

Florida Department of Health Guide for Local Zika Investigations and Community Surveys



Collaborative work of Florida Department of Health in Broward, Miami-Dade, Palm Beach, and Pinellas Counties, Florida Department of Health, and Centers for Disease Control and Prevention

September 14, 2016
Version 1.0

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Types of Investigations

The overall goal of these investigations are to determine the geographic location and scope of local Zika virus transmission. There are several different methodologies used in this determination: household contact investigations, business investigations, and community urosurveys. The Vector-borne and Zoonotic Disease program should be consulted prior to the start of any local case investigations. Outbreak modules in Merlin will be created for these investigations as necessary.

Household Cluster Investigations

The goal of this investigation is to assess household members of the index case for Zika virus infection. Serum, urine, and whole blood should be collected for all members of the household if possible. The standard case report form for investigation of arboviral diseases can be used for the interviews: <http://www.floridahealth.gov/diseases-and-conditions/disease-reporting-and-management/disease-reporting-and-surveillance/documents/crf-vectorborne.pdf>. Identification of additional people with Zika in the household does not mean that there is ongoing local transmission in the area. Enhanced surveillance through outreach to health care providers and the public, as well as enhanced syndromic surveillance (ESSENCE), can be used to attempt to identify additional cases. Additionally, a business investigation may be conducted if appropriate.

Business Investigations

As an extension of the household contact investigations, the work location of the case may be surveyed if there is the potential for significant outdoor exposure (not indoor office workplace), if there are known mosquito exposures at the business, or if other employees are reporting an illness compatible with Zika virus infection. These surveys have a separate questionnaire (see Zika Cluster Business Interview form). This form acts as a bank of questions that can be included in the survey. Additional questions can be added and questions not appropriate to the investigation can be removed; however, please do not change the wording of any of the questions and please consult with the state office regarding any modifications to the survey prior to implementing. All employees that consent will complete the interview and have a urine sample collected. Serum and whole blood may also be collected from any employees reporting a Zika-like illness in the past month.

Additional outdoor worksites may be identified throughout the course of an active investigation and may also be sampled in certain circumstances. These investigations will use the same form and should be approved by the Zoonotic and vector-Borne disease program before surveying begins.

Community Urosurveys

Community urosurveys may be conducted after two or more transmission events are identified. Two positive individuals from a single household and single sporadic cases generally do not meet the criteria for a community urosurvey. The goal of this investigation is to identify one or more people with Zika virus infection in neighboring households. Households within a 150 meter radius of the properties of interest will be assessed. The assessment involves a short questionnaire and the collection of a urine sample. Household members will be excluded from the survey if they traveled in the previous month to an area outside the continental United States with active Zika virus transmission. Household members aged <5 years also will be excluded from the survey.

Please see below for more detailed information on the survey process and forms.

General Notes on Procedure

- County Health Department employees who are pregnant should not participate in the community surveys in the field.
- General safety and procedural training should be conducted before deploying staff into the field.
- Teams of 3 are ideal; one person should act as the team lead and be in charge of the household log, a second person should be in charge of the questionnaire, and a third person should be in charge of sample collection/processing.
- Try to map the area out and assign addresses to teams ahead of time. A unique household ID number should be assigned for each address (H1, H2, H3, etc.); the ID number is not the same as the house number of the address. If not possible to assign ahead of time, give teams blocks to cover and a range of household ID numbers to use. If additional households are identified or if an apartment building is being surveyed and wasn't already assigned a number for each unit, have the teams contact the person in charge to assign a range of household IDs to use. A new household log should be used for each day of sampling.
- When an area is being surveyed, it is best to try to use the same number of teams each day of the survey and try to keep as many of the same people as possible on those teams. Try to make the team lead someone that is already familiar with the paperwork or who has participated previously. Make sure to make clear notations on the household log (and provide the previous day's household log) so teams understand the reason why they are returning to a residence.
- One or more of the vans should have a large cooler full of ice packs to hold the specimens until they can be brought to one of the state laboratories. Teams should have smaller coolers with ice packs that they can take door to door to keep samples cold until they can be brought to the van. The coolers should be large enough to hold multiple samples, but not so large that they're cumbersome for the teams to carry. Please do not fill coolers with wet ice as it may wet the labels or leak into the specimen bags.
- As teams drop off samples, staff in charge should collect paperwork and review for accuracy. Ensure that all paperwork is collected before the teams leave for the day including blank forms and address information.
- Please make sure that you have Zika pregnancy kits for each team as well as extras in the van. These are to be given out to each pregnant woman identified in a household during the survey. Women unsure of their pregnancy status can also be given a kit. Please keep track of the number of kits being distributed and to what address on the household log.
- Dress in business casual with good shoes. All team members should be wearing their ID badge in a visible location, above the waist. EPA registered repellent should also be available for team members.
- Language: For non-English speakers ensure that a team member is available to conduct the interview in the preferred language. It is not appropriate to have a family member act as the translator for the interview.

Preparing for Each Day

1. Confirm you have all supplies
 - a. Water (for drinking)
 - b. Umbrella (for shade or rain)
 - c. EPA registered repellent
 - d. Sunscreen – please put on sunscreen before insect repellent
 - e. Sunglasses
 - f. Hat
 - g. Maps
 - h. Zika kits for pregnant women only
 - i. Verify that your team has all paperwork and documents needed
 - Emergency contact list
 - Household status logs
 - Intro script
 - Consent document
 - Questionnaires
 - Mosquito bite prevention handouts
 - Not home handouts
 - Pre-printed sample labels
 - Specimen log
 - j. Verify that your team has all sampling supplies needed
 - Small cooler per team (for transporting specimens from the door to the)
 - Ice packs for coolers (do **not** use regular ice)
 - Sterile urine cups
 - Pens or sharpies to write information on specimen labels prior to collection
 - Sealable biohazard bags (to place urine cups in after collection)
 - Parafilm (to seal lids of urine cups to container)
 - Gloves
 - Biohazard bag for gloves
 - Hand sanitizer
2. Verify with person in charge
 - a. Meeting area and times to meet (start, finish, etc.)
 - b. Area to be covered and specific households to be visited during the day
 - c. Timing of check-ins
 - d. When to drop-off collection forms and samples from the field

Summary of Procedure

1. Ask for Head of Household/Adult Ask permission to explain evaluation; ask him/her to get available household members over the age of 5 so that you can explain evaluation to everyone at once
2. Explain evaluation and address any questions
3. Ask Head of Household to list initials of all persons meeting resident definition and completely fill out all information on the household log
4. For each Resident individually:
 - a. Obtain permission for questionnaire; document consent decision on questionnaire.
 - Give copy of consent document to appropriate family member
 - Complete questionnaire
 - Place completed questionnaire in secure folder/clipboard
 - Enter household information in the Household Log
 - b. Obtain permission for urine sample; document consent decision on questionnaire.
 - Obtain urine sample, add label after the sample is collected, put on parafilm, and place in sample bag
 - Place sample in cooler
 - Add second sample label to the Lab Specimen Submittal Form and complete other fields
 - c. Thank the participant
5. Proceed to next individual until all household residents over the age of 5 have been interviewed
6. Schedule a follow-up visit for those household residents who were not available, and record plan on the household log
7. Provide insect repellent to household and mosquito bite prevention handout

Detailed Survey Procedures

Fill out the Household Log for each address

1. Fill out the investigator name, team number, and date
2. Document the household number (given to you) and fill out the full address
3. Record the visit attempt number, date, and time of the visit
4. A new household log will be provided for each day's visit(s). If this is a return visit, identify ahead of time the reason why you are going back to that residence

Approaching the house

1. Knock on door or ring doorbell
 - a. If someone is outside in the front and they come up to you, go ahead and approach them. If they don't come over to you, say hello and proceed to knock on the door
 - b. Knock a total of 3 different times over a few minutes and wait for a response
 - c. If no one answers the door, assess if the household is occupied
 - i. If there is no furnishings or evidence of residence (e.g., For Sale sign), mark the household as "Unoccupied"
 - ii. If there appears to be someone living there or you are uncertain, leave a "Sorry we missed you" flyer. Scout for a place where household members are likely to see it but not necessary visible to those that might drive by. Consider mail slots, under door mats, slipped between screen and inner door. Do not put the flyer in the mailbox.
 - iii. Ask the next door neighbor to confirm if the house is occupied
2. Revisiting households where no contact was made with an adult resident
 - a. The household should be visited three times
 - i. Two of those times should be on different days
 - ii. Two of those times should be during different part of the day (e.g., afternoon and evening) and needs to be at least one hour after the previous attempt
 - iii. Neighbors may be able to suggest good times to revisit. Mark notes on the household log
 - b. Mark the household as "no one home" if no one answers the door and also mark the household as needing a return visit (if 3 attempts have already been made, the answer to this question is no)
3. When someone answers the door, determine if an adult answers.
 - a. If unclear if the person is an adult, ask to speak to an adult in the house or the head of the household.
 - b. If the person is an adult, begin with part 1 of the script
 - c. If no adult is present, ask when you could come back to talk to an adult and record on the household log, also mark off "no adult home"

Initial interaction

1. Read through the first part of the introduction script
2. Ask if they are interested to hear more about the evaluation
 - a. If no, thank them for their time and proceed to the next house
 - i. Record household in visit log sheet as "Refused"

- ii. Attempt to find out how many individuals live in the household regardless, including those under the age of 5
 - iii. Ask if anyone else in the household would want to participate
 - iv. Leave mosquito bite prevention materials and repellent with the household
 - b. If yes, proceed to second part of the introduction script
- 3. Survey unit is a household not a family
 - a. If there are multiple families in a household (share the same residential mailing address), record them under the same household ID;
 - b. If there are apartments or different living units/addresses in what was originally believed to be a single household, treat them as separate entities
 - i. For “new” households ask the person in charge for an ID number to use for that household

Introducing the survey

- 1. Read through the second part of the introduction script
- 2. Ask if they would consider taking part in the evaluation
 - a. If no, thank them for their time, ask if they would be willing to tell you how many residents live in the house, and offer them some insect repellent and information on mosquito-borne diseases. Inform them if they change their mind they can contact the health department to participate. Leave contact information.
 - b. If yes, conduct the interview outside of the house
- 3. Explaining the evaluation/obtaining consent
 - a. Note that you would like all household members 5 years or older to listen to your description of the evaluation
 - i. Everyone ≥ 18 years old will need to either read the consent document or be read the consent, as they will all need to provide their consent or assent. Everyone < 18 years old will need consent from parent. Those < 5 years old will not be included unless parent requests that the sample be collected.
 - ii. State that you are going to read them more about the survey unless they would rather read about it themselves
 - 1. Make the assumption that people might not be able to read
 - iii. After you finish reading the consent, ask if they or anyone else in the household have any questions
 - 1. Answer all questions to the best of your knowledge
 - 2. If they ask a question you do not have the answer to or feel comfortable answering, tell them you are going to ask someone you are working with and either get back to them if the question does not limit their participation or contact someone now to answer
 - a. Ask the person in charge for assist with questions
 - iv. If they do not want participate, thank them for their time, give them information on mosquito-borne disease, insect repellent, and record the household as refusal
 - 1. Again, try to find out how many people live in the household, how many are under the age of 5, and if anyone else in the household would be interested to participate
 - v. If they want to participate, proceed to fill out the household log, questionnaire and obtain a urine sample

Enrolling a participating households

1. Record the initials for all persons who live or stay there; this includes all children including those <5 years of age and any babies or infants.
 - a. Include all the people who were staying REGULARLY at this house at least twice a week for the past month.
 - i. Regularly is defined as people who, during the past month, stayed overnight here 2 or more nights each week
 - b. You should record children <5 years of age to determine how much of the population is potentially not represented; they will not have a questionnaire or a urine sample obtained
 - c. Record the number of people who are in the household as well as the number of people that filled out survey questionnaires, the number that provided samples, the number of people that are ineligible (under the age of 5 or recent travel-see below), the number of people that refused, and the number of people that were unavailable (not home)
2. If not all members are available, ask for good times to visit again and make note on logs. Mark off the household as needing a return visit and under reason put the initials of those household members needing follow-up.
3. All persons who meet the definition should be included on the Household list, even if they will not be able to provide the urine sample because they are not available in person from now through last date of survey:
 - a. Determine if anyone who is expected to be away for the entire survey period can be called to complete the questionnaire
4. It is possible some people do not want to give their last name. If that is the situation, ask them if they would give us the initial of their last name.
 - a. Note that one of the reasons we are obtaining their name and contact information is so that we can provide them their test results

Conducting individual interviews

1. Everyone above the age of 12 years can be asked the questions individually; however, if the parent prefers to answer questions for the children, particularly those <16 years, it is okay to let them do this
2. At the start of the interview ask if the individual person has any questions and ask if it is okay to proceed with the questions
 - a. If yes, record on the household log that they consent
 - i. For all individuals aged ≥ 18 years note that they consented
 - ii. For children <18 years, next to their name note that parental consent is obtained
 - iii. If there are more than one family in a household, note in writing which parent gave consent for which children by noting the parent's resident number next to the parental consent box
 - b. If not, thank them for their time and move to the next family member
3. Persons with travel to a Zika impacted country in the past month will be excluded from specimen collection. For those persons who have travel and would like to be tested please refer them to a provider. A symptomatic pregnant woman with travel history for example will need multiple specimens collected.

4. Ideally, one interviewer should conduct all family member interviews for consistency; however, if the family wants to proceed more rapidly you can consider splitting up the interviews only if there is enough space for privacy. Try to stay near your partner, never go to a separate location away from your partner.
5. If a household member is reluctant or refused to answer particular questions, let them know...“You do not have to answer any question that you don’t want to answer”.
6. If you make a mistake on recording the answer on the form, correct the form by:
 - a. Drawing one line through the wrong response and initial it then document the new information
 - b. It is important to note who completed the form, so we can follow up with that person if needed. Each form should have the interviewers name and interviewer team number listed. This information should also be listed on all pages if there are multiple pages.
 - c. Try to use your best handwriting knowing someone else will be entering your form
7. After completing the first part of the questionnaire, ask if they are willing to provide a urine sample to test for Zika virus infection
 - a. If yes, record the answer on the questionnaire
 - b. If no, thank them for their time and place the questionnaire in a folder or inside a clipboard so that it is not visible to anyone else
8. If they are providing a urine sample, proceed to ask them the second half of the questionnaire; this data will help with the interpretation of the test results
 - a. If the urine is successfully obtained, note this on both the log and questionnaire and label the sample
 - b. It is important to get the contact information of the person to provide them back their results if positive (no calls will be made for negative results)
 - c. After the questionnaire is conducted, place form inside the clipboard or folder so that it is not visible to anyone else
9. If the person reports any one of the four Zika-like symptoms (rash, fever, arthralgia, conjunctivitis) in the last two weeks that is not readily explained by another condition,
 - a. Determine if any of the symptoms have been going on for longer than a week or two or have a known cause (injury, etc.)
 - b. Ask if they have seen a doctor and what the diagnosis was
 - c. Any questions or uncertainties about this should be reviewed by the person in charge to help you decide

Collection of the urine sample

1. Give the participant a urine specimen cup and ask the person to fill no more than ½ full
2. Fill out two labels while the person is using the restroom with the person’s ID number (investigation-house #-participant#), name, date of birth, and date of collection; use sharpies markers for any hand-labeling
3. When the sample is returned to you, make sure the lid is on tight and put a label on the cup. Wrap the lid/edge of the cup with parafilm and put the urine cup in the biohazard plastic bag Put the second label on the specimen log form and fill out the additional information
4. Remove all leftover materials from the area; do not use person’s trash for any of the supplies, collect them and dispose of them in the team leader’s car

5. Place samples in cooler until able to put the samples in the cooler in the team leader's car; keep samples upright to prevent leakage.
6. Inform the team leader of the number of samples collected in that house and place samples into the cooler in the person in charge's van

Thanking households for participating in the evaluation.

1. Before leaving verify that the household/family has received at least one copy of the consent document and information sheets and that they have received insect repellent

Wrapping up a household

1. Before leaving that house or proceeding to the next house, determine if each eligible resident has been interviewed and urine sample provided or refused. Interviewer team members should review each other's forms for completeness. If NOT ALL residents were available to participate in the survey:
 - a. Determine with "head" of household best way to proceed to discuss evaluation with the remaining household members. (*Ideally, try to establish a time we could come back to capture all the remaining household members*)
 - i. Also consider if the person is out of town for the remainder of the survey period, obtaining their phone number to contact them
 - ii. Fill out on the household log the needs return visit section, gave pregnancy kit and household supplied at least one urine sample questions. Verify that ALL information on the form has been filled out before moving on to the next house.
 - iii. If urine was collected, let the person in charge know that you have samples and bring the samples to the larger cooler. Give paperwork to the person in charge to check for completeness.

End of the day

1. All forms, logs, etc. from all interview teams should be turned into the team leaders at the end of the day. All blank forms and address information should be collected from the teams as well.
2. The teams should check their supplies back in and sign out with appropriate person if necessary.
3. The Interviewer name and team number should be recorded on every page used.
4. Teams need to check out with preparedness before leaving.