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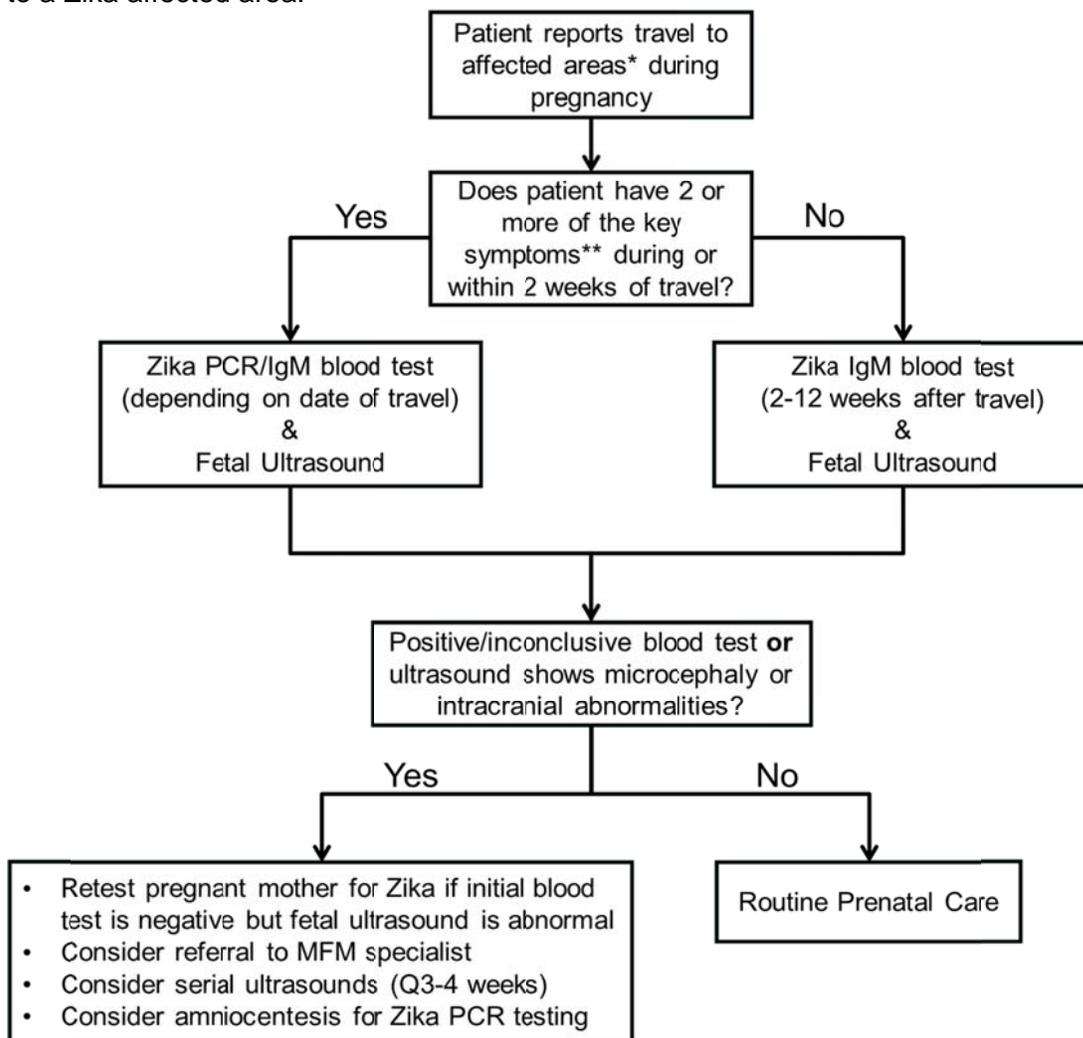
Zika Virus Transmission in the Americas: Update #1

Key Points and Recommendations:

- Healthcare providers should familiarize themselves with the Centers for Disease Control and Prevention (CDC) interim guidelines for pregnant women and infants related to the Zika virus outbreak:
 - Updated guidelines for pregnant women (2/5/16):
http://www.cdc.gov/mmwr/volumes/65/wr/mm6505e2er.htm?s_cid=mm6505e2er.htm_w
 - Initial guidelines for infants (1/29/16):
<http://www.cdc.gov/mmwr/volumes/65/wr/mm6503e3.htm>
 - New guidelines for prevention of sexual transmission (2/5/16):
http://www.cdc.gov/mmwr/volumes/65/wr/mm6505e1er.htm?s_cid=mm6505e1er_e
- In summary:
 - Healthcare providers should ask all of their pregnant patients whether they have traveled to South America, Central America, or the Caribbean during their pregnancy. Healthcare providers may choose to either call their patients or ask during routine clinic appointments.
 - If the a pregnant patient reports that she had such travel during pregnancy, healthcare providers should ask about any illness that occurred during or within 2 weeks of travel, including: **acute onset of fever, maculopapular rash, arthralgias, or conjunctivitis.**
 - Any pregnant woman who traveled to a Zika affected area during her pregnancy, **regardless of whether she developed symptoms**, should undergo both:
 1. Zika blood testing
 2. Fetal ultrasound
 - The timing and type of blood testing will depend on whether the pregnant patient was symptomatic (see figure below)
 - If the Zika blood test result is positive or inconclusive, or if the fetal ultrasound shows microcephaly or intracranial abnormalities, the pregnant patient should be considered for:
 1. Referral to a maternal-fetal medicine (MFM) specialist
 2. Serial fetal ultrasounds (fetal microcephaly is most easily detected in the late second and early third trimesters of pregnancy)
 3. Amniocentesis for Zika PCR testing
 - Men who have traveled to a Zika affected area and who have a pregnant partner should abstain from sexual activity or consistently and correctly use condoms during sex (vaginal, anal, or oral intercourse) for the duration of the pregnancy.

- The healthcare provider should call the New Hampshire Division of Public Health Services (NH DPHS) with any testing requests for Zika virus infection, or questions about Zika testing. For efficiency and to facilitate appropriate counseling, please do not direct your patients to call us directly. Our number is 603-271-4496 (after hours 1-800-852-3345 ext.5300).
- NH DPHS will host a healthcare provider webinar to discuss Zika clinical guidance on Wednesday, February 10, 2016, from 8:00 - 9:30 AM. If you are interested in participating, please reserve your seat at <https://attendee.gotowebinar.com/register/4017793981180928770>

Figure: Simplified algorithm for triaging, testing, and monitoring pregnant women with travel to a Zika affected area.



* See CDC website for most updated list of countries affected by Zika outbreak:
<http://www.cdc.gov/zika/geo/index.html>
<http://wwwnc.cdc.gov/travel/page/zika-travel-information>

** Key symptoms include: acute onset of fever, maculopapular rash, arthralgias, or conjunctivitis

Situation:

The Zika virus was first identified in 1947 in Uganda. Until 2015, Zika virus outbreaks occurred in Africa, Southeast Asia, and the Pacific Islands. In May 2015, the virus was detected in Brazil and has now spread rapidly throughout South America, Central America, and the Caribbean, including Puerto Rico and the U.S. Virgin Islands. Travel-associated cases have been identified in the continental U.S. and Hawaii, but there has been no local mosquito-borne transmission. Because areas of the U.S. have the mosquito vectors known to transmit the Zika virus (*Aedes aegypti* and *Aedes albopictus*), it is possible that imported cases could lead to local spread of the virus in some areas of the U.S. Further information about countries in the Americas affected with Zika outbreaks and travel advisories can be found at the following links:

<http://www.cdc.gov/zika/geo/index.html>

<http://wwwnc.cdc.gov/travel/page/zika-travel-information>

Transmission:

Zika virus is mainly transmitted through the bite of an infected mosquito. The *Aedes aegypti* and *Aedes albopictus* mosquitos are known to be able to transmit the Zika virus, with *Aedes aegypti* thought to be the primary vector. Other *Aedes* species mosquitos in Africa have also been found to carry the Zika virus. None of these mosquito vectors have been identified in New Hampshire. More information about *Aedes aegypti* and *Aedes albopictus* including their distribution in the U.S. can be found here:

<http://www.cdc.gov/chikungunya/resources/vector-control.html>

Zika has also been shown to be transmitted from mother to fetus during pregnancy through placental transfer, or around the time of birth. Because of this, pregnant women should take appropriate precautions to avoid mosquito bites by either postponing travel to Zika affected areas, or if travel is necessary, to take strict precautions to prevent mosquito bites.

The Zika virus has been identified in the semen of men, but it is not known how long the virus can persist in semen, and there have been a few case reports of Zika virus transmission from males to females through sexual transmission. Currently the CDC is investigating a case of a Dallas Texas woman who appears to have been infected through sexual contact with her male partner who was symptomatic and travelled to a Zika affected area. Because of these findings, the CDC is now recommending that men who have traveled to a Zika affected area and who have a pregnant partner should abstain from sexual activity or consistently and correctly use condoms during sex (vaginal, anal, or oral intercourse) for the duration of the pregnancy.

Because Zika virus can be found in the blood for up to seven days after onset of symptoms, there have been rare case reports of transmission through blood transfusion. The American Red Cross is asking potential donors who have traveled to a Zika affected region within 28 days to defer from blood donation.

Zika virus has also been found in body fluids (other than blood) including urine, saliva, and breast milk, but no cases of infection have been documented through these body fluids. There are no recommendations for other precautions at this time, and breastfeeding is still encouraged as the benefits of breastfeeding are thought to outweigh any potential risk to infants.

Symptoms:

Most individuals infected with Zika are asymptomatic. Only about 1 in 5 individuals will develop symptoms, commonly including acute onset of fever, maculopapular rash, arthralgias, and conjunctivitis. Headache and myalgias are also commonly reported. Illness is usually mild lasting up to a week, and people generally do not get sick enough to require hospitalization.

Guillain-Barré was associated with a Zika virus outbreak in French Polynesia and is being investigated further.

After introduction of the Zika virus into Brazil in 2015, surveillance detected an increase in congenital microcephaly, including cases born to mothers who were infected with Zika virus while pregnant. Careful studies are underway to clarify this apparent association, and it is not known what the risk is to a fetus if a pregnant mother becomes infected.

Prevention:

There is no vaccine to prevent Zika virus infection and no specific treatment once infected. Because of the association between Zika virus infection in pregnant mothers and congenital microcephaly and possibly other birth defects, the CDC and NH DHHS recommend that pregnant women postpone travel to any area where Zika virus transmission is occurring. Women planning pregnancy should consult with their healthcare providers before travel to one of these areas and avoid mosquito bites if they travel. All individuals considering travel should discuss travel precautions with their healthcare or travel clinic providers and take steps to avoid mosquito bites. The CDC has specific guidance for travelers:

<http://www.cdc.gov/zika/prevention/index.html>

Testing:

Healthcare providers should consult with NH DHHS DPHS if a patient meets criteria for testing (see above algorithm). In general, for patients who are within 7 days of symptom onset, blood reverse transcription-polymerase chain reaction (RT-PCR) and IgM may be recommended. For asymptomatic patients or those whose symptoms started more than 7 days before, immunoglobulin M (IgM) and neutralizing antibody testing may be performed on serum specimens.

Updated guidelines from the CDC also now include a new recommendation to offer serologic (IgM) testing to asymptomatic pregnant women (women who do not report clinical illness consistent with Zika virus disease) who have traveled to Zika affected areas. Testing should be offered 2–12 weeks after a pregnant woman returns from travel. A negative IgM result would suggest that a recent infection did not occur and could preclude the need for serial ultrasounds. Based on experience with other flaviviruses, IgM antibodies are expected to be present at least 2 weeks after virus exposure and persist for up to 12 weeks. A negative serologic test result, however, cannot definitively rule out Zika virus infection.

At this period in time, because testing resources are limited, only routine testing of pregnant women is recommended. Routine testing of men is not recommended, even if they are sexual partners for pregnant women. NH DPHS will consider testing non-pregnant individuals if there is a medical need that will affect management of a patient. Requests for testing will be considered on a case-by-case basis and healthcare providers should call NH DPHS to discuss.

It is also important to note that cross-reaction with related flavivirus infection or vaccination (e.g., dengue or yellow fever) is common with Zika antibody testing, and false positives due to cross-reactivity may occur, which can make interpretation of IgM results difficult.

For any questions regarding the contents of this message, please contact NH DHHS, DPHS, Bureau of Infectious Disease Control at 603-271-4496 (after hours 1-800-852-3345 ext.5300).

To change your contact information in the NH Health Alert Network, contact Denise Krol at 603-271-4596 or email Denise.Krol@dhhs.state.nh.us

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From: Benjamin Chan, MD, MPH – State Epidemiologist
Originating Agency: NH Department of Health and Human Services, Division of Public Health Services

Attachments: None

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