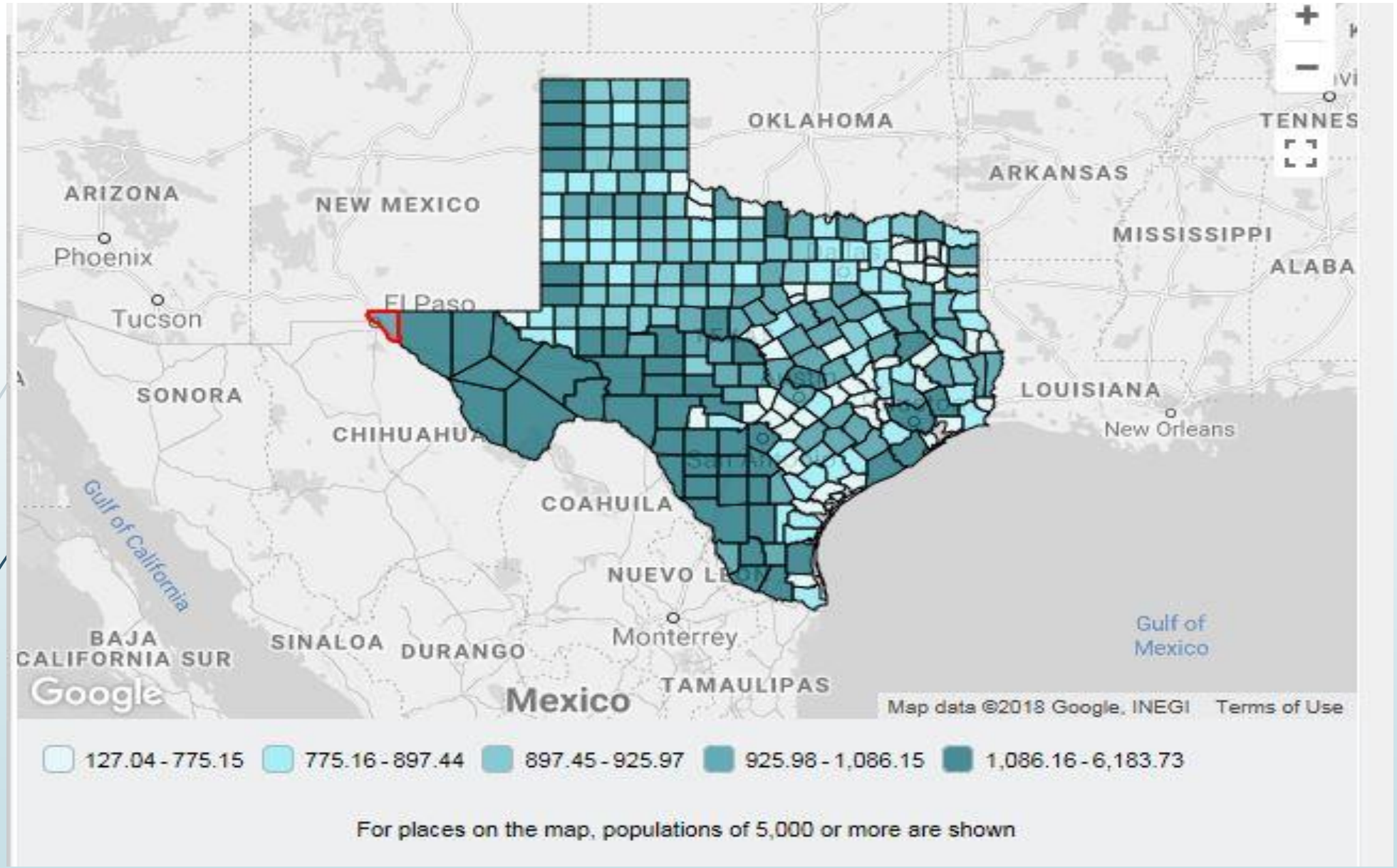
FLOR PUENTES, MPH
EPIDEMIOLOGIST/ZIKA FIELD SUPPORT CONSULTANT

ZIKA VIRUS PROTECTION & CONTROL

City of El Paso Demographics

- Population: 840,410
- 50.9% Female
- 82.2% Hispanic
- Median Household Income: $42,075
- Bachelor's Degree or higher: 21.7%
- Border town to Juarez, Chih, Mex (estimated population: 1.3-1.5 million)
- In 2011, more than 3.6 million passenger vehicles, 4.2 million pedestrians and 300,000 commercial vehicles crossed into Ciudad Juárez through the three bridges.



US Mexico border is about 2,650 miles long

Zika Activities

- Expanding clinical outreach and communication to community healthcare providers
- Assisting in proper testing of at-risk pregnant women
- Sharing Zika information with the community at large through community meetings, events, and other forums
- Collecting data on pregnant women with laboratory evidence of Zika virus infection and their infants with emphasis on birth defects
- Developing and implementing protocols for case management of Zika positive pregnant women and their infants to ensure proper follow-up
- Providing current educational tools to at-risk pregnant women following CDC guidelines during outreach activities
- Linking patients to care and other appropriate services

Number of completed Provider visits for Zika Outreach as of end of June 2018

	OB GYN Private Practice	Pediatricians Private practice	Family Medicine	Texas Tech Residents	Texas Tech Nursing School	FQHC CSV/La Fe/Project Vida	WBAMC	UMC Neighborhood Clinics
Completed Visits	***126***	***71***	***15***	***16 (OB GYN)*** ***100 (PEDS)***	***51***	***24/2/10***	***30 (PEDS)*** ***41 (OB GYN)***	***16***
TOTAL:								***TOTAL:502***

Month and Year	Zika PCR positives	Zika PCR negatives	Zika IgM positives	Zika IgM negatives	Total
May 2018	0	3	0	2	5
April 2018	0	2	0	0	2
March 2018	0	3	0	1	4
February 2018	0	4	1*	3	8
January 2018	0	6	0	6	12
December	0	3	0	4	7
November	0	7	2	7	16
October	0	6	1	2	9
September	0	8	1	6	15
August	0	13	1	5	19
July	0	10	0	0	10
June	0	5	0	2	7
May	0	3	1	0	4
April	0	3	0	0	3

Community Outreach Data

Date	Event Location	Location within the County	Type of Event	# of people reached	# of kits ditributed
4/5/2018	ESD Code Compliance Training	El Paso	Presentation	60	56
4/7/2018	ESD Earth Day	El Paso	Health Fair	85	84
4/14/2018	Purple Heart Elementary	El Paso	Health Fair	50	0
4/17/2018	Ayuda Inc	San Elizario	Presentation	120	105
4/18/2018	Glen Cove Elementary School	El Paso	Community Event	100	98
4/19/2018	Eastwood Knolls International School	El Paso	SB Presentation	500	20
4/21/2018	Lower Valley Health Fair	El Paso	Health Fair	230	200
4/24/2018	Rio Bravo Middle	El Paso	Health Fair	65	50
4/25/2018	Month of the Military Child	El Paso	Military Event	55	50
4/26/2018	SSG Manuel Puentes Middle	El Paso	Community Event	60	50
4/28/2018	Washington Park Dia de los Ninos	El Paso	Health Fair	700	200
4/30/2018	Don Haskins Recreation Center	El Paso	Outreach	20	18
	12 events			2045	931

Date	Event Location	Location within the County	Type of Event	# of people reached	# of kits ditributed
5/1/2018	Friendly Senior Center	El Paso	Presentation	18	18
5/2/2018	**Marty Robbin Recreational Center**	El Paso	Outreach	35	30
5/3/2018	**Gary Del Palacio Recreational Center**	El Paso	Outreach	50	30
5/5/2018	YMCA	El Paso	Health Fair	50	40
5/8/2018	**David Ortiz Recreational Center**	El Paso	Outreach	50	44
5/10/2018	Texas Kids Dental	El Paso	Outreach	35	29
5/10/2018	**Don Haskins Recreational Center**	El Paso	Outreach	45	35
5/11/2018	Pregnant Military Women VA Clinic (Yecenia)	El Paso	Outreach	80	50
5/12/2018	Cielo Vista Mall	El Paso	Health Fair	150	120
5/15/2018	**Marty Robbin Recreational Center**	El Paso	Outreach	100	93
5/17/2018	**Gary Del Palacio Recreational Center**	El Paso	Outreach	10	4
5/19/2018	Robert R Rojas Elementary	Socorro	Health Fair	15	11
5/23/2018	**David Ortiz Recreational Center**	El Paso	Outreach	10	2
5/24/2018	**Don Haskins Recreational Center**	El Paso	Outreach	15	12
5/24/2018	**Pavo Real Recreational Center**	El Paso	Outreach	15	6
5/30/2018	**Multipurpose Recreational Center**	El Paso	Outreach		

2015-2017 Reported Zika Cases

Texas Zika Cases by County:

County (A - Ja)	2015 Cases	2016 Cases	2017 Cases
Angelina	0	2*	0
Bastrop	0	1	0
Bell	0	7	0
Bexar	0	21	4
Brazoria	0	2	1
Brazos	0	4	1
Burnet	0	1	0
Cameron	0	26†	14‡
Collin	0	7	3
Dallas	0	45*	3
Denton	0	9	1
El Paso	0	3	0
Ellis	0	1	0
Fort Bend	1	10	0
Frio	0	1	0
Galveston	0	9	0
Gray	0	1	0
Grayson	0	1	0
Gregg	0	1	0
Hamilton	0	1	0
Harris	7	75	11
Hays	0	1	0
Hidalgo	0	6	7‡
Hockley	0	1	0
Jackson	0	1	0

County (Je - W)	2015 Cases	2016 Cases	2017 Cases
Jefferson	0	2	0
Jones	0	1	0
Kerr	0	0	1
Lee	0	1	0
Lubbock	0	1	1
Matagorda	0	1	0
Medina	0	1	0
Midland	0	1	0
Montgomery	0	1	0
Navarro	0	1	0
Palo Pinto	0	1	0
Parker	0	1	0
Randall	0	1	0
Rusk	0	1	0
Smith	0	1	2
Starr	0	1	0
Tarrant	0	28	1
Travis	0	18	1
Upshur	0	1	1
Val Verde	0	1	0
Walker	0	1	0
Webb	0	6	1
Willacy	0	1	0
Williamson	0	5	1
Wise	0	1	0

In 2015 there were a total of 8 confirmed Zika cases and 315 in 2016. There have been 54 cases reported for 2017, though that number could still change.

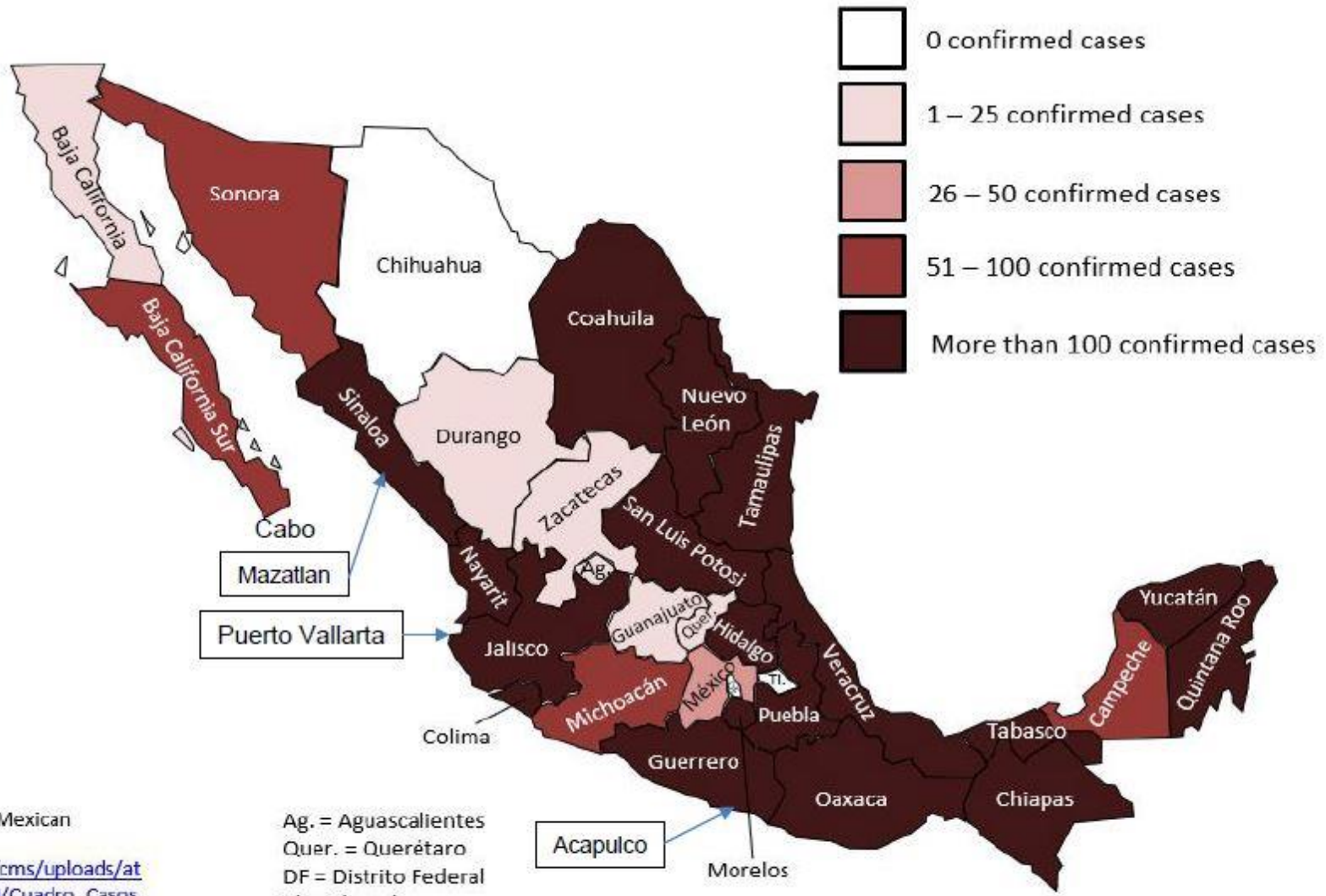
All cases are travel related except:

* Includes sexually transmitted cases in Texas: Angelina (1), Dallas (1)

† Includes cases transmitted by mosquitoes in Texas: Cameron (6)

‡ Includes cases transmitted by mosquitoes in Texas: Cameron (1), Hidalgo (4)

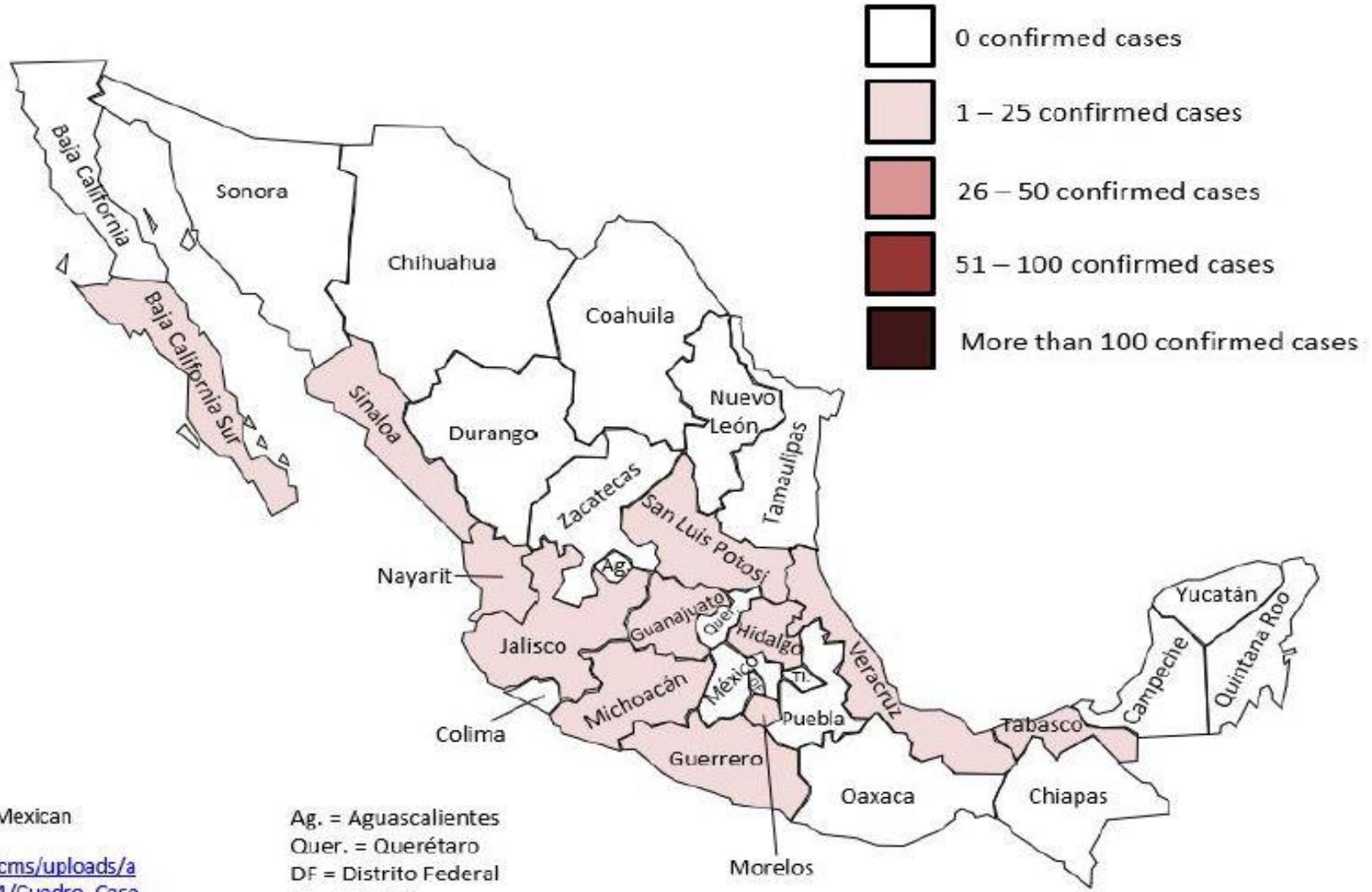
Confirmed Zika Cases in Mexico by State
January 1, 2016 – April 2, 2018



Data provided by the Mexican Ministry of Health
https://www.gob.mx/cms/uploads/attachment/file/314604/Cuadro_Casos_ZIKA_y_Emb_SE13_2018.pdf

Ag. = Aguascalientes
Quer. = Querétaro
DF = Distrito Federal
Tl. = Tlaxcala

Confirmed Zika Cases in Mexico by State
January 1, 2018 – April 2, 2018



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Ag. = Aguascalientes
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DRAFT

Recommended Texas Zika Testing Changes
Effective January 1, 2018

Based on the high false positivity of Zika IgM tests, the cross-reactivity with dengue IgM, the possible extended Zika viremia of pregnant women, and the persistence of Zika IgM antibodies, we propose the following changes to Zika testing recommendations in Texas:

Asymptomatic Pregnant Women
With ongoing risk of possible Zika exposure OR residing in Texas area at high risk of local transmission (Cameron, Hidalgo, Kinney, Maverick, Starr, Webb, Willacy, Val Verde or Zapata counties):
Test at three times during pregnancy by PCR.
Differs from current DSHS recommendation *by removing IgM testing. Ideally, testing should be at first prenatal visit and each subsequent trimester.*

Asymptomatic Pregnant Women
With travel to an area of active Zika transmission or sexual exposure but no ongoing exposure:
Recommend PCR testing as soon as possible through 12 weeks after exposure.
Differs from current DSHS recommendation *by removing IgM testing. CDC does not recommend testing of asymptomatic pregnant women with travel or sexual exposure to Zika who do not have ongoing exposure (see category above).*

Category	CDC	Current Texas	Recommended Change
Asymptomatic Pregnant Woman with *ongoing risk* of possible Zika exposure *OR residing in Texas area at high risk of local transmission*	Test three times during pregnancy with **PCR**	Resides in **Cameron, Hidalgo, Kinney, Maverick, Starr, Webb, Willacy, Val Verde** or **Zapata** counties OR resided in area with ongoing exposure: • Test **3 times during pregnancy** with **PCR and IgM**	Resides in **Cameron, Hidalgo, Kinney, Maverick, Starr, Webb, Willacy, Val Verde** or **Zapata** counties OR resided in area with ongoing exposure: • Test **3 times during pregnancy** with **PCR**
Asymptomatic Pregnant Woman with travel to an area of active Zika transmission or sexual exposure but no ongoing exposure	**No testing** recommended but allowed per patient, provider or jurisdiction recommendations. If test: **PCR and IgM** concurrently	As soon as possible through 12 weeks after last exposure: • test with **PCR and IgM** concurrently	As soon as possible through 12 weeks after last exposure: • test with **PCR**

TEXAS Health and Human Services | Texas Department of State Health Services

Zoonosis Control Branch

Texas Zika Testing Eligibility Criteria

Epidemiologic Risk Group			DSHS Testing Recommendations[3]
Symptomatic *(Major symptoms are fever, rash, conjunctivitis, or arthralgia; Guillain-Barré Syndrome or evidence of fetal abnormalities consistent with Zika may be considered on a case-by-case basis)*	*One or more of the four major symptoms*	• Onset during or within 2 weeks of **travel to or residence in an area of active Zika transmission**[1] • Onset within 2 weeks of **sexual exposure** to a partner with possible Zika exposure[1]	*As soon as possible (up to 12 weeks) after onset:* Zika PCR and IgM ➔ Recommend chikungunya and dengue testing
		• **Pregnant female**[2] residing in **Cameron, Hidalgo, Kinney, Maverick, Starr, Val Verde, Webb, Willacy,** or **Zapata** counties regardless of travel or sexual exposure history[3]	*As soon as possible (up to 12 weeks) after onset:* Zika PCR and IgM ➔ Recommend chikungunya, dengue, West Nile, and St. Louis encephalitis testing
	Rash and at least one other of the four major symptoms	No sexual exposure or travel to an area of active Zika transmission[1], but either: • Has a **known epidemiologic link** to a viremic Zika or unspecified flavivirus case (residence in same area, etc.), OR • Resides in **Cameron, Hidalgo, Kinney, Maverick, Starr, Val Verde, Webb, Willacy,** or **Zapata** counties[3]	
	Three or more of the four major symptoms	No travel, sexual exposure, or epidemiologic links	
	Pregnant female[2] with ultrasound evidence of **fetal abnormalities consistent with Zika AND** • Travel to or residence in (or sexual exposure to a traveler to) an **area of active Zika transmission**[1], OR • Resides in **Cameron, Hidalgo, Kinney, Maverick, Starr, Val Verde, Webb, Willacy,** or **Zapata** counties[3]		*As soon as possible after ultrasound*[4]*:* Zika PCR and IgM
Asymptomatic *(or not clinically compatible with Zika)*	**Pregnant female**[2] with no travel to an area of active transmission who resides in **Cameron, Hidalgo, Kinney, Maverick, Starr, Val Verde, Webb, Willacy,** or **Zapata** counties[3]		*Three times during pregnancy*[4] *(ideally at the initiation of prenatal care and in each trimester):* Zika PCR
	Pregnant female[2] with travel to an area of active Zika transmission[1] or sexual exposure to a partner with possible Zika exposure[1]		*As soon as possible (up to 12 weeks) after exposure:* Zika PCR
Infant *whose mother had Zika exposure during pregnancy*	Evidence of **abnormalities consistent with Zika** (including but not limited to microcephaly, intracranial calcifications, and ventriculomegaly) or adverse birth outcome		*At birth (or as soon as possible after birth):* Zika PCR and IgM, **OR** *After 18 months of age (if infection **not** confirmed in testing at birth and mother is **not** PRNT negative for Zika):* Zika PRNT
	No evidence of abnormalities consistent with Zika, but mother has **laboratory evidence of Zika virus infection** (OR was unable to be tested within the appropriate timeframe in relation to exposure)		

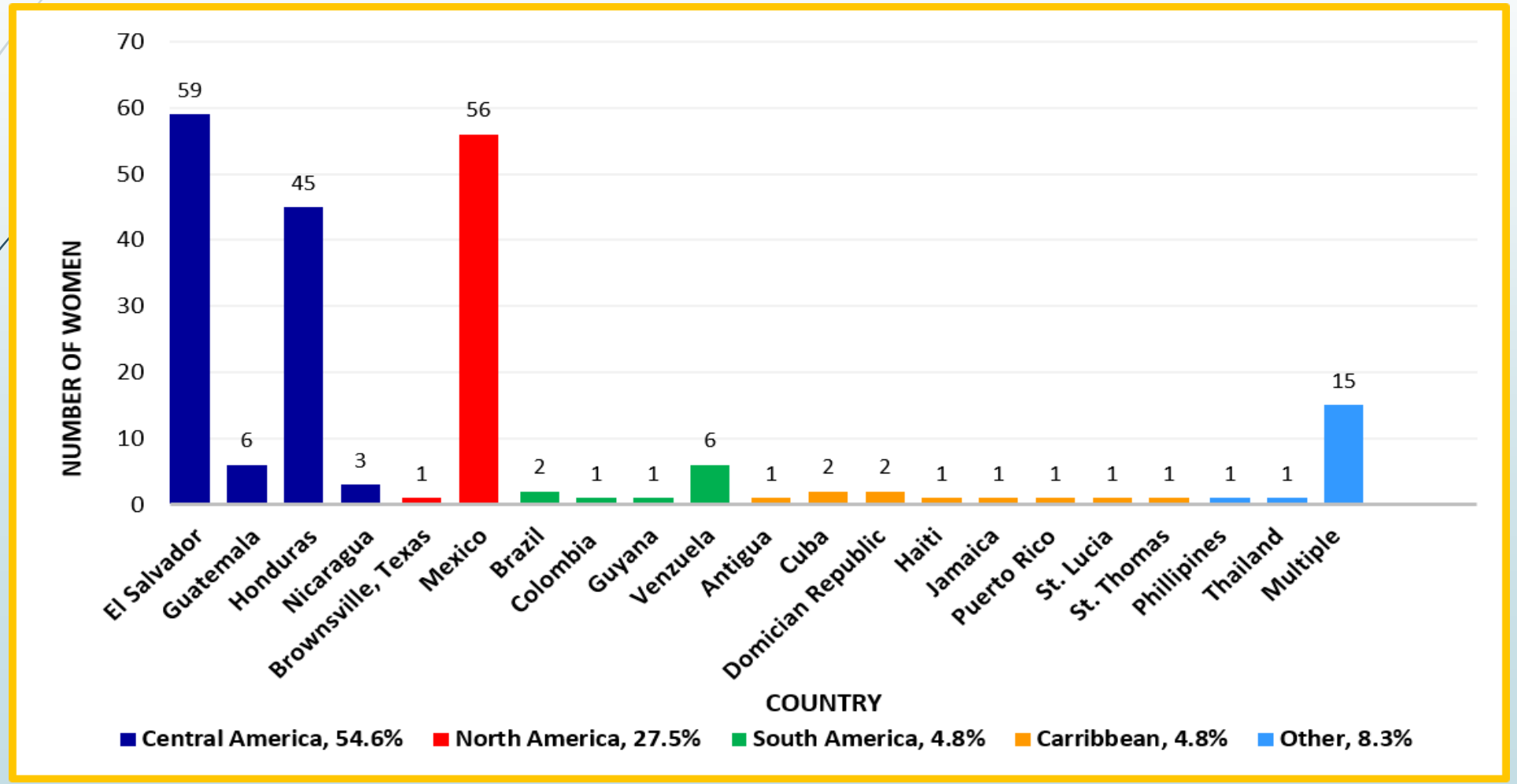
[1] Refer to https://www.cdc.gov/zika/geo/index.html for a world map of areas with risk of Zika transmission, and updates on US local transmission in Florida and Texas.
[2] Also includes women who were not pregnant during travel or sexual exposure but became pregnant within 8 weeks of exposure (within 6 weeks of last menstrual period). Only consider exposure in relation to the current pregnancy.
[3] Refer to DSHS health alerts at http://texaszika.org/media.htm. All PCR testing should be performed on serum, which may also be paired with urine, CSF, and in some cases whole blood. All IgM testing should be performed on serum.
[4] Repeat PCR or other Zika testing is not recommended for pregnant women with confirmed Zika virus infection (either Zika PCR positive or Zika IgM positive, Zika PRNT positive, and dengue PRNT negative) any time before or during the current pregnancy.

Testing Outcomes and Birth Defect Status of Fetal Losses or Infants Delivered in Texas to Mothers with Evidence of Zika Infection during Pregnancy

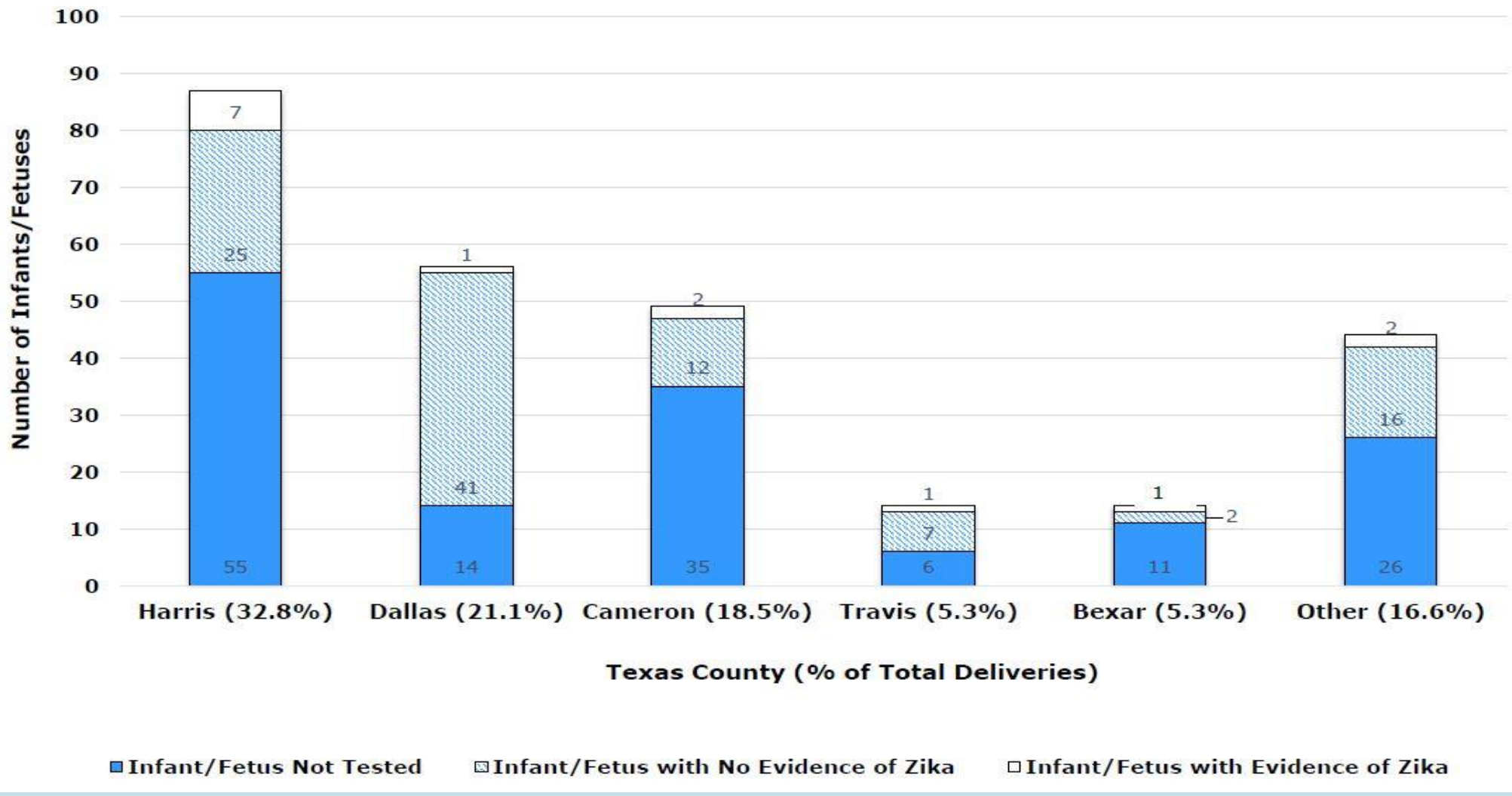
	Laboratory Testing Completed		Laboratory Testing Not Completed	TOTAL
	Laboratory Evidence of Zika Infection	No Laboratory Evidence of Zika Infection		
Has Birth Defect Consistent w/ Zika	4	11	2	17
Has Other Birth Defects	0	2	9	11
Has No Apparent Birth Defects	11	91	136	238
TOTAL	15	104	147	266

For more information, e-mail: **birthdefects@dshs.texas.gov**

Travel History of Women with Evidence of Zika and Known Pregnancy Outcomes, Texas, as of 11/3/2017

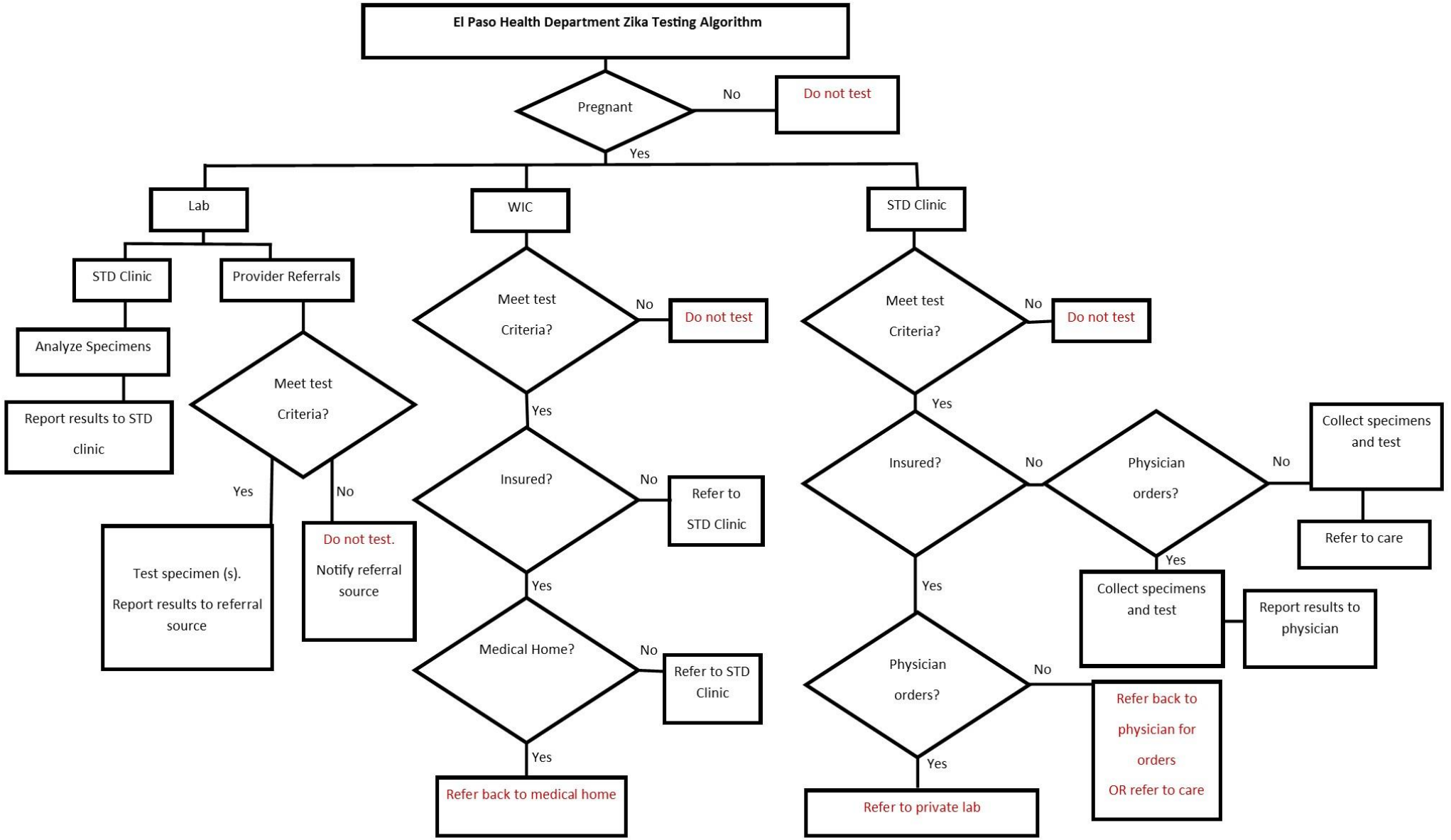


Infants/Fetuses Delivered by Mothers with Evidence of Zika Virus Infection During Pregnancy, by County and Infant's Zika Testing Status, as of 4/27/2018



Case #1 (August 2016)

- Email: My name is XXXX and me and my wife just got back from our honeymoon in Florida and we visited Miami for a day and she was a bit a lot. She later developed a mild rash and a fever. A few days later I developed a rash, fever, and headaches. I know you may have a lot of emails now because of the fear but I feel we qualify for testing also we want to know because want a baby in the very near future. We went to a local hospital and we did not get any answers. With your help maybe you can put our minds at ease so we can safely have a child. Thank you for your time. I hope to hear from you soon.
- FQHC clinic contacted for testing &Tested positive for Zika Virus Infection
- Sex education provided; Environmental assessment of household completed ; self-isolation for 15 days


El Paso Health Department Zika Testing Algorithm
Pregnant
No
Do not test
Yes
Lab
WIC
STD Clinic
STD Clinic
Provider Referrals
Analyze Specimens
Report results to STD clinic
Meet test Criteria?
Yes
No
Test specimen (s). Report results to referral source
Do not test. Notify referral source
Meet test Criteria?
No
Do not test
Yes
Insured?
No
Refer to STD Clinic
Yes
Medical Home?
No
Refer to STD Clinic
Yes
Refer back to medical home
Meet test Criteria?
No
Do not test
Yes
Insured?
No
Physician orders?
No
Collect specimens and test
Refer to care
Yes
Collect specimens and test
Report results to physician
Yes
Physician orders?
No
Refer back to physician for orders OR refer to care
Yes
Refer to private lab

City of El Paso Texas
Department of Public Health
Activation and Response SUMMARY Chart

1. Zika Case/s Confirmed

1.1 - Notification

Lead Epi - Upon confirmation of Locally-Acquired Case (LAC), follows Activation & Notification Protocol for internal notification to Health Director (HD), Assistant and Deputy Directors, Health Authority, PAO.

1.2 – Threat Assessment/Response Meeting

HD – Immediately after Epi notification schedules meeting including additional players: DSHS, CDC, OEM, PAO, ES/VC, Lab, PHEP, Zika Reps, GIS, PAD, other.

1.3 – Emergency Response Activation

HD – Determines response area & scope of response, declare Zika response activation.

HD – Designate Incident Commander (IC)

1.4 – Activation

IC- Schedules follow-up briefing with IC staff.

2. Emergency Response Activation

2.1. Incident Command System (ICS) Established

IC- Activates ICS Sections, develops Org Chart

2.2.IC Staff Briefing Meeting

IC- Conducts briefing, establishes reporting structure and process, develops IAP (response goals/objectives), establishes briefing schedule.

2.3 First Responders Notification

PHEP Communications- Issues activation message to DPH first responders, and others, to stand-by for deployment.

2.4 Planning Section

Section Chief- IAP

2.5 Operations Section (OS)

OS Chief- Follows 24 response plan. Submits requests to Logistics Section Chief.

2.6 Logistics Section

Section Chief – Procures resources

2.7 Finance Section

Section Chief – Tracks expenditures

3. Deployment

3.1 OSC- Establishes central operations center at affected area

OSC- Orders deployment of response teams and resources, as per 24 hour response plan

3.2 Home Intervention

OSC – Coordinates home intervention operations

4. Crisis Communication

4.1 Media Communications

PAO – Fields media inquiries from onset, activates CERC plan, develops & coordinates all media activity

4.2 Clinician/Service Provider Communication

Epi – Issues alerts, advisories, etc., to selected groups

4.3 Webpage

PAO Team- Updates Webpage messages, social media, Docs, Etc.

4.4 – Community Outreach & Education

Zika Coordinator – Deploys Ed Task Force to designated areas, as per pre-developed schedule

4.5 Call Center/Triage Line

PHEP Communications- Coordinates between 2-1-1 and PCC

5. Recovery

5.1 Recovery Phases

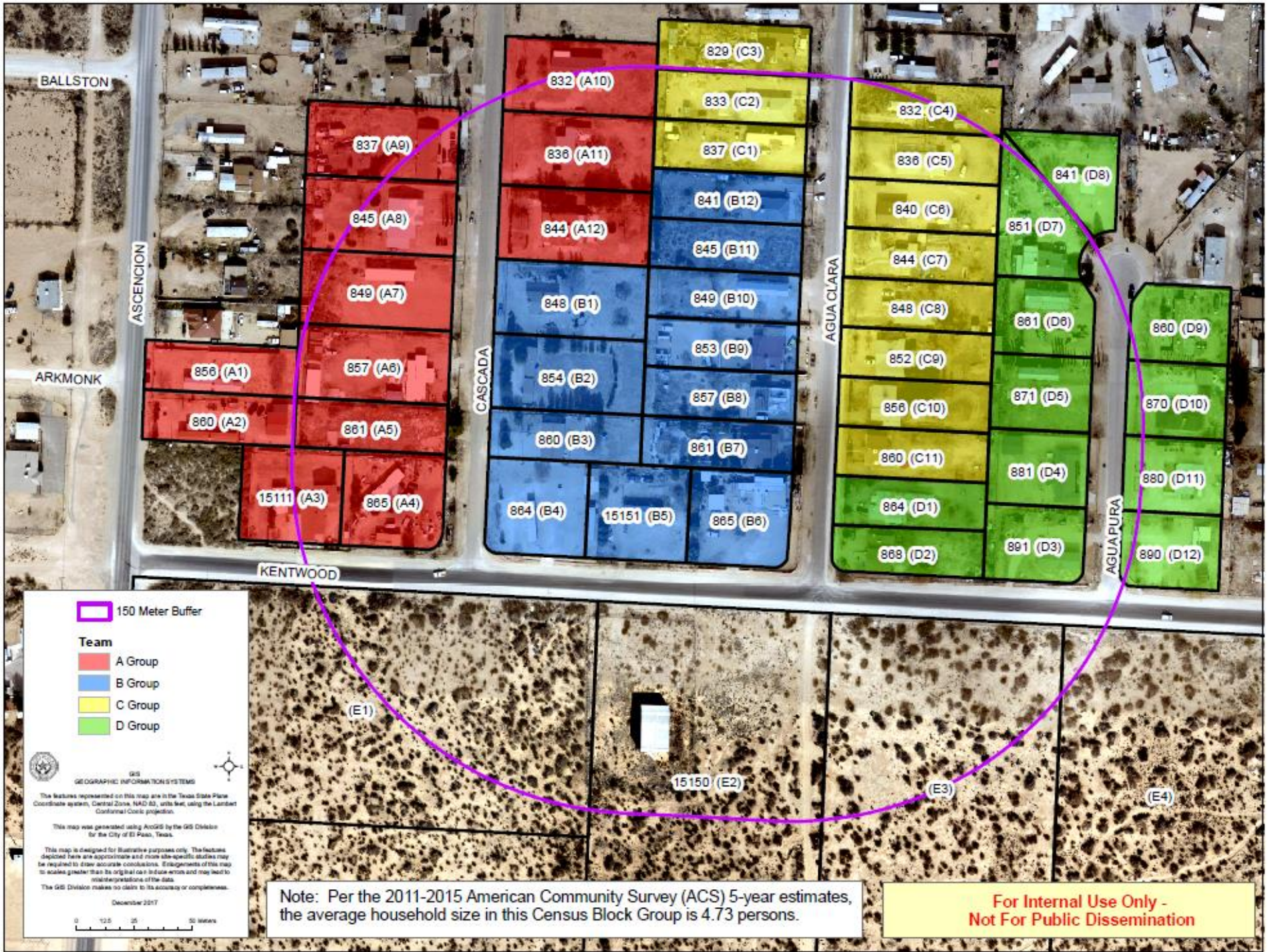
IC- Determines recovery phases & timeline

IC- Begins de-escalation as per phases

5.2 Hotwash

IC- Schedules Hotwash, designates staff resources

Designates staff – Conducts Hotwash, develops ARR


BALLSTON
ASCENCION
ARKMONK
CASCADA
AGUA CLARA
AGUAPURA
KENTWOOD
837 (A9)
845 (A8)
849 (A7)
856 (A1)
857 (A6)
860 (A2)
861 (A5)
15111 (A3)
865 (A4)
832 (A10)
836 (A11)
844 (A12)
848 (B1)
854 (B2)
860 (B3)
864 (B4)
15151 (B5)
865 (B6)
829 (C3)
833 (C2)
837 (C1)
841 (B12)
845 (B11)
849 (B10)
853 (B9)
857 (B8)
861 (B7)
832 (C4)
836 (C5)
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844 (C7)
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852 (C9)
856 (C10)
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864 (D1)
868 (D2)
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861 (D6)
871 (D5)
881 (D4)
891 (D3)
860 (D9)
870 (D10)
880 (D11)
890 (D12)
(E1)
15150 (E2)
(E3)
(E4)
150 Meter Buffer
Team
A Group
B Group
C Group
D Group
GIS
GEOGRAPHIC INFORMATION SYSTEMS
The features represented on this map are in the Texas State Plane Coordinate system, Central Zone, NAD 83, units feet, using the Lambert Conformal Conic projection.
This map was generated using ArcGIS by the GIS Division for the City of El Paso, Texas.
This map is designed for illustrative purposes only. The features depicted here are approximate and more site-specific studies may be required to draw accurate conclusions. Enlargements of this map to scales greater than its original can induce errors and may lead to misinterpretations of the data.
The GIS Division makes no claim to its accuracy or completeness.
December 2017
0 12.5 25 50 Meters
Note: Per the 2011-2015 American Community Survey (ACS) 5-year estimates, the average household size in this Census Block Group is 4.73 persons.
For Internal Use Only -
Not For Public Dissemination

Best Practice

- Ready to respond to new emerging threats; start early
- Community Outreach and media campaign launched
- Build trust & communication with providers
- Good working relationship and communication with DSHS Region 9/10 Zoonosis Program
- Establish good communication & relationship with Mexico Health Dept and New Mexico Health Dept. for data sharing (attend Binational Meetings)

Future Plans

- Continue with Provider and Community outreach
- Increase number of Zika tests by providers (Notifiable Condition)
- Continue to establish trust and good communication with providers
- Improve lab capacity at department of public health
- WIC intervention
- CMS staff (2)
- Conduct Tabletop Exercises for improvement measures

Zika Action Day June 27, 2018

Proclamation

of El Paso, Texas

WHEREAS: *diseases transmitted by mosquitos affect people around the world and can pose a significant health threat in El Paso; and*

WHEREAS: *the City of El Paso Department of Public Health is actively monitoring cases of mosquito borne diseases such as Zika, Chikungunya, Dengue, West Nile; and*

WHEREAS: *the City of El Paso Department of Public Health, along with the City of El Paso Environmental Services Department, and other local organizations have joined together to promote a healthier, safer community; and*

WHEREAS: *Providing community education is essential in preventing the spread of mosquito borne diseases; and*

WHEREAS: *The Department of Public Health joins the Centers for Disease Control and Prevention (CDC) during Mosquito Control Week, to focus on mosquito bite prevention, mosquito borne diseases, transmission, prevention; and*

NOW, THEREFORE, BE IT PROCLAIMED: *by the Mayor and Council of the City of El Paso that June 27, 2018 shall be known as:*

"ZIKA ACTION DAY"

Ysleta Del Sur Pueblo Demographics

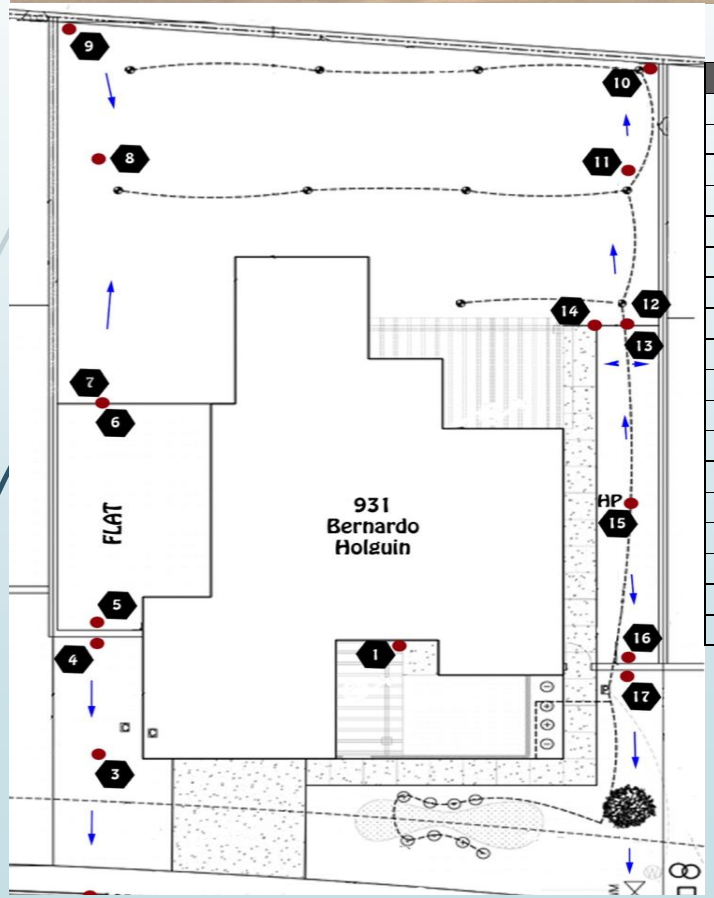
- At end of 2016 population was: 3,981
- On Reservation: 22% (Checkered Board Reservation)
- Off Reservation (El Paso/Hudspeth Counties) 28%
- Out of Town: 50%
- 53 % Female
- 47% Male
- Median age is 24 years old
- Members 19 years old accounted for 40% of population

* Ysleta del Sur 2016 Socioeconomic Profile

YDSP Update on Zika Virus related mitigation strategies

- Reducing used tire piles by providing used tire amnesty days and Pueblo sponsored clean up activities.
- Additionally, Community awareness has included information on used tires and how it can act as a mosquito incubation mechanism.
- Contracted with a pesticide firm that works within the community with 'fogging' services and also treating standing water with briquettes of mosquito specific pesticides.
- Standing water is a continuing concern and efforts are implemented by the Grounds crew to address areas where excessive ponding can occur.
- Engineering remedies in the second living district have included connection to Lower Valley Water District sewer infrastructure and storm water relive areas have been constructed to divert storm water from residential areas

A Lot Elevation Verification Report was conducted



No.	Elevation	Description
1	100.88	Conc. House Entrance
2	99.18	Top of Curb
3	100.42	Landscaped Rock
4	100.62	Landscaped Rock @ Drain
5	100.80	Landscaped Screening@ Drain
6	100.80	Landscaped Screening
7	100.62	Ground
8	99.58	Ground
9	99.60	Ground @ Corner Rockwall
10	100.30	Ground @ Corner Rockwall
11	100.64	Ground
12	100.72	Ground
13	100.81	Landscaped Screening
14	100.86	Conc. Sidewalk
15	100.86	Landscaped Screening
16	100.52	Landscaped Screening @ Drain
17	100.72	Landscaped Rock@ Drain
18	99.90	Top of Curb

A Lot Elevation Verification Report was conducted to find out why storm water ponded in the backyards.

YDSP Update on Zika Virus related mitigation strategies

- Existing grade did not direct run-off to the front of the lots.

- Existing 2 to 6 inches of screening to the sides of the lots caused a high point preventing run-off to drain to the front of the lot.

- High compacted screenings prevented water to flow through.

YDSP Update on Zika Virus related mitigation strategies

- Side rock wall's outlet inverts were higher in elevation.

- Backyard soils have a high compaction rate preventing or minimizing water to percolate into subsoils.

Drainage Improvements

- French Drain

- Drywells

Drainage Improvements

- French Drain

- Drywells
- Gravel Filled Drain Trench
- Import Topsoil

Evidence drywells worked successfully.

Side by Side Comparison
After a Heavy Rain Event

Before Improvements

After Improvements

Side by Side Comparison
After a Heavy Rain Event

Before Improvements

After Improvements

Side by Side Comparison
After a Heavy Rain Event

Before Improvements

After Improvements