



# Zika Epidemiology

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*We Protect Lives.*

# Zika Virus Transmission



[https://media3.s-nbcnews.com/j/newscms/2016\\_04/1389781/160125-aedes-aegypti-mosquitos-1718\\_0.jpg](https://media3.s-nbcnews.com/j/newscms/2016_04/1389781/160125-aedes-aegypti-mosquitos-1718_0.jpg)

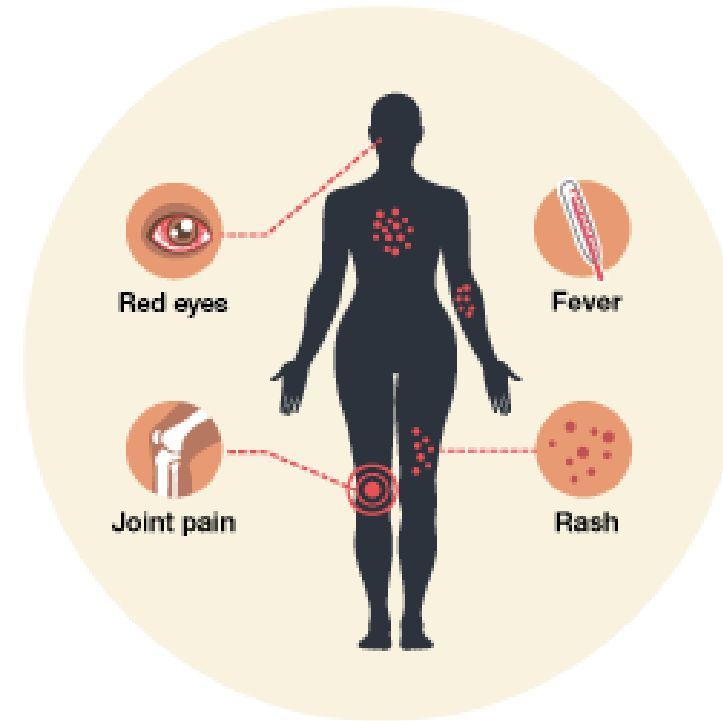


[https://entomologytoday.files.wordpress.com/2015/01/aedes\\_albopictus2.jpg?w=460](https://entomologytoday.files.wordpress.com/2015/01/aedes_albopictus2.jpg?w=460)

- Zika virus is transmitted to humans primarily through the bite of an infected *Aedes* species mosquito
  - *Aedes aegypti* is the most competent vector, but *Aedes albopictus* may also transmit the virus
- Other modes of transmission
  - Sexual
  - Intrauterine
  - Blood transfusion
  - Laboratory exposure

# Symptoms of Zika Virus Infection

- Maculopapular rash
- Arthralgia
- Conjunctivitis
- Fever
- Other: myalgia, headache

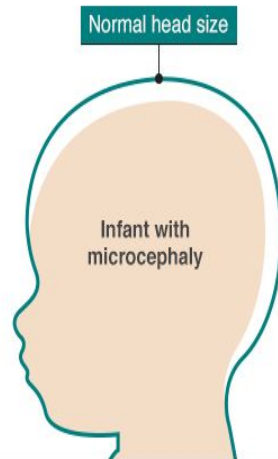


# Microcephaly Associated with Maternal Zika Virus Infection

- CDC confirmed link between Zika and microcephaly/other birth defects in April 2016

## Microcephaly

- Symptoms include below-average head size
- Often caused by failure of brain to grow at normal rate
- Head circumference measuring **less than 31.5-32cm** at birth
- Affects **25,000 children** in US each year



Source: ADAM, WHO

BBC

Newborn Sex:  
☒ Male ☐ Female

Gestational age (weeks + days):  
24 25 26 27 28 29 30 31  
32 33 34 35 36 37 38 39  
40 41 42  
0 1 2 3 4 5 6

Length (cm): 49.2

Weight (kg): 3.064

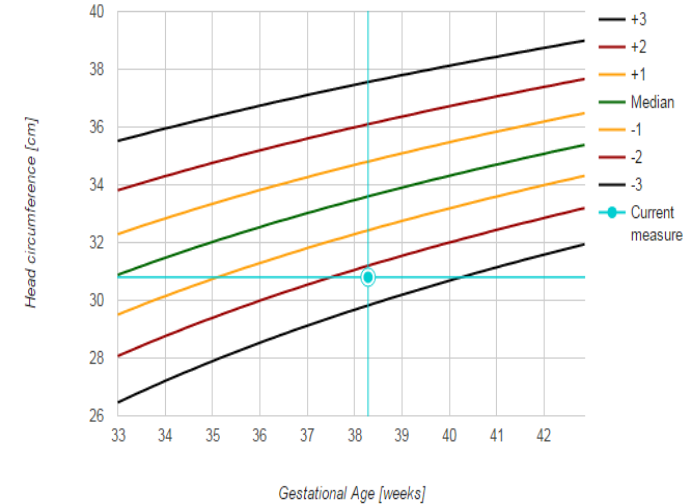
Head circumference (cm): 30.8

[Compare to standards >](#) [Export](#)

Male 38 + 2 gestational age

Length (cm)	Weight (kg)	Head circumference (cm)
49.2 cm z-score: 0.2386 centile: 59.43	3.064 kg z-score: -0.1493 centile: 44.06	30.8 cm z-score: -2.3033 centile: 1.06

[z-score](#) [centile](#)



# Zika Outbreak Response in Georgia

- DPH has facilitated Zika testing at the Georgia Public Health Laboratory for about 2000 persons (majority pregnant women).
- DPH Epidemiology follows CDC guidance on Zika testing
  - Latest update: MMWR published in July 2017
  - More people now being tested through commercial labs

# Criteria for Zika Testing through DPH

- Non-pregnant persons with qualifying exposure\* AND
  - At least one of the following symptoms: maculopapular rash, conjunctivitis, joint pain
- Asymptomatic pregnant women with qualifying exposure\* AND
  - Uninsured
  - Detected microcephaly/fetal anomaly

\* Qualifying exposure: 1) Travel to a Zika-affected area within 12 weeks. 2) Unprotected sexual contact within 12 weeks with a partner who has traveled to a Zika-affected area in the past 6 months, regardless of partner's symptom status.

# DPH Zika Testing Recommendations

## FOR SYMPTOMATIC NON-PREGNANT PATIENTS

Time Since Symptom Onset	Possible Test Combinations
0-3 days	1. Serum PCR 2. <b>Urine PCR and Serum PCR*</b>
4-5 days	1. Serum PCR 2. Urine PCR and Serum PCR 3. <b>Serum PCR, Urine PCR, and IgM*</b>
6-7 days	1. Urine PCR and Serum PCR 2. <b>Urine PCR, Serum PCR, and IgM*</b> 3. IgM
8-14 days	1. <b>Urine PCR, Serum PCR and IgM*</b> 2. IgM
15 days-12 weeks	1. <b>IgM*</b>

**\*Indicates preferred testing**

# DPH Zika Testing Recommendations (cont.)

## FOR PREGNANT PATIENTS (SYMPTOMATIC OR ASYMPTOMATIC)

For Symptomatic Pregnant Women:

Time Since Symptom Onset	Test Recommended by CDC
0-12 weeks	Concurrent Serum PCR, Urine PCR, and IgM

For Asymptomatic Pregnant Women:

Type of Exposure	Test Recommended by CDC
Ongoing travel/sexual exposure (example: travels to Zika-affected area regularly, lives or recently lived in a Zika-affected area)	Serum PCR and Urine PCR three times during pregnancy (first tests done at initiation of prenatal care). If patient already has lab-confirmed Zika, additional testing is not recommended.
Not ongoing travel/sexual exposure (example: single or occasional travel to Zika-affected area)	Testing not routinely recommended. Testing should be considered using a patient-provider decision-making model. If they want to pursue testing, follow algorithm for symptomatic pregnant women (see above; in lieu of symptom onset, use last date of exposure).



# Zika Call Log

- Since January 2016, DPH Epidemiology has triaged approximately 2,880 Zika clinical inquiries and over 7,100 general inquiry calls.

Zika Call Log						
File Edit View Insert Format Data Tools Add-ons Help All changes saved in Drive						
100% \$ % .0_ .00 123 Arial 10 B I U A						
fx	A	B	C	D	E	F
1		10/16/2017				Pregnancy wheel: <a href="http://www.prokerala.com/health/pregnancy/pregnancy-wheel/">http://www.prokerala.com/health/pregnancy/pregnancy-wheel/</a>
2	2 weeks ago (from today):	10/2/2017	*Please use "General" (no "inquiry" on the end) and "Clinical Inquiry" for calls (as opposed to "Clinical") to make it easier to distinguish between them when reviewing entries and for continuity. Thank you!			Microcephaly calculator: <a href="http://intergrowth21.ndog.ox.ac.uk/">http://intergrowth21.ndog.ox.ac.uk/</a>
3	12 weeks ago (from today):	7/24/2017				
4	Date	Who took the Call	General/Clinical Inquiry	Caller info	Contact Number	Notes
8	10/5/2017	Skyler	Clinical Inquiry			
9		Skyler	General			
10		Skyler	General			
11	10/6/2017	Skyler	Clinical Inquiry			
12	10/10/2017	Skyler	General			
13		Skyler	General			
14		Skyler	General			
15	10/11/2017	Skyler	Clinical Inquiry			
16		Skyler	Clinical Inquiry			
17		Skyler	General			
18		Skyler	General			
19	10/12/2017	Skyler	General			
20	10/13/2017	Skyler	General			
21		Ashton	General			

# Georgia Zika Active Monitoring System (ZAMS)

- Housed within SendSS (DPH web-based electronic surveillance system)
- Home page:

**ZAMS Zika Patient Tracking**

Last Name:

First Name:

Status:

District:

CDC ZIKV ID:

Date Added:

Date of Birth:

Is Traveler:

Is Pregnant:

Gender:

Patient ID:

Translator Needed:

Symptomatic:

Special Investigation:

In pregnancy registry:

Is Blood Donor:  ID:

Is Cdc Employee:

Zika Result Int:

Dengue Result Int:

Chick Result Int:

► Search

► Clear Form

► Add New Patient

► Export Linelist

► Export Linelist w/Labs

► Show Summary

► Show Summary w/Parameters

► Show Call Log

**Summary**

**Zika Patient Tracking Summary for:**  Status:  In Pregnancy Registry:

Summary as of 10/11/17 11:14:01

Pending: 40

Pending At Cdc: 15

Pcr Received Pending Igm: 6

Complete - Zika Negative: 2783

Complete - Zika Positive: 119

Delete: 172

Complete - Dengue Positive: 23

Complete - Chik Positive: 0

Complete - Pregnancy Registry:

Complete - Other: 8

**Zika Patient Tracking:**

ID	Name	Status	District Assigned	Pregnant	Symptomatic	Special Investigation
<b>10/05/2017</b>						
202224	<input type="text" value=""/>	Pending	COBB (3-1)	Y	N	
<b>10/02/2017</b>						
202048	<input type="text" value=""/>	Pending	DECATUR (3-5)			
<b>09/29/2017</b>						
202004	<input type="text" value=""/>	Pending	MACON (5-2)	Y	N	
<b>09/21/2017</b>						
201643	<input type="text" value=""/>	Pending At Cdc	LAWRENCEVILLE (3-4)	N	Y	
<b>09/14/2017</b>						
201228	<input type="text" value=""/>	Pcr Received Pending Igm	LAWRENCEVILLE (3-4)	N	N	
201265	<input type="text" value=""/>	Pending	GAINESVILLE (2-0)	N	Y	
<b>09/01/2017</b>						
199724	<input type="text" value=""/>	Pending At Cdc	UNKNOWN			

# ZAMS (cont.)

- ZAMS entry for each patient
  - Demographics, exposure history, symptoms, provider info, test results, notes

**Demographic Information**

Date Added: 10/11/2017  
Status: Pending  
Is Traveler: Choose One  
Is Pregnant: Choose One  
Estimated due date: / /

Patient Demographic:  
Last Name: Middle Name: First Name: Nickname (AKA):  
District Assigned To: Choose One  
Date of Birth: / / Age: years  
Gender: Choose One Ethnicity: Choose One  
Race: Choose One

Patient Address Information:  
Add New Address

SAVE

**Zika Followup**  
Add New Comment

**Zika Specific Information**

Created by:

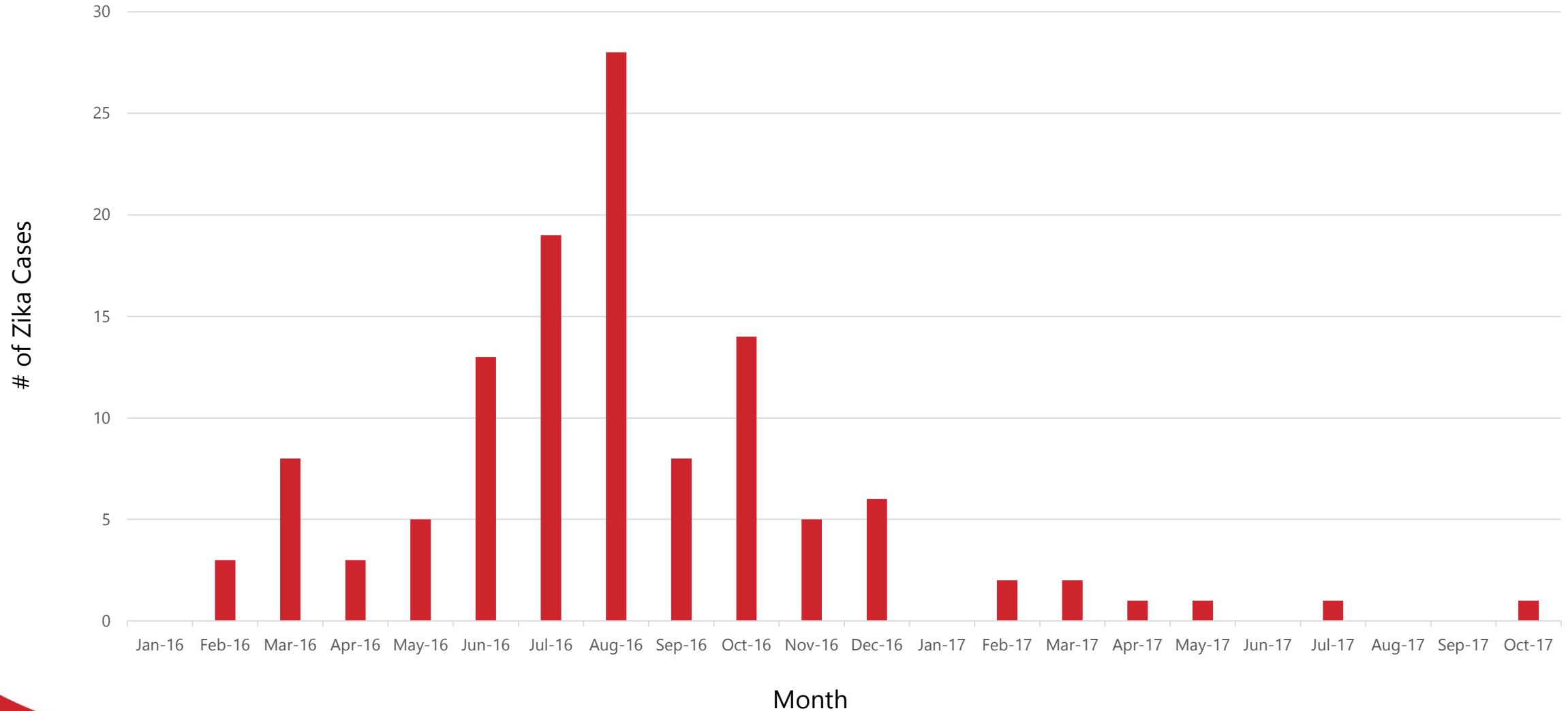
Translator Needed: Choose One  
If yes, What Language:   
Symptomatic: Choose One  
If yes, Symptom Onset Date: / /  
If Symptomatic, what symptoms: ☐ Fever ☐ Rash ☐ Joint Pain ☐ Conjunctivitis  
If rash, what type:   
Share with VSC: ☐ Yes, if checked  
If other symptoms, specify:   
Special Investigation: Choose One  
If yes, what type of investigation: Choose One  
If other investigation type, specify:   
Included in pregnancy registry: Choose One  
Blood Donor: Choose One  
If blood donor, ID:   
Patient Travel History  
Add New Travel History

Person Reporting Name:   
Person Reporting Phone:   
Person Reporting Email:   
Healthcare Provider Name:   
Healthcare Provider Phone:   
Healthcare Provider Fax:   
Facility Name:   
Facility Phone:   
Fax Forms To:   
Forms Contact Phone:   
Forms Contact Fax:   
Lab Contact Name:   
Lab Contact Phone:   
Is Cdc Employee: Choose One  
CDC ZIKV ID:   
Microcephaly: Choose One  
Fetal Loss: Choose One  
Guillain Barre: Choose One  
Yellow Fever Vx: Choose One  
Japan Encephalitis Vx: Choose One  
Tickborne Encephalitis Vx: Choose One  
Lab Tests Ordered: ☐ IgM serum ☐ PCR serum ☐ PCR urine  
Final Results Date: / /  
Sample Draw Date: / /  
Zika Result Interpretation: Choose One  
Dengue Result Interpretation: Choose One  
Chick Result Interpretation: Choose One  
Patient Lab Results  
☐ Serum IgM Result ☐ PRNT Result ☐ Serum PCR Result ☐ Urine PCR Result ☐ Other Result  
Physician Notified:   
Physician Notified Date: / /  
Who Notified Physician:   
**Zika Perinatal**  
Add New Perinatal Event  
**Zika Documents**  
No Documents available for download  
Upload a File: Please Choose File to Upload (ensure no commas within filename)  
Choose File No file chosen Upload File  
Description: (optional)

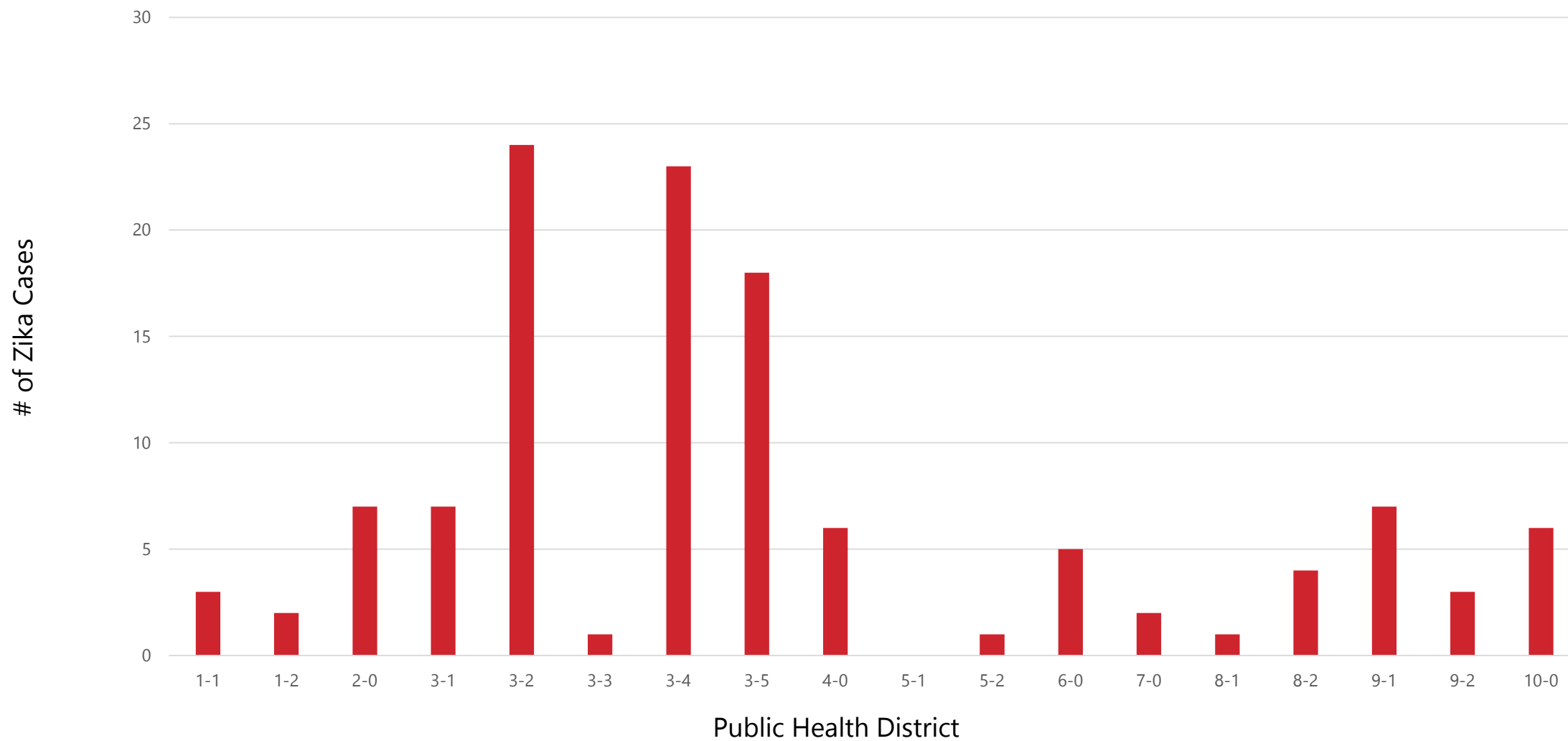
# GA Zika Case Counts (as of October 18<sup>th</sup>)

- 120 confirmed cases
  - All associated with travel or sexual exposure
  - Most cases reside in Atlanta/Metro Atlanta
- There has been no local transmission of Zika identified in GA

## # of Zika Cases in GA By Month (Jan. 2016 – Oct. 2017)



## # of Zika Cases in GA By Public Health District (Jan. 2016 – Oct. 2017)



# Zika Education and Infection Prevention

- We provide the following education for suspect and confirmed cases:
  - Travel advisories for pregnant women
  - Mosquito avoidance (3 weeks after travel)
  - Prevention of sexual transmission (condom usage, delaying conception)
  - Practice “Tip-N-Toss” around their homes



[https://www.cdc.gov/media/b\\_roll.html](https://www.cdc.gov/media/b_roll.html)

# Questions?