CDRH Virtual Town Hall #98
Monkeypox and COVID-19 Test Development and Validation
November 30, 2022

CDR Kim Piermatteo: Hello and welcome everyone to today's Virtual Town Hall Number 98 for monkeypox and SARS-CoV-2 test developers. Today, we will discuss and answer your questions about diagnostic tests in response to the monkeypox and COVID-19 public health emergencies.

This is Commander Kim Piermatteo of the United States Public Health Service, and I am the Education Program Administrator within the Division of Industry and Consumer Education in CDRH's Office of Communication and Education. I'll be your moderator for today's Virtual Town Hall.

Our panelists for today are Dr. Timothy Stenzel, Director of the Office of In Vitro Diagnostics, which is also referred to as the Office of Health Technology Number 7, or OHT 7, in CDRH's Office of Product Evaluation and Quality, or OPEQ.

Joining Tim is Toby Lowe, Associate Director for Regulatory Programs in OHT 7, and Dr. Kristian Roth, Deputy Director of the Division of Microbiology Devices in OHT 7 as well, and Dr. Noel Gerald, Branch Chief for Bacterial, Respiratory, and Medical Countermeasures in OHT 7 as well.

For today's Virtual Town Hall, we'll begin with opening remarks. Then, we'll answer your previously emailed monkeypox and COVID-19 test questions. And then, lastly, we will address your live questions. As a friendly reminder for those of you participating live in today's Virtual Town Hall, please be sure you have joined us today via the Zoom app and not through a web browser to avoid any technical issues.

Our last scheduled Virtual Town Hall for the calendar year 2022 will be on December 14th for both monkeypox and COVID-19 test developers. You may refer to our webpage titled “Virtual Town Hall Series - Test Development and Validation During Public Health Emergencies for COVID-19 and Monkeypox” webpage for details on all upcoming Virtual Town Halls. Links to both of these pages have been provided on this slide.

The presentation and transcript for our last Virtual Town Hall for monkeypox test developers specifically, which was held on November 9th, 2022, has been posted to CDRH Learn. I have provided a screenshot on this slide of where you can find those materials within CDRH Learn.

I'd now like to welcome Toby, who will provide today's opening remarks. Toby, the floor is yours.

Toby Lowe: Thank you, Kim. Thanks everyone, for joining us for another town hall. Our initial update is we just have one update to provide, and that is to share that, yesterday, we posted EUA templates for antigen diagnostic tests for mpox, and those are available on our website, which is showing on the slide right now. So that's the same place where the molecular templates are on our website as well. And with that, we can move into the questions.

CDR Kim Piermatteo: Great. Thank you, Toby. We'll now answer your previously emailed questions about monkeypox and COVID-19 test development and validation. As always, please note, we do receive some email questions that are too detailed or test case specific that we will not address during today's Virtual Town Hall. For those questions, we will try to send a response in writing within a few days. If you have submitted a question and do not hear it addressed today, please look for a written response. If you

do not receive a response within a few days, please feel free to reach back out to the MPXDx@fda.hhs.gov mailbox or the COVID19Dx@fda.hhs.gov mailbox for an update.

Toby, I'll be directing this previously emailed question about monkeypox test development to you. The question is what are FDA's long-term plans with the monkeypox EUA? Is there a time frame to keep it open, since cases are decreasing in the United States?

Toby Lowe: Thanks, Kim. So as we've discussed here and in the guidance document, there is currently an EUA declaration in place under Section 564 of the FD&C Act which declares that circumstances exist justifying the authorization of emergency use of in vitro diagnostics for detection or diagnosis of monkeypox. We cannot anticipate when that declaration may be terminated.

It's important to note that EUA declarations have historically been left open for quite a while to ensure that public health needs are addressed, and this is seen with several previous public health emergency declarations, including Zika, Ebola, and, obviously COVID-19, which have not been terminated to date.

And we at FDA are committed to help ensure that the public has access to appropriate test options for monkeypox, and we will continue to review EUA requests as needed to address public health needs.

CDR Kim Piermatteo: Thanks, Toby. As a second part to that question, the question is in the instance the EUA is kept open, what would happen to the authorized ones in the case that any potential future product is cleared? Will this affect and/or limit the status or validity of the previously authorized EUAs?

Toby Lowe: Thanks. So as with all EUA declarations and EUAs, unless revoked, the EUAs are in effect until the EUA declaration is terminated. And those EUAs, the tests that are authorized under those EUAs, should be maintained in accordance with the conditions of authorization. Clearance of future products does not automatically mean that EUAs for other products will be revoked. As we can see with the COVID tests, we can clear a 510(k) without revoking EUAs for other tests.

And, notably, for mpox, we already have a cleared 510(k) for a non-variola Orthopoxvirus test that detects monkeypox virus, and that test has been cleared since before the EUA declaration was made. And we also do welcome additional premarket submissions for mpox tests.

CDR Kim Piermatteo: Thank you, Toby. We will now move to address your previously emailed questions related to COVID-19 test development.

Toby, the first question for COVID-19 test development is would a multi-analyte rapid molecular test that can detect multiple common respiratory pathogens, including SARS-CoV-2, be prioritized for review? What is the most effective method prior to submitting an EUA request to determine if a COVID-19 test would meet FDA's priorities for review?

Toby Lowe: Thanks, Kim. So we may consider prioritizing EUA requests for multi-analyte rapid molecular tests, and we encourage developers of such tests to engage with us early through a pre-EUA to discuss prioritization as well as validation plans and approaches to consider.

As is discussed in our policy for COVID-19 tests during the public health emergency, which is the guidance document that was updated earlier this fall, we do generally intend to prioritize review of EUA requests from experienced developers for diagnostic tests that are likely to have a significant public

health benefit or are likely to fulfill an unmet need. So the types of tests that are considered to meet those priorities may change as the public health needs change. And we will consider each request on its own merits to determine whether or not to prioritize review of that test.

To follow up or to get questions answered on priorities, we recommend that test developers email the COVID mailbox. That's COVID19DX@fda.hhs.gov, and that's the same mailbox we've been using this whole time. We've often referred to it as the EUA mailbox or the EUA templates mailbox. It all goes to the same place. So you can email that mailbox with questions regarding whether your test meets FDA's review priorities, and when you send that email, we recommend including sufficient detail regarding your test so that we can provide informed feedback.

CDR Kim Piermatteo: Thanks, Toby. For our next previously emailed question related to COVID-19 test development, I'll direct that to you, Tim. So Tim, the question is on November 1st, 2022, the FDA revised the authorized uses for all currently authorized SARS-CoV-2 rapid antigen tests to include repeat or serial testing on symptomatic patients. Is the FDA planning to provide information for healthcare providers or laboratories that order or perform antigen tests regarding how to implement this change in their testing regimens?

Timothy Stenzel: Thank you, Kim. In August of this year, FDA issued a safety communication titled At-Home COVID-19 Antigen Test-- Take Steps to Reduce Your Risk of False Negative, recommending increased serial testing for users of at-home COVID-19 antigen tests and, in fact, this is now our recommendations for all antigen tests based on available data showing the need for repeat testing after a negative result to increase the chance of an accurate test result of catching those true positive results.

Then, as stated on November 1st of this year, revision of all authorized antigen tests followed the August safety communication updating the authorized uses of all antigen tests to include necessary serial testing. Both the safety communication and the revision letter include information on how to perform this serial testing. Symptomatic individuals who receive an initial negative result should test at least twice over three days with 48 hours between tests. And asymptomatic individuals who receive an initial negative test result should test at least three times over five days with 48 hours in between tests.

These instructions will also be included in each test labeling as it is updated further requirements in the revision letter. It is important for all users, including healthcare providers, laboratories, home users to follow the authorized instructions for use. However, the test can be mixed and matched. So the same antigen test doesn't have to be used in all of the serial testing for a given patient. You can start out with manufacturer A and move to manufacturer B.

Also, the second test does not have to be performed in a clinic. If the clinic decides that a patient can go home and do the subsequent repeat testing if the first test in the clinic is negative, that meets the spirit and letter of the safety and labeling updates. So hopefully that addresses the questions that were at hand here, and we appreciate everybody working with us to make sure that antigen testing is as accurate as possible.

Thanks. And I think we're what, Kim, going to live questions now?

CDR Kim Piermatteo: Yes, we are, yep. So thanks Tim. That does wrap up our previously emailed questions for both monkeypox and COVID-19 test development. We will now take your live questions.

As a reminder, to ask a live question, please select the Raise Hand icon at the bottom of your Zoom screen. When you are called on, please follow the prompt in Zoom and select the blue button to unmute your line. Then identify yourself and ask your question. Please remember to limit yourself to asking one question only. If you have an additional question, you may raise your hand again to get back into the queue and I will call on you as time permits.

So it looks like our first question is coming from Kal. Kal, I have unmuted your line. Please unmute yourself and ask your question.

Kal: Can you [INAUDIBLE] hear me OK?

CDR Kim Piermatteo: You're very muffled and staticky.

Kal: OK, I apologize. I'll try to do my best.

CDR Kim Piermatteo: That's better, yes.

Kal: OK, so my question is that how many flu A and flu B positive samples are required for a 510(k) submission for an antigen-based multi-analyte test intended for home use, and are there pre-authorization and post-authorization targets for the samples?

Timothy Stenzel: Yes, and you're talking about not an EUA submission but a 510(k) or since we have not yet authorized an antigen test, fully authorized and tested, it would be a De Novo submission. Is that what you're talking about, a full authorization submission?

Kal: Correct, yes.

Timothy Stenzel: Yeah, so we are recommending that you submit a Pre-Sub or a Q-Sub—Pre-Submission or a Q-submission. This is free. That is the process that we're going through and making recommendations to developers for that full authorization submission. We've been doing that all along here, and that is the process. You can look for the Q-Submission or Pre-Submission guidance document, and that spells out how you go about submitting that. But again, there's no cost for that. Kris, anything to add on that?

Kal: OK.

Kristian Roth: No, we're glad to give you those target numbers in the context of Pre-Sub because we want to make sure that we kind of paint the whole picture of the clinical study in there because there's more details than just what actual numbers we're expecting.

Kal: So for like EUA, would it still be 50 for flu A and 30 for flu B.

Timothy Stenzel: Kris, can you answer that? It's whatever is in the templates is what our recommendations are.

Kristian Roth: Yeah, that's right. Those are numbers that are in the template for EUA, and I think that continues to be our recommendation.

Kal: Because we just wanted to get clarity because we got some feedback from FDA recently, and there seems to be some confusion about total of 100 samples for each with pre and post, so we just want to be really clear how many is it still 50 and 30 or now has anything changed from a target point of view.

Timothy Stenzel: Yeah, we're going to need to move on to the next caller, and you're asking very specific questions about a submission or a Pre-Submission, so if you have any questions on any directions that you've already had, and you've established with the FDA, go back to your lead reviewer, and they can address your question because we look at specific circumstances. There's a lot going on. Do you have an EUA authorized test already-- if so, what amount of that data can be applied to a full submission? So these it's important that these responses be individualized to best help each developer, OK.

Kal: Got it, thanks.

CDR Kim Piermatteo: OK, thank you Kal. And thank you, Tim, and Kris, for that response. Alright, our next caller is Ashfaaq I have unmuted your line. Please unmute yourself and ask your question.

Ashfaaq Ismail: Thank you very much for this town hall meeting. My question is a general one, but still sort of related to the topic at hand. But if this is already available in any guidance that the FDA have provided, then my sincere apologies in advance. In the event that an EUA expires, what level of additional documentation might need to be provided for the formal submission to allow a product or device for mpox or COVID-19 to clear?

And what sort of timeline would the FDA allow-- if I remember rightly, normally for a 510(k) submission, it's about 90 days? Please do correct me if I'm wrong. But I was just wondering what kind of timescale would a legal manufacturer have on the clock with regards to getting formal clearance after in the event that EUA expires.

Toby Lowe: So the EUA doesn't actually expire. The EUA declaration has to be terminated proactively. And we have two transition guidances. One of them is applicable here, regarding the transition for devices that have received EUA for COVID. And the transition guidance is out in draft, and it will be finalized. It talks about the transition from EUA to the post-emergency state, and it contemplates a 180-day advanced notice of termination of the EUA declaration and provides information on the enforcement policies that FDA is considering putting into place to provide sort of an extended runway for developers to transition to full marketing.

So I suggest take a look at that. And if you have additional questions about how to proceed, you can send those into the mailbox and we'll take a look and get back to you.

Ashfaaq Ismail: That's great, thank you very much for that.

CDR Kim Piermatteo: Thank you Ashfaaq for that question and thank you, Toby, for that response. Our next question is coming from Kathy. Kathy, I have unmuted your line. Please unmute yourself and ask your question.

Kathy Barnecut: Hi, my name is Kathy Barnecut. I'm calling from Becton Dickinson. My question is a two-part question related COVID-19. The first part is for a multi-analyte SARS-CoV-2 assay molecular assay, can the FDA comment on how to deal with the extremely low flu B prevalence and the lack of available clinical samples for the validation and the testing? And for the second part is will the FDA accept

contrived flu B samples in lieu of clinical specimens once we have already extended the clinical trial as our due diligence.

Toby Lowe: Thanks for that. So I can start, and then I'll ask Kris to jump in. So we have discussed this a bit on previous town halls, and we do recommend that you submit a pre-EUA to discuss different options. Generally, we would expect you to attempt prospective collection and then discuss with us alternative options if that's not successful. Kris, do you want to talk a little bit more about how we're looking at things there?

Kristian Roth: Sure, yeah. Thanks, Toby. We do recognize that the current situation with flu B will result in not being able to likely collect enough positives. Flu A though is on the rise, and I think if you look at the recent instructions for use, which include some of the performance numbers from the Lucira test that was just authorized, you'll see that, of course, there's, I think, no prospective flu B in that particular label. There is some prospective flu A. So if your data set is close to what the data is in that instructions for use, in the Lucira instructions for use, I'd say put that together for us and submit that, and we can chat with you about paths forward for your particular test.

Kathy Barnecut: Thank you. Thank you so much.

CDR Kim Piermatteo: Thanks, Kathy, and thanks, Kris. Our next question is coming from Ling Koh. Ling Koh I have unmuted your line. Please unmute yourself and ask your question.

Ling Koh: Hi, this is Ling Koh calling from BD. I have a COVID-19 related question specifically around sequencing. So in previous town halls, we've heard that originally 10 positive samples were required to be sequenced that contain currently circulating variants at the time of submission. That number was then revised to 30 positive sequenced samples collected before March 1st.

And I was just wondering if the FDA could comment on the current thinking around that, and if there-- we've heard the language areas of low variant prevalence versus high variant prevalence. If you can comment on some definitions there and just provide some guidance about what the current thinking is on that topic. Thank you.

Timothy Stenzel: Yeah, so we did see a drop in performance with omicron, and so we are wanting to see 30 omicron samples. As far as the details of the sequencing, Kris, can you provide any more details? I mean, the sequencing is largely just to confirm that it is omicron samples that we are at. But we have a date, beyond which, if the samples are collected in the U.S., or the 30 samples, then you don't have to sequence. So it's 30 omicron but there-- and I forget the exact date. Kris may remember that-- but we're well past that now. Go ahead, Kris.

Kristian Roth: Yeah, March 1st of last year. So if you got 30 prospective samples collected after March 1st of 2022, then we're not asking for additional sequencing data. And I think we're fairly flexible on the sequencing data that you do provide. Of course, you want it to be the final sequence to be put through the Pango-- get a Pango lineage and show us that. But as long as you're using relatively modern sequencing techniques, I think that's something we've been accepting.

Timothy Stenzel: Yeah, but that's only if your samples were collected partially or completely before March 1 of this year-- in the U.S. So we just looked at the variants across the country and decided at what point on the calendar all the sequence data that has been submitted on COVID was above a

threshold that we could just assume that the vast majority of COVID positive samples after March 1st were, in fact, omicron.

Ling Koh: Thank you, and that makes sense for U.S.-based samples. I think that answered it very succinctly for OUS samples. We had gotten feedback basically around the clinical studies performed in areas of low variant prevalence, then it's recommended you still perform sequencing. Is there a threshold percentage prevalence for omicron that you would consider low versus high variant prevalence?

Timothy Stenzel: Yeah, unfortunately, we don't track the variant thresholds outside of the U.S. in the same way we do in the US. And so we really can't make that blanket. So have a specific conversation with your lead reviewer or when you do get assigned one about that, OK?

Ling Koh: OK, thank you.

CDR Kim Piermatteo: Thanks, Ling for that question. Alright, our next question is coming from Annabel. Annabel, I have unmuted your line. Please unmute yourself and ask your question.

Annabel: Thank you very much. My question is regarding a COVID antigen test for full marketing clearance. We submitted a Q-Sub and received the draft recommendations for that full marketing clearance for a POC test. So our question is regarding a reproducibility study. We understand that the study should be performed at three POC sites with nine operators, so three operators per site. So we wondered, is it acceptable to include a site that is point of care, but has less than three healthcare providers at that site and to bring in a representative operator, such as a retired doctor or a traveling nurse to that site to round out the required number of operators at that site for the reproducibility study?

Timothy Stenzel: Again, this is very specific question, so I would encourage you to go back to your lead reviewer. I mean, we have pretty standard responses to Pre-Sub and Q-Sub submissions. And so if you have any specific questions after you've gotten that pretty standard response, which applies to everybody, just do go back and ask the lead reviewer and we can handle that sort of thing. The focus for full authorization and those sites is to actually look at busy regular clinics.

So we're really looking at healthcare workers that are not trained laboratorians. They're busy. They're doing their normal work. And on top of it, they're doing testing. Why do we do this? We do this because we want to make sure that the tests are simple enough, accurate enough in that setting to give a result that will yield a clear way of determination, which is what you want.

So bringing in somebody who's not normally in the workflow and they're just doing the testing and they're not busy with their other activities doesn't really tell us, in that busy clinic setting, are you able to get accurate results in that setting? That's the purpose.

Annabel: OK, thank you. The reason I asked this was that we had put in a Pre-Sub supplement and had pinged our reviewer. I was just hoping this would be another way to get a faster answer, so I appreciate your taking the time to answer this. Thank you.

Timothy Stenzel: Yeah, and probably no one on the phone. Maybe Kris does, but I don't know the details of that and the discussions. And it's just we want to give you the very best response and in the context of our communication with you, OK?

Annabel: Of course, thank you.

CDR Kim Piermatteo: Thank you, Annabel, and thank you, Tim. Alright, our next question is coming from Lisa. Lisa, I have unmuted your line. Please unmute yourself and ask your question.

Lisa Diamond: Yes, thank you. My question is how does FDA view the priority of data infrastructure for capturing and analyzing results from at-home testing? Is that something you consider a high priority at this point?

Timothy Stenzel: So is this for regular testing or is this in a clinical study setting where you're capturing data?

Lisa Diamond: No, this is for everyday testing. I mean, with the shift to at-home testing, we lost a lot of visibility into test results, and the question is it a high priority to develop methods to be able to capture the results from a wide range of testing, including at-home testing?

Timothy Stenzel: Yeah, I'm curious, who are you with? Who are you representing?

Lisa Diamond: A company called [INAUDIBLE] Bioscience, and we're actually proposing to build this kind of infrastructure that could be used.

Timothy Stenzel: Oh, perfect. Perfect. I'm so happy that you're interested in this, and I would recommend that you send an email into our COVID box and ask to speak with Dr. Sara Brenner-- S-A-R-A B-R-E-N-N-E-R. So she is heading up our connectivity for this, and she would, I'm sure, love to talk to you about this.

So the FDA is encouraging that there is greater and greater connectivity so that we can track-- we being healthcare providers and the healthcare system and the U.S. government can track disease more easily. For COVID at-home tests in particular, if a connectivity or a reporting function-- which doesn't have to be the device connecting. It can be an app that the consumer simply logs in and says my result was positive, my result was negative. So that is not something that we evaluate for the authorization of the test decision for any EUA for COVID, but it is something that if it's not available at launch at authorization, we do ask developers to develop that. So that is very important. And so there probably is an opportunity to help a lot of developers in this area. So anyways, talk to-- send an email, ask to speak with Dr. Sara Brenner, and she can help you out.

Lisa Diamond: Thank you, very helpful.

CDR Kim Piermatteo: Thanks, Lisa. Alright, our next question is coming from Amanda. Amanda, I've unmuted your line. Please unmute yourself and ask your question.

Amanda: Hi, thank you. This is Amanda from BD, and my question is regarding COVID-19. Regarding the serial testing labeling updates from November 1, when does FDA expect to provide feedback to antigen test developers who submitted their serial testing labeling changes on November 15th, and should test

developers start to apply that same recommended labeling changes to tests that are currently in development-- i.e., at-home antigen tests and multi-analyte tests?

Timothy Stenzel: So multi-analyte tests will be only on symptomatic patients. That is a really good question because for the non-COVID analytes, we're going to have to figure out what that is. But if the test is negative, everything else is negative, and they're symptomatic, we do want them to serial test. But the serial testing in that multi-analyte panel is going to be for COVID only, we have no indication that for flu or RSV, you need to do serial testing if you're symptomatic and first test is negative.

So would this apply to all future antigen tests for COVID? Yes, it does it does apply. Timing-- so there were 51 antigen tests on the market when that went out. Newer authorizations that you've seen us make in the recent days included that serial testing in the initial authorization. So we have 51 companies we're working with, and we're just going to get through those as quickly as we can, but really, the labeling-- we do want the labeling reviewed by the FDA. We'll update your authorization, and we'll move on that as quickly as we can. Kris, do you want to add anything else about that?

Kristian Roth: No, I think that's what I would say as well. We've got a lot of authorizations to work through. So we're getting through them as fast as we can.

Amanda: OK, thank you.

CDR Kim Piermatteo: Thank you for that question, Amanda, and thank you, Tim and Kris. Alright, our next question is coming from David. David, I have unmuted your line. Please unmute yourself and ask your question.

David: Oh, hi. This is David from Mecca Consulting. I have a question regarding the monkeypox antigen test. So FDA published the template for monkeypox antigen test yesterday. Does that indicate FDA will reopen applications for monkeypox EUA, or the template is only to be used among developers who have already submitted their EUA intent before the October deadline? Thank you.

Timothy Stenzel: So I mean, the window for monkeypox did close, and whoever had reached out and proposed a plan, we've I think we've communicated with all of those folks about whether or not we would prioritize their submissions. However, you can always submit a pre-EUA. We just can't make any promises that it will meet our priorities because we take a look at the totality of developers that we've already given green lights to and we monitor their progress, and we're trying to meet the needs. And, of course, thankfully, monkeypox numbers are way, way down. So there are certain challenges with that, especially for antigen tests.

CDR Kim Piermatteo: Thank you, Tim, for that response. Thank you, David, for that question. Alright, our next question is coming from Homer. Homer, I've unmuted your line. Please unmute yourself and ask your question.

Homer Wu: Hi, this is Homer Wu from Hopkins MedTech Compliance. I'm just following the question from, I guess, Kathy from BD about the multi-analyte antigen tests for COVID plus flu A and flu B, either OTC or POC. Does the FDA still allow us to do the flu B with a sample, banked sample or retrospective samples?

Timothy Stenzel: Is this a molecular test or an antigen test?

Homer Wu: Antigen test.

Timothy Stenzel: So bank samples with antigen tests are really challenging. We have been open to dry swabs. So that is a very specific question. I think we're-- as Toby covered, the multi-analyte with COVID, flu A/B and/or RSV or other analytes about how we would handle those. So we would ask you to come in with a Pre-Submission and make sure that we would prioritize your product for review. And then, if so, we can really get into the details about how you might do that. But it's really-- right now, there's significant flu A, but there's almost no flu B, and so that's a real challenge to test that. They really do require direct swab to be able to evaluate them. Kris, anything else to add?

Kristian Roth: No. And I think if your test uses a transport media, they generally we're more open to banked samples. If the test doesn't have a transport media, just saline or VTM then it's going to be a lot more challenging.

Timothy Stenzel: And we don't necessarily encourage the use of VTM for antigen tests because we have seen significant issues in the COVID pandemic with VTM, and most of the antigen tests have really moved away from allowing transparent media because of those false positive issues.

Homer Wu: Right. If we can find flu B patients, can we call them back?

Timothy Stenzel: So you're really talking about an enrichment strategy, and we've recommended for any sort of enrichment strategy that you check with the FDA first on your plan to make sure that any potential biases are mitigated to the extent they can be and that the FDA is fine with your study plan. We're open to enrichment, but we want to make sure that it's a good plan, one that we can support an authorization with.

Homer Wu: OK, thanks. We do have a Pre-Sub for this before, but was closed, and we still can't follow-on, pre-EUA.

Timothy Stenzel: You have a pre-EUA, and what's the status? You got responses back?

Homer Wu: We got response, and we-- I guess like this follow-on question, can we still use that case?

Timothy Stenzel: So I don't know the details. You're asking about details of a specific submission. So I would go back to whoever responded to you and ask whatever questions you have about the status.

Homer Wu: OK, alright. Thank you.

CDR Kim Piermatteo: Thank you, Homer, and thank you, Tim. Alright, our next question. We're circling back to Ashfaaq. You have another question. I have unmuted your line. Please unmute yourself and ask your question.

Ashfaaq Ismail: Hi, thank you very much. My question was I read a media release from Swiss Medtech that the Swiss authorities had passed a resolution which moves one step closer to recognizing and accepting FDA approval on medical devices and IVDs, et cetera. So basically, if a medical device has been approved by the FDA, then that will make it easier for a device to enter into the Swiss market. Now my

question was, will the same apply for emergency use authorizations, EUAs, that the FDA have issued as well. Do you know, by any chance, any information with regards to that?

Timothy Stenzel: I think we would have to reach out ourselves and speak to the Swiss authorities. It's not uncommon for other countries to recognize the good work that our FDA team does, and they're the ones that would say that the FDA does have-- is working hard with other regulatory bodies around the world to see if we can't get to a single submission program, but we're not anywhere close to achieving that desired goal. There's a lot of work to do still. So I think the Swiss would be the people to reach out to, or any other country, and what they would recognize for what purpose is not for the FDA to say.

Ashfaaq Ismail: OK, sure, no problem. I just thought I'd put the question out that in light of what I'd read just recently. But no, thank you very much for that.

CDR Kim Piermatteo: OK, at this time, I see no more raised hands, so I'm going to make a call out. At this time, if anyone else has a question, please raise your hand.

Alright, we have a question. I will apologize ahead of time. I don't know if I'm going to pronounce your name correctly. Dhanalakshmi, I unmuted your line. Please unmute yourself and ask your question.

Dhanalakshmi Nair-Schaef: Thanks, I'm Dhana. And I'm calling from [INAUDIBLE] Diagnostics. I had a quick question of whether the FDA is recommending serial testing for a clinical trial that would be performing for a 510(k) for COVID-19?

Timothy Stenzel: So I would urge you to submit a Q-submission or a Pre-Submission for the same thing. Follow the guidance on this to get a formal response. But I would say, in general, that because of the NIH-sponsored study that was done in collaboration with FDA review of the protocol and performed by the University of Massachusetts, some of the data has been published. Some of it hasn't. It has informed us on the benefits of serial testing in both symptomatic and asymptomatic. Because of that work, we want to leverage that work and not require developers to have to repeat that work. So what we're looking for-- to refer to that data is that you have a test that performs well enough on symptomatic patients to qualify that.

Kris, do you have anything any more details to add? But the real details should be under a Q-Sub or Pre-Sub submission. I'm just giving you a very high-level philosophy here. Kris?

Kristian Roth: Yeah, certainly. We want to avoid-- we understand that clinical trials of serial testing are going to be costly and very intense, so we do want to try to leverage as much information we have already existing. And like Tim said, we can talk about that specifically with you in the context of Pre-Sub.

Dhanalakshmi Nair-Schaef: OK, thank you.

CDR Kim Piermatteo: Dhana, do you have another question?

Dhanalakshmi Nair-Schaef: I do.

CDR Kim Piermatteo: Go ahead.

Dhanalakshmi Nair-Schaef: Sorry. So I know that the recommendations that were put out by the FDA say that we have to test the LoD on the most recent strains that are available in preparation for any 510(k) submissions. My question really was can we do most of the testing with whatever strain is available right now and then do just LoD testing with strains that come out as we're preparing for the submission, or do we have to wait for the strain of concern being available before we submit our package?

Timothy Stenzel: No, we realize that the latest variants aren't deposited in banks that can be utilized. You can always take a patient sample and sequence it to make sure what it is and dilute that down for your studies. But Kris can maybe add a little bit more flavor here, but we realize that you only can get access to some of the variants, and there's a delay before they're deposited in one of the banks, so that the very, very latest is usually not always available. Kris?

Kristian Roth: Yeah, I think that's-- I totally agree with that. Also, is this an antigen test or a molecular?

Dhanalakshmi Nair-Schaef: Sorry, this is an antigen test.

Kristian Roth: Antigen test, OK. Try to get the most modern strain you can, of course, and that LoD study for a 510(k) is really one of those foundational studies that drives the concentration for the other studies you're going to perform, such as reproducibility, all the interference study. So it's not necessary to kind of redo it right before you send in your 510(k) because there's really no point. Really, that 510(k) study-- or sorry, the LoD study is there to guide you for the rest of your analytical studies. So once your analytical studies are done, that's kind of your data package, and there's no need to update your LoD with the latest string.

Dhanalakshmi Nair-Schaef: OK, thank you.

CDR Kim Piermatteo: OK, thank you for your questions. Our next question is coming from Richard. Richard, I have unmuted your line. Please unmute yourself and ask your question.

Richard Montagna: Yeah, thank you. Tim, this is Richard Montagna with Rheonix. You just mentioned the ability to leverage the serial testing work that was done at Massachusetts. Can you repeat that citation so we can-- is it published, or how do we find it?

Timothy Stenzel: Yeah, the data is not fully published yet. So in either you're pre-EUA or your conversations for an EUA test, or for full submission, just refer to the NIH UMass data on serial testing.

Richard Montagna: OK, thank you very much.

Toby Lowe: I can also just add that if you look at the safety communication from August and the November 1 letter of authorization revising the antigen tests, there are citations to at least the preprint for that study.

Richard Montagna: OK, thank you very much, Toby.

Timothy Stenzel: Yeah, for some of the data. The data is not completely presented. We're working on final publications.

Richard Montagna: Thank You.

CDR Kim Piermatteo: Great. Thank you, Richard, and thank you, Tim, and Toby. At this point, that was our last live question for today. Thank you everyone for your participation. And I want to, again, thank our panelists, Tim, Toby, Kris, and Noel. We appreciate everyone.

Today's Virtual Town Hall presentation and transcript will be posted to CDRH Learn under the section titled "In Vitro Diagnostics" and then the subsection titled "Virtual Town Hall Series."

If you have additional questions about monkeypox test development, you may send an email to MPXDx@fda.hhs.gov, and for specific questions about COVID-19 test development, you may send an email to COVID19Dx@fda.hhs.gov.

As a friendly reminder, our next Virtual Town Hall will be for monkeypox and COVID-19 test developers on Wednesday, December 14th, 2022, from 12:05 to 1:00 PM Eastern time. We are hope you able to join us.

This concludes today's Virtual Town Hall. We hope you have a wonderful day.

****

END