

***Vital Signs* Town Hall Teleconference**
Zika Virus: Protecting Pregnant Women and Babies
April 11, 2017
2:00 pm ET

Coordinator: Welcome and thank you for standing by. All participants will be in a listen only mode until the question and answer session of today's call. At that time, if you would like to ask a question, you may do so by pressing Star then zero and recording your first and last name.

Today's conference is being recorded. If you have any objections, you may disconnect at this time. I would now like to introduce your host for today's call, Dagny Olivares.

Dagny Olivares: Thank you. Good afternoon. As the operator mentioned, my name is Dagny Olivares and I am the Associate Director for Program Planning and Communication in CDC's Office for State, Tribal, Local and Territorial Support.

Thank you for joining us today. We'll be discussing the latest Vital Signs Report which focuses on Zika virus and what we can do to protect pregnant women and babies. Before we get started, I'd like to go over a few housekeeping details with you.

First, if you want to follow along with the slides today, you can go online and download the presentation. The Web address is www.cdc.gov/stltpublichealth. That's stltpublichealth. Look for the Vital Signs Town Hall link under the connect with OSTLTS box or you can Google

CDC Vital Signs Town Hall and that search will take you directly to the materials.

You can also access biographies for today's presenters on that same Web page. And the audio recording and transcript from today's town hall will be available there next week.

Also, while we will reserve time for questions at the end of today's presentation, you can get in queue at any time if you have a question to ask at the end. Just press star 1 and say your name when prompted.

Now, let's get back to our topic today, Zika Virus: Protecting Pregnant Women and Babies.

We're going to hear from three colleagues today. The first will be Dr. Denise Jamieson, who is the Incident Manager of the Zika virus response here at CDC. She will talk about the findings in this month's Vital Signs Report.

Then Dr. Ellen Lee will present. Dr. Lee is Medical Director of the General Surveillance Unit within the Bureau of Communicable Disease at the New York City Department of Health and Mental Hygiene. She will discuss surveillance of possible Zika virus among pregnant women in New York City.

She will then hand the call over to Dr. Siobhan Dolan, professor and vice chair for research in the Department of Obstetrics and Gynecology and Women's Health at the Albert Einstein College of Medicine in New York City. And Dr. Dolan will discuss Zika virus prevention.

Now, I'll turn the call over to Dr. Jamieson.

Dr. Jamieson: Hi, good afternoon. As mentioned, I'm Denise Jamieson, Incident Manager for CDC's Zika virus response here at the CDC. And today I'll be updating you on findings from this month's Vital Signs on Zika, discussing implications for health departments and others who work with the general public and sharing critical information on Zika prevention.

Slide 5 please. Today's Zika outbreak is unprecedented. Zika was first identified almost 70 years ago but the recognition of the potentially devastating effects on pregnancy is a new phenomenon.

Next slide, slide 6. So what do we know about the effects of Zika during pregnancy? We know that pregnant women can be infected with Zika, mainly through the bite of an infected mosquito or through sex without a condom with an infected partner.

Zika may be passed to the fetus early on around the time of conception. Zika virus during pregnancy can cause brain abnormalities, including microcephaly and has been linked to other birth defects. It can lead to congenital Zika syndrome, a pattern of birth defects that can include brain abnormalities, vision problems, hearing loss and joint contractures.

Next slide, Slide 7. Early on in the epidemic, we recognized the urgent need to collect information about the effects of Zika virus infection during pregnancy. This led to the creation of the U.S. Zika Pregnancy Registry.

The Registry was established to monitor pregnancy and infant outcomes, to learn more about the timing, absolute risk and spectrum of outcomes associated with Zika virus infection during pregnancy and to help inform clinical guidance and direct public health action.

The U.S. Zika Pregnancy Registry is a supplemental surveillance effort coordinated by CDC and is dependent on the voluntary collaboration of clinicians and state, tribal, local and territorial health departments.

Similar surveillance systems have been established in Puerto Rico and Columbia. The registry includes pregnant women with laboratory evidence of Zika virus infection and exposed infants born to these women.

Health Departments can work with health care providers to support the Registry by spreading the word about its importance and encouraging health care providers to report cases and collect clinical information.

Next slide, slide 8. The Vital Signs Report analyzed 972 completed pregnancies that were reported to the U.S. Zika Pregnancy Registry between January 15 and December 27 in 2016 from 44 states. Analysis of a subgroup of 250 pregnant women with laboratory confirmed Zika virus infection revealed that 1 in 10 pregnant women with confirmed Zika had a fetus or baby with birth defects.

CDC recommends brain imaging after birth for all babies born to mothers with evidence of Zika during pregnancy. However, only 1 in 4 babies with possible congenital Zika were reported to have received brain imaging after birth.

Brain imaging, for example a head ultrasound, is important to look for abnormalities because babies may have underlying defects that are otherwise not evident at birth.

Next slide, Slide 9. To date, the latest numbers reveal that more than 1,700 pregnant women with laboratory evidence of possible Zika virus infection

have been reported from the U.S. states and District of Columbia. The majority of these cases involve travel to Zika affected areas.

Nearly 3,500 pregnant women have been reported from the U.S. territories. While there is still much left to learn about Zika, these numbers show that this devastating outbreak is far from over.

Next slide, Slide 10. The findings of the Vital Signs Report confirm the serious threat posed by Zika virus infection during pregnancy and the critical need for pregnant women to continue taking prevention steps to avoid Zika virus exposure through mosquito bites and sexual transmission.

As of December 29, 2016, 63 countries and territories worldwide are reporting active Zika virus transmission. This map shows in purple shading countries in which Zika virus is actively being transmitted by mosquitoes. You can check the CDC Web site for the latest numbers and locations.

Next slide, slide 11. All people who live in or travel to an area with Zika risk can reduce the risk of Zika virus infection by preventing mosquito bites. Mosquito bites can be prevented by wearing long sleeved shirts and long pants. Whenever possible, people should stay and sleep in air conditioned places or places that have screens on all windows and doors.

The use of insect repellants containing EPA registered ingredients is important. Insect repellent should contain one of the following active ingredients, such as DEET, and they're listed here on the slide. When used as directed, these insect repellents are proven safe and effective even for pregnant and breastfeeding women.

Finally, items that hold water, such as tires, planters and bird baths should be emptied and scrubbed, turned over, covered or thrown out once a week since mosquitoes lay eggs on the surface of water.

Next slide, slide 12. Zika can be passed through sex through a person who has Zika to his or her sex partners. So travelers are encouraged to use condoms or not have sex through the duration of pregnancy, even if the pregnant woman's partner does not have symptoms or feel sick.

The following messages should be shared. Condoms can reduce the chance of getting Zika from sex. To be effective, condoms should be used consistently and correctly from start to finish every time. Not having sex eliminates the risk of getting Zika.

It is important to follow these precautions for the entire pregnancy, even if the woman's partner does not have Zika symptoms or feel sick. People can spread Zika without ever knowing they had it.

Next slide, slide 13. If a baby is suspected to have Zika, clinical management should include comprehensive physical exam, neurologic exam, eye exam, brain imaging, newborn hearing screening and Zika laboratory tests. In addition, referral to specialists may be indicated.

Detailed guidance on pediatric evaluation and outpatient management has been summarized in a pocket guide. All of these resources pictured here can be found on CDC's Web page.

Next Slide, 14. So what are the Health Department's role in the right against Zika? Health Departments can educate health care providers about Zika,

guidance for evaluation and care of pregnant women and babies with possible Zika exposure and the benefits of early identification and follow-up care.

Health Departments can coordinate testing for pregnant women and infants with possible Zika virus infection. Health Departments can report all cases of pregnant women and babies with possible Zika infection to the U.S. Zika Pregnancy Registry or the Puerto Rico Zika Active Pregnancy Surveillance System.

Health Departments can ensure that all babies possibly affected by Zika are identified and families are connected to appropriate medical and social services by coordinating Zika Pregnancy Registry with Zika-related birth defects surveillance activities.

Next slide, slide 15. Thank you all for listening today and please stay tuned to learn more about the work some organizations are doing to fight Zika. Thank you.

Dr. Lee: Hello. This is Ellen Lee. Thank you very much. I am a pediatrician by training in service and Medical Director of the General Surveillance Unit at the Bureau of Communicable Disease at the New York City Department of Health and Mental Hygiene.

Today I'll be talking about the experience at the New York City Department of Health monitoring pregnant women and infants with possible Zika virus infections.

Next slide, slide number 17. New York is a city of about 8.5 million residents. Almost 40 percent of its residents were born outside the United States.

The birth cohort is generally around 120,000 to 123,000 infants per year. The city has close to 60 hospitals with 39 of those facilities handling infant deliveries.

The city also is an important destination for international travelers. In 2015, there were about 6.5 million passengers who arrived in New York City metropolitan airports from areas affected by the Zika virus outbreak.

Next slide, Slide Number 18. In 2016, in response to the Zika virus outbreak in the Americas, the New York City Department of Health conducted surveillance for travel associated cases and developed a sentinel surveillance system to detect possible local transmission.

Both our state and city public health laboratories have capacity for molecular and serologic testing for Zika. However, plaque reduction neutralization testing can be performed only at the New York State's laboratory in Albany.

Each case with positive Zika testing is investigated with additional investigation and monitoring of pregnant women and infants, which I'll discuss a bit later.

In order to ensure that Zika virus testing was appropriate and that information received with each test request was accurate, we created a Zika testing call center for providers to request testing at our public health laboratory.

Mosquito surveillance and control plans were modified to incorporate strategies aimed at *Aedes* mosquitoes. New York City is known to have *Aedes albopictus*.

In addition, our public education efforts included distribution of materials for display in public spaces, such as a city transit system as well as focus groups with pregnant women. Provider outreach took multiple forms, which I'll describe a bit later in this presentation.

Next slide, slide number 19. As of March 24, 2017, we had a cumulative total of over 1,000 confirmed or probable cases of Zika virus infections among symptomatic and asymptomatic individuals.

A little more than one-third of those cases occurred in pregnant women. Median age was 33 years with a range of 0 to 78 years. All cases were travel associated with more than three-quarters of the cases reporting travel to the Caribbean.

Next slide, slide number 20. Now I'd like to focus more on the birth outcomes for the cases of Zika among New York City women and infants reported to the U.S. Zika Pregnancy Registry.

As of March 24, the cumulative total of New York City women meeting criteria for inclusion in the Registry was 383. Among these women, there have been 327 live born infants. Twenty-three of these infants, or 7 percent, have laboratory evidence of Zika virus infection.

Among the infants with positive Zika virus testing, seven had at least one finding consistent with congenital Zika syndrome. Of note, among these infants with positive laboratory testing and Zika associated birth defects, three infants had been born to mothers who themselves had negative Zika PCR and negative IgM testing.

Now this we believe occurred because testing happened many months after exposure. We were alerted to these prenatally detected abnormalities by the obstetric care providers, however, and continued to follow the pregnant women to their pregnancy outcomes despite their negative maternal Zika testing.

Next slide, Slide Number 21. Depicted on this slide are some examples of the guidance we have developed for the New York City provider community. These include references guides on whom to test, what to request, how to submit specimens and how to interpret the often confusing test results.

We have posted these materials on our Web site and also communicated this information citywide through emailed help alerts, conference calls, a webinar and numerous in-person presentations for department grand rounds, staff meetings and other gatherings of clinical and laboratory staff.

For newly diagnosed cases, we typically communicate by phone and email with providers explaining laboratory results and sharing updated recommendations for the clinical management of pregnant women and infants with possible Zika virus infections.

Next slide, slide number 22. For women with possible Zika virus infections, we asked providers to notify the Health Department at the time of pregnancy outcomes so we may facilitate evaluation and testing of the infant.

If a woman we had been monitoring is past her due date and we have not heard about a delivery, we may contact her prenatal care provider or the newborn nursery at the hospital where we had anticipated her delivery.

We also checked remotely electronic medical records to which we have access through regional health information networks or RHIOs. The two logos on the bottom right here represent the two major health information exchanges we use. Healthix and BronxRHIO. In addition to gathering information by phone and these regional health information exchanges, we collect information via email, fax and onsite chart reviews.

We have found the citywide immunization registry a useful resource when trying to determine if and where an infant has been receiving health care in New York City as the date and facility where an infant has received a vaccine is available through that registry.

Among the regular analyses that we run of our data, we look routinely for infants who have not had complete Zika testing. And we also have been monitoring our progress in following up infants at each stage of the Pregnancy Registry. Follow-up, that is, at 2, 6 and 12 months of age.

Next slide, slide number 23. One of the challenges we have encountered is the loss to follow-up as those pregnant women and infants may change providers and health care facilities. And the information about where they will be seeking health care is not always available, especially if they have moved outside of New York City.

For each mother/infant pair, we may have more than one prenatal care facility, the birth hospital and more than one outpatient pediatric clinic from which to try to collect information.

We encounter challenges with provider outreach as well as we know there are missed opportunities to screen and test exposed pregnant women and infants. Maintaining a close collaboration with the provider community has been

critical to our surveillance. But it comes with the burden of time required to communicate directly with providers about Zika testing results and recommendations.

In addition, as a woman with possible Zika virus infection delivers an infant who also should be tested for Zika, we have noted there can be a loss of information about Zika testing status between the providers caring for the woman and those caring for the infant. In fact, it seems that often the person providing ongoing pediatric care is unaware of both maternal and infant Zika testing status.

In the area of community outreach, we know one of our challenges is maintaining the message about preventing risk through avoiding travel and unprotected sex.

Next slide, slide number 24. I'd like to share one of our activities related to outreach. Earlier in 2016, we had been noting anecdotally that requests for Zika testing among women of childbearing age seems to come from communities where we perceived a lower risk of travel associated Zika.

On this slide, there are three maps of New York City. The map on the left shows the number of New York City residents by census tract whose birthplace was an area with active Zika virus transmissions. The darker green shading indicates census tracts with higher numbers of immigrants from these affected countries.

The maps on the middle and on the right show Zika testing rates for 10,000 females of childbearing age by census tract of residence. The darker blue shading indicates areas with higher rates of Zika virus testing.

Earlier last year, we found little correspondence between neighborhoods with higher numbers of immigrants and those with the highest rates of Zika virus testing. Concerned about this apparent disparity in testing, the Health Department conducted provider and community outreach in these areas with large immigrant populations, communicating the importance of screening and testing pregnant women with possible exposure to Zika virus.

Cumulative testing rates for January through September 2016, shown on the far right, indicated that the initial testing disparity did not persist. Hopefully, you'll be able to see with the resolution of the images that you have that the areas where darker shading in green on the first map mirrors better the areas with darker shading in blue on the third map.

Next slide, slide number 25. We also have been encountering several challenges related to testing for Zika. As many of you are aware, laboratory testing can be complicated and often need to be reviewed on a case-by-case basis.

For some facilities in New York City, providers have difficulty accessing Zika results if the testing is performed at public health laboratories as those results are not communicated electronically to the hospital's information systems.

In addition, toward the end of 2016, we started to encourage the use of commercial laboratories for routine testing of pregnant women and symptomatic travelers while continuing to request testing for infants through the public health laboratory. So this move relieves the burden of testing performed at a public health laboratory.

We have been concerned about the high proportion of specimens that have a false positive IgM result when testing is performed at commercial

laboratories. We released a citywide health alert updating providers about this concern with our main message that plaque reduction neutralization testing was needed to confirm a positive Zika IgM result.

Next slide, slide number 26. I'd like to end by acknowledging this work is possible only through the enormous efforts of many groups within the New York City Department of Health and Mental Hygiene. In addition, I'd like to thank the partners listed here for their ongoing collaboration.

Thank you very much for your attention.

Dr. Dolan: Good afternoon. This is Siobhan Dolan. I'm an obstetrician/gynecologist at Montefiore Medical Center and Albert Einstein College of Medicine in The Bronx in New York City. And I'm delighted to follow this wonderful panel.

And it's very interesting because on Slide 24 we are indoctrinately presenting New York City data. If you noted on the very northernmost part of the slide, the New York City residents born in areas with Zika virus transmission who are now living in New York City. And that's actually The Bronx, that's the northernmost borough of New York City. And that's where I'm actually practicing.

So in my next portion of the talk, I'd like to try to give a little bit of a clinical context to some of the fantastic epidemiology we've just seen and then also participate in the Q&A to talk about the clinical translation of some of the messages that we've seen.

So the most important message, I think, that I've been trying to convey in my clinical practice is, number one, transmission.

But, number two, a really quick follow on to prevention, so the idea being to reinforce modes of transmission but with such a strong message on prevention. Because certainly I noticed a sense among many patients that Zika virus is sort of over. Like, it happened. It was in the news. But it's not really an issue on people's minds.

So when we have folks out in our practices, in the general obstetric community, they're screening patients and asking at every visit have you traveled or been exposed to someone through sexual relations who has traveled to an area with active Zika virus transmission?

They all send them in to see us in genetics. And so we're working with these women both to talk about transmission but really educate them regarding prevention.

So these methods have already been discussed. What we are also talking to women about are about the fact that there have been no reports of transmission of Zika virus infection through breastfeeding.

So in terms of understanding anticipatory guidance while Zika virus has been detected in breast milk, based on the available evidence, the benefits of breastfeeding -- excuse me -- outweigh the possible risk of transmission.

So we're really focusing on transmission through infected mosquito bite from maternal to fetal transmission and sexual transmission as the key modes of transmission that we are seeing in our community as well as laboratory exposure or Zika spread through blood transfusion, which we have seen in some instances, some concern raised by folks who, let's say, work in the hospital setting or work in a laboratory setting.

Travel precautions are really important. And we have, as Dr. Lee pointed out, a lot of women and families who live in the Bronx, who has family. The two communities where a lot of our families have family members are Puerto Rico and the Dominican Republic.

And women want to go home to celebrate weddings and family, holidays and birthdays. And I have tremendous compassion for that. But we're trying to make the point that while pregnant or planning a pregnancy, it's best to avoid travel.

And so sometimes it really means working through with a couple and trying to help them understand that it's a clear-cut message that travel should be avoided. But what I always try to do as a clinician is say but this is not forever.

This is for the pregnancy-related period and then once the baby's here, in a few months, when you're all ready to travel. Go. Have a wonderful time. Celebrate with your family. But avoid travel while pregnant.

The transmission in the United States is located in two particular areas, south Florida and then Brownsville, Texas. So being that I'm on the East Coast in New York, I've had certainly more patients discuss with me interest in traveling to South Florida.

And the guidelines are such that while areas of Miami have had active Zika virus transmission, right now the map is colored yellow, which would be a recommendation that pregnant women should consider postponing travel to these areas.

So I try to give a really clear-cut message that travel should be postponed. But again trying to focus on not forever, but clearly for the duration of the pregnancy.

Also in Brownsville, Texas, there has been active Zika virus transmission. And so again, pregnant women should consider postponing travel to these areas.

Now if folks state that they need to go anyway or that their plans just cannot be changed, then we start to reinforce messages that have been presented by Dr. Jamieson. But just to reinforce, to prevent mosquito bites and then talk about staying in areas with air conditioning, with screens, using bed nets and so forth. And so just to reinforce those messages with each provider at each encounter.

As folks come back to this country and maybe return from their travel or their trip or in fact we have a scenario in our community where many women, their partner, their husband will be traveling either for family obligations or for business, they may have business ventures that take them traveling in the Caribbean. So what we're trying to emphasize, especially now, as we're entering spring and summer, and mosquitoes will be more prominent in the northeast that we really want to prevent mosquito bites for three weeks when people return.

So trying to reinforce that we don't want them to come back and then be providing an opportunity for local transmission herein the New York area. So we're working hard on those messages at this time.

And then the message about using condoms to protect against sexual transmission of Zika virus. It's a little bit challenging, I'll admit, because

some women just aren't used to kind of hearing that message while they're pregnant and perhaps in a monogamous relationship.

But we're again trying to just reinforce the message that this is protection from an infection during pregnancy to help the baby be born safe and healthy. And that usually is a neutral message that women can connect with.

The timeline is also really important to reinforce. So for women, the period that we are recommending no travel or exposure is eight weeks before conception and for men it's a much longer window. It's six months.

And so that trying to distinguish and point out eight weeks for women and six months for men is an important public health and clinical message that we try to make that recommendation. We actually provide printed materials as well.

Now when we see women who have come back from travel or their partner has come back from travel and they've had sexual exposure, we will talk to them about testing. And we have offered through the protocol that Dr. Lee explained testing. And now we're actually also using commercial labs as the first line.

And the testing algorithm really breaks down as a first point of decision-making to two weeks. So if the travel has been within two weeks, if the symptoms have been within two weeks, if the exposure has been within two weeks, then you go down the path of RNA nucleic acid testing on serum and urine and some of our commercial labs are using PCR for that testing.

And then if it's beyond two weeks, then we're going down the path of testing for Zika virus specific IgM and neutralizing antibodies. So the real cut point there is two weeks. Is it within two weeks or is it beyond two weeks?

And then that guides the decision-making of which first line test to order.
And then following up from that, we have the whole testing algorithm which I'll show you in the next slide.

And that's slide number 37. So this was published in MMWR last summer.
And so when we have a pregnant woman with an exposure, we'll assess the time course.

And then again in the left, the two week mark, go down the course of PCR for Zika virus on serum and urine and then greater than two weeks we'll go down the path of IgM for Zika and actually dengue.

And that's another - Dr. Lee mentioned the challenges of deciphering between the Zika virus test results. And sometimes we do have an issue with cross-reactivity with dengue because folks might have lived in their teen years in places where they had exposure.

So we do certainly grapple with some of the challenges Dr. Lee mentioned in interpreting results. And we certainly turn to the city and other experts in infectious disease to help us interpret those results and that's been extremely helpful.

Now on slide 38, when we do have a pregnant woman with suspected Zika virus infection, we actually bring them into high risk obstetric care. We will offer them the full course of testing options, which could include a PRNT to try to really decipher what we're dealing with.

And then in certain windows we could consider an amniocentesis to confirm although we could not be recommending that into the second and third

trimester because our concern would be for rupture of membranes without necessarily the test results providing us a tremendous amount of additional information. But with that said, the decision is certainly clinically customized and personalized for each patient.

We will follow them very closely with ultrasounds and then work with them on the delivery plan for new routine obstetric care. But we are caring for these women in high risk care.

And at this point, I'll turn back to the moderator and happy to answer any questions as part of the Q&A session.