Virtual Town Hall #87
June 15, 2022

Moderator: CDR Kimberly Piermatteo

CDR Kimberly Piermatteo: Hello and welcome to Virtual IVD Town Hall number 87 for SARS-CoV-2 test developers in which we'll discuss and answer your questions about diagnostic tests in response to COVID-19. Thanks for joining us today. 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 Town Hall.

Our panelists for today's Town Hall 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 OHT7, in CDRH's Office of Product Evaluation and Quality, and Toby Lowe, Associate Director for Regulatory Programs in OHT7, and Dr. Kristian Roth, Deputy Director of the Division of Microbiology Devices also in OHT7.

For today's Town Hall, we'll begin with opening remarks, followed by answering your previously emailed questions, and then proceed to address your live questions.

A recording of today's Town Hall and transcript will be made available on CDRH Learn under the section titled Specialty Technical Topics and then the subsection titled Coronavirus (COVID-19) Test Development and Validation Virtual Town Hall Series.

The June 1st IVD Town Hall recording and transcript have been posted. The next scheduled IVD Town Hall will be on Wednesday, June 29, 2022 from 12:05 to 1:00 PM Eastern Time.

Before we begin with the opening remarks, I'd like to take a minute and let you know about our future Town Halls. We've seen a great value in these Town Halls but have recently seen a decreased need for them. We will continue to evaluate the needs going forward and can also add meetings if needed. Therefore, beginning in July, we will be holding these Town Halls once a month. Our Town Hall for July will be held on Wednesday, July 27, and our Town Hall in August will be held on Wednesday, August 24 at the same time. Please refer to the virtual Town Hall series webpage to keep up to date on the next upcoming scheduled Town Halls. And on the bottom of this slide, I've included a link to our Medical Device Webinars and Stakeholder Calls webpage, where you can access the virtual Town Hall series webpage and information.

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

Toby Lowe: Thank you, Kim. Thanks everyone for joining us again and for helping to make these Town Halls so successful and beneficial for the community. I have one announcement today. On Friday, June 10, we issued the first EUA for a genotyping test. So this was an EUA for the Labcorp VirSeq SARS-CoV-2 NGS test, and it's the first COVID-19 test authorized for the identification and differentiation of SARS-CoV-2 PANGO lineages. It's an NGS test and is a reflex test for use after a SARS-CoV-2 positive on one of the Labcorp authorized tests.

And we continue to be interested in additional tests of similar types that can be used for genotyping, so we welcome submissions in that area. And with that, I think we can move on to the prepared Q&As.

CDR Kimberly Piermatteo: Great. Thanks Toby. We'll now answer your previously emailed questions. Please note, we have received some questions that were too detailed or test case specific that we will not address today. 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 CDRH-EUA-Templates@fda.hhs.gov mailbox for an update.

Alright, Toby. I'll be directing these questions to you. Our first question is, does FDA have a recommended number of variants that should be evaluated to support the EUA authorization for an OTC rapid antigen test?

Toby Lowe: No, we don't have specific requirements, but we do expect developers to evaluate the impact of all relevant variants. So for that, we recommend assessing the prevalence of viral mutations in sequence databases, such as the GISAID database, as mutations observed in these databases at a significant frequency may signify that the mutation is present in an increasing portion of infected individuals in the U.S. And generally, we consider a significant frequency to be greater than 5% when considering at least 2,000 sequences over a recent period of time, such as the past week, month, or quarter.

We do have some additional information on evaluating the impact of viral mutations in our viral mutation guidance that was issued in 2021 and on our viral mutation webpage for COVID. And both of those can be found if you go to the FAQ page that's posted on the slide currently showing. Those resources can be found there.

CDR Kimberly Piermatteo: Thanks, Toby. Alright, our next question is, with FDA now accepting all non-COVID IVD Pre-Submissions, is FDA prioritizing certain pre-submissions? For example, COVID Pre-Subs versus non-COVID Pre-Subs.

Toby Lowe: At the beginning of this year, we began again reviewing PMA and De Novo Pre-Subs. And now, as was recently announced, we are accepting all non-COVID IVD Pre-Submissions, including those for 510(k)s. However, due to the continued elevated workload due to COVID, it is likely that these IVD Pre-Subs will initially be reviewed under an extended timeline, and we may prioritize Pre-Subs as appropriate to benefit public health, such as those that contain novel questions which have no precedence in previous decisions.

For those that may have precedence in previous decisions, there is information that can be found on our website, and so if you are considering submitting a non-COVID IVD Pre-Submission, we recommend that you refer to the FDA's 510(k) and De Novo databases to take a look at the decision summaries and 510(k) summaries that are posted there. These documents provide a wide range of information for each test that can serve as a resource for developers, including information related to how the tests were validated, both analytically and clinically, and this information may guide you in your test development, study designs, and in putting together your submission.

CDR Kimberly Piermatteo: Thanks again, Toby. Alright, our next previously submitted question is, will a digital reader for lateral flow rapid antigen tests become a requirement or an expectation for transitioning to a 510(k)?

Toby Lowe: A digital reader is not required for transitioning to a 510(k). However, there are multiple advantages of using a digital reader, so it is generally preferred over a visual readout. Digital readers may allow for additional enrichment strategies in the clinical study, may streamline result reporting, improved test performance by potentially increasing sensitivity, and eliminate subjectivity in result interpretation.

There are several FDA-cleared rapid lateral flow tests currently on the market for flu and other analytes that use a digital reader, and it's likely that a similar device design would be acceptable for a SARS-CoV-2 antigen test De Novo or 510(k). If you're interested in pursuing marketing authorization for your device with a digital reader, we recommend that you submit a Pre-Submission to discuss your proposed approach with FDA.

CDR Kimberly Piermatteo: Thanks. Alright, our last previously submitted question is, is there an expedited track for FDA's evaluation of diagnostic breath tests?

Toby Lowe: There's not an expedited track, but FDA's current thinking on prioritization of in vitro diagnostic EUA requests is explained in our guidance policy for COVID tests during the public health emergency that was reissued on November 15 of 2021. And that is linked also on the resource slide that's currently showing. And we encourage you to review the FDA's current priorities in section 4a of the guidance document, which is on page 7, and the priorities are also explained in the flow charts in Appendix A of the same guidance document.

And in those priorities, we lay out that we intend to focus on EUA requests for diagnostic tests, which can include breath tests, that can be used at the point of care or completely at home from developers who have indicated the ability to scale up manufacturing capacity shortly after authorization.

And we do consider the public health needs as we prioritize submissions, so if there is a submission, an EUA request submitted for a test that looks like it will be highly beneficial for public health, we would prioritize such a submission.

CDR Kimberly Piermatteo: Thank you, Toby. That wraps up our previously submitted questions. We will now take your live questions. 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 to unmute yourself. 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 if time permits. And please remember, we are not able to discuss specific submissions under review.

So our first live question is coming from James. James, I have unmuted your line. Please unmute yourself and ask your question.

James Mullally: Hi, thank you. Thank you, Toby. This is Jim Mullally from the CRO MCRA. That's M-C-R-A. So in the past Town Halls, FDA has communicated that they recommend a minimum of 10 positive variants be sequenced and provided in the EUA submission. Is this minimum still the expectation? Or is the number greater than that? Thank you.

Timothy Stenzel: Thanks, Jim. So we're currently re-evaluating that. We had moved, actually, to 30 when for submissions that had come in after the onset of omicron. Now that omicron is 100% essentially

in the U.S., if someone does a study somewhere else, we'd want to check the prevalence of the omicron. So we will-- we're in the process of determining at what date and beyond would sequencing not be required. So it's good that if someone starts their study well into omicron when it was essentially 100% to check in with the FDA and see if sequencing is still required for your study.

When there was a time when there was still delta at significant levels and in, perhaps, pockets within the country of significant delta, it was important to know that we were understanding performance for omicron. So hopefully that's helpful.

James Mullally: Great, thank you. So it seems like it's making sure that the performance in the clinical study is acceptable when there's sufficient number of omicron samples present.

Timothy Stenzel: Yes, yeah, if the study is done during 100% omicron period in the U.S. at least, we will be understanding the performance and on omicron samples.

James Mullally: Great. Thank you, Tim.

CDR Kimberly Piermatteo: Thanks, Tim and thanks, Jim. Alright, so our next question is coming from Ling Koh. Ling Koh, I've unmuted your line. Please unmute yourself and ask your question.

Ling Koh: Hi, this is Ling Koh from Scan Wealth. Thanks for taking my question. We are starting an OUS clinical study for a multi-analyte OTC rapid antigen test hoping to capitalize on the respiratory season. And I was just wondering, for a 510(k), whether we can use some of this data in the 510(k) data packet as well, and if so, is there any guidance around how much of the total data packet can come from OUS? Thank you.

Timothy Stenzel: So I'll let Kris help me with this response, but for multi-analyte, especially if you're going after flu B, we recognize that, right now, it may not work in the Southern hemisphere. It's probably going to yield that-- at least, give you a better chance of yielding the number of flu B positive. So we recognize that both for an EUA and as well as the 510(k). Or in the case of a first antigen test a De Novo.

Kris, do you want to add anything to that?

Kristian Roth: Sure, thanks. We do have precedent for taking OUS data in a 510(k) setting for flu. This is somewhat situational because the dynamics of flu are different in the U.S. per year, just a few years ago, we did have kind of a predominance of flu B, which was unexpected, so actually, folks were having trouble finding flu A samples. So we would like to probably-- discuss it with you prior to kicking off that study. We welcome that in a Pre-Sub just to kind of review your plans and get an expectation for what you see the need is for going OUS.

Ling Koh: Great. Thank you.

CDR Kimberly Piermatteo: Thank you, Kris. Alright, our next question is coming from Khalid Mansoor. Khalid, I have unmuted your line. Please unmute yourself, and ask your question.

Khalid Mansoor: Hi, this is Khal. Thanks for taking my question. So can we utilize COVID, SARS-CoV-2 clinical remnants that are procured during a multi-analyte clinical study and use these frozen remnants for future benchtop studies? Thank you.

Timothy Stenzel: Yeah, so if-- it depends on the device. Can you tell me is this a molecular or is this an antigen device?

Khalid Mansoor: An antigen device.

Timothy Stenzel: Yeah, so and are these dry swabs? Or are these swabs in VTM?

Khalid Mansoor: These are going to be dry.

Timothy Stenzel: OK, dry swabs. Good. So if your device takes direct swabs and these are swabs stored properly as direct swabs, so that's going to be something that is likely to be something that's acceptable. There's just a couple of things I would add and maybe Kris has additional things to add, and that is we would want to see a freeze thaw study for your method of collecting and storing these samples, so you would do a paired frozen and paired unfrozen.

We have seen where freezing a sample for an antigen test can release perhaps more antigen and create greater sensitivity, so there could be a positive bias and sensitivity for frozen samples that we'd like to understand. And then also it's important for you to know the stability of those samples when stored frozen and for how long.

Kris, do you have anything else to add?

Kristian Roth: No, not specifically, maybe a clarifying question. Are you talking about analytical studies or clinical studies in the future?

Khalid Mansoor: So these, we're thinking of analytical studies to be done in an R&D lab, so they're basically using these frozen remnants for analytical studies.

Kristian Roth: Yeah, then Tim's comments I think are right on. You want to make sure that virus is intact, and of course, you need to characterize the L&D in order to use those remnants for further study.

Khalid Mansoor: So can I ask a follow-up clarifying question then? Can this approach be acceptable for at-home test that utilizes an accompanying app?

Timothy Stenzel: So if you're talking about doing clinical studies for an over-the-counter test, that produces some challenges to being able to evaluate the full test protocol from the patient, opening the box, reading it, taking the swab, making sure it's done properly for an accurate result, and then yielding results. So the bias there is that it would only be-- you'd be removing the reading bias from that situation. But if you hand them a swab where they don't know whether it's positive or negative, they're going to be unbiased in that respect, but you're not testing the full workflow of the assay, which is really important for an over-the-counter situation.

We can-- I think this is more easily dealt with in the point-of-care setting, and you also would be handing potential-- or some of the swabs maybe half or more or less of positive patients swabs to health care

workers instead of a home user. So there is the potential for exposure that would be of concern if you're handing a viral swab to a patient, to a home user. So it's probably best to come in with-- if you're going for an EUA, pre-EUA, to describe this and get our feedback. Or if you're going for a 510(k) or De Novo, to come in with a Q-Submission.

Khalid Mansoor: OK, thank you.

CDR Kimberly Piermatteo: Thank you. Let's go to our next question, which is coming from Gitte. Gitte, I have unmuted your line. Please unmute yourself and ask your question.

Gitte Pedersen: Gitte Pedersen from Genomic Expression here. First of all, thank you everybody. I've been attending these throughout the whole pandemic, and we're part of this saliva debate team. But I have a question because we also have our own NP swabbing EUA in the system and want to think past the EUA to the 510(k). Have you created guidelines on how to-- what more do we need to put in-- what additional data do we need to submit at that point?

Timothy Stenzel: Yeah, some developers may have done large enough clinical studies overall, given all of their additions, and Saliva Direct has had a lot of supplements. So it would be good to write a summary of all the work that you have done and if you think that's sufficient to put that into a Q-Submission to the FDA. And we'll evaluate that and give you feedback on whether that that's sufficient or not. It could be, or it could be that the gap is very small. Kris, anything else to say about that.

Kristian Roth: No, that's I think the next step for you all.

Gitte Pedersen: Thank you so much.

CDR Kimberly Piermatteo: Thank you Gitte for that question. Alright, our next question is coming from Niya. Niya I have unmuted your line. Please unmute yourself, and ask your question.

Niya: Thank you. Can you hear me?

CDR Kimberly Piermatteo: Yes, yes, we can.

Niya: And thanks for taking my question. I was told from somewhere else outside of FDA is the point-of-care test may not be a priority under EUA, so I just want to confirm whether the molecular point-of-care test for COVID assay is still a priority for EUA?

Timothy Stenzel: So yes, as long as it meets the November 15, 2021 guidance as far as the amount of test production is met. If it meets that test production, then, yes, a point-of-care molecular device is still a priority.

Niya: Gotcha, thank you.

CDR Kimberly Piermatteo: Thank you Tim for that response. Our next question is coming from Cynthia. Cynthia, I have unmuted your line. Please unmute yourself, and ask your question.

Cynthia Merrell: Good morning. This is Cynthia Merrell from Clip Health. There was some discussion in the last Town Hall about antigen tests that have a mobile app and how results can be transferred to the various aggregate agencies. Can you discuss what the latest thinking on that subject is, please?

Timothy Stenzel: So yeah, so it's not a review decision for an EUA test. That is, if you don't have such any sort of capability for a consumer or even in the point-of-care setting for the same device report the results, we can make a decision on the EUA without that. But we have been putting into the conditions of authorization the commitment to develop such a reporting feature, whether that's the patient entering the results as positive or negative themselves or whether it's a device that determines whether the test is positive or negative and that somehow has connectivity.

So we do have a team within the office that can assist in the best way for a given developer to develop such a tool. And so you can come in with a pre-EUA. Or during your review, you can ask to connect with that group, and they can advise you on all the different options you might have and all of the work that the office and the U.S. government has done to make tools available to developers. So a substantial amount of work has already been done in this area within the U.S. government and has been deployed in some situations already, so we have an expert group that can assist you.

Cynthia Merrell: Great. Thank you.

CDR Kimberly Piermatteo: Thank you, Cynthia. Our next question comes from Maria. Maria, I have unmuted your line. Please unmute yourself and ask your question.

Maria Nagy: Hi, thank you for these Town Halls. They are fantastic. My question is around the flex study. Is there anyway we could use a pseudo virus-- we can't use heat inactivated and gamma irradiated for our particular product, so I'm wondering if we can use pseudo virus?

Timothy Stenzel: And this would be for what work, again?

Maria Nagy: Oh, I'm sorry. It's at-home antigen test.

Timothy Stenzel: For the analytical work?

Maria Nagy: Correct, the flex study.

Timothy Stenzel: It's an interesting question. I think we might need to know more details like how much of the antigen target is produced in the pseudo virus, any characterization studies you have. Certainly you understand where you live virus BSL-3 is not a good thing to do or an easy thing to do, and that if heat or radiation affects your detection of the antigen, that could be a challenge. So my recommendation would be to come in with a pre-EUA way to describe that to see if it's acceptable. Kris, may have other thoughts and suggestions. Kris?

Kristian Roth: Yeah, thanks. So we haven't accepted pseudo virus to date. What most folks have been using is a quantified patient sample. I think the previous caller was kind of alluding to that, and that's kind of-- there's plenty of patient samples available. That's really the most reflective of what a patient sample is going to look like in the real world.

So I think that would be our first recommendation to you is used to quantify patient sample, and then if you want to propose pseudo virus, there would be probably some questions we would ask. But I think to date we haven't really recommended using pseudo virus for analytical studies for antigen.

Maria Nagy: OK, with the quantified patient sample, my concern is, let's say, you're doing the drop study. How many drops do you need on the stick? One patient sample, you'll end up using that patient sample up before you get through the whole run, and then you're working on a brand-new patient sample that can hold-- each patient sample brings variables into play.

Kristian Roth: Of course, and patient samples will have variation in the viral load. I think some folks have taken the approach of pooling patient samples together and ensuring that pool patient sample is of sufficient concentration to perform the study that you have planned. Certainly, I think there are samples available that have very low CT, very high viral load, so I would suggest, obviously, focusing on those types of samples if you are going to make a pool.

Maria Nagy: OK.

Timothy Stenzel: OK, that's good suggestion, and I would just have that making a pool of low CT samples is a great idea, and then when you dilute it, dilute it not in VTM but dilute it in something that is not going to potentially yield false positive, such as PBS or saline.

Maria Nagy: OK. OK, that's very helpful. Thank you.

CDR Kimberly Piermatteo: Thank you, Tim and Kris, and thank you, Maria, for that question. Our next question is coming from Dr. Omotosho. I have unmuted your line. Please unmute yourself and ask your question.

Dr. Risca: Hi, yes, it's actually Dr. Risca calling from Montefiore Medical Center. We're going to be trying to conduct a study for antigen tests for home use and for point of care use and wondered what the role of contact, known contacts, where they would fit in as subjects for testing because they're not quite asymptomatic and they're not symptomatic. They could be pre-symptomatic. What is your feeling about using contacts [INAUDIBLE] or—

Timothy Stenzel: Yeah, so it is a way to enrich your study population. You'd want to make sure that it doesn't unnecessarily bias the study in any way. As far as whether we classify, that is, in the symptomatic, or at-risk group or asymptomatic-- I think I know, but I don't want to state it and then be corrected by Kris or Toby. So Kris or Toby, do you have our policy on this at your fingertips?

Kristian Roth: Sorry, so I hate to push it to a written kind of question. There's just a lot of-- I think there are already enrichment approaches which are acceptable, and certainly, in the guidance, we do regarding the template, we do mention enrichment as a path to reduce the amount of patience that you need to enroll. However, that enrichment needs to be done in the context of a study that has the appropriate controls, and so folks have used close contacts as an enrichment approach in some cases. But I think we would need to just understand your particular case a little bit better to make sure that it's appropriate for the intended use that you're looking for.

Dr. Risca: Well, the question is not to exclusively use contacts, but should they be excluded from the asymptomatic pool, for instance?

Kristian Roth: That is one approach. That would be the no-enrichment approach, and that's something that folks have done. They've been able to look at an asymptomatic population with the right enrollment criteria without looking at close contacts. But again, if you are going to specifically include close contacts in your enrollment criteria, we'd want to see what your inclusion-exclusion criteria are going to be and what your intended use is and make sure that those are appropriate for each other.

Dr. Risca: And then the second part of the question is what about using known positives as long as they're blinded to the testers. If we use in-patients with either positive COVID or positive other viral syndromes, if they agree to be in the study, can they be used to the point-of-care piece as long as they're tested by the point-of-care testers?

Timothy Stenzel: If the point of care and the person collecting the sample doesn't know the status of the person, that's likely to be OK. You talked about doing this with in-patients. We typically-- that's not necessarily the exact patient that would be seen in a point-of-care setting, so we understand where that may help you gain more samples more quickly. And obviously, you would be eliminating bias in that study by directing the health care worker to swab patients known to be test negative with an apparent method-- with an appropriate method so that they don't-- the sample collection person doesn't know the status of the person and doesn't assume that they're positive and, obviously, a negative.

And so we do want to see clinical testing in the point-of-care setting, but it's a possibility that that could be useful to enrich. But we would still want to see a prospective study in the true point-of-care setting, in a busy practice-type setting because we're looking at the ability of non-laboratory trained people to perform the test accurately, even when they have distractions all around them. So that's the reason for that. So if you're going to consider that, I think that's another thing that come in with a pre-EUA. Kris, anything else to add there?

Kristian Roth: You just mentioned inpatients, which suggests a hospital setting, and of course, that may not be exclusively the best setting to study a POC device. We may have suggestions there as well. [INAUDIBLE]

CDR Kimberly Piermatteo: OK, thank you very much for that question. We will go on and move on to our next question. Our next question is coming from Hur Koser. Hur I've unmuted your line. Please unmute yourself and ask your question.

Hur Koser: Thank you very much for that, and once again, I will reiterate how wonderful these Town Hall meetings are. Thank you very much for the opportunity. I have a more general question not related to the aspect of actually making the tests but the aspect of using the tests and making modifications, specifically. I have evaluated some proposals related to helping the uptake of some of these lateral flow assays and other COVID-19 testing in underserved populations, and a good number of such proposals focus on overcoming the language barrier and whatnot.

As such, when these researchers come up with ways to create easy-to-read bilingual versions of their IFUs, of the test IFUs and instructions, I'm wondering what the FDA's view of such instructions are and whether these instructions eventually need to be FDA approved in order to be used regularly and effectively within these communities. Thank you.

Timothy Stenzel: Yeah, so we do encourage, for the U.S., both English-- its recommendation for English and encourage Spanish. But I think you're talking about another population that neither speaks English-- neither reads or speaks English, reads or speaks Spanish. And the important thing about instructions is are they-- are they written clearly and accurately in a new language and then test on that population as the instructions for use. That's, in being able to read them and understand them in different languages, is part of the clinical study.

And I think that's an excellent question. If you were to be translating it to a new language and using it in the U.S., it would no longer be as authorized. So I think it's important to work with the FDA here. I think a pre-EUA, even if you're not the sponsor or a developer of the test, it's free to submit a pre-EUA. You could say-- give it a little background like you did now and the languages and the settings that you would like to explore.

Of course, if you're doing something under an IRB study with consent, there's a whole lot more flexibility there to test language, in this case, for whether they can do the study appropriately. It would not-- clinically, it should not be the test of record, though, when you do that if it's an OTC device. But certainly, there's no reason to run it by-- there's no recommendation to run it by the FDA before you do, an IRB-approved consented study in this case. But I do think that the FDA would be very interested in working with you. I would say that the [AUDIO OUT] at expanding access of OTC tests through changes to the IFU, including, I would say, changes to the language.

So we would want to absolutely incorporate this into our thinking and would look forward to working with you to expand access into these populations that you're interested in. Kris, do you have anything else to add?

Kristian Roth: No, I do not.

Toby Lowe: Hey, this is Toby. I'll just add a little bit there. As Tim was talking about, the labeling generally does need to be authorized, and so we are, again, as Tim said, very interested in working with you to get additional, alternate labeling authorized to improve the accessibility for of tests for different communities. If there's a specific test that you're working with, working with that test developer to bring the new labeling in under their EUA would be really beneficial, so then we can consider authorization of the alternate labeling as part of their EUA.

Hur Koser: Thank you.

CDR Kimberly Piermatteo: OK. Thank you, everyone. Our next question-- looks like, Maria, you have another question. I have unmuted your line. Please unmute yourself and ask your question.

Maria Nagy: Yes, thank you. Just very quickly, when it comes to testing the omicron variant, we did a small study between December and February of this year and got 47 patients, 10 of them being positive. Can we use in our RT-PCR kit that amplifies and recognizes omicron and delta as a way of confirming which are omicron and which are delta? As opposed to doing sequencing.

Timothy Stenzel: Yeah, yeah, we would recommend sequencing because, otherwise, you would have to validate the non-sequencing-based assay for this purpose, and that would be a lot more work than just getting the samples sequenced. If you're having trouble getting sequencing information for every

sample, that's something to reach out to the FDA to get some thoughts about how to do that or how to manage [AUDIO OUT] that situation. Kris, do you have anything else?

Kristian Roth: No other than to reiterate sequencing is much preferred. If there's absolutely no chance of sequencing, again, reach out. We can discuss and try to find another approach.

Maria Nagy: OK. OK, thank you for that.

CDR Kimberly Piermatteo: Thank you, Maria. Alright, our next question is coming from Cynthia. Cynthia, you have another question for us?

Cynthia Merrell: Yes, thank you. Many of us have been talking about wanting to be gathering clinical data for multiplex tests and how challenging it is to get flu A and flu B sampling, and so it's taking a long time to run these studies. And I wanted to address the elephant in the room that we don't know how much longer the EUA process will be available to us. So can you give us your latest guess on whether this pathway will be available for the rest of the year, for a month? Do you have any thoughts on that?

Timothy Stenzel: Yeah, we just don't know. We are coming up on-- we are 2 and 1/2 years into this, and we've authorized well over 470 tests. And there will have to be an end sometime, end this effort, there has to be –a time when we say enough is enough. But I can't say when.

But no matter what, the EUA authorities are not the only pathway to market in the United States. The regular full-authorization pathways of De Novo and 510(k)s, depending on the submission, are always completely over. They never-- completely open. They never shut down as opportunities to get something to market the US. So I would just factor that in your thinking.

At this time, we are still encouraging people who already have EUAs to come in for a full authorization. That's really our prime focus now is to get people to do that and assist people in doing that because we have authorized so many tests, and we want to make sure that those who are interested have an opportunity to come in for a full authorization. And we have significant number of tests that are fully authorized, so that's sort of long term. Our nation has the ability to continue to respond as needed to COVID.

Cynthia Merrell: Do I have time to ask a quick follow up?

Timothy Stenzel: Sure.

Cynthia Merrell: So our test is a, right now, a POC antigen test, but we are working on, as I said, a multiplex OTC antigen test. And as far as I know, we would have to be going down the De Novo pathway, and that's very scary for a small company. So is there-- I know you can't tell me about what's going on with other companies, but do you have some visibility on that?

Timothy Stenzel: I do, but I can't say.

Cynthia Merrell: Yep, I understand.

Timothy Stenzel: Until the first De Novo was granted, we don't know. The first person-- the first developer gets authorized, gets the De Novo. There is an additional cost. I know there are discounts for

potential developers in your space. And the other thing to do is just have your submission ready. You can come in for the free Q-Sub to understand what you need to do. Then you can have your submission all ready and then not be the first. Once the first De Novo is granted, then place your submission as a 510(k).

Cynthia Merrell: Great. Thank you.

CDR Kimberly Piermatteo: Alright, that was our last live question for today, so I want to thank our panelists Tim, Toby, and Kris. We appreciate everyone's participation today.

Moving on, as I mentioned earlier, a recording of today's Town Hall and a transcript will be made available on CDRH Learn, so please visit CDRH Learn at the link provided on this slide, where you will find the recording and transcript under the section titled Specialty Technical Topics and then the subsection titled Coronavirus (COVID-19) Test Development and Validation Virtual Town Hall Series.

For additional questions about today's Town Hall and COVID-19 IVD topics in general, you may send an email to CDRH-EUA-Templates@fda.hhs.gov.

And please remember to join us for our next IVD Town Hall scheduled for Wednesday, June 29, 2022 from 12:05 to 1:00 PM Eastern Time. And for one of our future IVD Town Halls scheduled for July 27 and August 24.

Again, thank you for joining us. This concludes our Town Hall for today. Have a nice day.

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