

**Pennsylvania Zika Virus Response Plan**  
**Department of Health, Department of Environmental Protection and**  
**Other Stakeholders**

**Purpose:**

This document describes actions that will be taken as the risk of locally acquired (transmitted by the bite of a local vector) cases of Zika virus disease increases in Pennsylvania. These actions are considered a phased response to Zika virus. The document is organized according to actions described in the Centers for Disease Control and Prevention's (CDC) "Interim CDC Zika Response Plan (CONUS and Hawaii): Initial Response to Zika Virus." (**See:** <https://www.cdc.gov/zika/pdfs/zika-draft-interim-conus-plan.pdf>.)

**Facts:**

- Zika virus is transmitted to humans mainly through the bite of an infected *Aedes*-species mosquito (*A. aegypti* and *A. albopictus*); other modes of transmission include sexual transmission, maternal-fetal transmission, transfusion with infected blood, and through laboratory and health care exposure.
- Zika virus infection in pregnant women can cause serious birth defects and is associated with other adverse pregnancy outcomes. Pregnant women represent a highly vulnerable population with special needs.
- Current CDC research suggests that Guillain-Barré syndrome (GBS) is strongly associated with Zika virus infection; however, only a small proportion of people with recent Zika virus infection get GBS.
- There is a risk of transmission through the blood supply. In August 2016, the Food and Drug Administration (FDA) issued a recommendation that all blood collection centers within the continental U.S. implement donor screening for Zika virus using a nucleic acid test, to be phased in based on risk of local mosquito-borne Zika virus transmission (for Pennsylvania, FDA guidance was to be implemented by December 2016 and all centers have implemented this method).
- As of Feb. 28, 2017, nearly 50 countries and territories in the Region of the Americas reported mosquito-borne transmission of the virus.
- As of Feb. 28, 2017, the only locations in the continental U.S. that have reported local mosquito-borne transmission of Zika virus are Miami-Dade County, Florida and Brownsville, Texas.
- *Aedes aegypti* is the primary vector associated with mosquito-borne transmission in the Region of the Americas and is not established in Pennsylvania; however, the CDC estimates that the potential range of *Aedes aegypti* could reach into southeastern Pennsylvania ([www.cdc.gov/zika/vector/range.html](http://www.cdc.gov/zika/vector/range.html)).
- Mosquito surveillance suggests populations of *Aedes albopictus* mosquitoes are most common in southern Pennsylvania; however, mosquito surveillance is not present or consistent in all Pennsylvania counties due to funding limitations.
- A vaccine or treatment for Zika virus disease is not currently available.
- Guidance and recommendations will change as more is learned about Zika virus and Zika virus disease.
- Effective Zika control activities will require a combined effort primarily by the Department of Health (DOH) and Department of Environmental Protection (DEP), but other stakeholders may be included.

**Assumptions:**

- *Aedes albopictus* is regarded as a competent, but less efficient, vector of Zika virus based on differences in host feeding preferences compared with *Aedes aegypti*.
- *Aedes albopictus* may cause limited local transmission of Zika virus within Pennsylvania.

## Phased Public Health Response to Zika Virus in Pennsylvania Summary

### **Communications:**

- The goal is to develop a joint communication plan between the DOH and DEP regarding all mosquito- and Zika-related issues. This is necessary to ensure consistent media messaging.
- Key messages within a joint communication plan will include: general mosquito bite prevention and mosquito control; Zika prevention when traveling to affected areas; the need for travelers returning from affected areas to avoid mosquito bites for three weeks; information for pregnant women and women of childbearing age; and education regarding the methods of transmission (including sexual).
  - Joint events with DEP can include: recorded PSAs featuring both agency secretaries; press conferences in Philadelphia and Harrisburg; live TV/radio interactive shows; media calls; and social media twitter chats and/or Facebook town halls.
  - The plan will include a variety of public educational materials produced in-house including: press releases/op-eds, etc.; flyers/posters (English and Spanish); images/memes for social media; banners for website/social media; messaging templates for partners to use; and work with Epidemiology to create materials that can be provided to exposed/potentially exposed pregnant women.
- DOH and DEP must continue to monitor and review newly released CDC guidelines pertaining to mosquito- and Zika-related issues.
- When necessary, refer to CDC's Zika Communication Planning Guide for States – <https://www.cdc.gov/zika/public-health-partners/comm-planning-guide.html>.

### **Surveillance for Human Cases:**

- DOH must enhance surveillance for Zika cases and fully and rapidly investigate cases to determine risk factors, including likely source of infection.
- DOH must prepare for possible locally-transmitted mosquito-borne Zika virus infections.
- Zika virus case counts are updated weekly, on Monday, on the DOH website.

### **Laboratory Testing:**

- As of Feb. 28, 2017, the DOH Bureau of Laboratories (BOL) and five commercial laboratories provide Zika virus testing for Pennsylvania residents.
- As of September 2016, the DOH BOL provides in-house Zika virus testing (serum IgM MAC-ELISA and serum/urine PCR) with median turnaround times below seven days. As of February 2017, the DOH BOL has processed over 3,000 specimens for Zika virus testing.
- All presumptive positive, equivocal or inconclusive IgM results must be confirmed with the plaque reduction neutralization test (PRNT). This testing is conducted at the CDC. Due to the complexity of the test and the limited number of laboratories able to perform this testing, the turnaround time for PRNT is two to four weeks.
- The DOH Bureau of Laboratories must be able to sustain laboratory capacity for Zika virus testing. This includes hiring and training of adequate staff necessary to complete testing, as well as staff needed to provide adequate backup capacity.

### **Vector Surveillance and Control:**

## Revised - 6/7/2017

- There must be enhanced vector surveillance by DEP and grantees specifically targeting *Aedes albopictus* and *Aedes aegypti* using species-appropriate trapping methods to better understand population densities.
- Vector surveillance activities may need to include testing appropriate mosquito pools for the presence of Zika.
- Rapid communication by DOH to DEP is essential regarding each probable or confirmed Zika virus case residence locations (street address, regardless of infection origin [i.e., including travel-associated cases]) to target timely vector control efforts.
  - A mechanism for rapid sharing of case location information is already in place for West Nile and has been expanded to include Zika cases.
- These efforts should target both adult and larval forms of the mosquito within a 150-yard radius of probable and confirmed cases.
- It should be noted that asymptomatic infected persons (estimated to be about 80 percent of all infected persons) will likely not request or receive testing and, thus, will not be identified.
- Furthermore, as noted above, the likelihood of identifying an infected person while he/she is still viremic and capable of passing the infection to a local mosquito is extremely low.
- Control activities should also focus on educating all returning travelers to prevent mosquito bites in the week following their return.

## **Pregnant Woman Outreach:**

- Zika virus can be passed from a pregnant woman to her fetus during pregnancy or around the time of birth.
- Zika virus infection in pregnant women is associated with birth defects and adverse pregnancy outcomes.
- The DOH/DEP Zika public information campaign will be targeting this at-risk population.
- Coordinated efforts with Pa. American College of Obstetrics and Gynecologists (ACOG), March of Dimes and PA Medical Society will be needed.
- The Bureau of Epidemiology already has a relationship with these groups and has communicated information through these channels. There will be additional partnership through other DOH bureaus for effective outreach to targeted providers.
  - Pregnant women with evidence of Zika infection will be enrolled in the United States Zika Pregnancy Registry (USZPR) managed by the CDC. The woman and infant(s) will be monitored during the pregnancy and for up to one year after the birth.
  - Infants will be referred to early intervention services if birth defects are detected.

## **Blood Safety:**

- There is a risk of transmission through the blood supply.
- Coordinated efforts with American Red Cross and Food and Drug Administration will be needed.
- The American Red Cross has added a specific question to its donor health history questionnaire concerning travel to or residence in areas with local Zika virus transmission.
- Donors are also asked to self-defer, or postpone their blood donation for four weeks, if they are at risk of Zika virus exposure.
- Per FDA recommendations, Pennsylvania blood collection centers were to begin screening individual units of whole blood and blood components for Zika virus by December 2016. All centers have implemented this method.

Risk Category	Definition	Activities and Responses – Pennsylvania
0	<p><b>Travel-associated Zika virus infections occurring, but <i>Aedes species</i> adults are not yet actively biting humans (pre-mosquito season)</b></p>	<p><b>Response Actions</b></p> <ul style="list-style-type: none"> <li>● Review and update the Zika virus response plan.</li> <li>● Meet with primary stakeholders of DOH and DEP as needed to review state and local mosquito control programs and assess capacity and capability.</li> <li>● Ensure coordination between DOH and DEP so vector control and human surveillance activities can be linked.</li> <li>● Secure vector surveillance and control resources necessary to enable emergency response if needed.</li> <li>● Review plans with relevant response partners, identify gaps in preparedness and develop a plan for improvement.</li> <li>● Appoint an incident manager and a contact roster of response partners should incident management structure be required.</li> </ul> <p><b>Communications</b></p> <ul style="list-style-type: none"> <li>● Prepare a joint communication campaign (DOH and DEP) for pregnant women, travelers, health care providers and the public to raise awareness of Zika virus.</li> <li>● Include messaging on the risk for sexual transmission and steps persons can take to prevent it.</li> <li>● Develop or update scripts for state call centers and public health agencies to include Zika virus messaging.</li> <li>● Review/update DOH Zika virus website weekly.</li> <li>● Develop educational materials for returning travelers to prevent mosquito bites in the week following their return.</li> <li>● Ensure appropriate messaging for Zika positive men (condom use or abstinence) and for Zika positive pregnant women is being delivered.</li> </ul> <p><b>Surveillance for Human Cases</b></p> <ul style="list-style-type: none"> <li>● Enhance surveillance for travel-associated Zika virus infections and possible sexually-transmitted cases.</li> <li>● Develop targeted Zika virus infection surveillance efforts for pregnant women through OB/GYN clinics (see Outreach for Pregnant Women and Obstetricians Annex).</li> <li>● Reach out to clinicians in the state and provide guidance for management, testing and interpretation of test results for possible cases.</li> <li>● Rapidly follow up and investigate reported cases. Take a complete patient history including travel, transfusion or tissue transplantation, and sexual exposure to a traveler.</li> </ul>

- If case involves Zika positive pregnant female, attempt to enroll the patient in CDC's Zika pregnancy registry for monitoring and follow-up of birth outcomes.
- Report all confirmed or probable Zika virus disease cases to PANEDSS and ArboNET in a timely manner.

**Laboratory Testing**

- Maintain adequate state capacity to rapidly test specimens for Zika virus (see Laboratory Annex).
- Develop a plan for surge capacity and maintain back-up capacity for testing.

**Vector Surveillance and Control**

- On June 1, initiate Zika vector mosquito density survey in participating counties.
- Conduct, on a weekly basis, a baseline mosquito survey for *Aedes albopictus* and *Aedes aegypti* populations in the following counties: Allegheny, Adams, Beaver, Berks, Bucks, Chester, Cumberland, Dauphin, Delaware, Fayette, Franklin, Greene, Lancaster, Lebanon, Lehigh, Montgomery, Northampton, Philadelphia, Washington, Westmoreland and York with the goal of this survey is to measure the average weekly abundance of host-seeking *Aedes albopictus/aegypti*. Survey sites will be residential and public areas, such as parks, zoos.
- Use the baseline survey to measure vector abundance in relation to the importation of viremic Zika virus cases.
- Initiate information sharing among counties with known *Aedes albopictus* populations through the use of a password protected intergovernmental website and designated county email distribution list. Weekly density levels from across the state surveillance network will be shared.
- Engage and educate community leadership on habitat reduction and strengthening standing water codes. Provide tools to homeowners to reduce Zika vectoring mosquitoes.
- Provide expertise, equipment and funding to county mosquito control programs to begin efforts to reduce Zika vectoring mosquitoes in public areas.
- Incorporate training on the surveillance and control of *Aedes albopictus* into the annual mosquito control academy attended by county and municipal personnel.

**Pregnant Women Outreach**

- Develop enhanced Zika virus infection outreach to pregnant women through OB/GYN clinics, and offer Zika virus testing for pregnant women with travel history.
- Advise pregnant women to follow current CDC recommendations and avoid travel to Zika-affected areas.
- Identify resources that could be used for interventions (products to develop Zika Prevention Kits for pregnant women, resources for communications campaigns, etc.).

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		<ul style="list-style-type: none"><li>● Participate in the CDC’s U.S. Zika Pregnancy Registry, which will be used for monitoring and follow-up of birth outcomes among women with Zika virus infection during pregnancy.</li></ul> <p><b>Blood Safety</b></p> <ul style="list-style-type: none"><li>● Provide consultations and guidance, as needed, to assist with implementing revised recommendations issued by the U.S. Food and Drug Administration (FDA) on Aug. 26, 2016, to reduce the risk of Zika virus transmission by blood and blood components. (See Blood Collection Center Annex.)</li><li>● Immediately investigate all Zika nucleic acid amplification test (NAAT)--positive donations reported by local blood collection agencies. Rapid notification of CDC should also occur to determine next steps.</li></ul>
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<p>1</p>	<p><b>Travel-associated Zika virus infections occurring and <i>Aedes species</i> adults actively biting humans (mosqui to season)</b></p>	<p>Response as in category 0, plus:</p> <p><b>Response Actions</b></p> <ul style="list-style-type: none"> <li>● Organize regular meetings between the pre-identified incident manager and state vector preparedness and response partners to discuss plans, progress and incorporate any changes as needed.</li> </ul> <p><b>Communications</b></p> <ul style="list-style-type: none"> <li>● Initiate communications campaign for messaging around:             <ul style="list-style-type: none"> <li>○ Personal mosquito protection;</li> <li>○ Residential source reduction; and</li> <li>○ Reducing risk of spread from travelers coming from areas experiencing Zika outbreaks (mosquito protection for three weeks upon return, safe sex to prevent sexual transmission).</li> </ul> </li> </ul> <p><b>Surveillance for Human Cases</b></p> <ul style="list-style-type: none"> <li>● Remind laboratories and health care providers they are to immediately report positive or equivocal Zika virus test results to DOH.</li> <li>● Counsel patients with pending Zika virus lab results through Bureau of Laboratories to take precautions to avoid exposure to local mosquito populations, especially during the first week of acute illness, if symptomatic, or three weeks after return from travel if asymptomatic.             <ul style="list-style-type: none"> <li>○ Stay indoors in screened, air-conditioned rooms, use personal repellents and consider mosquito reduction activities around home.</li> <li>○ Advise patients to practice safe sex to avoid potential sexual transmission to contacts and to defer blood donations.</li> </ul> </li> <li>● Perform daily analysis of surveillance data to identify Zika clusters based on locations of patients with reported positive or equivocal test results and rapidly share potential clusters with DEP to facilitate response. Zika clusters are defined as follows: two or more Zika virus cases reported within 30 days that have onset dates or specimen collection dates within 14 days of one another.</li> </ul> <p><b>Vector Surveillance and Control</b></p> <ul style="list-style-type: none"> <li>● Initiate surveillance on all mosquito life stages within 150 meters of the imported cluster of Zika virus cases. Adult surveillance will be through the use of BG sentinel traps. Immature surveillance will be through the use of dippers and ovitraps. Surveillance will be used to determine appropriateness and efficacy of control measures.</li> </ul>
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		<ul style="list-style-type: none"><li>● Initiate immature mosquito control within 150 meters of the imported cluster of Zika virus cases. Immature control will focus on source reduction and the use of bio rational pesticides in areas that are not conducive to source reduction or elimination..</li><li>● Consider the use of adult mosquito control within 150 meters of the importation cluster. If BG sentinel traps indicate risk, adult mosquito control will be initiated. Methods include the use of barrier and spaces sprays, applied by licensed public health specialists at EPA label rates, using either backpack or vehicular mounted techniques</li></ul>
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<p style="text-align: center;"><b>2</b></p>	<p><b>Suspected single case locally transmitted by mosquitoes</b></p>	<p>Response as in category 1 plus:</p> <p><b>Response Actions</b></p> <ul style="list-style-type: none"> <li>● Activate the state incident management structure and consult pre-identified incident commander on needs.</li> </ul> <p><b>Surveillance for Human Cases</b></p> <ul style="list-style-type: none"> <li>● Rapidly follow up on suspected locally-acquired cases prior to case confirmation. CDC defines a suspect case of local transmission as: a person with symptoms or preliminary test results compatible with Zika virus infection who does not have risk factors for Zika virus acquisition through travel, sexual contact or other known exposure with body fluids and for whom Zika virus test results are pending; <b>OR</b> a presumed viremic blood donor (i.e., initial screen positive for Zika virus and confirmatory test pending) who does not have risk factors for Zika virus acquisition through travel, sexual contact or other known exposure with body fluids. Arrange for Zika virus testing as needed. Ask if other persons in the home or neighborhood are experiencing similar symptoms. Assess patient’s geographic area of risk for exposure (i.e., Where were they likely exposed? Home? Workplace?).</li> <li>● Rapidly communicate potential risk area to DEP to coordinate vector response.</li> </ul> <p><b>Communications</b></p> <ul style="list-style-type: none"> <li>● Prepare for a possible communications need in the event patient is positive.</li> <li>● Create talking points to alert the general public.</li> <li>● Identify and prepare local spokespeople.</li> </ul> <p><b>Vector Surveillance and Control</b></p> <ul style="list-style-type: none"> <li>● Initiate surveillance on all mosquito life stages within 300 meters of the suspected case of Zika. Adult surveillance will be through the use of BG sentinel traps. Immature surveillance will be through the use of dippers and ovitraps. Surveillance will be used to determine appropriateness and efficacy of control measures.</li> <li>● Initiate immature mosquito control within 300 meters of the suspected case of Zika. Immature control will focus on source reduction and the use of bio rational pesticides in areas that are not conducive to source reduction or elimination. Immature mosquito control practices should continue for the remainder of the active <i>Aedes albopictus</i> season, unless this turns out to not be a case.</li> <li>● Consider the use of intensified adult mosquito control within 300 meters of the suspected case. If BG sentinel traps indicate risk, adult mosquito control will be initiated. Methods include the use of barrier and spaces sprays, applied by licensed public health specialists at EPA label rates, using either backpack or vehicular mounted techniques. Adult mosquito control efforts will continue until vector populations are reduced below risk thresholds.</li> </ul>
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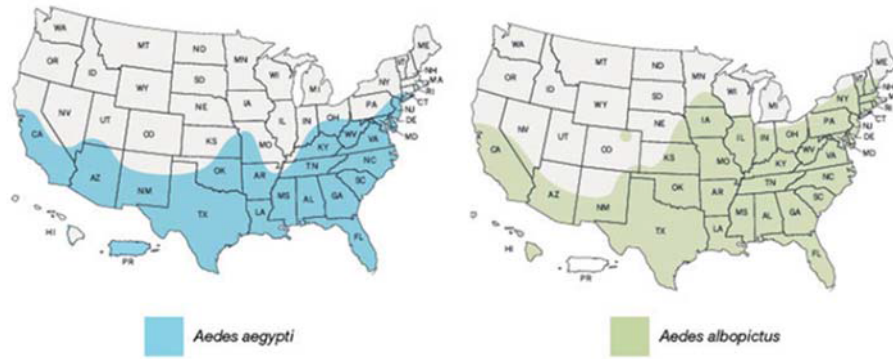
<p>3</p>	<p><b>Confirmed single case (or cases clustered in a single household) locally transmitted by mosquitoes</b></p>	<p>Response as in category 2 plus:</p> <p><b>Response Actions</b></p> <ul style="list-style-type: none"> <li>• Activate the state incident management structure and consult the pre-identified incident commander on needs. Determine if there is a need for assistance from a CDC field team (e.g., Epi Aid or rapid response team) to provide on-the-ground technical, risk communication, vector control and/ or logistical support.</li> <li>• Notify CDC EOC at 770-448-7100 or by emailing <a href="mailto:ecreport@cdc.gov">ecreport@cdc.gov</a>.</li> </ul> <p><b>Communications</b></p> <ul style="list-style-type: none"> <li>• As appropriate, issue press release/media statement (possibly joint effort with DOH/DEP) and intensify visible activities in the county to increase attention to Zika virus transmission risk and personal protection measures.             <ul style="list-style-type: none"> <li>◦ Flyers, community leaders and social media</li> </ul> </li> <li>• Monitor local news stories and social media postings to determine if information is accurate, identify messaging gaps and adjust communications as needed.</li> <li>• Consider setting up a call center utilizing staff from Bureau of Epidemiology, Bureau of Public Health Preparedness and Bureau of Community Health Nurses coordinating with the DOH Office of Communications.</li> </ul> <p><b>Surveillance for Human Cases</b></p> <ul style="list-style-type: none"> <li>• CDC defines confirmed case of local transmission as a person who does not have risk factors for Zika virus acquisition through travel, sexual contact or other known exposure with body fluids and who tests positive for Zika virus infection per CDC laboratory guidance; <b>OR</b> <u>a blood donor identified through Zika virus screening of blood donations, who does not have risk factors for Zika acquisition through travel, sexual contact or other body fluid exposure and who has a positive Zika virus nucleic acid test (NAT) on screening AND confirmation through an approved confirmatory test algorithm; OR multiple people meeting one of the criteria above, clustered in a single household within a two-week period (maximum incubation period).</u> <ul style="list-style-type: none"> <li>• Intensify surveillance for human cases in a 150-yard radius (or other boundary, as deemed appropriate) around home or other likely sites of exposure).</li> <li>• Consider conducting household and door-to-door surveillance for clinically compatible cases as feasible and necessary. Continue reporting cases as in prior levels.</li> <li>• Enhance local surveillance for human cases (consider local clinician outreach, syndromic surveillance in nearby hospitals, etc.).</li> <li>• Rapid sharing by DOH with DEP of location of each probable or confirmed locally-acquired Zika case residence location (or other relevant exposure location) to target timely vector control efforts.</li> <li>• Rapidly notify CDC to determine appropriate next steps to further define the area at risk.</li> </ul> </li> </ul> <p><b>Vector Surveillance and Control</b></p> <ul style="list-style-type: none"> <li>• Response as in 2, including:</li> <li>• Initiate surveillance of mosquitoes in adjacent geographic areas to determine extent of possible viral spread.</li> <li>• Initiate testing of mosquitoes for the presence of Zika virus. Virus testing will be used to build historic</li> </ul>
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		<p><b>Pregnant Women Outreach</b></p> <ul style="list-style-type: none"><li>● If case(s) involve Zika positive pregnant female(s), attempt to enroll the patient in CDC's Zika pregnancy registry for monitoring and follow-up of birth outcomes.</li><li>● Deploy targeted communications, surveillance, and monitoring programs for pregnant women in the county/jurisdiction.<ul style="list-style-type: none"><li>○ Include guidance for women wanting to get pregnant and those breastfeeding.</li></ul></li><li>● Develop guidance for families affected by microcephaly and other Zika-related birth defects.</li></ul> <p><b>Blood Safety</b></p> <ul style="list-style-type: none"><li>● Notify local blood collection agencies for awareness.</li><li>● Review CDC toolkit for investigation of transfusion-transmitted infection.</li></ul>
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<p>4</p>	<p><b>Widespread* local transmission by mosquitoes (* multiple cases in &gt;1 county) – PA is not considered to be at risk for level 4.</b></p>	<p>Response as in category 3 plus:</p> <p>Expand response activities regionally or statewide. Considerations include but are not limited to:</p> <p><b>Response Actions</b></p> <ul style="list-style-type: none"> <li>● Determine the geographic boundaries that will be used for aggressive response efforts (county/ jurisdictional, health department coverage area, zip code, etc.). Utilize CDC guidance and procedures to determine geographic boundaries and advisory level.</li> <li>● Designate county/jurisdiction as an area of “active Zika transmission.”</li> <li>● Incident manager should provide regular situation updates to keep public and partners informed of evolving situation.</li> </ul> <p><b>Communications</b></p> <ul style="list-style-type: none"> <li>● Intensify county-wide (or jurisdiction-wide) outreach (newspaper, radio, social media and call centers).</li> </ul> <p><b>Surveillance for Human Cases</b></p> <ul style="list-style-type: none"> <li>● Intensify county-wide (or jurisdiction-wide) surveillance for human cases (consider clinician outreach, syndromic surveillance in hospitals, etc.).</li> <li>● Maintain communication with CDC regarding response activities.</li> </ul> <p><b>Vector Surveillance and Control</b></p> <ul style="list-style-type: none"> <li>● Initiate memorandum of understanding (MOU) with adjacent counties in affected active Zika transmission areas. This agreement will allow the coordination and sharing of resources for the remainder of the mosquito season.</li> <li>● Initiate widespread larval control through backpack and vehicular application. Application methods will be determined by the scope and habitat of the Zika transmission zone. If the scope of outbreak is &gt;1,000 acres, consider aerial control.             <ul style="list-style-type: none"> <li>○ If necessary, initiate request for proposals (RFP) to conduct aerial (rotary aircraft) bio rational pesticide applications.</li> </ul> </li> <li>● Initiate widespread adult control through backpack and vehicular application, as deemed necessary by targeted species adult mosquito surveillance. If scope of the outbreak is &gt;1,000 acres, consider aerial control.             <ul style="list-style-type: none"> <li>○ If necessary, initiate RFP to conduct vehicular and aerial (fixed or rotor aircraft) adult mosquito control. suppression in affected areas.</li> </ul> </li> </ul>
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		<ul style="list-style-type: none"><li>● Initiate surveillance and viral testing of known <i>Aedes albopictus</i> populations across the commonwealth to determine if other outbreaks are occurring.</li></ul> <p><b>Pregnant Women Outreach</b></p> <ul style="list-style-type: none"><li>● Advise pregnant women to consider postponing travel to the affected counties/jurisdictions.</li><li>● Advise men in the counties/jurisdictions to use condoms or abstain from sexual contact with pregnant women.</li><li>● Implement intervention plans for high risk populations (pregnant women).<ul style="list-style-type: none"><li>○ Consider options such as mosquito-proofing homes through installation of screens and provision of air-conditioning, if necessary, as well as household vector control and distribution of Zika Prevention Kits (ZPKs).</li></ul></li><li>● Consider when to initiate testing of asymptomatic pregnant women.</li><li>● Consider retrospective enhanced surveillance in health facilities to establish the earliest known date of local human infection for future counseling/testing of asymptomatic pregnant women.</li></ul> <p><b>Blood Safety</b></p> <ul style="list-style-type: none"><li>● Blood centers with collections in county/jurisdiction should follow FDA guidance for an area of active transmission, including outsourcing blood if laboratory screening or pathogen reduction is unavailable.</li><li>● Blood centers in other areas and states should follow FDA guidance for deferring blood donations for people who have a recent travel history to this county/jurisdiction.</li></ul>
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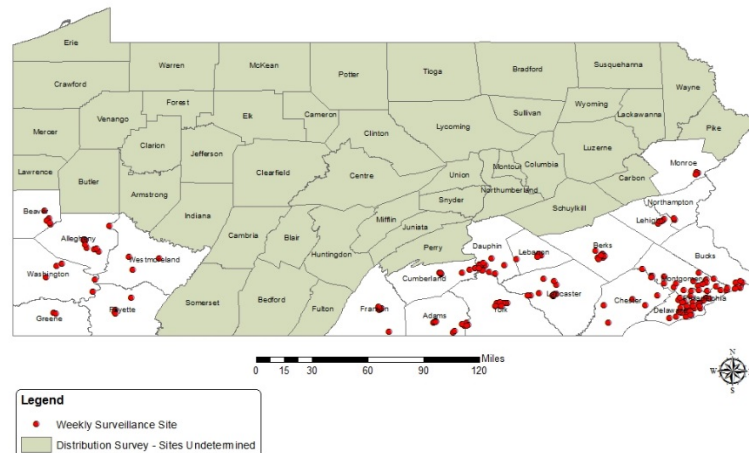
Shown below are maps produced by the CDC that show projections for the two mosquitos in question, *Aedes aegypti* and *Aedes albopictus* according to the 2016 CDC update. The map at the bottom shows the locations of DEP planned surveillance trapping sites for the 25 counties currently participating in the West Nile Virus Program. All other counties that are shown in tan will be surveyed, but will not have weekly collections.



\*Maps have been updated from a variety of sources. These maps represent CDC's best estimate of the potential range of *Aedes aegypti* and *Aedes albopictus* in the United States. Maps are not meant to represent risk for spread of disease.



### Zika Mosquito Surveillance



## **Laboratory Annex**

The Food and Drug Administration has issued emergency use authorizations (EUAs) for several diagnostic tests for Zika virus, including the Trioplex Real-Time RT-PCR (rRT-PCR) assay and the Zika MAC-ELISA. As of February 2017, five commercial laboratories are providing Zika virus testing.

As of September 2016, the DOH BOL provides in-house Zika virus testing (serum IgM MAC-ELISA and serum/urine PCR) with median turnaround times below seven days. As of February 2017, the DOH BOL has processed over 3,000 specimens for Zika virus testing (median is 58/week).

Testing at the BOL requires the Zika laboratory submission form be completed and then approved by public health staff review. All the demographic and epidemiological fields need to be completed before submitting for approval. Once approval is granted, the specimen(s) can be collected and forwarded to the BOL along with the approved submission paperwork. BOL maintains on its website ([www.health.pa.gov/labs](http://www.health.pa.gov/labs)) the the specific Zika virus laboratory documents such as submission form guidance and guidelines for interpreting Zika testing results.

## **Blood Collection Center Annex**

The American Red Cross has added a specific question to its donor health history questionnaire concerning travel to or residence in areas with local Zika virus transmission. Donors are also asked to self-defer, or postpone their blood donation for four weeks, if they are at risk of Zika virus exposure.

Those risk factors include: travel to or residence in countries on the Centers for Disease Control and Prevention Zika Travel Information list within the last four weeks; diagnosis of Zika virus infection; existence of two or more Zika virus infection symptoms within two weeks of leaving an area with local transmission; or sexual contact within the last four weeks with a man who, in the three months before sexual contact, was diagnosed with Zika virus infection or who traveled to or resided in an area with local Zika virus transmission. Potential donors with any of these risk factors should schedule their blood donation for four weeks after the end of the defined risk periods noted above.

The Red Cross continues to use additional safety measures to protect the blood supply from Zika virus and other mosquito-borne viruses. As part of current health screening process, the Red Cross only collects blood from donors who are healthy and feeling well at the time of donation. In August 2016, the Food and Drug Administration issued a recommendation that all blood collection centers within the continental U.S. implement donor screening for Zika virus using a nucleic acid test, to be phased in based on risk of local mosquito-borne Zika virus transmission. (For Pennsylvania, FDA guidance was to be implemented by December 2016 and all centers have implemented this testing.)

Communication between DOH and the relevant blood collection centers will be anticipated once confirmed local transmission has occurred to assure a safe blood supply.



## **Outreach to Pregnant Women and Obstetricians Annex**

Women diagnosed with Zika virus disease should wait at least eight weeks after symptom onset to attempt pregnancy. Men diagnosed with Zika virus disease should wait at least six months after symptom onset to attempt pregnancy. Asymptomatic women and men with possible exposure to Zika virus should wait at least eight weeks after exposure before attempting pregnancy. See [www.cdc.gov/mmwr/volumes/65/wr/mm6512e2.htm](http://www.cdc.gov/mmwr/volumes/65/wr/mm6512e2.htm).

Consideration of amniocentesis has been removed from the CDC recommended testing algorithm. A decision regarding amniocentesis should be individualized for each clinical scenario on a case-by-case basis as with other congenital infections. See [www.cdc.gov/mmwr/volumes/65/wr/mm6512e2.htm](http://www.cdc.gov/mmwr/volumes/65/wr/mm6512e2.htm).

Prevention of unintended pregnancies in the context of a Zika virus outbreak is especially important as an approach to reducing the likelihood of congenital infections. See [www.cdc.gov/mmwr/volumes/65/wr/mm6512e2.htm](http://www.cdc.gov/mmwr/volumes/65/wr/mm6512e2.htm).

Adherence to standard precautions is necessary to protect health care providers and patients in labor and delivery settings from transmission of Zika virus disease. The appropriate use of personal protective equipment is important for all health care providers to minimize the risk of transmission of infectious pathogens through exposure to blood and body fluids. There is no evidence that contact precautions or respiratory isolation of ZIKA virus disease-infected patients is warranted. See [www.cdc.gov/mmwr/volumes/65/wr/mm6511e3.htm](http://www.cdc.gov/mmwr/volumes/65/wr/mm6511e3.htm).

CDC has established the U.S. Zika Pregnancy Registry and is collaborating with state, tribal, local and territorial health departments to collect information about Zika virus infection during pregnancy and congenital Zika virus infection. Obstetrician–gynecologists and other health care providers are asked to report laboratory-confirmed cases of Zika virus to their state, tribal, local or territorial health department and should notify state, tribal, local or territorial health department staff or CDC registry staff of adverse events. See [www.cdc.gov/zika/hc-providers/registry.html](http://www.cdc.gov/zika/hc-providers/registry.html).

CDC has developed detailed guidelines for testing, evaluation and care of infants with congenital Zika infections. See [www.cdc.gov/mmwr/volumes/65/wr/mm6507e1.htm](http://www.cdc.gov/mmwr/volumes/65/wr/mm6507e1.htm).

CDC maintains a 24/7 clinical consultation service for health care providers evaluating and caring for pregnant women and infants with possible ZIKA infection. Call CDC's Zika Pregnancy Hotline for Healthcare Providers at 770-488-7100 or email [zikamch@cdc.gov](mailto:zikamch@cdc.gov) for any concerns related to clinical management.