really good question. I'm glad that was asked. I think colonization screening is important. But it is also very resource intensive.

And I think it's very important that laboratory testing is driven by the local epi. I mean, the prevalence of *Candida auris* is higher in some places than the others. And there's different patient populations that are more at risk than others.

So public health labs and others have been under a lot of strain and are working very, very hard. And I think it's important that the testing that's done is really informed by the local epi to make sure it is the most useful application of the available resources. But great question.

Sean Courtney: Yeah, thank you. I appreciate that. The next question is, how much-- and I guess, it's questioning how much of the noted increase in the rate of *C. auris* cases is it potentially due to greater availability of screening and improved ability to identify *C. auris* on testing platforms than were previously available?

Joe Sexton: That's a great question. And I didn't show this in a figure in this presentation. It's a 10-minute presentation.

But we do have a corresponding figure that shows the total number of swabs that were tested over that same time frame. And it essentially is about where it was at pre-pandemic level. It has increased a little bit. But overall, the increase in cases exceeds the increase and swabbing pretty notably.

Sean Courtney: Excellent. Thank you. All right. The next question that I see is, are there targeted PCR assays to detect antifungal resistance in *C. auris*, or is it only done with whole genome sequencing? And are the resistance genes known?

Joe Sexton: Those are great questions as well. In the public health laboratory, I showed you that rates are so high in *Candida auris*, I mean, it's almost assumed that you're dealing with a drug resistant organism. And so actually, the PCR test is just based on the organism. I think that represents a difference between some bacterial MDRO tracking strategies that may be focused on specific marker genes for *Candida auris*.

But we're just detecting the organism, and the response is essentially the same. I know that there is some work in academia on that. But we also do-- there is increasing capacity for whole genome sequencing.

So once you have an isolate, whole genome sequencing data is increasingly available for those isolates. And then I would also say that some of the mechanisms are understood, but not as comprehensively. I think with fungi in general, there are some key mutations that have been identified that confer resistance. But there are other mechanisms that may not have been identified. And so we really depend on-- public health labs actually do old antifungal susceptibility through micro broth dilutions to confirm at this stage.

Sean Courtney: All right. Great. Thank you. All right. The last question, I'm not sure if necessarily, you can answer it. But it's kind of around there are state health department as part of the LRN. And they go to *C. auris* for testing. They currently do not do sequencing on isolates, but hold those isolates for five-year retention.

There, the local health department have a contract in place that can conduct sequencing with a third-party lab. And they want to know how to approach the LRN end to obtain additional isolates before they go into long-term retention. Not sure if that's something necessarily, you can answer, or if we can direct them to you, or you can even maybe even send an email to our LOCS mailbox for this. But Joe, didn't know if you had anything to add there.

Joe Sexton: Well, I'm not sure if that intended to say ARLN. But I do participate as a mycotics representative for ARLN. And the ARX unit within CDC does a really good job of helping connect the dots and lead communications between the various partners that are involved with *C. auris* testing. So I would recommend-- maybe you do need some help facilitating communications and ARX would probably be a great place to start.

Sean Courtney: Is there an email that we can refer them to for ARX?

Joe Sexton: Yes, I can drop that in the chat, actually. It's actually arx@cdc.gov.

Sean Courtney: OK, perfect. Thank you. All right. And another question just popped up. And it says, has CDC release recommendations or requirements for *C. auris* screening in health care settings?

Joe Sexton: I think that's kind of related to the prior question in a sense. But there are guidelines and recommendations. But there's no blanket requirements. It really requires responding and working within the local epi to guide the testing.

So I think that that's a conversation that would have health care facilities, if they are wanting to know if they should screen, they could communicate with their local health departments who hopefully are in correspondence with CDC and can help interpret the guidance relative to the local epi and provide the specific guidance that a local health care facility is looking for.

Sean Courtney: All right. Excellent. Thank you. Appreciate you answering these questions. One just popped up. Let me read it real quick. Sorry.

All right. Well, I'll ask this one to since we have some time. It says, what would be the benefits of environmental screenings for *C. auris* and facilities?

Joe Sexton: That's a great question as well. At this point, I think we've learned through experience. Because of the shedding mechanisms that we discussed earlier, there are high rates of contamination in the health care environment.

And we've kind of just learned that if you have colonized patients, you can, more or less, expect to also find it in the environment. So I think in a lot of situations, it may not be helpful for the decision-making process. Environmental sampling can have value and maybe focus studies to better understand how *Candida auris* is spreading and also maybe in select outbreak settings.

If you've tried all the remediation things and you're struggling to get under control with consultation, with public health, it can be useful there. But mostly, it's potential in applied research settings rather than routine *Candida auris* response work. And part of the reason for that, I just do want to highlight, unlike the colonization test that we have, which I think are very, very good and well defined, some of the environmental sampling methods aren't necessarily quite as-- it's hard to recover *Candida auris* sometimes from the environment. And so there's challenges with what you can do with the negative result. And that can oftentimes be confusing for health care facilities to not interpret a negative sample as a clean bill, so to speak.

Sean Courtney: Right. And then to follow that up, is there evidence of *C. auris* in the water systems in these health care facilities or just in water systems in general?

Joe Sexton: So there actually has been some recent publications about the detection of *Candida auris* in wastewater, specifically in Nevada. So there are increasing number of public health and other labs trying to bring this on and explore this. So it's hard to know the full prevalence of *Candida auris* in wastewater systems. But we're kind of just at the beginning of that. But yes, there is at this point published reports of *Candida auris* being detected in wastewater.

Sean Courtney: All right. Thank you. And thank you for your participation on today's call, Joe. This has actually been really helpful in our first talk around this outbreak.

So it was really great to have you on, and kind of discuss that, and what to look for, and all that surrounds the lab. So I just want to thank you for joining today's call. And also, I just want to really thank all of our speakers today and remind everyone that we have our next scheduled call on Monday, May 15 from 3:00 PM to 4:00 PM. As you know, we hold these on the third Monday of each month.

Also, please, let us know if you have any additional suggestions for topics for future calls. And we look forward to continuing to discuss these hot topics, and to answer any of your lab, and testing community needs. As mentioned before, we'll post the audio transcript and slides from today's call on the website hopefully as early as next week.

You can find CDC on Facebook, Twitter, Instagram, and LinkedIn. And please, follow them to stay up to date with the latest news and recommendations. And with that, I want to thank everybody again, our speakers and all of you for joining us today. We continue to be grateful for your work. And we'll talk to you again on Monday, May 15. Thanks, everybody. Have a great one.