

CENTERS FOR DISEASE CONTROL & PREVENTION

Coordinator: Kendria Hall

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Operator: Welcome and thank you for standing by. At this time all participants are in a listen-only mode until the question and answer session. At that time, to ask a question you may press Star 1 on your touch-tone phone.

Today's conference is being recorded. If you have any objections you may disconnect at this time. And now I'll turn today's meeting over to today Mark Davis, State Coordination Task Force Lead. Thank you. You may begin.

Mark Davis: Thank you (Candy), good afternoon to everyone. Thank you for taking the time to join our call today. We have a fairly full agenda but promise you plenty of opportunities for questions and answers at the end. We have many subject matter experts on the phone and in the room here in Atlanta with us.

But I'd like to go ahead and get started quickly. Our Incident Manager, Dr. Lyle Petersen, is here in the room with us and only has a short time. So we want to get him through his presentations. Then I'll come back with further information, and we'll hear from the other teams. So Dr. Petersen?

Dr. Lyle Petersen: Thank you Mark, and good afternoon to everyone on the phone. So what I'd like to do is to update you on the new CONUS and Hawaii response plan that is now posted on our website and talk about how it relates to the current outbreak in Florida, which I know many of you may be interested in. The updated version of our response plan came as a result of two tabletop exercises conducted with the high-risk jurisdictions as well as several discussions with health officials of the high-risk states as well as ASTHO, CSTE, NATO, and other groups.

So the notable updates on the current version of the response plan include a reduction of the number of response phases: now we have basically three transmission phases -- a suspect case of local transmission, confirmed local transmission, and confirmed multiperson local transmission.

In this new update we've tried to provide clear definitions of each of these categories and the respective responses to those categories. The feedback we got from the previous version was that there was some confusion particularly around designation of a Zika transmission area, so that's been eliminated. In addition, we've refined the guidance for each of these geographic areas for interventions and considerations for issuance of travel guidance in the setting of confirmed multiperson local transmission. It's not that all confirmed multiperson local transmission needs a travel guidance, but under certain conditions, which I'll go into in a little bit.

We've also included the updated laboratory testing guidance which came out last week as well as issues about posting of areas of local transmission. Our previous guidance had us posting on a map single cases of local transmission. After discussions with many of you, that was eliminated, and we're only posting on our website links to the states' websites that may have local transmission just for people's interest, as well as showing where there's an

area where there may be a travel guidance. So that was very good feedback from the states and we appreciate that. We've made the changes according to that.

It should be remembered that this was based on our understanding of the epidemiology of *Aedes aegypti* transmitted diseases in the contiguous states, most notably dengue and more recently chikungunya. And the guidance is really predicated on the following observations. One is that we will see thousands of importations of Zika virus. Some one-off local transmissions that do not represent a broad risk to the community will occur.

Very few outbreaks will occur that are likely to be focal and involve scores of cases or handfuls of cases rather than hundreds or thousands, as we see in the tropical Americas. And it turns out that this experience with dengue and chikungunya (at least so far in the beginning of August) appears to be what's happening with Zika virus.

So far in the U.S., we recorded 1,657 travel-associated cases of Zika virus, which is undoubtedly a small fraction of what is actually being imported into the contiguous United States. Four out of five people are asymptomatic, and many of those with symptoms have minor symptoms and do not seek medical care. So literally we have thousands and thousands of imported cases of Zika. Despite that, we only have 16 identified locally transmitted cases and all have occurred in South Florida so far.

The current situation in South Florida is that the cases that have been identified have occurred in four instances or groups. Two of these were independent isolated events without evidence of ongoing transmission in the community, as determined by a community survey done within 150 meters of the case household.

And the community survey involved a questionnaire given to all the households by going door to door, as well as a urine PCR. A urine sample was collected for PCR testing. So it's not a serosurvey, but a urosurvey. And the urosurvey was designed that way because we weren't interested necessarily in past transmission but were interested in ongoing transmission which is best measured with the urine PCR. It's an easy sample to get, and it measures acutely infected people. This is a strategy that's been used in several instances in Florida. I'll describe those now.

So we have the two independent isolated events without any evidence of further community spread. We have another instance of a local transmission that is currently under evaluation. So that makes three. The remaining 13 people are part of a cluster. And this cluster came to light when two persons with local transmission who actually lived in two different counties were noted to work in businesses very close together in the Wynwood area of Miami.

Further investigation revealed additional cases associated with one of these businesses. A community survey was then done within 150 meters of these two businesses, and that community survey revealed additional persons with urine positive PCRs, all of whom were asymptomatic. Based on this, we knew that community transmission was likely ongoing and, according to our guidelines, would suggest a one-mile initial starting point for instituting interventions be declared. This one-mile area of potential transmission was posted by the Florida Department of Health.

Additional sampling within this one-mile area (additional urosurveys) have not shown any additional positives to be locally transmitted. So the current cluster appears to be very tightly clustered within about 150 meter diameter

area. However within this one-mile area, additional surveys are ongoing, so it's yet to be determined if in fact the outbreak is confined to this 150 meter area.

So the response basically followed the guidelines.

- The one-mile initial zone was established as a starting point for interventions.
- Mosquito control by truck and backpack spraying was initiated immediately.
- Public messaging was initiated and a massive DEET distribution was given in the area.
- The need for a travel guidance was assessed using the criteria in the guidelines, and several criteria were met.
 - One was continued high mosquito counts despite intensive vector control.
 - Several weeks of vector control did not show marked decreases in *Aedes aegypti* populations in that area.
 - There was a high density of cases in the area. The urosurvey suggested that about 13% or so of the persons sampled in that area actually had urine PCR.

So there was a fairly intense transmission going on in this one small area. Cases had been ongoing for nearly a month in the area (and especially more than two weeks) despite aggressive vector control. Also, on that basis, there was a consultation with the Florida governor and the Florida Surgeon General, and they decided to issue a travel guidance for this one square mile area.

Florida subsequently stepped up the vector control efforts with aerial spraying of Naled and BTI, which began this morning. Florida is evaluating insecticide resistance to determine if that has contributed to the difficulty of controlling

Aedes aegypti in that area. So I have several take-home messages for where we are at the current time.

- One is that so far, Zika virus seems to fit an epidemiologic pattern that is consistent with our experience with dengue and chikungunya.
- Second is that the response guidelines helped to guide the Florida response. When the Wynwood outbreak in Miami came to light, there were a lot of differing opinions about what to do—whether to issue travel guidance, not to issue travel guidance, how big the travel guidance should be, and a whole host of other opinions about what should be done. But the CONUS response plan, I think, provided a good grounding for all of those discussions.
- Finally the urosurveys, or the urological survey, seem like a very good way to assess ongoing transmission in the community. The optimal triggers for initiating a urosurvey are yet to be determined. We really don't know what the yield would be if one only one case of local transmission is identified.

So for example, in the current situation in Florida, for two of the cases which appear to be independent events where there was only one case identified by surveillance, the urosurvey failed to find additional ongoing transmission in the community. Whereas, in the Wynwood area where we had two cases that were linked in an area, the urosurvey showed additional transmission in the community.

And so, obviously, there may be many more one-off kinds of local transmissions identified. And others, under those conditions, because further evaluation is yet to be determined. So, with that I will end this and see if there are any questions.

Mark Davis: So (Candy) if you could open the lines for questions for Dr. Petersen we'll get into other topic areas in just a moment.

Operator: Thank you. At this time, to ask a question press Star 1 please. Please unmute your line and record your name to be entered in. For questions or comments press Star 1. If you'd like to withdraw the request at any time you may press Star 2. Thank you. One moment please for your first question.

Mark Davis: So I'll take the opportunity while (Candy)'s seeing if you do have questions, just to let you know what's coming. We have representatives from our medical investigations team here to talk about the CERT team and how that's coordinated, the CDC Emergency Response Team.

We have folks from our vector control programs who will be speaking, representatives from pregnancy and birth defects, from our blood safety program, and from our lab team, as well as our joint communication center. We also have on the line folks from our epi team and global migration available to answer questions later when we get there. So just a heads up about what's to come. So (Candy) do we have questions?

Operator: We do. Thank you. Stand by. Our first question is from (Rachel Franco). Your line is open, and please state your organization.

(Rachel Franco): I work for Memorial Regional Hospital South in Hollywood, Florida. And my question has to do with the *Aedes aegypti* mosquito. It is primarily responsible for the transmission of, or the cause for chikungunya, dengue fever, and yellow fever. The Zika virus, though, is strictly a sexually-transmitted virus. Is that correct?

Dr. Lyle Petersen: So the Zika virus is primarily spread by the *Aedes aegypti* mosquito. We do know that sexual transmission of Zika virus can occur. We do know that so far we've got roughly a dozen cases of sexual transmission identified in the contiguous states, all from travelers who have acquired Zika virus in an area of ongoing transmission—let's say in Central America or someplace like that—who has come back and transmitted infections sexually to their sexual partners here in the continental United States.

The things we do know about sexual transmission is that it is a minority of transmissions. Mostly, this is caused/spread by *Aedes aegypti*. We do know the virus is spread by female to male and male to female transmission. They can both occur. We do know that sexual transmission can occur from an asymptomatic person. What we do not know is how long somebody remains capable of transmitting the virus sexually.

(Rachel Franco): Okay so it can be transmitted not just by sexual intercourse then?

Dr. Lyle Petersen: The main mode of transmission is via mosquito bite.

(Rachel Franco): Okay.

Mark Davis: Thanks for the question. (Candy) do we have anything else?

Operator: Yes thank you. We have another question from Lori. Your line is open, and please state your organization.

Lori Forlano: Hi. This is Lori Forlano from the Virginia Department of Health. I have what I hope is a quick question. When you were outlining your response activities: the truck and backpack spraying, the public messaging; the third item you

mentioned, I couldn't quite hear you. I thought I heard you say distribution of DEET. Is that what you said?

Dr. Lyle Petersen: That's what I said.

Lori Forlano: Okay, thank you.

Dr. Lyle Petersen: Thank you. Next question.

Operator: Thank you. Next question is Dr. Shah. Your line is open, and please state your organization.

Dr. Umair Shah: Sure. This is Umair Shah. I'm Executive Director of Harris Public Health in Houston Texas. Thank you for having this call. I have a just a quick question around the aerial spraying. As you know, a lot of what we've been talking about previously with the *Aedes aegypti* is the backpack spraying or the targeted spraying. The aerial spraying took some of us by surprise. And I know you talked a little bit about that. Can you just tell us a little bit more about what the rationale was for the aerial spraying, and do you see that as being part of that response moving forward in other communities?

Dr. Lyle Petersen: Well I think one of—there are several pieces of this that are kind of intertwined. First, what prompted the aerial spraying is that this is a very complicated community. There's a mixture of industrial sites. There's a mixture of private housing. There's a mixture of high-rise housing and other kinds of buildings. It's a complicated community.

What's happened so far is that the current approach has not been able to control *Aedes aegypti*. There are moderate to high numbers of *Aedes aegypti* identified in BGE traps in the area. And so it's thought that, number one, the

aerial spraying could get a little bit of a wider distribution and a more uniform distribution of larvicide and adulticide across the areas of interest. They are doing a 10 square mile area with adulticide and a 2 square mile area of larvicide around this area. So the thought was you could get a fairly rapid knockdown.

There's not, I think as you pointed out, or maybe there's not a lot of experience with aerial spraying to control *Aedes aegypti* in the modern era using modern control methods. But there are some unpublished data done by several mosquito control districts which have shown that this combination of an adulticide and a larvicide sprayed aerially can produce a 92% to 98% knockdown that's sustained.

It's unpublished data. It's good data, but it's not published. And for that reason, we thought the Florida health officials, in consulting with some of the people who actually did these studies, decided to go ahead with aerial spraying. We're going to monitor the impact very carefully. If we find a similar result down in Miami, I think it's a bit of a game changer in terms of how we think about aerial spraying for *Aedes aegypti* control.

Mark Davis: Great. Thank you. And thank you for that question Dr. Shah. So I'm going to look to Dr. Petersen and see how much time you have. I know you've got a call. Are you okay with one or two more questions?

Okay. So (Candy) if there are another—some other questions we can take it.

Operator: Yes thank you. The next question is Jen Brown. Your line is open, and please state your organization.

Jen Brown: Hi. This is Jen Brown from the Indiana State Department of Health. I just had a point of clarification. We've been talking on this call about 16 cases. Is that the total number of infections including both asymptomatic and symptomatic persons, or when we talk about 16 cases are we talking only about symptomatic persons who have laboratory evidence, and then there's an additional undisclosed number of asymptomatic infections?

Dr. Lyle Petersen: No, the 16 is a mixture of symptomatic and asymptomatic infections. It does include the community survey of six people who had a symptomatic infection. But it should be noted that in terms of the total number of infections in this area, it must be greater than the number we have simply because we did not survey 100% of the people in the surrounding Wynwood area in 150 meters out. And so if we found six asymptomatic infections in the sample, one might surmise that there's actually potentially quite a few more infections out there in the community.

Mark Davis: Thanks for that question Jen. (Candy) next question?

Operator: Thank you. Next question is Assistant Chief Dunn. Your line is open and please state your organization.

Chief Dunn: Davie Police Department. Yes, one of the concerns here we're talking about, and I think you may have answered it, is we do not know what the time frame is that this virus can stay active within the body.

Dr. Lyle Petersen: Yes that's a good question. That's a very scientifically intriguing question actually. What we do know is in different body fluids and in different tissues the virus can remain for differing amounts of time. So for example in one's serum: the virus is only found in the blood for a matter of a few days, and possibly a week. If you look actually at someone's blood cells themselves,

you can actually detect at least the genetic material of the virus for quite a bit longer.

If you look at urine, it actually persists longer than in serum. That's why we're doing urine surveys rather than serosurveys. But in certain fluids like semen which are immunologically protected, we know at this point that the virus can remain there, and at least be detected for 60 days or longer. We just don't know exactly how long in the average person the virus persists. That's what we're trying to figure out. And that's why these sexual transmissions may occur several weeks after the person has actually recovered since the virus remains in semen for some time.

Keith Dunn: Thank you.

Mark Davis: Thanks Chief. (Candy) one more perhaps.

Operator: Thank you. Next question is Christina Floyd. Your line is open, and please state your organization.

Christina Floyd: Hello, Christina Floyd with Gila River Indian Community Tribal Health Department. I'm the director with the health department here. And I just had a quick question. In regards to tribal communities, we're in southern Arizona and so we have a large population. We're only maybe three hours or so from the border.

And I was really kind of curious about your implementation of the urine sampling testing. I know it's obviously in an urban area, but do you have any suggestions for tribal communities to perhaps implement some of the things that you did as far as the communication and testing and definitely the urinalysis?

Dr. Lyle Petersen: Yes, that's actually a very good question. And it relates to how you detect Zika virus transmission in the community. What we know from experience with other viruses that spread like Zika virus by *Aedes aegypti* is that the best way to detect the transmission of the virus in the community is actually finding human cases. It's much more sensitive than, say, testing mosquitoes.

However, once you find human cases in a community, looking at urine surrounding the case can detect ongoing transmission in the community for which you might want to institute interventions. So we wouldn't recommend anything like doing a urine survey in the absence of identified human cases.

Mark Davis: Okay. Great. Thank you. That was a very good question. So I think with everyone's permission I'm going to let Dr. Petersen go. As I've pointed out, we have representatives from many task forces that if you do still have questions that you didn't get to, hopefully your representatives will be able to answer them for you. And if not, we'll certainly take them down and find the answers and get them back out to the broad community. So thank you Lyle for your presentation today and for all of your good questions.

So, as I said we have folks from a number of teams. We're going to start off with Dr. Maleeka Glover representing the Medical Investigations Team. She's going to talk to us a little bit about the process for these CERT teams that can go out and the coordination process for that request. Maleeka?

Dr. Maleeka Glover: Hi. Good afternoon. Can you hear me?

Mark Davis: Yes ma'am.

Dr. Maleeka Glover: Okay. Good afternoon everyone. CDC is available to support this stage of activity that assists states in responding to locally transmitted cases of Zika virus infection in the jurisdiction. When a suspect or confirmed case of local transmission is identified, CDC will reach out to the state or tribal jurisdiction to determine the need for assistance in activating the state incident management structure or need for deployment of a CDC emergency response team or CERT. We also encourage states and tribal jurisdictions to reach out to CDC early on if they think they have local transmission to discuss the need for assistance in advance.

CERTs are ready to deploy and can provide on the ground technical and epidemiologic support and assistance, risk communication, vector control, as well as response logistics. Examples of the types of assistance provided by the CERT upon request by the state, local, or tribal health authorities can include:

- Assistance with investigating known cases or suspect cases of local transmission,
- Work with existing local vector control programs around the implementation of local measures to diminish the risk of transmission,
- Support staffing needs as resources permit for local or state health departments to enhance their surveillance.
- We are able to provide on-site training and assistance with laboratory guidance.
- We are able to enhance or implement, if absent, mosquito surveillance.
- We're also able to provide communication, research media, and technical assistance for audience-focused materials and can support the local health department and staff in instituting risk communication campaigns locally.

We also have SMEs on the CERT team to facilitate outreach to local medical communities to test or report suspect cases. They can provide clear and actionable prevention information to patients

We can provide support around pregnancy and birth defect issues for that at-risk population.

So in general, to request a CERT team: if we hear something or are in constant communication with the state or tribal jurisdiction, we can reach out to the state. The state can reach out to us. We're also available in the EOC 24/7. The state can send an email to the EOC or call the EOC. And then that request will come to the incident manager and myself at which point we would have a dialogue and review the needs of the state and then move forward with determining exactly who needed to be in the field.

All the CERT members do not have to deploy. We've sent CERT teams of two and three and five people. We've had two successful CERT deployments: one to Utah, and currently we have a CERT team in Florida. So we really are here to provide support to the state, again upon the state's request for that support. We would never deploy a CERT team to a state or local or tribal jurisdiction without that request and without that approval. But we are here to provide support from the perspective of Epi, pregnancy, birth defects, labs, communication, and vector control support as well. And that support can also be provided remotely if the state doesn't necessarily feel that they need to have someone on the ground.

So again, we're available 24/7. We encourage the states to reach out early on if they have any suspicion of this local transmission or confirmed transmission and there is an indication that support, even if it's just remote technical support, is needed. If there are any questions, I'm happy to answer now or after everyone else does their presentation.

Mark Davis: Yes, thank you very much Maleeka. I think we're going to save questions until we get through all the presentations just to make sure that we don't lose any

time. And then we'll be glad to get some. And I didn't say before I went to Maleeka I apologize. If you have questions and you're not able to stay on the phone or you want to make sure that we get it, you can email the question to preparedness@cdc.gov. Just the word preparedness@cdc.gov

We'll get that here in the room and share it with our speakers on the phone and in the room. We'll move on now then to our vector control expert Dr. Janet McAllister, who I think is out in Fort Collins, Colorado joining us. So Janet take it away.

Janet McAllister: Yes, hopefully you can hear me. I just wanted to point out or give some updates on a couple of things that we are currently working on. A contract has just recently gone out with the American Mosquito Control Association for them to provide training on vector control practices in the U.S. We also have an emergency contract that has been put in place to provide some vector control services, if local resources have been exhausted when local transmission of Zika is detected in an area. So we have those two resources that are out the door.

We are working on some guidance on surveillance and insecticide resistance testing that is working its way through internal clearance and will be posted on the website soon. So please check the Zika website for some information that should be coming out hopefully very soon.

We are also working on a national database for states who have received ELC funding to do additional surveillance for *Aedes aegypti* and *Aedes albopictus*, as well as insecticide resistance testing to report their data back to CDC. So that is in the works as well. And you know, but just to remind everybody, to check back to the web page as these things are developed. They will be put on the website. That's all I have to report.

Mark Davis: Thanks Janet, appreciate that. And if you can stand by for questions later there may well be some for you. I'm going to turn now to Dr. Peggy Honein, the lead of our Pregnancy and Birth Defects team to talk about the latest clinical guidance updates. Peggy?

Peggy Honein: Thank you Mark. So this is Peggy Honein co-leading the Pregnancy and Birth Defects Task Force for the CDC Zika Virus Response. As I think all of you know, we're continuing to partner with state, local, and territorial health departments to prevent Zika virus infection during pregnancy, to monitor the consequences of Zika virus infection in pregnancy, and to plan for the needed services for affected families. On August 1, CDC issued a health advisory recommending that pregnant women avoid nonessential travel to the area of active Zika virus transmission identified by the Florida Department of Health.

And this confirmation of active Zika virus transmission in the continental U.S. has highlighted the importance of all clinicians being familiar with the guidance for pregnant women. And I'd like to provide a brief overview of that guidance today, which was released on July 25 through the MMWR.

The revised recommendations expand PCR testing to detect evidence of Zika virus in the blood or urine with the goal of providing a definitive diagnosis for more pregnant women with Zika virus infection. The updated guidance also includes clinical management recommendations to assist healthcare providers caring for their pregnant patients with confirmed or possible Zika virus infections.

This guidance emphasizes that all pregnant women should be assessed for possible Zika virus exposure at every prenatal care visit. This means that pregnant women should be asked if they have traveled to or lived in an area

with active Zika virus transmission at any point during their pregnancy, and if their sexual partner has traveled to or lived in an area with active Zika virus transmission.

The type of testing recommended varies according to when a woman visits her healthcare provider relative to when she had symptoms or relative to her last possible exposure to Zika virus. New information has indicated that some infected pregnant women have Zika virus RNA in their blood for longer than we previously thought. Thus, we have changed the previous recommendation of testing within seven days. The updated guidance expands this time frame for PCR testing to testing within 14 days of symptom onset.

The guidance also adds a new recommendation to test for the presence of Zika virus by PCR in the blood and urine of pregnant women without symptoms, if they're tested within two weeks of their last exposure in an area of active Zika virus transmission.

The results of the test for antibodies are more difficult to interpret because of the cross-reactivity with other flaviviruses. Therefore this test may not provide a definitive diagnosis of Zika, but instead often leads to a diagnosis of an unspecified flavivirus infection. The new guidance also specifies some reflex or automatic follow-up testing for some scenarios. So in brief, symptomatic pregnant women who are evaluated less than two weeks after symptom onset should receive serum and urine Zika virus PCR testing.

Symptomatic pregnant women who are evaluated two to 12 weeks after symptom onset should first receive a Zika virus IgM antibody test. If the IgM antibody test result is positive or equivocal, they should receive serum and urine PCR testing automatically.

For asymptomatic pregnant women with an ongoing risk for possible exposure who are evaluated less than two weeks after their last possible exposure, PCR testing should be performed. If the PCR result is negative, a Zika virus IgM antibody test should be performed two to 12 weeks after their exposure.

Asymptomatic pregnant women with limited risk of possible exposure who are evaluated two to 12 weeks after their last exposure should first receive a Zika virus IgM antibody test. If that antibody result is positive or equivocal, serum and urine PCR should be performed.

And finally, in asymptomatic pregnant women who are in an area with ongoing risk for possible Zika virus transmission, anyone living in an area that has active transmission of Zika virus at this time should receive Zika virus IgM antibody testing as part of their routine obstetric care once during their first trimester and once during their second trimester. If the IgM antibody test results are positive or equivocal, they should have reflex testing by PCR.

In addition to the testing guidance we're also very pleased to announce the provision of support to our state, local, and territorial health department partners through the Epidemiology and Laboratory Capacity for infectious diseases cooperative agreement, or the ELC.

These funds were made available to states, cities, and territories to support efforts to protect Americans from Zika virus disease and adverse health outcomes that can result from Zika virus infection including serious birth defects. Sixty-one jurisdictions received this funding to help them participate in the U.S. Zika pregnancy registry.

We have also released funding to support rapid surveillance of birth defects that might be related to Zika virus infections during pregnancy. And those

funds were awarded to 40 different states at this point in time. I'm happy at the end of the other remarks to take any questions related to either of these, and thank you so much for your interest.

Mark Davis: Thank you Peggy, appreciate that -- very detailed information and reports. So that's all available online at the Zika CDC website so you can get the details on that in writing. We appreciate that.

We're going to hear now from our Blood Safety Team. Dr. Michelle Chevalier is going to talk about blood center screening and notifications. Michelle?

Dr. Michelle Chevalier: Good afternoon everyone. So today I'm just going to provide a brief update on blood and tissue screening in the continental U.S. So beginning on April 3 blood donor screening has been ongoing in Puerto Rico. As of July 30 approximately 22,000 blood donations have been screened for Zika virus infection. One hundred and seventy-nine or 0.8% of all donations are positive for Zika virus infection. All positive donations have been removed from the blood supply. In the continental U.S., blood donor screening began in Texas on May 23 and has been ongoing in Mississippi, Alabama, Georgia, Florida, and South Carolina since June 20.

As of July 30 over 86,000 units have been screened for Zika virus infection. As of July 29, active local transmission has been reported by the Florida Health Department in Miami-Dade County. And several blood centers in the region have begun screening for Zika virus RNA. On July 27, the FDA issued a recommendation that blood establishment beef up collections in Miami-Dade County. And so each individual unit of blood collected can be screened for Zika virus RNA using an available donor screening test.

The CONUS plan strongly encourages health departments to begin—if you have not already done so—reaching out to blood centers within your jurisdiction to establish a line of communication and initiate planning. Health departments should promptly notify the CDC and local blood centers if there are two or more confirmed cases of local Zika transmission and non-household members with symptom onset or estimated exposure dates within 45 days of one another.

In turn, blood centers should promptly notify health departments of Zika-positive blood donors. The CDC will host geographic areas of risk from mosquito-borne transmission on their website to ensure the accessibility of information for blood centers. Health departments can identify blood centers within their jurisdiction by visiting the AABB website and using their “Where to Donate Blood” feature, searching the FDA blood establishment registration database, or by contacting CDC.

Lastly more information and guidance on Zika-related blood safety issues can be accessed from the CDC website, under the ‘Blood and Tissue Collection Centers’ link. And (blood and tissue collection centers in CONUS can find) an updated list of geographic areas at risk for local Zika transmission at <http://cdc.gov/zika/areasatrisk>. That’s all for today.

Mark Davis: Thank you Michelle. We appreciate that. And we have one update from our laboratory team, Dr. Julie Villanueva. Julie?

Dr. Julie Villanueva: Thank you, Mark, very much and thank you all for being on the phone today. We conducted a teleconference this week, Tuesday of this week, in partnership with APHL to talk about several laboratory issues related to Zika. We highlighted the recent updated CDC website, as well as the recent

MMWRs containing the updated guidance for diagnostic testing in pregnant women and the updated guidance regarding sexual transmission.

We assessed the new laboratory testing guidance found on the CDC website, which is in alignment with the recent publications I mentioned. And we received a very nice description of the MMWR from our Pregnancy and Birth Defect Team by Dr. Honein. And I'm going to highlight a few changes just to emphasize them.

First the real-time rRT-PCR testing window was extended from less than one week to less than two weeks from symptom onset. And that's not only for pregnant women that are symptomatic, but it's for all symptomatic patients. But we recommend collecting both serum and urine for real-time rRT-PCR testing.

We added a new recommendation to implement Zika-specific real-time rRT-PCR testing of serum and urine among asymptomatic pregnant women within the first two weeks of possible exposure. We added a new recommendation for immediate real-time rRT-PCR testing after an asymptomatic pregnant woman has had a positive or equivocal Zika IgM antibody test. And this was because some women have been shown to have prolonged viremia longer than the acute time—the acute days' time period. That positive real-time rRT-PCR test would provide the definitive diagnosis.

All of the details of the algorithms again are found on the CDC website as well as links to all of the recent MMWRs. We would like to remind you that testing of specimens within the United States to determine possible Zika virus infection should be limited to specimens collected for patients meeting CDC's clinical and epidemiological criteria for testing. And again this information is

available on the CDC website. And we encourage you to continue to visit the CDC website, as these data and information are updated often.

Also on the call this week we discussed CDC's collaboration with four commercial laboratories to bring us the Zika MAC-ELISA assay. These discussions have been ongoing for quite some time. This is a process which is new for CDC. We haven't done this before but there's a big reason why we wanted these commercial laboratories to have the Zika MAC-ELISA. It's the only antibody assay for Zika that has been given an EUA by the FDA.

And we are concerned, as are you. We've heard from your questions about these laboratories being able to perform both of these tests. So these are important reasons why we wanted commercial laboratories to have antibody testing available.

So the discussions with the laboratories are ongoing. We are still finalizing reporting processes, plans to confirm positive MAC-ELISA results by product utilization test, as well as test ordering. And I wanted to mention test ordering because we did get a question regarding ordering from commercial laboratories.

And so we're working very closely with these labs to develop specific test algorithms for both molecular and serology testing for Zika as outlined in our algorithms. We want to be sure that test ordering could be as simple as possible for physicians. We understand that the algorithm is complicated. We would like the reflex testing to occur in the commercial lab without the physician having to be responsible to order multiple tests.

So we are working through this issue and hope to have it resolved as soon as possible and will communicate that information when it's been finalized.

Thanks.

Mark Davis: Great thank you Julie -- appreciate that. That's the end of our formal presentations. We'll open the line in just a minute for questions. And we are getting some questions in through our preparedness email box. I would remind you of that opportunity. It's simply the word preparedness@cdc.gov. If we can't get to the question on the phone we'll certainly get an answer for you later on.

One of the other things that we'd like to do when we have the opportunity is to share what we consider to be some best practices that we learned from around the nation. And in conversations this week with folks in Texas, we learned about something that they're doing and some of the other states may have. We just haven't heard about it. We'd like to know that information if you can tell us.

But in the state of Texas apparently they have allowed under their Medicaid rules pregnant women and women of childbearing age to receive repellent on a regular basis with prescription from their physician. We think that as difficult as it is to keep down the mosquitoes in a large area or a community, protecting an individual person is a much easier thing to do. And we certainly want to emphasize that approach to prevention as much as possible.

And so I think it's very encouraging that Texas has opened up their Medicaid program to women who are pregnant and/or of childbearing age to obtain this repellent to protect themselves and their potential child.

So I just want to pass that along. It may be something you want to talk to your own state health officials about, your Medicaid programs. But if that is something that you are doing it would be helpful information to us. Maybe you could also just send a note back to the preparedness@cdc.gov email box and that would help us to get a sense of who else may be doing that across the country.

So at this time I think (Candy) if you don't mind we'll go ahead and open the phone line for questions, and we'll weave in some of the questions that we've gotten over the email system. Thank you.

Operator: Thank you. At this time as a reminder for questions press Star 1. Please unmute your line and record your name. For questions or comments press Star 1. If you'd like to withdraw your request you may press Star 2. Thank you.

Our next question is from Dottie Merki. Your line is open and please state your organization.

Dottie Merki: Thank you. I'm Dottie Merki from Riverside County Environmental Health. My question has to do with the vector side of it, so maybe it's for Janet. Is there any research to show that there is vertical transmission within the *Aedes aegypti* species for the virus?

Janet McAllister: Yes. There are some studies ongoing to look at that. I have not seen any results on that. We do not think that that is going to be a major round of infection of mosquitoes even if it does occur.

Dottie Merki: Okay, thank you.

Mark Davis: Okay, and Janet while we've got you on the phone you might've seen in your email we're trying to send you those out in Fort Collins. But we had a question from Dr. Englander in Cincinnati. Did you see that one? And if not I'll be glad to read it to you.

Janet McAllister: No, but we've been having connectivity issues all day so...

Mark Davis: All right. Then I'm going for a "two-fer" because I think both of these are yours. The first one from Dr. Englander: what would be considered appropriate mosquito surveillance and control activities in and around the home of a viremic individual in a location with abundant *albopictus* but no *aegypti*? Is *albopictus* transmission occurring or merely a theoretical possibility? That's the first one. Did you get that?

Janet McAllister: Yes, I got that. So, as far as *albopictus* goes we know that it can drive outbreaks. It has been documented to drive outbreaks but it's not a very common occurrence. With that said you still need to be concerned about *albopictus*.

The way that you control *albopictus* is very similar to the way you would control *Aedes aegypti*, through sanitation, through cleaning up of breeding sites within the 150 meters around that case house, doing some space spraying in the area, doing targeted residual treatments in the backyards, doing larviciding of areas that can't be dumped and drained, certainly also outreach to the individuals living in that area on what they can do to clean up their yards, keep them clean, and also wearing repellents and all of the other messages that we typically give to the public in the field of mosquito control.

Mark Davis: Okay thanks. So while I've got you, I'm going to get you the second question that came from Eileen Simak from Wisconsin. If someone contracts Zika from

a mosquito and another species of mosquito bites the infected person, can that mosquito transmit Zika to another person?

Janet McAllister: Can you repeat the first part of that? So if a...

Mark Davis: So if they get, if they contract Zika from a mosquito...

Janet McAllister: Right.

Mark Davis: ...so *Aedes* species of mosquito and another species of mosquitoes presumably culex or something like that bites the infected person can...

Janet McAllister: Okay yes, I got it. I got it. So the only two known vectors that we have in the U.S. are *Aedes aegypti*, which is the primary vector, and *Aedes albopictus*, which is the secondary vector. For those mosquitoes to become infected, they have to bite someone while they are mounting what we call a viremia where there is enough virus circulating in the blood that it is picked up in the blood meal. And then it has to incubate in that mosquito for roughly seven to ten days before that mosquito biting an additional person could infect that additional person.

Right now, there have been reports out of Brazil in the press that culex may be involved in transmission. We have not seen the actual scientific write-up of that study. There have been two things that have been published recently that show that culex cannot be a vector that, while they can take an infected blood meal, it does not complete the incubation period within the mosquito in the saliva and does not become infected with the Zika virus. So, at this time we don't think that there are other vectors in the United States.

Mark Davis: Super, thank you Janet. So (Candy) let's go with another question from the phone if we could.

Operator: Thank you. We have a question from Steve Mulligan. Your line is open, and please state your organization.

Steve Mulligan: Okay thank you. I'm Steve Mulligan. I'm District Manager of the Consolidated Mosquito Abatement District in Selma, California. And first of all, thank you Janet for addressing that culex issue which is hitting the press here in California. And yes, it has not been demonstrated, so we appreciate that response. I'm going to address something that in Lyle's presentation the response there seems to be some concern about the aerial applications. And I think the aerial application is a logical choice to cover a wider area and offer improved penetration of the landscape barriers, which ground applications run into more frequently.

My question has to do with the lack of or the reduced success of the ground ULV applications, and in questions we're looking at the meteorological conditions. Did they have good conditions during that time, and what were the levels of susceptibility and what products were they using? In California in my areas where we have high level we have resistance to pyrethroids. And I just wonder what they were using there and what the conditions were?

Mark Davis: Janet can you tackle that?

Janet McAllister: Yes, I can tackle that, Steve. So they have been using permethrin in their program for a while and have switched to the Sumithrin (prallethrin) product. I don't know what the meteorological conditions are for their spraying or when they have been spraying. I do know that we are collecting mosquitoes at this time and doing susceptibility testing on them. So we will have an idea of

whether that control failure has something to do with insecticide resistance or does it have something to do with their operational program and how they're employing the insecticide.

Steve Mulligan: So thank you. And also if they're applying... if they're going by air, they're going to be applying Naled which is organophosphorus, and so the potential may be more effective then.

Janet McAllister: Yes, that is what they are using by air. It is Naled, which is not a pyrethroid.

Steve Mulligan: Yes this is a difficult mosquito to address. Thanks Janet.

Mark Davis: Thank you for the question Steve. (Candy), another question?

Operator: Thank you. Our next question is from (Nina). Your line is open and please state your organization.

Nina Dacko: Hey, this is Nina Dacko from Tarrant County. Hi Janet. I just talked to you not that long ago.

Janet McAllister: Hi Nina.

Nina Dacko: All right so my question is actually pertaining in—I think this will probably be variable by location—but what is actually considered a high number of *Aedes aegypti* or *Aedes albopictus* in the BG traps set in and around locally acquired cases?

Janet McAllister: So the numbers of *aegypti* that they are seeing in the area range from around 10 per trap night to 50 per trap night.

Nina Dacko: Okay thank you. I was just wondering as a comparative for what we are seeing here in Tarrant County. Also I noticed that Dr. Petersen had mentioned them applying BTI as well as Naled in aerial spraying. And I'm assuming but I figured I'd just ask, is that in granular form BTI?

Janet McAllister: No it's – well, it's the WG product, the VectoBac WG, which would make it a wet-able granule, I guess is what WG would stand for. (*It stands for water-dispersible granule*)

Nina Dacko: Okay.

Janet McAllister: But it is applied as a liquid.

Nina Dacko: Okay. And then one more brief question. Has the use of autocidal gravid oviposition traps that was taking place in Puerto Rico - I was just curious if that had taken place in the Miami-Dade area or anywhere else, or if there was any success?

Janet McAllister: So the AGO trap is not being used in Miami. There are some discussions. We do have a Section 18 for the In2Care trap, which is technically not a trap. It is a device that the female mosquito picks up a small amount of larvicide when she enters to lay her eggs and she also becomes infected with a fungus.

So she leaves the device and deposits the insecticide into additional sites where she may be laying eggs. And the fungus she gets infected with kills her in about three days. So again, there's some discussion about using that Section 18 to deploy those into care traps in the Miami area.

Nina Dacko: Excellent, thank you.

Janet McAllister: And that is something that is available. CDC has that Section 18 for the In2Care traps available for use when local transmission by mosquitoes has been detected as a control option.

Nina Dacko: Okay. Thank you, Janet so much. Did you know if that fungus was *Beauveria bassiana* by chance?

Janet McAllister: Yes it is.

Nina Dacko: Thank you.

Janet McAllister: Thank you.

Mark Davis: Okay thank you, Nina for that question. We're going to go to one that we received through email from Ben Robison in Ohio Department of Health and, it's a birth defects question, so we'll let Peggy answer this one.

Peggy Honein: All right. So the question was that they heard me mention that if the IGM antibody test is positive or equivocal, serum and urine PCR testing should be performed. And they wondered if that was an update to the recommendations, which it is. So if the initial testing is IGM antibody testing and you have a positive or equivocal result, that does reflex to PCR. If it's a negative PCR result, then the PRNT is used for confirmatory testing. So that is a change to the previous recommendation. So I just wanted to clarify.

Woman: Pregnant.

Peggy Honein: For pregnant patients, yes.

Mark Davis: Great, thanks. Do you want to take the one right below that Peggy? It's about...

Peggy Honein: Absolutely. So the next question from (Caitlin Sherman) at Children's Hospital in Los Angeles was, what percentage of women with Zika during pregnancy will have microcephaly in their infants? We don't know the answer to that question. I think based on the available data so far we think the answer is probably between 1% and 13% of women with infections early in pregnancy. There is some data from Brazil though suggesting there might be a higher risk and risk outside that window of pregnancy. So we are working hard to better understand the magnitude of that risk.

And then the rest of the question asks about complications and number of years. So the anticipation is infection during pregnancy poses a risk to the fetus. If women are not pregnant but are thinking about becoming pregnant, and they have symptoms of Zika virus disease or they have been exposed to possible Zika virus infection, we recommend that they wait at least eight weeks before conceiving.

Mark Davis: And then I'm going to play devil's advocate a little bit here. So the question goes on to say: will it always lead to microcephaly, which obviously we can't answer. But the virus, as far as we know, would pass from the woman's system at some point and beyond that she - as far as we know - wouldn't have to worry?

Peggy Honein: We assume that there will be long-lasting immunity from the infection and that there would not be a risk in the future after the time period of our recommendations. So waiting eight weeks for women who are either symptomatic or asymptomatic and for men who have symptomatic Zika virus disease waiting six months to conceive.

Mark Davis: Okay great. Thanks. I think that's an important unknown scientific fact, the comms message. And I say that because our JIC lead just walked in, John O'Connor. And I don't know if you have any presentation, but you're available to answer questions or do you want to speak?

John O'Connor: Sure, I can say just a few words.

Mark Davis: Go ahead.

John O'Connor: But I can say a few words. Sorry for being late. We were on a surprise call with EPA. But with regard to the updated interim response plan, it really didn't change a lot. The goal remains the same: to prepare for and immediately communicate to address concerns about Zika transmissions.

We've got a lot of information in the CONUS plan about how to develop messages, what the strategies would be. In addition to the posting of the revised CONUS plan, we've posted something called the ZCART, the Zika Community Action Response Toolkit, which is sort of the template; it's really an outgrowth of what was discussed during the ZAP Summits in Atlanta. And it's really a template for helping states and local communities build out their own communication plans. But also, the ZCART is a collection of about 18 or 19 materials that can be downloaded from a password-protected CDC site. So it includes press releases, talking points, and fact sheets on several topics and can be used either as it is written or it can be rebranded with a state or local logo—whatever is the best way for folks to communicate with their local populations.

We also have a national campaign on Zika prevention. And we've been pretty active in Puerto Rico. We can use these campaign funds to do things along the

lines of putting messaging up on electronic billboards, PSAs, putting newspaper ads, and doing a lot of social media. So that gives us some flexibility in terms of how we can provide resources to states and local communities to help. And we're doing that in Florida right now.

Mark Davis: Super, thank you John. And he'll be available throughout the rest of the call to take questions.

We've got about 20 minutes left. We're getting a lot of questions through email which is wonderful. We'll get to them as we can. But Candy, if you want to take one or two more from the phone, we'll get those.

Operator: All right, thank you. Next question is from Kris Bryant. Your line is open and please state your organization.

Kris Bryant, MD: I'm from the University of Louisville in Louisville, Kentucky. My question is about screening of pregnant women. So the CDC has updated recommendations to say that all women in the U.S. should be assessed for possible exposure during each prenatal care visit. So, we need to ask about travel history, the travel history of sexual partners, and symptoms. Given the list of places where Zika is being transmitted, do you have any suggestions about how to operationalize that efficiency in the OB office?

Janet McAllister: Sure. So, I think we can work on communication ways and tools that might help there. I think the main reason for making this guidance more direct is that we were concerned our previous guidance had relied on pregnant women spontaneously approaching their healthcare providers and reporting possible exposure, and we realized it would be very important given the various modes of transmission and the wide areas where this could occur to be carefully assessing that exposure so that as appropriate, testing could be ordered.

So we have some tools available now, but I could certainly look into seeing if there are additional items that might be helpful to healthcare providers for this screening. John, if you have thoughts?

John O'Connor: We can work with you on developing something that might be user-friendly along those lines.

Kris Bryant: Thank you.

Mark Davis: Okay one more from the phone, Candy?

Operator: Thank you. Next question is from Gary Wheeler. Your line is open, and please state your organization.

Gary Wheeler: I'm with the Arkansas Department of Health. The comments made about Wynwood being an industrial mix of residential—I'm sorry residential industrial mix—suggests the possibility of the physical transport of mosquitoes in packaging materials, tires, etc. I wonder if there's been any investigations to explore that? And on the other side, is there a particular density of travelers who had positive tests in the Wynwood area?

Mark Davis: Thanks Gary. That's a very good question. We have Erin Staples on the phone from our EPI Team. It sounds like a good question for Erin. Do you want to try to tackle that one?

Dr. Erin Staples: Yes. So what we understand from the area that was kind of a mixture of industrial and residential is that there is actually a business where a lot of visitors come in from out of the country to actually conduct business there. So it's more likely instead of a vector being transmitted, but I can also let Janet

comment on this, that an infected person came into the area either in association with that business or even just to visit because it's a very vibrant section of town where there's a lot of places to eat outside among other things. So, it's again most likely that a visitor was someone that had the virus in their blood, who was responsible potentially for infecting the local mosquitoes, and I can't rule out that a vector was introduced. But again it's a little less likely, I think. Then, I'm sorry, your second question again?

Gary Wheeler: No, that was the question. But to follow-up, we've not really heard a lot about what's happening from Department of Transportation or other things in terms of fumigation or other things at harbors and other areas where mosquitoes might be introduced. I wonder if you could comment on that?

Dr. Erin Staples: I think I'll turn that over to Janet to comment on any potential increased vector control activities that might be focusing on importation.

Janet McAllister: Yes, I'm not aware of any enhanced vector control that's going on in the port of Miami. This certainly is a neighborhood that is away from..., as Erin described, it does have a lot of people traveling there but apparently not a lot of commodity. And I'm not aware of other places that are doing anything. There's probably more surveillance, maybe looking for mosquitoes, but to my knowledge not a lot of expert vector control activities that are going on around ports.

Gary Wheeler: Thank you.

Mark Davis: Thanks for that question. So we got a couple that came in through email that I think might have good broad application as not only for the answer to the question, but in terms of messaging again, which I think is a really big part of this response. The first question came from Steve Herschenshorn in Broward

County Emergency Management. And I'm going to ask our Erin again on the EPI team to answer this one if you can. After infection, once Zika virus is no longer present in a person, can they get re-infected, or are they immune?

Dr. Erin Staples: Yes, Peggy's already thankfully answered that for us. We do believe that once you're infected and you mounted an effective immune response to that infection that you will not be re-infected - that you will have lifelong immunity.

Mark Davis: Great. Thanks for clarifying that. And then a second question from Sara Reilly in Virginia. And I'm going to turn to Lisa Rotz from our Global Migration Team who'd deals a lot with travel. The question is, for data analysis purposes and testing approval, if any of the 50 U.S. states are declared areas of active Zika virus transmission, are there plans to have a separate map on the CDC Web site for U.S. states only? Will states be individually added to the current world map?

Lisa Rotz: Thank you. I think the way that I'll address this question is sort of talk a little bit about the differences in regards to the travel health website and then the CDC domestic Zika website, because they're a little bit different. The travel health website and the maps that we have there really are the outward facing view in regards to Zika transmission areas, where we look at sort of other countries that have Zika activity. And that's really sort of the focus of the travel health website.

What we have recognized obviously is that now that we have activity in the U.S., there's a need to have visibility into that. So we are going to make sure we link to that website that people sort of naturally go to, so where there are Zika areas in the U.S. or the CDC domestic (web)site where we will be linking to just state departments with their maps and such. And as different

areas in the U.S. grow, I think we will be creating a U.S.-based map there that talks about specific states and then drill down areas in the 50 states versus the activity that will be linked there with the rest of the information about what's happening with Zika in the U.S.

Mark Davis: Super. Thank you Lisa for that. Candy, let's take another question from the phone.

Operator: Thank you. Our next question is from Bernadette Albanese. Your line is open and please state your organization.

Bernadette Albanese: Hi. Thank you. This is Bernadette Albanese with Tri-County Health Department in Denver. This gets back to the folks with the pregnancy registry and the birth defects and follow-up on an earlier question. We're just trying to see what additional information you have to share about risk of adverse outcomes you shared, I think 3-13% overall, very preliminary. Is there any differentiation on that risk by trimester that you've been able to refine, is the first question.

How early in a pregnancy do you think there could be teratogenic effects, so very, very early on; immediately after conception; or more during somewhat later stages of fetal development? And is it still the case that women who were infected, say earlier in their pregnancy who have an initial normal fetal ultrasound, still can end up with microcephaly or other birth defects that would be detected on subsequent ultrasounds?

Peggy Honein: Well, thank you for those questions, and I'll try and tackle them and then just please let me know if I've left anything out. So as far as how early in pregnancy infection might be a risk, we don't really know for Zika. But for other viral infections that can adversely affect the fetus, it can be in that early

peri-conceptual period just before conception or in early conception. So, this is part of the reason for the guidance of waiting to conceive after exposure or infection because we do think that early time period of pregnancy could pose a risk to the fetus.

For the risk by trimester for the most severe outcomes – so the very severe brain effects that are manifested as severe microcephaly and the intracranial calcifications – it seems like there are more of those cases associated with infection earlier in pregnancy, meaning the first trimester or early in the second trimester. But it's really too soon to understand for sure how the risk varies by trimester.

In addition there is at least one concerning report out of Brazil of women who had infections during the third trimester, who delivered infants whose head circumference was normal, but some of whom had intracranial calcifications or other signs of brain abnormalities, and whose post-natal head growth was not normal. So we don't understand the full range of adverse outcomes associated with Zika virus infection during pregnancy yet. But we are concerned that there could be a risk to the fetus with exposures at any point during pregnancy.

As far as the issue about normal ultrasounds early on, I think there's two factors there. One is the limit of the ultrasound to be able to detect abnormalities. And the second is when the abnormalities happen.

So we think after there has been a Zika virus infection during pregnancy there's probably a period of some days or weeks before the virus sufficiently damages the brain that you would be able to see the damage. So the early normal ultrasound could be because the damage hasn't occurred yet or because it's too early in pregnancy to see it. So there are certainly reports of

ultrasounds before 20 weeks looking apparently normal when there is later a severe brain outcome.

Bernadette Albanese: Okay, thank you. One quick follow-up question: is there anything to suggest that infection very early on after conception (so still in some of the embryonic stages) would be more likely to result in a spontaneous abortion as opposed to a very abnormal fetus with birth defects?

Peggy Honein: You know, the short answer is we don't know. I mean sort of the thoughts in teratology in general is that it is often the case for teratogenic exposures. But with Zika we really do not know.

Mark Davis: Thank you for that Peggy, and thanks for the question Bernadette. I hope we covered your issues there. Let's move on, Candy, if we have another question from the phone.

Operator: Thank you. Our next question is from Dr. Anne Bailowitz. Your line is open, and please state your organization.

Anne Bailowitz: Yes hi. I'm with the American Academy of Pediatrics Maryland Chapter, Infectious Disease Committee. Just an operational question for Dr. Glover, if she's still around. When her CERT teams are in operation when they're activated, I was curious to know how they collaborate with the medical reserve corps, such as or in existence of the various states?

Mark Davis: Maleeka are you still there? You might be on mute before I get away. So we'll take that question down. It's a very good question, Anne, and we'll try to – as with all these questions we'll figure out a good way to post the answers whether it's on the website or through some sort of distribution. I'm not sure. But that's a good question about the MRCs, so we'll get that back to you.

Anne Bailowitz: Great, thank you.

Mark Davis: Sure. Candy, can you tell me how many questions we have in queue just so I know how to balance the load here?

Operator: Thank you. We have one more question in queue.

Mark Davis: Oh, then let's take it.

Operator: Thank you. We have Tina Johnson. Your line is open, and please state your organization.

Jauntina Johnson: Hi. It's Dr. Juantina Johnson with Choctaw Health Center, Mississippi Band of Choctaw Indians. My question is in regards to the mosquitoes themselves. There was some information in the news about doing some genetically modified mosquitoes in an attempt to get control of the current outbreak and that it's been released in some of the other countries. Can you comment on that and where the thought process is on releasing these genetically modified mosquitoes?

Janet McAllister: Yes this is Janet. So, the genetically modified mosquitoes -- what they do is they basically release males that mate with local females. And the offspring die before they can reach adulthood. So the technique is based on a sterile male technique where you sterilize the males to mate with the females and no offspring are produced. And that type of strategy for insects has been used successfully with a variety of medically important and agriculturally important insects.

So, the theory behind how it would work is been pretty much proven to be an effective method at reducing mosquito populations. Of course you have to continuously release these modified males into the environment with all of these sterile male techniques. And they work best when the population is at a low level. So they work best early in the season or after some other control has been performed to reduce the initial population.

So, with that said, it's a promising new tool. The only difference with these are that they are genetically modified to get that sterile effect versus other experimental things that are going on right now, where they're getting the sterilizing effect through infection with the *Wolbachia* parasite or through irradiation of the males to make them sterile.

Jauntina Johnson: Okay, thank you.

Janet McAllister: And I'm being told to point out that mosquitoes mate only once. So they only have to find one of these modified males...

Dr. Jauntina Johnson: Okay.

Janet McAllister: ...in their lifetime.

Mark Davis: Thank you, Janet for that. We do have a question online about testing placentas and Peggy's going to answer that.

Peggy Honein: Right. So I just wanted to let you know the website has been reorganized. And we hope it's easier for people to find information. We think it is, for CDC, so we welcome your feedback. But for the question about what specimens to test including placenta test specimens if you go to the Zika website and go to the

healthcare provider section there's one link called Collecting & Submitting Specimens at Time of Birth.

And there's a large table there that gives you exactly the details on how big the pieces of placentas should be, how you should manage them, how you should ship them, how you get instructions and pre-approval before sending them to CDC. So I think that table will answer all of the detailed questions about submitting samples.

Mark Davis: Thank you. We also had a question if we can scroll up a little bit about the survey form that was used in Florida from Laredo, Texas. And we would refer you to the Florida Department of Health I think for that information. And I'm sure if you look online you should be able to find that information. If you can't, by all means write to us at preparedness@cdc.gov and we'll give you the connection there. But that's not something that we could share, but do appreciate you sending in the question. Candy, anything else on the line that's just come in?

Operator: And we're showing no questions at this time.

Mark Davis Great. Well we're also at the bottom of the hour here. Excellent questions have come into us today and not only over the phone but through emails. I think we're going to stop before we tackle anymore of these and in this call today. But we will post answers to the questions in some fashion and in some location. And I would continue to refer you back to our CDC website. It's constantly changing. We're always updating information.

If we can figure out a good way to specifically answer these questions on the website, maybe we can put a Q&A session. Maybe there is a Q&A section. I'm not sure that we can have that dialogue on there. But if not, we'll get back

to you through some communication means, perhaps through partner organizations and their newsletters, through our Friday updates through from the State Coordination Task Force and Division of State and Local Readiness, if you're on that mailing list.

But I think we'll stop there, we certainly appreciate your time and interest and attention today. And thank you for all of the hard work that you're doing out there. We know that a lot of what we do here sometimes seems a little theoretical. It's very laborious work as we can – you can imagine.

But we know that out there in the communities and across the country, you're doing exceptionally hard and good work. We want to thank you for that and we certainly hope that this season, mosquito season doesn't have the impact that it potentially could.

Let's hope for the best possible outcome. Thank you again for your time. We'll end the call today. Thank you again.

Operator: Thank you for your participation. That does conclude today's conference. You may disconnect at this time.

END