CENTERS FOR DISEASE CONTROL & PREVENTION

Moderator: Raffi Standifer
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Coordinator: Welcome and thank you for standing by. At this time all participants are in a listen-only mode until the question and answer session of today's conference. At the time to ask a question press Star 1 on your phone and record your name at the prompt. This call is being recorded. If you have any objections you may disconnect at this time.

I would now like to turn the call over to Chris Kosmos. Ma'am, you may begin.

Chris Kosmos: Thanks so much. Hi, everybody. This is Chris Kosmos. I'm the Director of the Division of State and Local Readiness here at CDC and also one of the staff members of the State Coordination Task Force in the Zika Incident Management Response. I want to first of all thank you all for joining the national Zika virus response update conference call.

This call basically came out of a request from some state and local partners to periodically keep in touch with each other around some of the important updates primarily around the update to the CDC plan that would impact state and local planning. So that's kind of issue number one.

So today we were going to brief you or will brief you on three important updates to the CONUS Zika plan, the continental US and Hawaii plan Zika plan, and then hopefully at about 3 o'clock or so or a little bit after 3:00 we will be joined by our partners from Florida who will be talking about a September 30 MMWR that they wrote and they will be talking about some of the response actions from Florida, some lessons learned, and to share with you just some of their experiences from their Zika response.

Now granted all of you know that Florida is in the middle of Hurricane Matthew. Certainly our hearts go out to everyone from Florida as well as Georgia, North Carolina, South Carolina and anyone that is in the path of Matthew. So we here at CDC obviously are watching them very closely. So if in fact our colleagues from Florida are not able to join the call today because of that it would certainly be understandable and we'll have to reschedule that portion of today's briefing.

But today what we're going to have we're going to update you from the CDC experts on three particular areas. We're going to hear from Emily Petersen who's going to be talking about some of the updated guidance that's in the CONUS plan about preconception guidance. We're going to hear from Koo Chung about the update to the blood safety guidance, and we're going to hear from John O'Connor who is going to talk about the establishment of active transmission and cautionary zones. And then in-between each of those three speakers we'll have time for Q&A.

We also have other CDC speakers on the line so there's a representation from our vector team, our epidemiology team, our global migration and quarantine team, and lab, as well as medical investigation. So if there's other questions related to the response, we will try to get our CDC experts to answer those

questions as well. So with that I'm going to turn it over to Emily Petersen who's going to provide you with the update on the preconception guidance. Emily?

Emily Petersen: Thank you, good afternoon. CDC has updated this guidance for couples planning to conceive and also its guidance for prevention of sexual transmission of Zika virus. For men and women who have traveled to or have discrete sexual exposure with someone who has travel to or lived in an area where Zika virus is active, has active transmission regardless of whether or not there are symptoms. Men with possible Zika exposure who are considering pregnancy with their partner should wait at least six months after their last exposure if symptomatic or symptom onset if—or, sorry, last possible exposure if asymptomatic or symptom onset is symptomatic before trying to conceive.

Women with possible Zika virus exposure who are thinking about becoming pregnant should wait at least eight weeks before trying to conceive and this recommendation remains unchanged from the previous guidance. Women with possible Zika virus exposure who are not pregnant and do not plan to become pregnant, and their male partners who want to minimize their risk of sexual transmission, should use condoms in addition to their chosen birth control method or abstain from sex for the same time periods listed above.

Women of reproductive age with possible Zika virus exposure who did not want to become pregnant should consistently use the most effective form of contraception that they choose. For men and women who live in an area with Zika virus active transmission who are considering pregnancy in the near future, we recommend talking with their healthcare providers about their pregnancy plans during a Zika virus outbreak, the potential risks of Zika virus infection in pregnancy, and how to prevent Zika virus infection. And then for

men and women who are considering travel but are also planning to conceive in the near future, we recommend considering avoiding nonessential travel to areas with active Zika virus transmission.

So the primary change in this updated guidance is extending the time frame for men with possible Zika virus exposure who do not have symptoms and extending that to six months to wait to conceive before attempting conception with their partner. The recommendations for this group is now consistent with the recommendation for men who had symptoms of Zika virus and disease and this change is based on the following new data.

There are no reports of possible sexual transmission from men without symptoms to their sex partner. Zika virus RNA has been found in the semen of at least one man without symptoms, and Zika virus RNA has been detected in semen of symptomatic men for up to six months. There are no data indicating that men without shed virus for less time than men with symptoms. Despite these emerging data, many questions remain. We do not know whether the Zika virus RNA in the semen can pass infection to an uninfected sex partner. One way to answer this question is by culturing Zika virus collected from semen, although the standard methods of culturing are in development.

And then to date Zika virus RNA has been, as I said, detected in semen up to six months after symptom onset, but Zika virus has not been cultured in semen more than three months after symptoms started and sexual transmission has not been confirmed greater or reported greater than 41 days after symptom onset.

These updated recommendations incorporate what we've learned since the previous guidance was released. The time periods are expected to minimize

the risk of sexual transmission around the time of conception and prevent possible early fetal exposure. As new information becomes available this guidance will be updated.

Chris Kosmos: All right so, Emily, can I just see if I've got this right. So for women you're asking women to abstain for eight weeks, men whether symptomatic or asymptomatic six months, is that correct kind of in a nutshell?

Emily Petersen: Correct. So for people who want to become pregnant, we're recommending eight weeks, waiting eight weeks after a possible exposure for women and six months for possible exposure for men. And then the sexual transmission guidance for people who want to prevent sexual transmission of Zika virus infection that is the same time recommendation. So eight weeks for women to use condoms or barrier methods to prevent infection during sex or abstaining from sex and then six months for men to use condoms or abstain from sex.

Chris Kosmos: Okay great. Thank you so much. Operator, can I open it up for any questions please?

Coordinator: Thank you. If you'd like to ask a question please press Star 1 on your touch-tone phone. Make sure your phone is unmuted and record your name clearly when prompted. Your name will be required to introduce your question. If you need to withdraw your question at any time you may press Star 2. Again to ask a question please press Star 1 and record your name. We'll take a moment for questions to come through. Please stand by.

We do have questions coming in. I'm gathering their names. Please stand by one moment. Our first question comes from (Christine Mogul). Your line is open.

(Christine Mogul):Good afternoon. Thanks for taking my call. I was curious then if in couples planning to conceive, if the husband was exposed, wait till the six months, does that mean the wife needs to? Or the couple needs to wait an additional eight weeks? Or is that six months encompassed in that eight week waiting for the woman?

Emily Petersen: Sure thanks. So if the husband was exposed and does not have ongoing exposure and the couple practiced consistent and correct use of condoms or abstained from sex for six months then there would be no need to wait an additional eight weeks to attempt conception.

(Christine Mogul): Okay thanks.

Emily Petersen: Thanks.

Chris Kosmos: Operator any other questions?

Coordinator: Our next question comes from (Cheryl Hand). Your line is open.

(Cheryl Hand): Yes, so if the woman returns from her travel, we have recommended that she wait eight weeks before conception what would—would the follow-up be the same if she became pregnant during that eight weeks as if it was prior to the exposure?

Emily Petersen: So if she became pregnant within eight weeks after exposure, is that the question?

(Cheryl Hand): Yes.

Emily Petersen: Okay thanks.

(Cheryl Hand): After she traveled, she returns and then becomes pregnant within the eight weeks.

Emily Petersen: Sure. So we have guidance that recommends testing for pregnant women who become pregnant within the eight weeks of return from travel. And that would be the same testing recommended for pregnant women. And then we also have recommendations for care of pregnancy for those with Zika virus infection, which were released a couple months or were updated a couple months ago and so we would recommend following those guidance.

So if they became pregnant within eight weeks after exposure, we'd recommend similar to if became infected during pregnancy. Although we do not know the risk, we're currently recommending testing and care similar to if she became infected during pregnancy.

Chris Kosmos: Thank you. One thing we would point you to is the CDC web site, the Zika web site, which you could just Google. And you'll find the CDC Zika web site and all those guidance documents are on the CDC site. Okay operator any other questions?

Coordinator: We show no further questions in queue.

Chris Kosmos: All right. Okay, we're going to our second speaker today. Koo Chung is going to talk about the updated guidance on blood safety. Koo?

Koo Chung: So I'll give you a quick rundown of what's happening so far in Puerto Rico and CONUS. In Puerto Rico, we screened over 33,000 donated units with 303 or .9% were positive for Zika virus infection. In the continental United States

we screened over 413,000 donated units with 21 or .005% that are presumed positiveby donations.

So on August 28, the FDA issued revised recommendations for reducing the risk of Zika virus transmission by blood and blood components. FDA recommendations recommend that all states and territories screen individual units with blood screening tests authorized for use by FDA under investigational new drug application or an FDA approved pathogen reduction technology may be used for plasma and certain platelet products.

So implementation of the guidance following release of the recommendation is immediate for states or territories with one or more reported locally acquired mosquito-borne case. Within four weeks for Alabama, Arizona, California, Georgia, Hawaii, Louisiana, Mississippi, New Mexico, New York, South Carolina, and Texas.

So again these 11 states are Alabama, Arizona, California, Georgia, Hawaii, Louisiana, Mississippi, New Mexico, New York, South Carolina, and Texas and 12 weeks for all other states in the United States. This information is also available in the updated CONUS which can be found on our Web site as well as we've updated the algorithm for reporting presumptive RNA donors to state health departments in our appendix in the CONUS plan.

Chris Kosmos: So (Koo) let me just ask a question. So FDA is recommending universal screening of all donations, blood donations?

Koo Chung: That’s right.

Chris Kosmos: And then the 11 states are—tell me again, what was different about those?

((Crosstalk))

Koo Chung: Yes, these are staged implementations. So any state that has, that's reported one or more locally acquired mosquito-borne case implements the new FDA guidance immediately.

Chris Kosmos: Okay.

Koo Chung: These 11 states that I mentioned need to implement within four weeks of the release of the guidance, which was August 28.

Chris Kosmos: Okay.

Koo Chung: And all other states need to implement or should implement, I should say, the FDA recommendations within 12 weeks of the release of the guidance.

Chris Kosmos: Got it, all right. Great, thank you so much. Anything else, Koo?

Koo Chung: That’s it.

Chris Kosmos: All right, operator, could you open it up for any questions about blood safety?

Coordinator: Thank you. Again, as a reminder, if you’d like to ask a question, please press Star 1 on your phone and make sure your phone is unmuted when you record your name so you can be introduced again. That is Star 1 and record your name if you have a question. Please stand by for any incoming questions.

Chris Kosmos: Okay, or anything related to pregnancy and birth defects, as well.Those things you thought about didn’t get in the queue.

Coordinator: And we have a question coming in. One moment. Our question comes from (Linda Bell). Your line is open.

(Linda Bell): Yes, states were previously advised to make contact with blood collection SME's in their state to have a point of contact. Are states recommended to find out from blood collection agencies if they have adopted the recommended screening measures? Or can we expect that blood collection agencies are doing that on their own and following FDA guidance? What is the responsibility of the state health departments?

Koo Chung: So blood centers are pretty proactive about implementing FDA guidance so many of the blood centers will heed FDA's recommendations and go ahead and implement these recommendations. As far as the states are concerned, we have been advocating that state health departments and blood centers within those states keep active lines of communication between each other to inform each other of their perspective Zika response plans.

We've gotten positive feedback from states and blood centers that they have been doing such. It wouldn't hurt for you guys to potentially call your blood centers and make sure that they are doing this, as well as calling your state health departments to make sure that they're also doing their part as well.

(Linda Bell): Thank you.

Koo Chung: Sure.

Coordinator: Our next question comes from (Elizabeth Shipman). Your line is open.

(Elizabeth Shipman): Hi. Yes, in regards to pregnancy and the information that came a little bit earlier when you were talking about some of the recommendations you

mentioned, I just caught the word discrete sexual exposure and I feel like that's not a phrase I've heard before. So in regards to Zika so I'm wondering if you could clarify what was meant by discrete sexual exposure?

Emily Petersen: Sure, thanks so much. We recognize that for different reasons some people do not use condoms and thus they may have ongoing sexual exposure if they are having continued sexual activity with a partner who has possible exposure to Zika virus. And so that's what I had meant to refer to. So thanks very much for the clarification. And I agree it's not a commonly used term but that's what I had meant.

And then I think the other thing I wanted to add was that we recognize that when new guidance is published that a lot of times there may be additional questions that may arise in different situations. And so we are happy to participate in any clinical inquiries with the state. A way to get a hold of us would be through zikamch@cdc.gov. And we're really happy to work through different scenarios as we know this is a complex issue and a lot of times there are individual circumstances that may play different roles into implementing the guidance.

(Elizabeth Shipman): Okay. Can I ask a follow-up question?

Emily Petersen: Sure.

(Elizabeth Shipman): So is the recommendation any different if somebody has a discrete sexual exposure versus ah, you know, an ongoing sexual exposure in terms of testing or pregnancy or that sort of thing? Is there any change or is it just sort of a way of wording things, I guess?

Emily Petersen: Right. Our recommendation would be to use a condom following the discrete sexual exposure. But if there is ongoing then it may be, you know, similar to when someone may be having ongoing exposure like living in an area with Zika virus transmission.

(Elizabeth Shipman): Okay, great. Thank you so much.

Coordinator: Our next question comes from (Hannah Oltine). Your line is open.

(Hannah Oltine): Hello. My question is about the rationale for testing individual blood units as opposed to a pool of donations?

Koo Chung: Thanks for the question. So I think I'm going to turf that one to FDA. They're the ones who come up with the recommendations as to why they decided to do ID or individual not versus, for example, mini pool as we do for HIV screening but these decisions are actually made by FDA.

(Hannah Oltine): And you don't have any information on why they made that decision in this case?

Koo Chung: No.

(Hannah Oltine): Thank you.

Koo Chung: Sure.

Chris Kosmos: It's a great question though.

Man: Can we find out…

((Crosstalk))

Chris Kosmos: I think what we'll try to do is find out and see if we can maybe put an answer to that in our Friday update.

((Crosstalk))

Koo Chung: They do go into a little bit of more detail within their guidance. You can actually Google their guidance. It was also on our web site. We link it from the Blood Safety page for Zika response and you can read their full FDA guidance. And they do go into a little bit of detail as to why and the rationale, and their rationale for choosing the testing mechanism that they did. But that might have more information than I have currently.

Coordinator: And our next question comes from (Kim Porter). Your line is open.

(Kim Porter): Thanks very much. This is another blood safety question and apologies if I missed this information, but is there publicly available information about where the positive donors in the continental US were identified just at the state level?

Koo Chung: Sure, that's a really good question. So we're actually currently working with other task forces within the Zika response to update the web site table where we include information about local mosquito-borne as well as tribal-related cases by states. We're working on trying to include information on that table of what we call presumptive viremic donors.

And we're still working through that with our other task forces, as well as working with CFDE to better define that to get that information on the web site but I can't divulge that information currently.

(Kim Porter): Okay, thank you.

Koo Chung: Sure.

Coordinator: And I'm showing no further questions in the queue at this time.

Chris Kosmos: All right, our third speaker today is John O'Connor who we know very well from the JIC. And John is going to talk about the establishment of active transmission and cautionary zone. John?

John O'Connor: Thanks, Chris, and good afternoon, everyone. My intent here is to review the recent revisions in the CONUS plan relating to the way that we describe and communicate about the locations in the United States that are areas of risk for Zika virus transmission. These revisions are in Appendix A, which begins on Page 9 of the plan. But most of the changes I'll be discussing are found on Pages 17 through 19.

So as you'll recall, the previous version of the CDC response plan described a process for designating specific areas of active Zika virus transmission and displaying those areas on geographic maps on websites maintained by CDC and state health departments. The approach outlined at that time was to identify limited discrete areas where investigation showed that Zika virus transmission was occurring.

The previous plan also described travel guidance and other interventions, such as aggressive mosquito control efforts that could be applied to these areas. The revised plan built on the experience that CDC and the state of Florida have had in responding to cases of locally transmitted Zika virus infection in that state.

Investigations there showed that although certain locations such as the small area in Wynwood were found to have Zika active, Zika virus transmission that met the definition of the plan. Isolated cases were also being reported in other local areas.

In an effort to present a more comprehensive picture of the potential broader risk of Zika virus transmission we decided to modify the CONUS response plan and expand the geographic range for which people might be at some risk for Zika virus infection.

As part of this new approach we identified two types of geographic risk areas, a Zika active transmission area, which is designated as a red zone or red area on the map, and a Zika cautionary area which is designated on the map with yellow or a yellow zone.

So the Zika active transmission area or the red zone is essentially the same as the designated area of risk described in the previous version of the plan. It's a geographic area where local states and CDC officials have determined that the intensity of Zika virus transmission presents a significant ongoing risk to pregnant women and therefore a combination of preventive interventions should be implemented, including travel guidance recommending pregnant women not travel to the area.

When defining a red zone, states, in consultation with CDC, should designate the smallest easily identifiable location that completely encompasses the geographic area for interventions delineated by epidemiologic and entomological investigation. The boundaries of the red zone should be communicated to the public by using terminology and landmarks recognizable to residents and visitors such as street level quarters of neighborhoods, ZIP

Code area, a city or a boundary depending on the geographic extent of transmission. The areas should be clearly recognizable by residents and visitors while best reflecting the routine practices of local jurisdictions in indicating areas of public health risk so that the population can take appropriate precautions. So that was contained in the previous version of the plan.

With the revision we incorporated an important change in which we identified a new type of area, which we call a Zika Cautionary Area or on a map it would be shown as the yellow area or yellow zone. It represents an additional safety buffer where active Zika virus transmission might be occurring but evidence is lacking to support a determination of a significant ongoing risk to pregnant women comparable to the risk that we would find in red areas.

Travel advice for the yellow areas defined as pregnant women and partners of pregnant women who are concerned about potential Zika virus exposure may also consider postponing nonessential travel to the area. Now this is a less restrictive standard than the travel recommendation that was used for the red area. Additional Zika related interventions, for example, enhanced diagnostic testing similar to those used in the red area may be implemented depending on local circumstances.

A county designation is recommended for the yellow zone because it represents a clearly defined area to visitors and other people have little or no knowledge of local terminology and landmarks. However, the boundaries can be adjusted on the basis of local information—for example, findings from local investigations or, in some cases it was pointed out, just that you have large counties, particularly out West—then the boundaries of the yellow area can be modified.

So a yellow cautionary area would be defined as follows. It would be the county encompassing the smaller designated red area, counties within 1 mile or any direction of the borders of the red area. In the absence of a red area public health officials can designate a yellow area if findings from a local investigation suggest that such action is prudent—, for example, three or more isolated cases of locally transmitted Zika virus infections that are not linked epidemiologically are confirmed within a 45-day period in a geographic area, such as a county.

If on the ground investigation determines a Zika virus transmission is minimal, the yellow area designation can be delayed or the borders adjusted pending further information. Conversely, if the local investigation determines increased caution is needed while results are pending, the yellow area can be implemented prior to meeting the above criteria and applied to larger area. So there's a lot of flexibility built into defining exactly what this yellow zone is going to be.

These yellow and red areas are displayed visually on maps in the CONUS plan on Page 19 and they are also shown on CDC's Zika website. The CDC web page also describes the guidance where people living in or traveling to those areas. And you can find that on the part of the Zika website that describes the current investigations going on in Florida.

So that concludes really my overview of the changes that were made to Appendix A of this report. I'd like to acknowledge the work of the state and local health officials in Florida whose ongoing investigation of Zika cases in South Florida helped us and helped inform the modifications of this section.

Chris Kosmos: That's exactly right, John. I know there was a lot of back and forth conversation with Florida and other state health officials about what kind of

information; what do we need to do in order to assure the health and safety of the community while really hopefully clarifying the public health risk within those boundaries? Can I ask—and you may not know the answer to this—but once an area has been declared, what does it take to then kind of roll that back to a predesignated state?

John O'Connor: That's a very good question and is something that we've heard a lot about from folks in the field. So the process for pulling back the designation of either areas well, first of all, for the red areas that was the same as the process that was identified in the last plan.

And that is the process of allowing 45 days to go by in which there are no—45 days since the identification of the most recent onset of Zika. And so 45 days elapses and that's equivalent to three incubation periods of the disease or the infection in mosquitoes. The same approach applies for the yellow zone but there's more flexibility built in based on the ongoing investigation of local and federal officials.

Chris Kosmos: Okay, all right. So operator do we have any questions? And we are waiting for Dr. Celeste Philip to join us.

Coordinator: She just joined us actually.

Chris Kosmos: Okay, all right. So do you have any questions in the queue? If not, I think we're going to turn it over to Dr. Philip?

Coordinator: I have one coming in right now. Let me grab their name. One moment please. And our question comes from (Sue Ledford). Your line is open.

(Sue Ledford): Thank you and thank you for the presentation. You guys are doing a great job. I have a question regarding models for all hazards plans. Has there been an effort to coordinate with preparedness as it relates to the all hazard plans? I know we have the guidance but I'm wondering, you know, as we look at that from a normal process that we use for preparedness plans and thinking there may be some benefit. I would like to know if there are any plans that are already established?

((Crosstalk))

Chris Kosmos: So you're talking about how this would integrate into all hazards planning?

(Sue Ledford): Correct. And thinking of it from the perspective of a communicable disease that is vector related and human transmission related.

Chris Kosmos: Oh, all right well that's a great question.– It always depends on the response. You either talk about all hazards and then when you go into response you talk about response-specific plans. We never quite meet in the middle on those two things.

I think it's a great question and I think we're going to have to give that some thought. I think we've been really kind of thinking very hard about Zika and Zika planning and how this honestly, in some respects, adds to our thinking about all hazards planning in a way that I know for the first time we've had pregnancy and birth defects in one of our responses, which hasn't really been, I think, a big part of our all hazards planning here at CDC. So not sure how others feel about that as well. That's been sort of the usual routine partner but I know it's kind of broadened the tent for sure. I think we'll have to kind of give that some thought and get back to you on that one.

(Sue Ledford): Okay, thank you. Could I ask just one quick follow-up to that as far as...

Chris Kosmos: Sure.

(Sue Ledford): ...the testing criteria. Is someone going to address any potential changes for the testing criteria?

Chris Kosmos: The lab testing criteria?

(Sue Ledford): Correct.

Chris Kosmos: Is there anyone from lab on? We may have to follow-up. Operator, is there anyone from lab team on the phone? (Robin), (Amy)?

Coordinator: If you are with the lab team please press Star Zero to get an open line. Again please press Star Zero.

Chris Kosmos: So I think what we'll do is while we're waiting to see if any of our labs SMEs are on the phone can we open up Dr. Philip's line so we can. We have to be very respectful of Dr. Philip's time because I know you're certainly in the middle of a very active response and want to thank you so much for joining the call today. I know you've got a million things going on in Florida. But, and certainly before you joined, want you to know that certainly our hearts and our thoughts are with you in Florida as well as Georgia, South Carolina, and all the impacted states.

So, Dr. Philip, we asked you to join the call because of a stellar job that you did in talking to your fellow state health officials about some of your lessons learned and response activities related to Zika in the Miami-Dade and Broward County areas as well as the work that you did with Dr. (Licos) and

others around developing the MMWR that talked about some of your lessons learned and your response activities. So just wanted to open up the floor to you for anything that you wanted to brief the group on. You have your epidemiologist, your preparedness directors, your lab directors, state health officials and other vector people -- anything that you want to share from your experience in Florida?

Dr. Celeste Philip: Sure, thank you Chris. I think that as you mentioned it's been a long road for us in the success and we would where we had. I think I got on the call around the time someone asked about how you remove the travel advisory. And we're happy to say we were the first to have one issued and the first to have one removed. And I think that's a testament to all of the different experts at the local state and federal level working together across the different disciplines.

So from our clinicians who were the first to be astute clinicians, who were the first to start testing people who had symptoms consistent with Zika but not the travel history calling our local health departments asking their questions. And we certainly tested a number of people before we found our first positives of locally acquired Zika.

So from that starting point through then the process of trying to figure out where exposure may have occurred and where transmission occurred by backtracking our (unintelligible) epidemiology, figuring out where people were during their period of exposure.

And that included a lot of very detailed history taking regarding exposure that's outside workplace, home then following up with our targeted testing of household members, coworkers. Again if there were certain events outside testing those folks leading to us then determining that we indeed had people that met the criteria of having symptoms onset greater than two weeks apart

within one mile. And that then led to us first naming Wynwood as an area where we had determined that there was local transmission.

In that process we involved, obviously, mosquito control, which is in our state a local responsibility so that meant we were working with the county and their staff and their local leadership to make decisions together as well as, everyone knows, we had a CERT come in from CDC within, I believe, it was a few days of all of this unfolding, so there was a lot of activity in the first few weeks. And I look back now it seems like it flew by but at the time it certainly was (trenched) every day was there was a new challenge.

So I think some of the questions I've been asked from other state health officers or others in general is how did we identify Zika in the first cases in people who didn't have travel (unintelligible). And it goes back to just two clinicians thinking about it and having conversations. And there was not really a deliberate moment where we said, "Okay, from this point forward we should start testing people." It really was about having conversations regarding the symptoms.

Rash was common in the first four patients that we described, actually fever rash and arthralgias were common in the first four patients that we described in the article. So I think that's one of the questions leading up to this we were all asking ourselves, "Well, when we do we start testing?" And there's not really a good answer but I think now that we know it's happened in Florida, I'm certain that in many other states there are individuals who are being tested who do not have international travel.

We also interestingly found that many of the exposures occurred around workplaces or social settings that had an outdoor element. The tabletops that we participated in early on focused—and you look at the definitions of about

what makes up local transmission, we assume that there would be household exposure. And so far we've seen far less of that than these other kinds of exposures.

And I think if you have settings, and certainly we see this in Miami-Dade not just in Wynwood and Miami Beach but, in general, when you have warmer climates, when you have different occupations or leisure activities that provide the opportunity to have exposures those are certainly questions that need to be asked.

And those are environments and settings where we had our mosquito control staff go out with our epidemiologists to look for breeding sites and we found a number of them in those settings and not the households. So I think that's another key point to keep in mind should you investigate any potential local transmission.

From the MMWR, a key point was also that what seemed to work in the end is to interrupt transmission was a combination of additional boots on the ground. The number of teams that were out and about looking for cryptic breeding sites and doing source reduction was increased greatly as well as the messaging to residents and business owners in the area to do their part for source reduction.

But it was really when we added the combination of aerial (larviciding) with naled and aerial water (unintelligible) and BTI it was that you probably heard described as the one-two punch—that is when we started to see our mosquito trap counts drop significantly and stay very low for several weeks after those treatments. And we described it in the paper. We alternated between the two over a four-week period.

And that same model was followed in Miami Beach, which was the second area where we discovered local transmission. If you're following it closely you may have seen that we initially called about a 1-1/2 mile area. And as our investigation EPI work continued we discovered that there were additional cases outside of that initial area. So we expanded it to about the 4-mile area, 4-1/2 mile area.

In the southern portion, the same process was followed and we were seeing similar success. Again, if you're following, you've probably seen that there were many residents of Miami Beach who were concerned about the use of naled and had very public protest resolutions through the city commission, very unhappy. And the decision for additional spraying in the expanded area, aerial spraying, the county has not moved forward with that yet.

So it's a bit of a natural experiment to see how a different methodology or a different way of approaching the treatment works where they're using some of the more traditional pyrethroid treatments and on the ground (larviciding). So we'll be watching to see what happens.

But we have seen a bunch higher number of cases in the Miami Beach area. And I think again this goes to the environment there, the fact that there are so many activities that incorporate being outdoors in highly populated, densely populated areas, many high-rises, lots of people living there, hotels. We have seen that again in Wynwood also a very popular destination for tourists that this combination of many people visiting.

We suspect that in addition to the travel-related cases of residents of Florida that come back and stay here that we likely have visitors from Caribbean countries or other countries that are impacted that are coming to Miami Beach just maybe for a few days who probably are bringing Zika with them. But

those are people that we never test and we will not be aware of. So it's as we've been discussing all of the different sources of Zika coming into these areas. It's a challenge because it's likely an amount we'll never really be able to quantify it and that's part of the challenge.

Our normal approach with arboviruses, you know, for Zika is once we are aware that someone is being tested we immediately, the county health department, will reach out to mosquito control and they begin doing abatement and control and source reduction while we're waiting for the test results. And we have continued that model with Zika and we believe that we've had a number of one-offs and that's likely been effective for the cases that we're aware of.

But for those who are asymptomatic and don't get tested, for the transient folks that are back and forth who might be potential carriers of Zika that we'll never know about, it's very difficult when you have a county like Miami-Dade that is very highly populated. There is about 3 million residents, as well as all the visitors that are coming in and out that I think that's likely the combination of elements that has allowed Zika to thrive and for us to see the local transmission there.

Even though we do have other counties where we have high numbers of travel-related cases and have had the one-offs in those counties, we've not seen the local transmission that's been sustained in any other part of our state. So I think, you know, Miami is unique for lots of different reasons and that's why it's a popular destination. That's why people like to live there.

But in this case, I joke with Dr. Frieden, that mixed-use, which we think is good for health in terms of people being active and getting people to build in physical activities into their day, might also be good for *Aedes aegypti*

mosquitos to thrive because they have access to people throughout the day and many different people. So those are just some of my initial thoughts. I'm happy to answer any questions that you may have. And I'm sorry I missed some of the opening discussion and I may have repeated some of what's already been stated but thanks for this opportunity.

Chris Kosmos: Thank you so much and thank you for taking time out. So can I just summarize a couple of things and then, just while we're waiting for people to tee up, ask a couple of questions myself? So it sounds like kind of picking out a few things that may be worth replicating in other states you talked about a very kind of proactive approach where you have someone and that you've got either you're waiting for the lab test or you have a confirmed test, you already send out the vector, you send out epi, you have this team approach, this kind of forward leaning approach to try and do the surveillance and investigate not only human surveillance but do a vector investigation as well. So that's something that I think your colleagues from other states probably would want to adopt. Does that kind of capture it in a nutshell?

Dr. Celeste Philip: Yes, because we are. We've had chikungunya most recently but certainly dengue we deal with not infrequently, and of course West Nile, we've adopted this approach for any concerns of arbovirus. And I say the emphasis is really upfront is on vector control. So we have the mosquito control district staff go out immediately.

The epi staff may or may not be as involved depending on what else is going on. I think for chikungunya and dengue where there are much fewer cases, there may have been more joint work up front. But with Zika I mean we're testing, you know—for those who are following our daily updates, there's some days that we are announcing between local and travel-related cases. We've had days where we've announced 30 cases if you combined the two

categories. So it's not always possible for us to be as aggressive for each one from an epi perspective. So sometimes for the detailed follow-up, we'll wait to have all of our positive tests back and if the confirmatory testing or whatever else have you. But certainly being aggressive with mosquito control, we believe has been effective in disrupting possible other transmissions.

Chris Kosmos: Right. And your kind of one-two punch that you talked about really seemed like it was pretty effective in dampening down the mosquito population.

Dr. Celeste Philip: Yes. And that approach, I mean, that was in consultation with the CDC entomologist and other staff in terms of what's next because what we were doing up to that point was not bringing down the counts to levels we wanted to see. And we do have one of the most robust mosquito control programs in the country and we're fortunate that we have experts so we've spoken with a couple of district directors who suggested that below ten is good, below five is optimal and that's the number of female *Aedes aegypti* per trap so that was our goal to try to get them below five.

So that model is not really or this protocol has not really been used before so it was a bit of an experiment. There is and, you know, I myself saying this before we saw success that aerial spraying is not likely to be effective with *Aedes aegypti*. And when we first launched this combination we had reporters asking say, "Well but it says on so and so's website this doesn't work so why are you doing it?"

And it was that moment of , "Oh yes, there's that information out there." And so that's—I think this has contributed to our understanding and some of the previous comments—and I'm certainly not the expert on this—but from what I've learned the technology for the ultra-low volume, the very small droplets that can penetrate into some of these more cryptic breeding sites, are what has

been—that's the improvement compared to previous attempts of aerial treatments for *Aedes aegypti* that seem to have made the difference.

Chris Kosmos: Interesting. Let me ask one more thing and then I'll open it up to our audience if you have a couple of minutes. I know, you know, and I've asked you this before. So the challenge of having local transmission and the challenge of communicating risk to pregnant women who are living there, not just traveling there but living there—can you talk a little bit about your strategy for how to communicate to women who live there, work there, and may not have the resources to really move?

Dr. Celeste Philip: Yes. Before this all happened we certainly had many discussions about that. And I wish I could tell you I have a better answer now than we did before. But the truth is: it's difficult conversations period. I felt somewhat more reassured by speaking with a number of OBs that have said, you know, it's not just that simple that, you know, depending on a woman's personal history, where she is in her life it's, you know, some women will want to choose to become pregnant in the midst of all of this. Others who are already pregnant, you know, they'll be—they'll have a different perspective and will not be as concerned, but I think overall most women were very concerned.

And women—we heard a couple of anecdotes of women who moved out of the states just because they were so concerned about the travel advisories and felt that they couldn't go outside. I heard a couple of stories of women who said that they didn't have the option to leave but they were so scared that they just wanted to stay in their house. And one OB said that he had one patient who didn't even want to go through her prenatal visits.

So there are those struggles. And I think overall there was not a sense of panic amongst pregnant women but we heard about women that felt that strongly

that they made these decisions. And some of them are because they could and maybe we don't know about the women who, if they had the means, would have also said "Well, yes, I want to move back to, you know, wherever up north so that I am not exposed to this risk and the stress of it."

I think also when we opened up testing for all pregnant women through our health departments, which we did somewhat in a response to the concern that we heard, the number of phone calls that we got after the travel advisory was issued—we opened up or we said all of our health departments will provide free Zika testing in pregnant women, assessment testing. There was a very high number of women especially in the first few weeks who opted to come in for that assessment testing.

Those numbers have slowed down some and, I think, partially because the testing is more available and they're probably being assessed and tested through their OB or prenatal provider offices. But it is a tough question still and unfortunately I, you know, we've tried to provide messaging to providers. And really I think most that have that close relationship with their patients are in the best position to have those tough conversations. But, even still, I think it's just a difficult conversation, decision-making and don't have a great answer yet.

Chris Kosmos: Okay. Thanks, Celeste. So operator can we open it up for our audience, anyone that would like to ask Dr. Philip anything about Florida and the Zika response?

Coordinator: Thank you. Again as a reminder if you'd like to ask a question please press Star 1 and record your name. We do have a few questions in queue already. Our first one comes from (Laurel Boyd). Your line is open.

(Laurel Boyd): Hi. Thank you. My question was already answered. Thanks.

Coordinator: And our next question will come from (Vicki Kramer). Your line is open.

(Vicki Kramer): Thank you. This is (Vicki Kramer) from California and I'd like to backtrack to your description of the mosquito control operations currently underway in the Miami Beach area. Based on your description it sounds like some aerial control was done in the southern portion of that zone but not in the remaining portion due perhaps to public push back.

But I'm also wondering if there's other factors, such as the tall buildings, the offshore winds that are perhaps making that mode of operation less effective and also what pesticide resistance testing has been done. It's my understanding that the *Aedes aegypti* in both the Wynwood area and the Miami Beach area are somewhat resistant to many of the pyrethroids and that might have been a factor?

Dr. Celeste Philip: Yes, thank you. The geography in Miami Beach was of particular interest. And before the decision was made to do the aerial treatments there was many considerations about the buildings and then there was: should it be a fixed wing versus the helicopter and so that we had so robust discussions about what was most appropriate.

And in the end and we didn't—when we went into it I think we assumed helicopter would be the better option. It turned out that when you factor in the drift and the ability for a plane to fly higher versus helicopter that would have to be closer in-between buildings that a fixed wing was considered the better option. So they completed those treatments. And as I mentioned the trap counts in the southern part of Miami Beach are mirroring what we found when the numbers are coming down as we expected.

The additional area of Miami Beach that was added is somewhat similar but actually has more residential areas, not as many as of the tall buildings. There are some but the numbers are actually less. So again it's a tough decision and, I think, based on the public response local leadership has held off on moving forward with additional aerial spraying there. And I hope I answered all of your questions.

(Vicki Kramer): Has pesticide resistance analysis…

Chris Kosmos: Oh, yes so sorry, thank you. We have seen varying levels of resistance to pyrethroids and that was part of the reason why naled suggested initially in Wynwood, so there is that element of it as well.

(Vicki Kramer): Thank you.

Coordinator: Again, as a reminder, if you'd like to ask a question please press Star 1 and record your name. And I'm showing no further questions in the queue.

Chris Kosmos: All right, thank you. Thank you so much Dr. Philip. I really appreciate your time and I appreciate you taking a few minutes out of what has got to be a very busy schedule to talk to our group today. We do have a couple of other updates.

We talked to the lab group and the updates to the lab guidance are in clearance now so we will be able to update you as soon as those have been cleared. I just want to remind all of you that all of the guidance documents that we referenced are on the CDC Zika Web page. And, operator, if there are no further questions, we're going to close our today's call little bit early.

Coordinator: Very good. I show no questions at this time.

Chris Kosmos: All right. I want to thank all of you for all of your work around Zika virus disease and wish you a good afternoon. Thanks much.

Coordinator: That concludes today's conference. Thank you for participating. You may disconnect at this time.

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