Texas Department of State Health Services

Zika Virus Plan

April 18, 2016

DISCLAIMER: This version of the Zika plan is a DRAFT created as a working document. Though all information is accurate to the best of current knowledge, information is being added and reviewed based on a recent CDC national conference and based on newly gained information.

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TABLE OF CONTENTS

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OVERVIEW

The Department of State Health Services (DSHS) is the lead state agency for preparing for, coordinating, and responding to public health and medical incidents involving Zika virus. The Zika Virus Plan describes what actions DSHS will take to successfully respond to a Zika virus incident. The Zika Virus Plan is aligned with the Centers for Disease Control and Prevention's (CDC) phased approach and contains three specific sections. Section I identifies activities that DSHS will implement in *preparation for local mosquito transmission*. Section II identifies activities that DSHS will implement once the *first case of local mosquito transmission* has been confirmed. Section III identifies activities that DSHS will implement once *sustained local mosquito transmission* has been confirmed.

Purpose

The purpose of this document is to guide the Department of State Health Services (DSHS) Executive Leadership through the preparation and response to Zika virus events in Texas. This document also serves as the basis for DSHS coordination and collaboration with other public health agencies, healthcare delivery systems and other partners focused on addressing the Zika virus impact on Texas.

Objectives

- Coordinate community response to include public health, healthcare, and emergency management
- Facilitate and support public health and healthcare operations to include surveillance, laboratory diagnostics, and individual and community protections
- Prevent transmission of the Zika virus by identifying cases and implementing vector control measures
- Maximize education and outreach activities to the general public, public health, and healthcare communities of Texas regarding the Zika virus
- Provide consistent, timely, and accurate information to partners, stakeholders, and the public regarding the Zika virus

Assumptions

- Large areas of Texas may become impacted by the Zika virus and some areas will be at higher risk than others (i.e., the Texas/Mexico border regions and the Lower Rio Grande Valley)
- Integrated Vector Management (Mosquito Surveillance and Control) is based in local jurisdictions
- Some local jurisdictions address vector control measures, either through their own resources, contracts, or through cooperative agreements with other local jurisdictions

- Local and regional jurisdictions should dedicate resources year-round to implement appropriate actions to prevent Zika virus transmission and to respond, should transmission occur
- State assistance, upon request, may supplement local efforts; Federal assistance, upon request, may supplement both local and state efforts when the capabilities of each are exceeded
- With the recent outbreaks in other countries, the number of Zika cases among travelers visiting or returning to the United States will likely increase
- 80% of Zika infections do not cause illness, and many symptomatic cases will not be diagnosed
- Texas will experience local transmission of Zika virus by mosquitoes at some point
- State and local governments can take steps to reduce the number of vector mosquitoes available to transmit the disease, to mitigate the spread of the virus, and to reduce the public impact of the disease
- Zika virus is transmitted to people primarily through the bite of an infected *Aedes* species mosquito (*A. aegypti* and *A. albopictus*). These are the same mosquitoes that spread dengue and Chikungunya viruses.[1]
- Aerial spraying is not likely to be an appropriate control approach given the vector habitat and behavior
- Large-scale mosquito pool testing has limited scientific benefits in the case of this vector, any mosquito pool testing must be targeted to provide value
- Zika virus depends on a human-to-mosquito-to-human life cycle
- Zika virus can be passed from a pregnant woman to her fetus during pregnancy or at delivery [2]
- Zika virus has been linked to a serious birth defect of the brain called microcephaly in babies of mothers who had Zika virus while pregnant [3]
- Zika virus can be spread by a man to his sexual partner(s) before, during, and after symptoms are present [4]
- There is no evidence that Zika virus is spread to people from contact with animals [5]
- People usually don't get sick enough to go to the hospital, and they very rarely die of Zika [6]

Commented [B(1]: Original language "for this vector" could make it sound as though the scientific benefits are things that benefit the mosquitoes

Commented [S(2R1]: Accepted.

Commented [S(3]: Assumption added in response to K. Cole's comment: requires human to mosquito to human

[1] Zika Virus Transmission and Risks – CDC webpage http://www.cdc.gov/zika/transmission/
[2] Zika and Pregnancy – CDC webpage http://www.cdc.gov/zika/pregnancy/question-answers.html
[3] Zika Information for Pregnant Women – CDC webpage http://www.cdc.gov/zika/pregnancy/index.html
[4] Zika and Sexual Transmission – CDC webpage http://www.cdc.gov/zika/transmission/sexual-transmission.html
[5] Zika and Animals – CDC webpage http://www.cdc.gov/zika/transmission/qa-animals.html
[6] About Zika Virus Disease – CDC webpage http://www.cdc.gov/zika/about/index.html

Plan Format

Each of the three sections contains a general overview of expected activities followed by specifics and lead organizations for four (4) areas:

- Communications/Public Health and Medical Information
- Integrated Vector Management (Mosquito Surveillance and Control)
- Health Surveillance
- Command, Control and Coordination

Appendices provide contact information, vector management options and laboratory testing criteria.

Commented [S(4]: Added "mosquito" to this term throughout the document, as per K. Cole

Commented [B(5]: Disease surveillance is a more common term than health surveillance.

Commented [S(6R5]: Not accepted.
The term "Health Surveillance" is an ESF 8 Core Functional area which DSHS is responsible for.

SECTION I: PREPARATION FOR LOCAL TRANSMISSION

Assumptions:

- Focus on general planning and communications
- DSHS and locals will be responding to travel related Zika cases

ACTION	CONSIDERATIONS	REFERENCE	LEAD POC
Convene DSHS Zika Executive Group		Zika Action Plan	Senior Advisor
Develop Actions Based on Current Information Available	▪ Communications ▪ Vector Control ▪ Epi and Surveillance ▪ Healthcare delivery ▪ Lab Testing ▪ Operations	Zika Action Plan	Commissioner ▪ DCPS (Vector Control, Lab) ▪ State Epi (Epi) ▪ Operations (RLHS/HEPR) ▪ Healthcare Coordination (DCPS) ▪ LHD Coordination (RLHS) ▪ Communication(CPEA)
Identify POCs for Every Action			Senior Advisor
Consult with LHDs/HSR			RLHS
Identify Timeline and Schedule Next Executive Group Meeting			Senior Advisor
Report Completion of All Actions to Commissioner	RLHS/HEPRS will monitor all actions and provide reporting	Zika Action Plan	RLHS/HEPRS

DSHS Zika Executive Group
Commissioner
Associate Commissioner
Deputy Commissioner
Senior Advisor
State Epidemiologist
CPEA Director
- Director, Communications
- Director, External Affairs
- Director, Media

Assistant Commissioner DCPS
- Director, Public Health Laboratory
- Director, Zoonosis Program
- Director, Infectious Disease Control Program
- Medical Director, Infectious Disease

Assistant Commissioner for Regional and Local Health Services
- Director, HEPRS

Commented [S(7]: K. Cole comment:
Goal: Prevent/mitigate vector opportunities for breeding/biting.

Will GOALS be added to all Sections?

Planning Activities in Absence of Zika/Response to Travel Related Zika Cases

Public Health Actions to Implement Before Local Transmission of Zika Virus or in Response to Travel Related Cases	
COMMUNICATIONS/PUBLIC HEALTH AND MEDICAL INFORMATION	
Actions	**Responsible Program**
☐ Create messaging that addresses personal protection from mosquitoes ☐ Create messaging that educates public ☐ Create messaging for healthcare providers to include case definition and reporting instructions ☐ Develop and distribute Zika information material ☐ Educate community leaders on Zika and Zika prevention strategies ☐ Coordinate messaging with LHDs ☐ Initiate liaison with Blood Banks ☐ Conduct communications via local media including television, radio, social media, public awareness campaign as deemed appropriate, with regular updates and modifications as needed a. Warn pregnant women of their elevated risk and advise them to: – Contact their health care provider regarding their concerns – Abstain or use condoms when engaging in sexual activity	Center for Policy and External Affairs
INTEGRATED VECTOR MANAGEMENT (MOSQUITO SURVEILLANCE AND CONTROL)	
Actions	**Responsible Program**
☐ Conduct meetings with state arbovirus experts on Integrated Vector Management and develop recommendations based on these meetings. ☐ Identify statewide vector control capabilities ☐ Develop statewide vector control coordination plan ☐ Determine vector surveillance strategies ☐ In consultation with entomologists, develop criteria for specialized vector control management ☐ Monitor Mexico for levels of transmission ☐ Recommend vector control activities	Zoonosis Control Branch
☐ In consultation with ZCB and entomologists, evaluate all available information to assist local jurisdictions in determining vector control activities	Health Service Region Offices
☐ Conduct mosquito identification and virus detection	Laboratory Services Section
HEALTH SURVEILLANCE	
Actions	**Responsible Programs**
☐ Conduct laboratory testing ☐ Submit specimens approved for testing to CDC	Laboratory Services Section
☐ Coordinate human and Zoonotic Zika surveillance ☐ Monitor and distribute information related to Zika	State Epidemiologist

Commented [JG8]: Include case definition and reporting instructions

Commented [S(9R8]: Done.

Commented [S(10]: K. Cole comment: Avoid travel to Zika areas

Commented [S(11R10]: This comment is in regards to an activity taken from Dr. Gaul's document. Edits to this activity will wait until Dr. Gaul has completed the revision of her document.

Commented [B(12]: If we wish to align with CDC guidance, this recommendation is not applicable to all pregnant women (as might be inferred by the way it is listed here), but rather to "pregnant women with male sex partners who have lived in or traveled to an area with Zika virus"

Commented [S(13R12]: This comment is in regards to an activity taken from Dr. Gaul's document. Edits to this activity will wait until Dr. Gaul has completed the revision of her document.

Commented [S(14]: As per K. Cole

Commented [JG15]: Refer to testing criteria
Clarify process for submitting specimens to DSHS don't want people sending specimens directly to CDC

Commented [S(16R15]: "People"? This is a DSHS document. All activities listed will be conducted by DSHS.

Commented [S(17]: K. Cole recommends deleting since mosquito surveillance is in section above.

☐ In concert with DCPS; Coordinate activities with CDC ☐ In concert with DCPS; Develop protocols for surveillance, testing and epidemiological investigations	
☐ Monitor for Zika cases ☐ Coordinate Zika reporting ☐ Coordinate lab testing ☐ In concert with State Epidemiologist; Develop protocols for surveillance, testing and epidemiological investigations ☐ In concert with State Epidemiologist; Coordinate activities with CDC ☐ Coordinate human and mosquito surveillance activities with ZCB	Disease Control and Prevention Services
☐ Conduct mosquito-borne human disease surveillance ☐ Identify trapping requirements, locations, and resources	Zoonosis Control Branch
☐ Regional Veterinarians coordinate activities with Zoonosis Control Branch ☐ Through community interactions, promote mosquito control efforts ☐ Interface with LHDs to coordinate regional surveillance	Health Service Region Offices
COMMAND, CONTROL AND COORDINATION	
Actions	**Responsible Program**
☐ Conduct coordination with LHDs and HSRs ☐ Coordinate development of State Zika Plan ☐ Coordinate integration of state and local Zika activities	Regional and Local Health Services
☐ Support development of State Zika Plan and integrate into State ESF8 ☐ Determine triggers for State Medical Operations Center (SMOC) activation ☐ Identify future PPE needs and assess capacity ☐ Coordinate preparation activities with TDEM and regional preparedness coordinators	Health Emergency Preparedness and Response Section

Commented [S(18]: K. Cole recommends moving this activity to IVM

SECTION II: FIRST CASE OF LOCAL TRANSMISSION

This section describes the immediate actions DSHS will implement upon confirmation of the first case of local mosquito Zika virus transmission as well as the immediate notifications that will be issued.

Immediate Agency Actions for First Case of Local Mosquito Zika Virus Transmission

Assumptions:

- DCPS will be first DSHS component aware of event
- DCPS will notify Commissioner and Executive Staff

ACTION	CONSIDERATIONS	REFERENCE	LEAD POC
Convene DSHS Zika Executive Group		Zika Action Plan	Senior Advisor
Develop Actions Based on Specifics of Case(s)	▪ Communications ▪ Vector Control ▪ Epi and Surveillance ▪ Healthcare delivery ▪ Lab Testing ▪ Operations	Zika Action Plan	Commissioner ▪ DCPS (Vector Control, Lab) ▪ State Epi (Epi) ▪ Operations (RLHS/HEPR) ▪ Healthcare Coordination (DCPS) ▪ LHD Coordination (RLHS) ▪ Communication(CPEA)
Identify POCs for Every Action			Senior Advisor
Conduct Notifications	With Commissioner's Approval	Zika Action Plan	CPEA
Consult with LHDs/HSR	TBD Based on Location		RLHS
Identify Timeline and Schedule Next Executive Group Meeting	As needed		Senior Advisor
Report Completion of All Actions to Commissioner	RLHS/HEPR will monitor all actions and provide reporting	Zika Action Plan	RLHS/HEPRS

DSHS Zika Executive Group
Commissioner
Associate Commissioner
Deputy Commissioner
Senior Advisor
State Epidemiologist
CPEA Director

- Director, Communications
- Director, External Affairs
- Director, Media

Assistant Commissioner DCPS

- Director, Public Health Laboratory
- Director, Zoonosis Program
- Director, Infectious Disease Control Program
- Medical Director, Infectious Disease

Assistant Commissioner for Regional and Local Health Services

- Director, HEPRS

Notifications for First Case of Local Mosquito Zika Virus Transmission

Notification Action	Responsible Office(s)	CONTACT INFO
Contact EC **Contact Gov**	Office of the Commissioner	ALL FURTHER CONTACTS with EXCEPTION OF DSHS STAFF NOTIFICATION WILL OCCUR AFTER COMMISSIONER NOTIFIES EC and GOV **or** WITH COMMISIONER'S APPROVAL EC POC: Phone: GOV POC: Phone: Email:
Notify DSHS Staff	DCPS	Exec/Ops/SME LISTSERV
Contact Legislators	External Affairs	Legislative leadership, House and Senate Members with jurisdiction in the affected areas
Contact LHD	RLHS	LHD leadership
Contact LHD and HSR Epidemiologists	Zoonosis Control Branch	
Contact CDC	State Epidemiologist	
Contact border or binational partners as necessary	Office of Border Health	
Contact Press	Press Office	Issue prepared release that includes future actions
Contact Texas Division of Emergency Management	Health Emergency Preparedness and Response Section	Chief Nim Kidd Tom Polonis Chuck Phinney
Contact blood centers in affected county/jurisdiction	Zoonosis Control Branch	TBD

Commented [S(19]: K. Cole comment: Affected LHD or is this general notice?

Identifying the Level of Transmission (Algorithm)

[Insert algorithm that guides consideration of whether this is an isolated situation, whether it's a local incident, or whether we conclude an established virus situation]

[Zika workgroup will develop]

Immediate Actions for First Case of Local Mosquito Transmission

This table describes the first steps DSHS will take upon confirmation of the first case of local mosquito transmission of Zika in Texas. The actions are categorized by ESF 8 Core Functional Area and the DSHS program responsible for conducting them. Please refer to Attachment 1: Single Zika Case Local Transmission Response Activities, for more detail on these actions. Please refer to Attachment 2: Testing Criteria for Human Specimens for further detail on lab activities.

First Steps for First Case of Local Mosquito Transmission	
Immediate Public Health Actions *The following public health actions are to be initiated (or continued) upon approval by DSHS Executive Leadership*	
COMMUNICATIONS/PUBLIC HEALTH AND MEDICAL INFORMATION	
Actions	**Responsible Program**
☐ Alert the public to the risk of local mosquito transmission of Zika virus for a specified area (consider the entire county) ☐ Alert pregnant women of local mosquito transmission of Zika virus for a specified area (consider the entire county) ☐ Recommend that all residents of the area take all precautions to: a. Eliminate potential mosquito breeding sites on their property and in their community b. Adopt mosquito bite avoidance practices, particularly the 4Ds ☐ Conduct communications via local media including television, radio, social media, public awareness campaign as deemed appropriate, with regular updates and modifications as needed a. Warn pregnant women of their elevated risk and advise them to: – Contact their healthcare provider regarding their concerns – Abstain or use condoms when engaging in sexual activity ☐ Consider providing mosquito avoidance and control materials (nets, screens) and spraying (if appropriate) at the residences of pregnant women	Center for Policy and External Affairs
☐ If the first case is in a border county, coordinate as needed to assist with border-specific needs, including but not limited to communication with Mexican partners, outreach to Spanish speaking residents, and outreach to colonia residents.	Office of Border Health
INTEGRATED VECTOR MANAGEMENT (MOSQUITO SURVEILLANCE AND CONTROL)	
Actions	**Responsible Program**
☐ Vector mosquito intervention will be conducted by local jurisdictions unless an alternative mechanism is offered by DSHS (or CDC through DSHS) in which case action will be coordinated with local jurisdictions; ZCB will be supportive and consultative as noted below ☐ In consultation with entomologists, evaluate all available information to assist local jurisdictions in making a determination if: a. The facts surrounding the case warrant implementation of vector control activities around the residence and/or other locations	Zoonosis Control Branch

Commented [JG20]: In highly populated areas consider neighboring counties. Cities that cross county borders?

Commented [S(21R20]: This comment is in regards to an activity taken from Dr. Gaul's document. Edits to this activity will wait until Dr. Gaul has completed the revision of her document.

Commented [JG22]: This should also be in first level prior to transmission and repeated here.

Commented [S(23R22]: This comment is in regards to an activity taken from Dr. Gaul's document. Edits to this activity will wait until Dr. Gaul has completed the revision of her document.

Commented [B(24]: Once the first case of local mosquito transmission is detected, are we in fact making this recommendation for all pregnant women who live in the area? How would we define the area to which this recommendation would apply? – the entire county, as suggested earlier in this bulleted list?

Commented [S(25R24]: This comment is in regards to an activity taken from Dr. Gaul's document. Edits to this activity will wait until Dr. Gaul has completed the revision of her document.

Commented [B(26]: The responsible party here would be Office of Border Health, not CPEA

Commented [S(27R26]: Accepted.
New section created for OBH.

b. The facts surrounding the case do not warrant implementation of vector control activities around the residence and/or other locations ☐ Recommend vector control activities around the residence and/or other appropriate locations within a 200-meter radius of the location in a manner that preserves patient privacy and medical confidentiality. Activities are to be consistent with the principles of Integrated Pest Management a. Source reduction, including removal of standing water, containers that could collect water, and trash b. Apply any larvicide and/or adulticide chemicals deemed appropriate for the particular situation c. Consider offering assistance in securing the residence against mosquito entry if it does not have indoor climate control or screens on windows and doors, e.g., screen repair d. Conduct regular mosquito surveillance activities (for vector presence) within a 200 m radius of the location for at least one month and longer if additional cases are detected in the area with consideration given to testing mosquitoes for Zika virus	
☐ In consultation with ZCB and entomologists, evaluate all available information to assist local jurisdictions in making a determination ☐ Determine whether or not the facts surrounding the case warrant implementation of vector control activities around the residence and/or other locations ☐ Recommend vector control activities around the residence and/or other appropriate locations within a 200 m radius of the location in a manner that preserves patient privacy and medical confidentiality ☐ Conduct enhanced surveillance for clinical cases for an area around the location of concern, using a radius deemed appropriate for the local conditions and situation, to include communication with local and possibly regional medical care providers	Health Service Region Offices
☐ Conduct mosquito identification and virus detection, as indicated	Laboratory Services Section
☐ Conduct emergency activities as necessary	Health Emergency Preparedness Section
HEALTH SURVEILLANCE	
Actions	**Responsible Programs**
☐ Conduct laboratory testing ☐ Submit specimens approved for testing to CDC	Laboratory Services Section
☐ Conduct mosquito-borne human disease surveillance ☐ Enhance local surveillance for human cases (consider local clinician outreach, syndromic surveillance in nearby hospitals, etc.). ☐ Notify local blood collection agencies for awareness ☐ Support the State Epidemiologist as the lead point of contact for coordination of the CDC Pregnancy Registry with DSHS Operations	Zoonosis Control Branch
☐ If case-patient has symptoms of Zika virus infection, request that he or she stay indoors (with climate controls or screens on windows and doors) unless it	Health Service Region Offices

Commented [S(28]: Workgroup decision needed here.

is absolutely necessary to go outside, and in such a case wear mosquito repellent and clothing covering as much of the body as possible ☐ Review case investigation documents and consult with ZCB ☐ Conduct in-depth interview with case-patient regarding locations where he/she might have been bitten by mosquitoes (e.g., home, work, park, special event) ☐ Look in database of confirmed Zika case records to see if any of those case-patients live within 1 km of the new case-patient's home or any other place they might have been where there could have been an opportunity for exposure (i.e. outdoor area when no mosquito bite avoidance measures were in place) ☐ If case-patient continues to have symptoms of Zika virus infection, request that he or she stay indoors (with climate controls or screens on windows and doors) unless it is absolutely necessary to go outside, and in such a case wear mosquito repellent and clothing covering as much of the body as possible ☐ Identify high risk populations (pregnant women) in a 200 m or wider radius of the location by all means possible in a manner that preserves patient privacy and medical confidentiality, for possible additional public health action	
COMMAND, CONTROL, AND COORDINATION	
Actions	**Responsible Program**
☐ Organize regular meetings between the pre-identified Incident Manager and state vector preparedness and response partners to discuss plans and progress	Division of Regional and Local Health Services
☐ Determine if and at which level the State Medical Operations Center (SMOC) will be activated to handle the response ☐ Establish and maintain SMOC conference call schedules to keep appropriate public health and medical partners informed (e.g., HSRs, LHDs, RHMOCs, Emergency Operation Centers [EOCs], Regional Advisory Councils [RACs]) ☐ Notify all teams and personnel of SMOC activation and potential assignment or deployment, as needed ☐ Continually assess need for additional activities, communication products, and message dissemination ☐ Analyze all available information and coordinate with the Public Information Officer (PIO) on appropriate news releases to media, elected officials, clinicians, or others ☐ Participate, as appropriate in a state Joint Information System (JIS), if activated ☐ In conjunction with 2-1-1, establish call center for general public and clinician inquiries, if appropriate ☐ Coordinate with the State Operations Center (SOC) and the Governor's Office for any possible requests ☐ Reinforce appropriate infection control behaviors for first responders, healthcare providers, and others ☐ Coordinate distribution of PPE supplies, as needed ☐ Coordinate with federal partners for projected resource needs ☐ Coordinate the augmentation of existing laboratory and epidemiology staff and capacity, as needed, to support response activities throughout the state	Health Emergency Preparedness and Response Section

☐ Coordinate with RHMOCs and appropriate regional healthcare coalitions to supplement hospital capacity, if needed ☐ Notify Texas Division of Emergency Management of first case of local transmission	

SECTION III: SUSTAINED LOCAL TRANSMISSION

Notifications to Occur Once Sustained Local Transmission has been Confirmed

Notification Action	Responsible Office(s)	CONTACT INFO
Contact EC **Contact Gov**	Office of the Commissioner	ALL FURTHER CONTACTS with EXCEPTION OF DSHS STAFF NOTIFICATION WILL OCCUR AFTER COMMISSIONER NOTIFIES EC and GOV **or** WITH COMMISIONER'S APPROVAL EC POC: Phone: GOV POC: Phone: Email:
Notify DSHS Staff	DCPS	Exec/Ops/SME LISTSERV
Contact Legislators	External Affairs	Legislative leadership, House and Senate Members with jurisdiction in the affected areas
Contact LHD	RLHS	LHD leadership
Contact LHD and HSR Epidemiologists	Zoonosis Control Branch	
Contact CDC	State Epidemiologist	
Contact border or binational partners as necessary	Office of Border Health	
Contact Press	Press Office	Issue prepared release that includes future actions
Contact blood centers in affected county/jurisdiction	Zoonosis Control Branch	TBD
Contact Texas Division of Emergency Management	Health Emergency Preparedness and Response Section	Chief Nim Kidd Tom Polonis Chuck Phinney

Commented [S(29]: K. Cole comment: affected area or general notice?

Actions to Take Once Sustained Local Transmission Has Been Confirmed

Sustained Local Transmission of Zika Virus	
Immediate Public Health Actions *The following public health actions are to be initiated (or continued) upon approval by DSHS Executive Leadership*	
COMMUNICATIONS/PUBLIC HEALTH AND MEDICAL INFORMATION	
Actions	**Responsible Program**
☐ TBD	Center for Policy and External Affairs
INTEGRATED VECTOR MANAGEMENT (MOSQUITO SURVEILLANCE AND CONTROL)	
Actions	**Responsible Program**
☐ Determine the geographic boundaries that will be used for aggressive response efforts (county/jurisdiction, health department coverage area, zip code, etc.) ☐ Designate county/jurisdiction as an area of "active Zika transmission"	Zoonosis Control Branch
☐ TBD	Health Service Region Offices
☐ TBD	Laboratory Services Section
☐ TBD	Health Emergency Preparedness Section
HEALTH SURVEILLANCE	
Actions	**Responsible Programs**
☐ Initiate testing of asymptomatic pregnant women ☐ Coordinate support for blood banks for testing	Laboratory Services Section
☐ 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 ☐ 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 ☐ Contact blood centers with collections in affected county/jurisdiction to follow FDA guidance for: – an area of active transmission, including outsourcing blood if laboratory screening or pathogen reduction is unavailable – People who have a recent travel history to affected county/jurisdiction ☐ Coordinate with the FDA, CDC, and Texas blood banks to update the list of areas with active Zika virus transmission and provide information related to local/regional outbreak severity	Zoonosis Control Branch

☐ Support the State Epidemiologist as the lead point of contact for coordination of the CDC Pregnancy Registry with DSHS Operations	
☐ TBD	Health Service Region Offices
COMMAND, CONTROL, AND COORDINATION	
Actions	**Responsible Program**
☐ Notify Texas Division of Emergency Management of sustained transmission and coordinate resources as needed ☐ Determine at which level the State Medical Operations Center (SMOC) will be activated to handle the response ☐ Establish and maintain SMOC conference call schedules to keep appropriate public health and medical partners informed (e.g., HSRs, LHDs, RHMOCs, Emergency Operation Centers [EOCs], Regional Advisory Councils [RACs]) ☐ Notify all teams and personnel of SMOC activation and potential assignment or deployment ☐ Continually assess need for additional activities, communication products, and message dissemination ☐ Analyze all available information and coordinate with the Public Information Officer (PIO) on appropriate news releases to media, elected officials, clinicians, or others ☐ Participate, as appropriate in a state Joint Information System (JIS), if activated ☐ In conjunction with 2-1-1, establish call center for general public and clinician inquiries, if appropriate ☐ Coordinate with the State Operations Center (SOC) and the Governor's Office for any possible requests ☐ Reinforce appropriate infection control behaviors for first responders, healthcare providers, and others ☐ Coordinate distribution of PPE supplies, as needed ☐ Coordinate with federal partners for projected resource needs ☐ Coordinate the augmentation of existing laboratory and epidemiology staff and capacity, as needed, to support response activities throughout the state ☐ Coordinate with RHMOCs and appropriate regional healthcare coalitions to supplement hospital capacity, if needed	Health Emergency Preparedness and Response Section

Commented [S(30]: Workgroup decision needed here.

ATTACHMENTS

Attachment 1: Single Zika Case Local Mosquito Transmission, Detection, and Response Activities

Attachment 2: Testing Criteria for Human Specimens

Attachment 3: Vector Control Guidelines

Attachment 4: Points of Contact for DSHS Programs Involved in Zika Response

Attachment 5: Zika Preparedness and Response Strategy Organizational Structure

Attachment 6: Zika Situation Update (DRAFT)

Attachment 1: Single Zika Case Local Mosquito Transmission, Detection, and Response Activities

Commented [S(31]: This attachment will be updated upon the receipt of the most recent version from Dr. Gaul.

Single Zika Case Local Transmission Response Activities

I. Suspect case identified with no history of travel to an area with ongoing Zika virus transmission but symptoms consistent with Zika. Eligible for testing under the following criterion: Individual who develops a clinical illness consistent with Zika virus disease within 2 weeks after an epidemiologically-defined exposure to an individual diagnosed with Zika virus disease.
   - A. Confirm the diagnosis
     1. Arrange for laboratory testing to confirm diagnosis
     2. Supplemental Information form completed by provider with LHD/HSR guidance
        - a. Confirm the onset date of symptoms and collect symptom expression and sequence of symptom development information
        - b. Collect information to assess the exposure, i.e. history of sexual contact, transplantation, or transfusion
   - B. Evaluate all available information and make a determination if:
     1. The order of suspicion of local transmission is high enough to warrant conducting in-depth interview with suspect case-patient regarding locations where he/she might have been bitten by mosquitoes (e.g., home, work, park, special event)
     2. The order of suspicion of local transmission is high enough to warrant vector control activities around the residence and/or other locations pending laboratory confirmation
     3. The order of suspicion of local transmission supports conducting vector control activities around the residence and/or other relevant locations only if laboratory results confirm infection with Zika virus
     4. The case information does not warrant vector control activities around the residence and/or other locations
   - C. Prepare for activities, described in III below, to be undertaken if the decision is made that the case is likely Zika acquired locally by mosquito transmission

II. Confirmatory laboratory results reported resulting in an arboviral disease case investigation by the appropriate jurisdiction
   - A. Confirm the onset date of symptoms and collect symptom expression and sequence of symptom development information
   - B. Conduct in-depth interview with suspect case-patient to determine the mode of transmission Include travel histories of household members, possible sexual transmission, or possible other forms of transmission (e.g., blood transfusion)
   - C. Conduct in-depth interview with suspect case-patient regarding locations where he/she might have been bitten by mosquitoes (e.g., home, work, park, special event)
   - D. Look in database of confirmed Zika case records to see if any of those case-patients live within 1 km of the suspect case-patient's home or any other place they might have been where there could have been an opportunity for exposure (i.e. outdoor area when no mosquito bite avoidance measures were in place)
   - E. Evaluate all available information and make a determination if:
     1. The facts surrounding the case warrant implementation of vector control activities around the residence and/or other locations
     2. The facts surrounding the case do not warrant implementation of vector control activities around the residence and/or other locations
   - F. Prepare for activities, described in III below, to undertake if the decision is made that the case is likely Zika acquired locally by mosquito transmission

Page 1 of 2 DRAFT 03-10-16

III. Control measures to be taken in response to case or suspected case of Zika virus infection that evidence indicates was acquired locally
   A. If case-patient has symptoms of Zika virus infection, request that he or she stay indoors (with climate controls or screens on windows and doors) unless it is absolutely necessary to go outside, and in such a case wear mosquito repellent and clothing covering as much of the body as possible
   B. Conduct vector control activities around the residence and/or other appropriate locations within a 200 m radius of the location in a manner that preserves patient privacy and medical confidentiality
      1. Source reduction, including removal of standing water, containers that could collect water, and trash
      2. Apply any larvicide and/or adulticide chemicals deemed appropriate for the particular situation
      3. Consider offering assistance in securing the residence against mosquito entry if it does not have indoor climate control or screens on windows and doors, e.g. screen repair
      4. Conduct regular mosquito surveillance activities (for vector presence) within a 200 m radius of the location for at least one month and longer if additional cases are detected in the area with consideration given to testing mosquitoes for Zika virus
      5. Conduct enhanced surveillance for clinical cases for an area around the location of concern, using a radius deemed appropriate for the local conditions and situation, to include communication with local and possibly regional medical care provider
   C. Conduct communications via local media including television, radio, social media, as deemed appropriate, with regular updates and modifications as needed
      1. Alert the public to the risk of local mosquito transmission of Zika virus for a specified area (consider the entire county)
      2. Alert pregnant women of local mosquito transmission of Zika virus for a specified area (consider the entire county)
      3. Recommend that all residents of the area take all precautions to:
         a. Eliminate potential mosquito breeding sites on their property and in their community
         b. Adopt mosquito bite avoidance practices, particularly the 4Ds
   D. Identify high risk populations (pregnant women) in a 200 m or wider radius of the location by all means possible in a manner that preserves patient privacy and medical confidentiality
      1. Warn pregnant women of their elevated risk and advise them to:
         a. Contact their health care provider regarding their concerns
         b. Abstain or use condoms when engaging in sexual activity
      2. Consider providing mosquito avoidance and control materials (nets, screens) and spraying (if appropriate) at the residences of pregnant women

Attachment 2: Testing Criteria for Human Specimens

Chikungunya, Dengue, and Zika PCR and Serology Specimen Criteria

Testing Criteria

- **All REQUIRED items on submission form(s) must be completed prior to testing**
- Complete the "Chikungunya, Dengue, and Zika Testing Supplemental Information" form
- **PRIOR TO SHIPPING:** contact your Local Health Department or DSHS Health Service Region (www.dshs.state.tx.us/Regions/lhds.shtm) to ensure patient meets criteria for testing
- **TESTING CRITERIA**

To make the most effective and appropriate use of the DSHS Laboratory resources in the primary mission of supporting public health activities, DSHS is providing criteria for specimens submitted to the laboratory for testing. These criteria may be updated as the situation changes.

Specimens submitted to the DSHS Laboratory must be collected from an individual in one of the categories listed below. Testing every patient who meets these criteria is not mandatory; the decision to test a patient is appropriately made by the patient's attending physician in consultation with public health. DSHS has developed these criteria based on CDC guidance, Texas' international border, and the potential for public health or patient care actions. Specimens from individuals in these categories will be prioritized for testing based on resources. If resources at DSHS are at capacity, specimens meeting the CDC criteria will be forwarded to CDC for testing.

Qualifying Criteria:

- **Pregnant women** who have a clinical illness consistent with Zika virus disease during or within 2 weeks of travel to areas with ongoing Zika virus transmission
  - Maternal reverse transcription-polymerase chain reaction (RT-PCR) for specimens collected < 7 days after onset of symptoms
  - Maternal Immunoglobulin M (IgM) for specimens collected ≥4 days after onset of symptoms
  - Both maternal RT-PCR and IgM for specimens collected on day 4, 5, or 6 after onset of symptoms
- **Pregnant women** who have an epidemiologically-defined exposure to Zika virus AND have findings of fetal microcephaly or intracranial calcifications on prenatal ultrasound: maternal serologic testing (IgM)†
- Asymptomatic **pregnant women** (women who do not report clinical illness consistent with Zika virus disease) with travel history to areas with ongoing Zika virus transmission: maternal serologic testing (IgM) 2 – 12 weeks after return from area with ongoing Zika virus transmission
  - Information about the performance of serologic testing of asymptomatic people is limited; a negative serologic test (IgM) result obtained 2–12 weeks after travel cannot definitively rule out Zika virus infection
- Asymptomatic **pregnant women** with a male sexual partner who has traveled to an area of ongoing Zika virus transmission and who reports clinical illness consistent with Zika virus disease during travel or within 2 weeks of his return: maternal serologic testing (IgM) 2-12 weeks after initial unprotected sexual contact occurring after male partner's symptom onset
- Asymptomatic **pregnant women** residing in or with frequent travel to and from areas with ongoing Zika virus transmission: maternal serologic testing (IgM) at the initiation of prenatal care
  - Among women with negative serologic IgM results, consider repeat testing in the mid-second trimester because of the risk for Zika virus exposure and infection throughout pregnancy
  - Consider maternal serologic testing (IgM) at the time of delivery†

Version 3.0, February 26, 2016

	• Asymptomatic **pregnant women** with a male sexual partner who resides in or frequently travels to an area with ongoing Zika virus transmission: maternal serologic testing (IgM) at the initiation of prenatal care ○ Among women with negative serologic IgM results, consider repeat testing in the mid-second trimester because of the risk for Zika virus exposure and infection throughout pregnancy ○ Consider maternal serologic testing (IgM) at the time of delivery† • **Infants** born to women who, during pregnancy, traveled to or resided in an area with ongoing Zika virus transmission AND have microcephaly or intracranial calcifications detected prenatally or at birth: both infant reverse transcription-polymerase chain reaction (RT-PCR) and serologic testing (IgM) should be collected within 2 days of birth† ○ If not already performed during pregnancy, consider maternal serologic testing (IgM) • **Infants** born to women who, during pregnancy, traveled to or resided in an area with ongoing Zika virus transmission AND who have positive or inconclusive maternal test results for Zika virus infection both infant reverse transcription-polymerase chain reaction (RT-PCR) and serologic testing (IgM) should be collected within 2 days of birth† • **Infants** born to women who, during pregnancy, traveled to or resided in an area with ongoing Zika virus transmission within 2 weeks of delivery AND have clinical illness consistent with Zika virus disease during the first 2 weeks of life ○ Reverse transcription-polymerase chain reaction (RT-PCR) for specimens collected < 7 days after onset of symptoms ○ Serologic testing(IgM) for specimens collected ≥4 days after onset of symptoms ○ Both RT-PCR and IgM for specimens collected on day 4, 5, or 6 after onset of symptoms ○ Consider maternal serologic testing (IgM) • **Infants and children** aged <18 years who have a clinical illness consistent with Zika virus disease during or within 2 weeks of travel to areas with ongoing Zika virus transmission ○ Reverse transcription-polymerase chain reaction (RT-PCR) for specimens collected < 7 days after onset of symptoms ○ Immunoglobulin M (IgM) for specimens collected ≥4 days after onset of symptoms ○ Both RT-PCR and IgM for specimens collected on day 4, 5, or 6 after onset of symptoms • Individuals who have a clinical illness consistent with Zika virus disease during or within 2 weeks of travel to areas with ongoing Zika virus transmission ○ Reverse transcription-polymerase chain reaction (RT-PCR) for specimens collected < 7 days after onset of symptoms ○ Serologic testing(IgM) for specimens collected ≥4 days after onset of symptoms ○ Both RT-PCR and IgM for specimens collected on day 4, 5, or 6 after onset of symptoms • Individuals who develop a clinical illness consistent with Zika virus disease within 2 weeks after an epidemiologically-defined exposure to an individual diagnosed with Zika virus disease **†Please refer to the CDC guidance for alternative specimens types to be submitted to CDC for testing** **Note:** At this time, testing of exposed, asymptomatic men for the purpose of assessing risk for sexual transmission is not recommended. Sexual transmission of Zika virus from infected women to their sex partners has not been documented, nor has transmission from persons who are asymptomatically infected.

Version 3.0, February 26, 2016

	• For ***Serologic testing (IgM)*** **fill out the DSHS G2A submission form(specimens collected ≥ 4 days after onset of symptoms)** • For ***PCR testing (RT-PCR)*** **fill out the DSHS G2V submission form (specimens collected < 7 days after onset of symptoms)** • **PLEASE NOTE:** For specimens collected **4-6 days after symptom onset, request *both PCR and Serology* [submit a G2V and G2A form, and submit 2 specimens (at least 1 mL each)]**
Specimen Types	• Serum Aliquot (Please ship a minimum of **2-3 mLs**) • **DO NOT ship whole blood** • Contact the Viral Isolation or Serology team regarding testing of other specimens
Specimen Collection and Handling	• Collect the specimen as soon as possible after onset of illness • Collect at least 5 mL blood in a blood collection tube • Centrifuge within 2 hours from the time of collection to separate the serum from the red blood cells (clot) • **Transfer the serum from the collection tube into a serum transport tube for shipment** • **PLEASE NOTE**: The use of gloves, lab coat, mask, and eye protection/face shield are recommended when transferring serum into a transport tube. For additional information, see www.cdc.gov/hicpac/2007IP/2007ip_part3.html • Specimens should be placed in a biohazard bag and stored at 4°C or -20°C as indicated below: ○ Specimens that are shipped the same day of collection and will arrive at the lab within 48 hours of collection can be stored at 4°C and should be shipped with cold packs ○ Specimens that will be stored and arrive at the lab more than 48 hours after collection should be stored at -20°C and shipped on dry ice
Specimen Shipping	• Transport specimens to the laboratory as soon as possible • Do not ship on Fridays or before government holidays. Ship serum transport tubes Monday-Thursday by overnight delivery. Specimens collected Friday-Sunday should be centrifuged, transferred into a serum transport tube, stored at -20°C, and shipped as described above. • **PCR testing:** Complete the **G2V** form for each specimen (instructions to request G2V form or a DSHS Submitter ID number are at www.dshs.state.tx.us/lab/MRS_forms.shtm#Microbiological) ○ Check "Chikungunya PCR" and "Dengue PCR" in Section 4 of the G2V and record the date of onset and travel history (required prior to testing). Check "Other" and write in "Zika" • **Serology testing:** Complete the **G2A** form for each specimen (instructions to request G2A form or a DSHS Submitter ID number are at www.dshs.state.tx.us/lab/MRS_forms.shtm#Microbiological) ○ Check "Other" in Section 7 and write in "Chikungunya, Dengue, Zika" • The name on the tube should match the name on the form exactly • Ship to the physical address: TX DSHS Lab Services, ATTN: Walter Douglass 512-776-7569, 1100 W. 49th Street, Austin TX, 78756 • Record the shipping tracking number and notify your local health department that a specimen is being shipped
Additional Information	• For questions about Chikungunya, Dengue, or Zika **PCR** testing, please contact the Viral Isolation Team at 512-776-7594 or 512-776-7515 • For questions about Chikungunya, Dengue, or Zika **Serology** testing, please contact the Serology Team at 512-776-7514 or 512-776-7760

Version 3.0, February 26, 2016

Attachment 3: Vector Mosquito Surveillance and Control

Detailed guidance documents on surveillance and control of *Aedes aegypti* and *Aedes albopictus*, members of the sub-genus *Stegomyia* and vectors for Zika virus (ZIKV), can be accessed at: http://www.cdc.gov/zika/vector/index.html.

Commented [S(32]: I see no reason for DSHS to create and maintain vector control guidance when CDC guidance is current and available

The responsibility and authority for mosquito control is under local jurisdiction in Texas. The preferred approach is to follow the principles of Integrated Pest Management (IPM) where pesticide application is conducted as a last resort. If source reduction of artificial containers is not feasible, e.g. in landfills in close proximity to homes, application of a larvicide may be effective. There are several mosquito control products for larvae that are highly specific and thus have minimal impact on non-target organisms. Adult control, or adulticiding, may be required to suppress populations of infected mosquitoes and interrupt epidemic virus transmission. The time of application has to match the peak activity periods of the target species: from sunrise to 2 hours post sunrise and then a period from several hours prior to sunset to near sunset. Application with ground-based equipment is appropriate for these species of mosquitoes. Factors to consider when selecting an adulticide include: 1) efficacy against the target species or life cycle stage, 2) resistance status of target species in the area, 3) pesticide label requirements, 4) availability of pesticide, application equipment, and certified pesticide applicators, 5) local environmental conditions, 6) evidence from surveillance programs of abundant adult mosquito vectors, and 7) cost.

Mosquito Surveillance and Testing

Stegomyia are quite common in many areas of Texas, especially South Texas, the Gulf Coast, and urban areas of the state. Mosquito surveillance for *Stegomyia* can yield information useful to public health programs and vector control programs, e.g. the presence and location of *Stegomyia* and their abundance. Adult vector mosquito abundance is a key factor contributing to the risk of virus transmission. Standard mosquito collection traps such as light and gravid traps can capture both *Stegomyia* species of interest, but a far higher yield of ZIKV vectors can be achieved using traps such as those employing an attractant that is more specific for *Stegomyia*.

DSHS Arbovirus Laboratory provides mosquito identification services and, on a limited basis, testing of *Stegomyia* mosquitoes for ZIKV. Please see the guidance for submitting mosquito specimens to DSHS at the following link: www.dshs.state.tx.us/lab/arboFieldSurveillance.shtm. Unlike testing of mosquitoes for West Nile virus (WNV) or Saint Louis encephalitis virus (SLE), mosquito test data is not predictive of human risk for contracting chikungunya virus, dengue virus, or ZIKV. The transmission cycles of WNV and SLE involve amplification of the virus in a bird reservoir prior to an increase in risk of human infection. This is not the case with ZIKV, where its cycle in the western hemisphere involves only humans and mosquitoes. By the time ZIKV becomes evident in collected mosquitoes, human cases are likely being reported to public health authorities. In addition, testing of mosquitoes for ZIKV is expected to have a very low yield, even during a major outbreak. Cell culture-based testing will be used to detect arboviruses in vector mosquito species submitted to the DSHS Arbovirus Laboratory beginning May 1. ZIKV

is unlikely to be detected on cell culture. ZIKV RT-PCR testing may be performed on *Stegomyia* collected from areas identified by local, regional, and state Zoonosis Control and health officials to support *Stegomyia* surveillance and control efforts by local jurisdictions.

Environmental and Educational Response to Zika Cases

To prevent the establishment of local transmission of ZIKV in Texas, the DSHS in consultation with the Centers for Disease Control and Prevention recommends the following actions, as time and resources allow, when a person suspected of having a ZIKV infection is present in Texas:

Homeowner Education and Vector Control

- Determine where the person has had the opportunity to sustain mosquito bites in Texas during the first 7 days following the onset of illness
- Conduct a site visit(s) where infected persons are thought to have been exposed
    - In Texas, there is no inherent right for Public Health/Environmental personnel to enter private property
        - Exception: Health and Safety Code, Title 5, Subchapter B, Section 341.019 (Abandoned property- action limited to larvicide use in stagnant water in which mosquitoes are breeding)
- Ideally, gain the owner's permission to assess property
    - Explain need for assessment and owner's right of refusal
    - Do what the owner will permit
        - At a minimum, educate owner on risk and provide handout on precautions
        - Do assessment of property, preferably with owner
        - Show owner what to look for and actions owner can take to reduce risk
            - Drain all standing water and clean containers
                - Check flower pots, bird baths, swimming pools, gutters, drain pipes
                - Owner should check flower/plant vases, pet watering containers, and other potential sources inside home
            - Dispose of all litter and trash that may serve as artificial containers for breeding mosquitoes
            - Show owner what larvae and pupae look like if present
        - As permitted by owner
            - Identify and eliminate mosquito breeding habitat to the extent possible
            - Apply larvicidal products as appropriate (by certified pesticide applicators)
            - Apply adulticide products as appropriate (by certified pesticide applicators)
- Delivery of control products around buildings using manual equipment is more effective than truck-mounted equipment
- Provide flyer with Over-The-Counter products available to owner (under development by CDC and Texas entomologists)

Options for gaining entry onto private property without owner permission

- Jurisdiction may take action allowed under appropriate local ordinances, e.g. nuisance
- **Note that even in states where personnel have the right to enter private property without permission to mitigate mosquito-related risk, every effort is made to get permission and buy-in from property owners**
- A Local Health Authority may issue a control order to address public health risk associated with property
    - This is a complex process, creates an adversarial relationship, and should be considered only in very high risk scenarios

Attachment 4: Points of Contact for DSHS Programs Involved in Zika Response

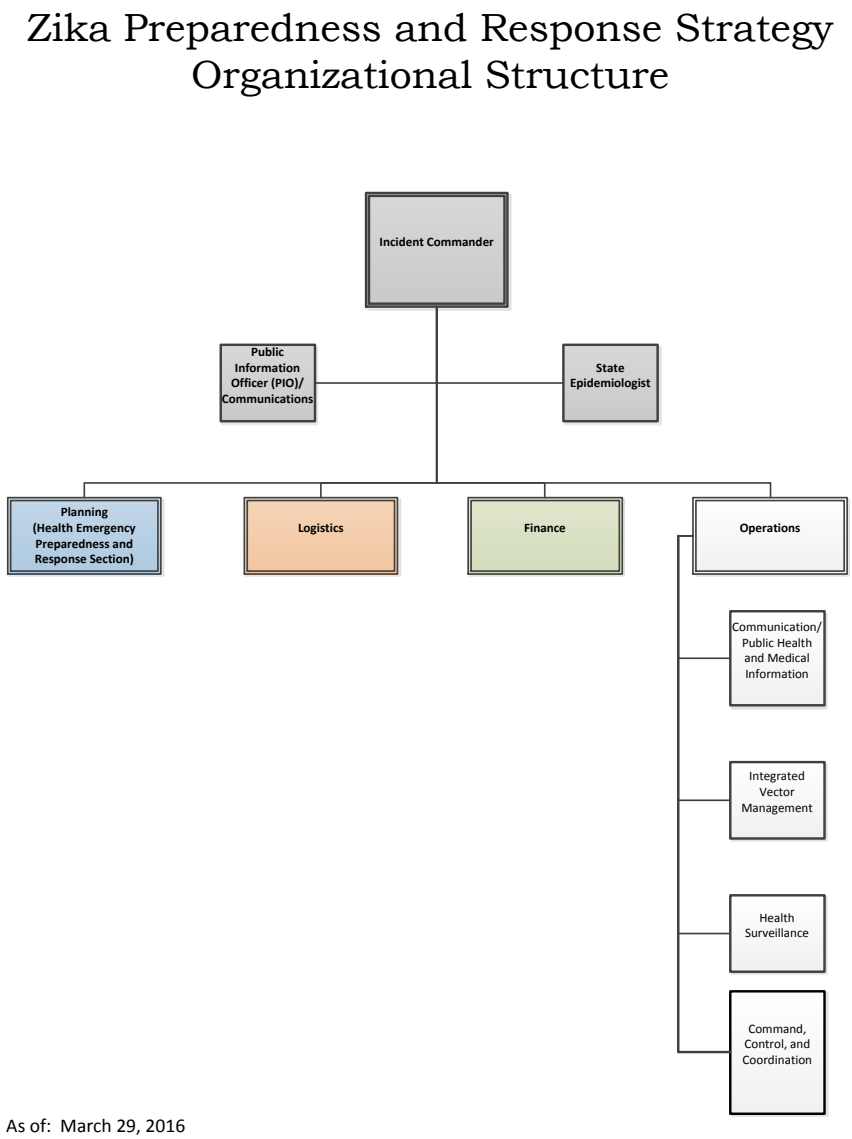
DSHS Program POC and Contact Information			
Office/Program	**POC Name** ***Backup POC Name***	**POC Email** ***Backup POC Email***	**POC Phone** ***Backup POC Phone***
Center for Policy and External Affairs (CPEA)	Ricky Garcia	Ricky.Garcia@dshs.state.tx.us	512-776-7113
	Carrie Williams (Media Relations)	*Carrie.Williams@dshs.state.tx.us*	*512-776-7119*
	Rachael Hendrickson (External Affairs)	*Rachael.Hendrickson@dshs.state.tx.us*	*512-776-3765*
	Melissa Loe (Communications)	*Melissa.Loe@dshs.state.tx.us*	*512-776-6085*
Zoonosis Control Branch (ZCB)	Tom Sidwa	Tom.Sidwa@dshs.state.tx.us	512-776-6628
	Laura Robinson	*Laura.Robinson@dshs.state.tx.us*	*512-776-3306*
Laboratory Services Section	Grace Kubin	Grace.Kubin@dshs.state.tx.us	512-776-2468
	Susan Tanksley	*Susan.Tanksley@dshs.state.tx.us*	*512-776-3106*
Health Emergency Preparedness and Response Section (HEPRS)	Bruce Clements	Bruce.Clements@dshs.state.tx.us	512-776-7126
	Jeff Hoogheem	*Jeff.Hoogheem@dshs.state.tx.us*	*512-776-3134*
Health Service Region (HSR) Offices	?	?	?
	?	?	?
Office of Border Health (OBH)	R.J. Dutton	RJ.Dutton@dshs.state.tx.us	512-776-3737
	Allison Banicki	*Allison.Banicki@dshs.state.tx.us*	*512-776-6705*

Attachment 5: Zika Preparedness and Response Strategy Organizational Structure

Upon confirmation of the first case of local mosquito Zika virus transmission in Texas, and at the request of the DSHS Commissioner, the organizational chart below shall be implemented.

Commented [S(33]: Language added to reflect information discussed at the Zika Executive Briefing on 04/14/2016.

ICS will not be activated immediately. An Executive-level meeting will be held first to decide how to proceed, which will include discussion of whether or not to activate ICS.



Attachment 6: Zika Situation Update (DRAFT)