

# Discovering Dengue: What AZ Providers Really Know

July 28<sup>th</sup> , 2016

Presenting To

AZID

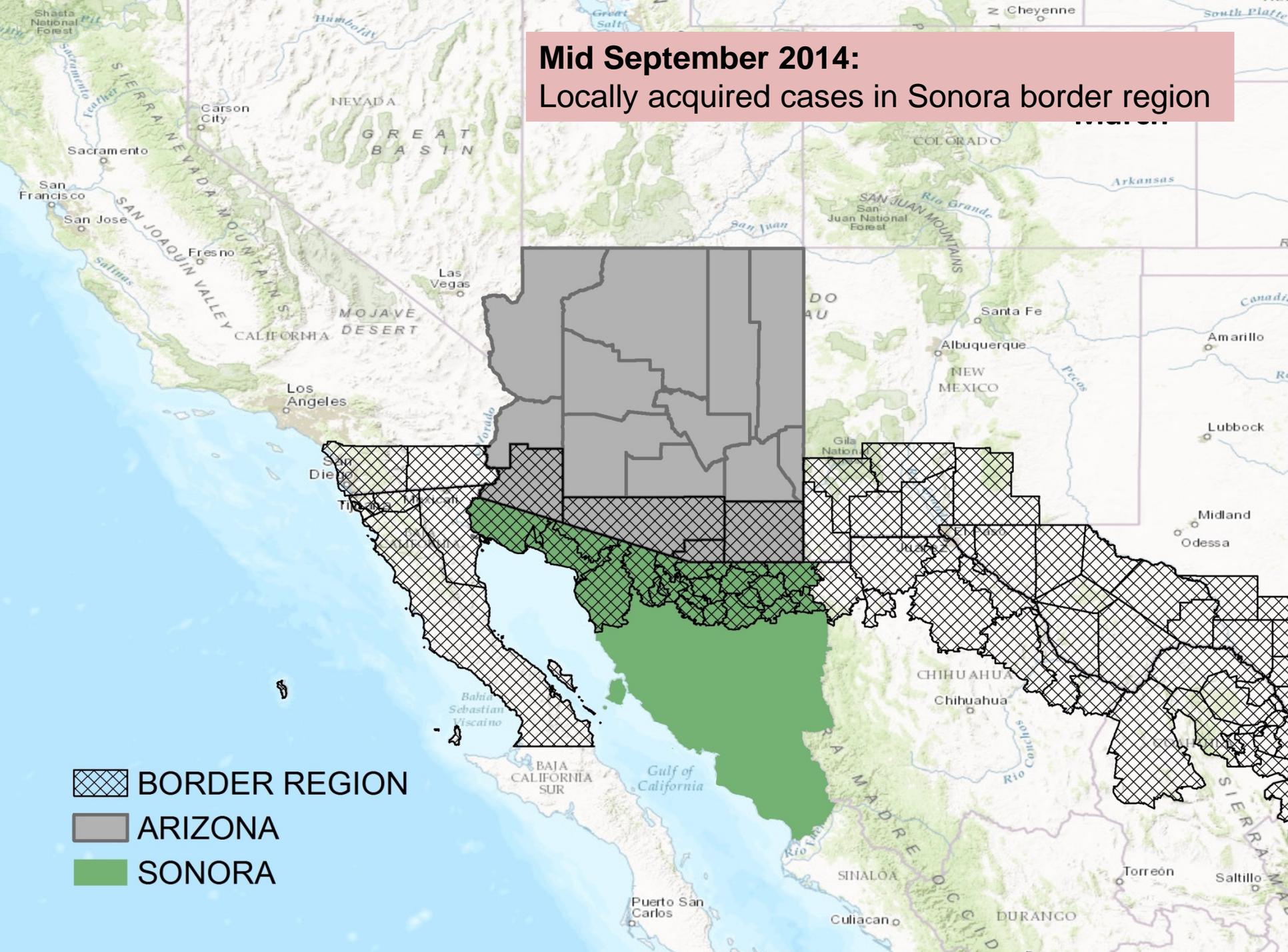
Irene Ruberto | Surveillance Epidemiologist  
Arizona Department of Health Services



ARIZONA DEPARTMENT  
OF HEALTH SERVICES

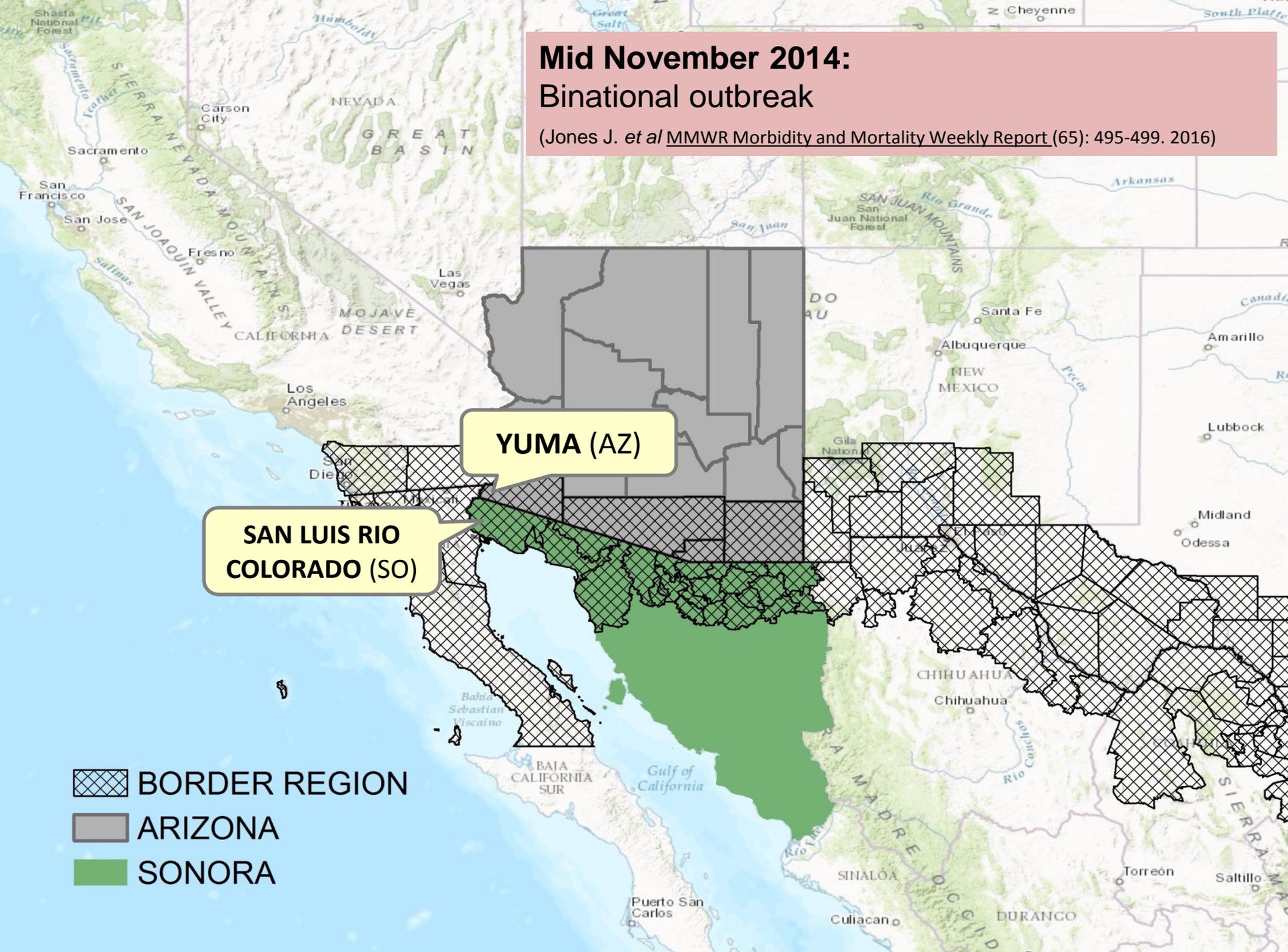
*Health and Wellness for all Arizonans*

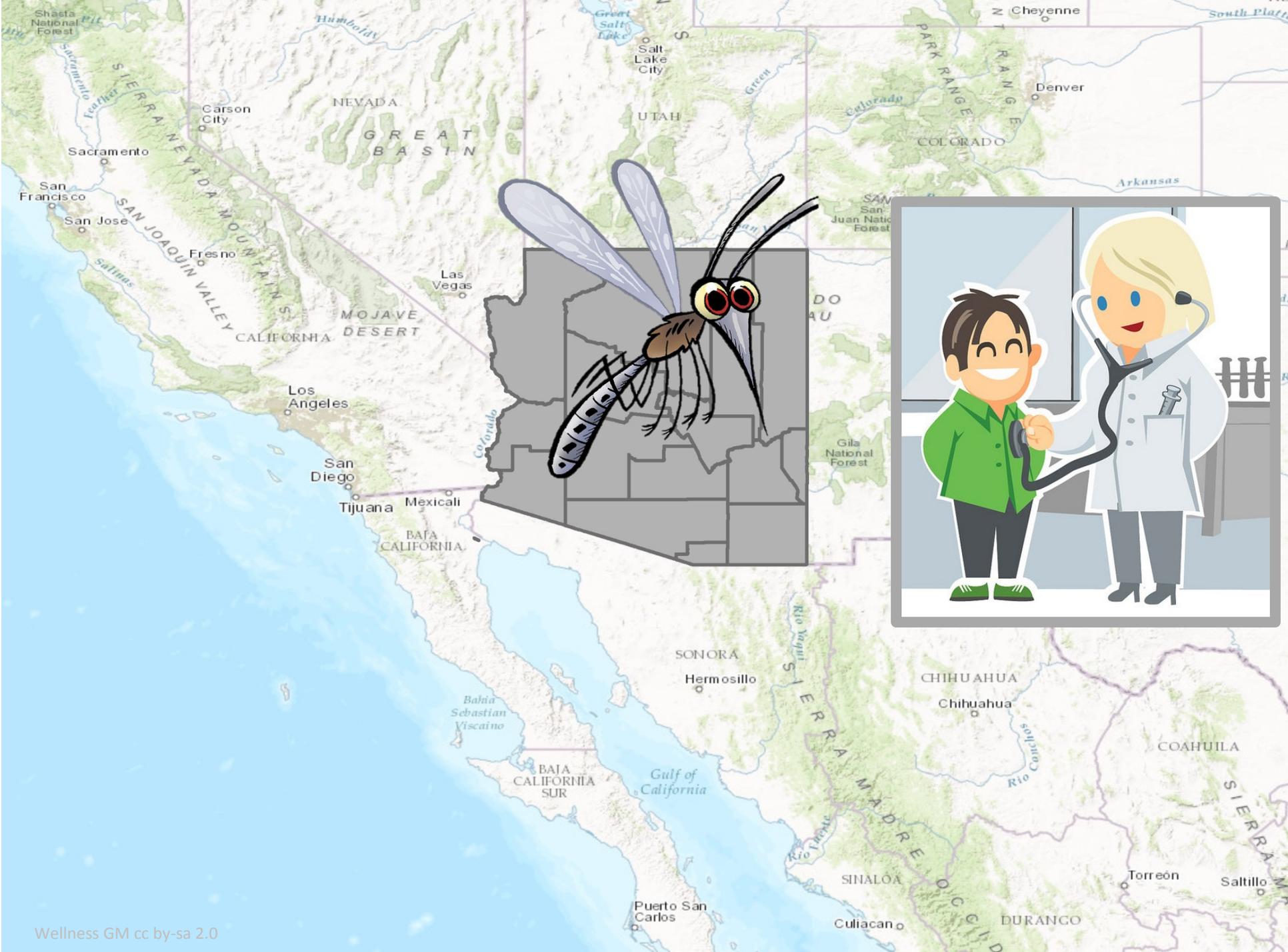
**Mid September 2014:**  
Locally acquired cases in Sonora border region



# Mid November 2014: Binational outbreak

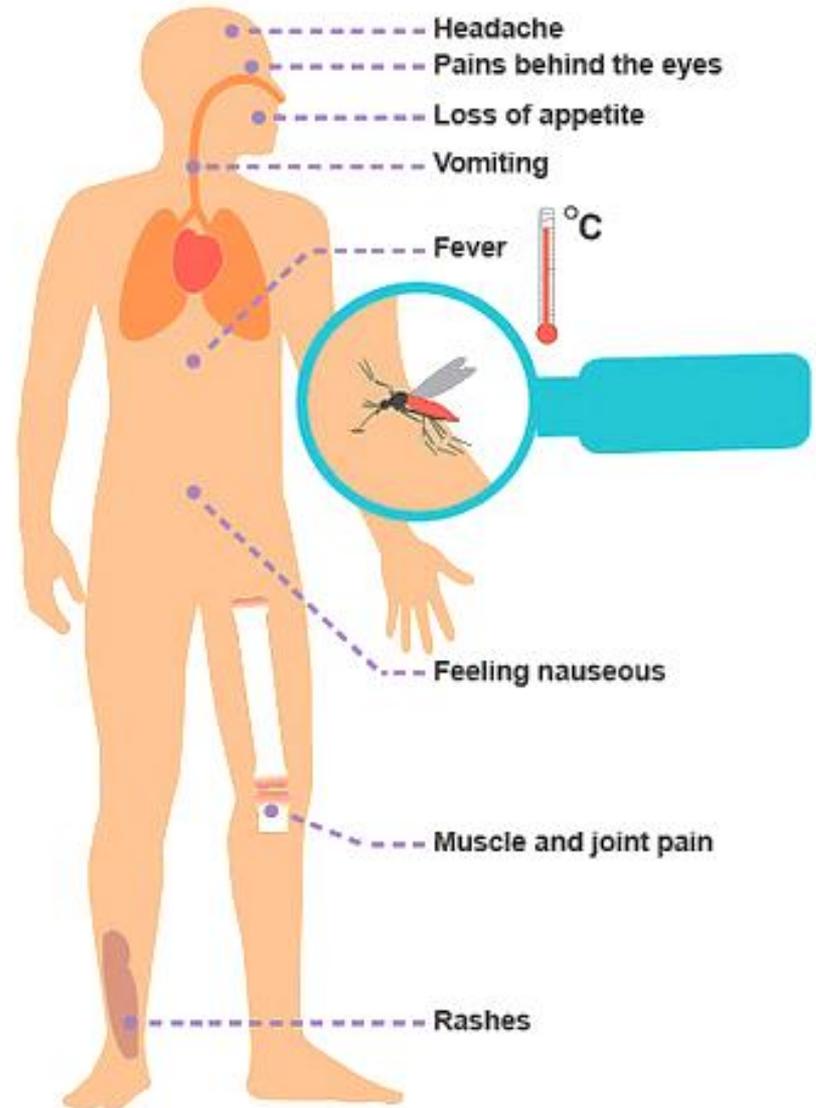
(Jones J. *et al* *MMWR Morbidity and Mortality Weekly Report* (65): 495-499. 2016)





# What is dengue?

- DENV1-4
- *Aedes* genus of mosquitoes
- 1 in 4 symptomatic
- Severe dengue can result in shock, internal bleeding, and even death.



# KAP survey



2014



Sept.

Health Alert

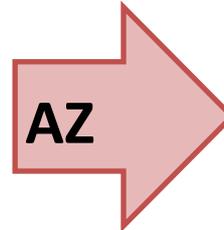
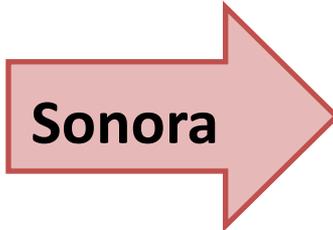
Nov.

Dec.

March

2015

Survey



**~ 1,200**

e-mail recipients

**335**

Opened the survey

**198**

Completed the survey

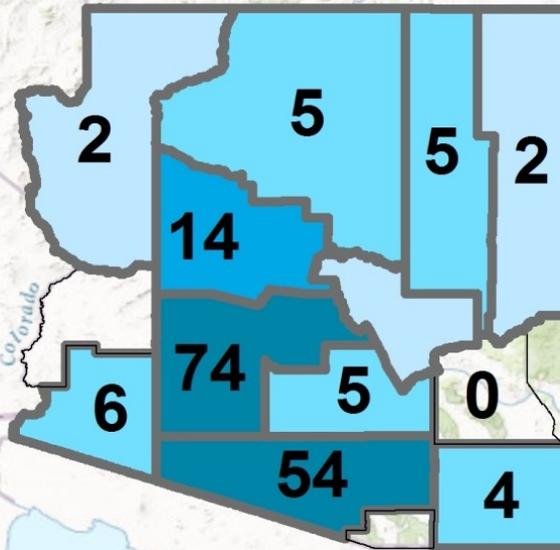
**177**

Included in the analysis

11 counties

Maricopa County 44%

Pima County 33%



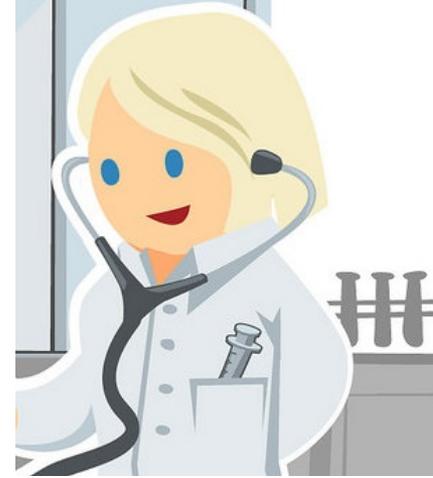
Border counties 35%

**MD or DO 66%**

**Family Medicine 26%**

**Private Office or Clinic 49%**

**> 10 years of practice 57%**



# Results Overview



Symptoms

Transmission

Reporting

Travel hx



Treatment



Epidemiology

Diagnostic tests

Diagnosis and Treatment Confidence



Fever 91%  
Hemorrhagic manifestations 57%

Mosquito 92%  
Personal contact 6%



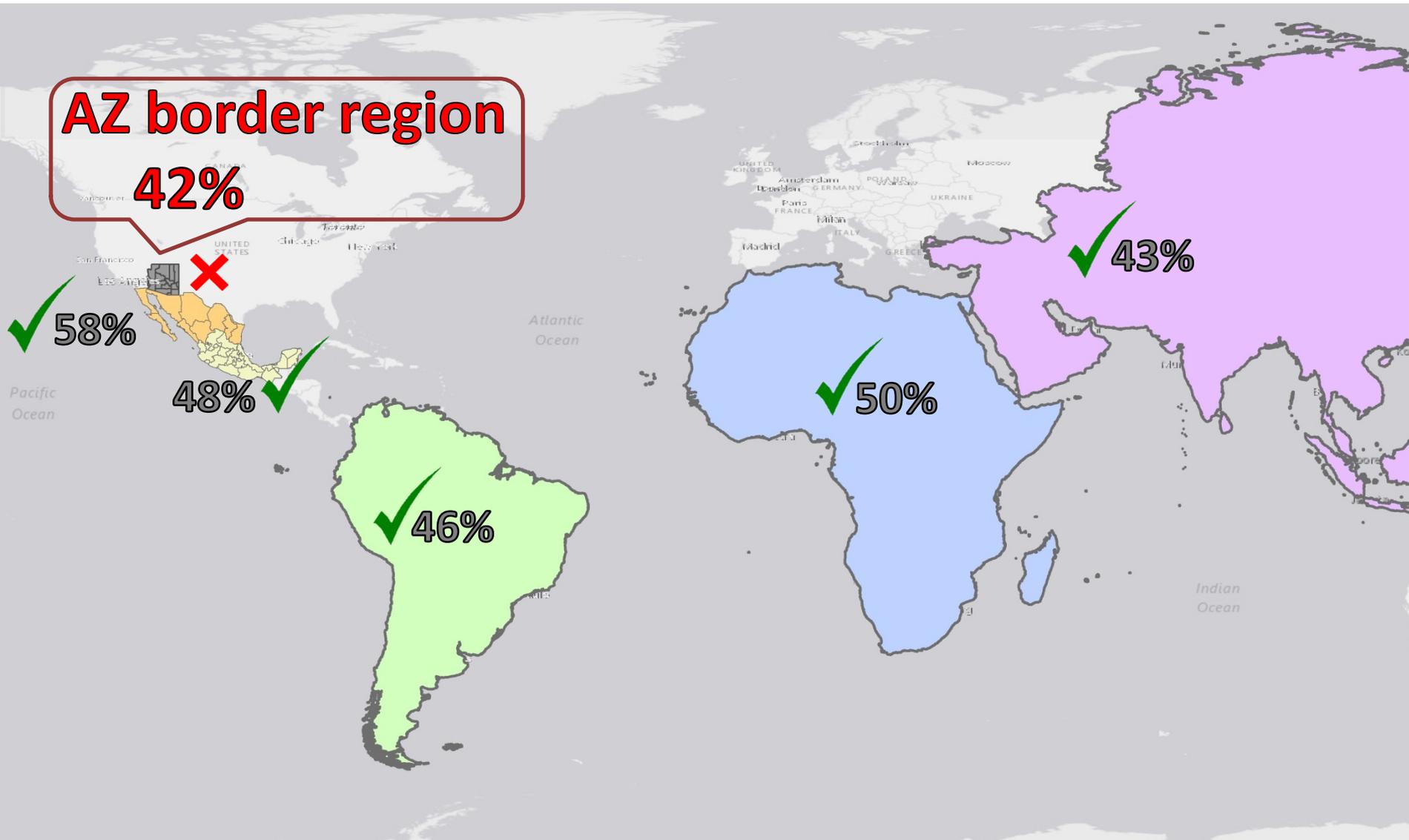
Notify the local health department 77%  
Asking for travel history 61%

Images from:  
Amenclinicsph  
oto cc by-sa 2.0

Ape Lab CC by-  
NC-ND 2.0

Wellness GM cc  
by-sa 2.0

# Dengue is locally acquired in which of the following areas?



# How confident do you feel in **diagnosing** a patient with dengue?



41%

Confident

# How confident do you feel in **treating** a patient with dengue?



35%

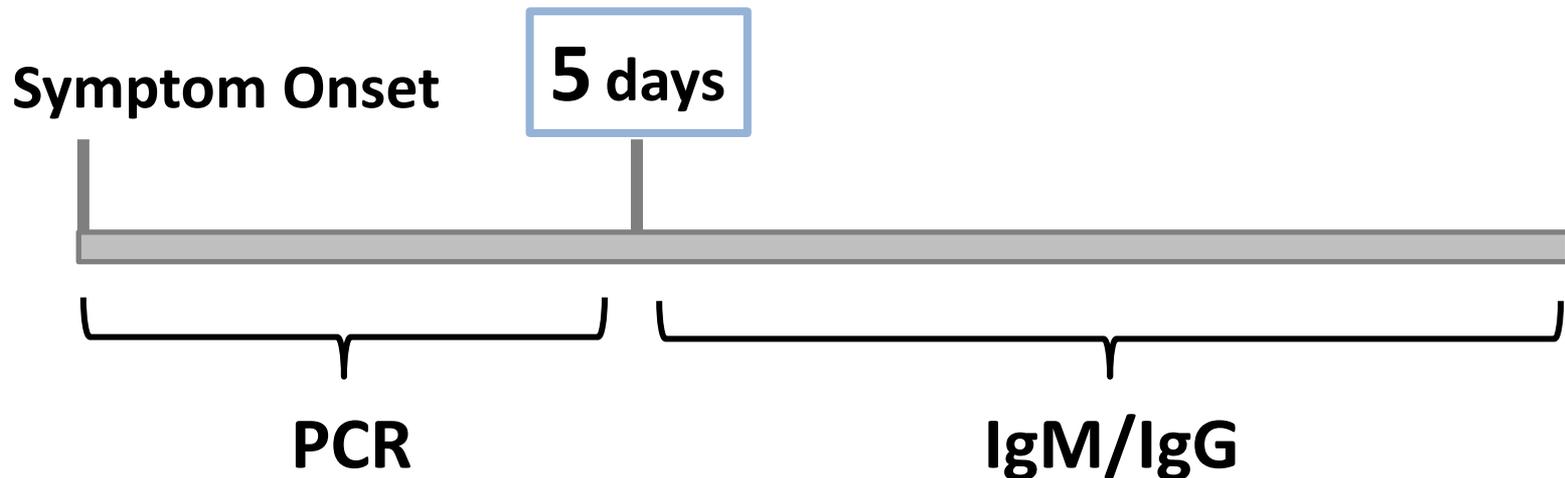
Confident

# Which diagnostic tests to use?

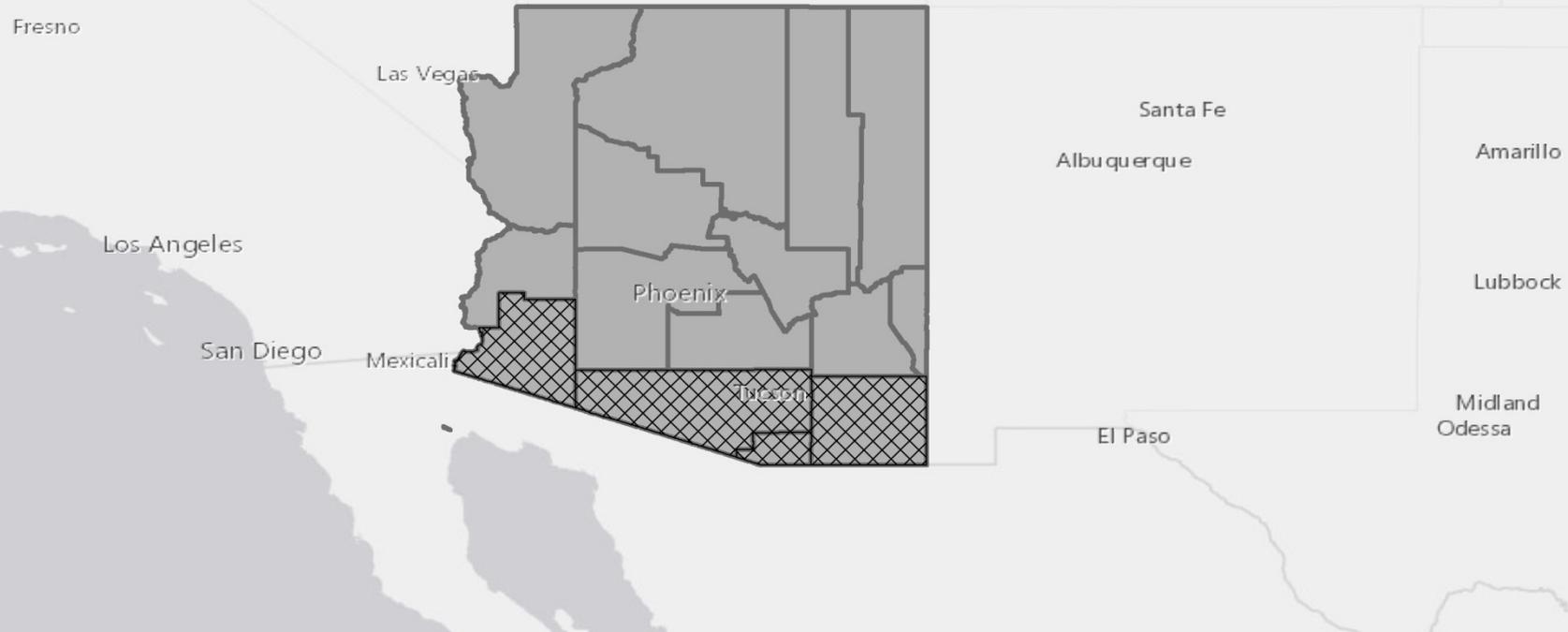


40%

Correctly identified the diagnostic tests



# Border vs Non Border?



Having heard of the increase in dengue cases in Sonora

**71% vs 45%**

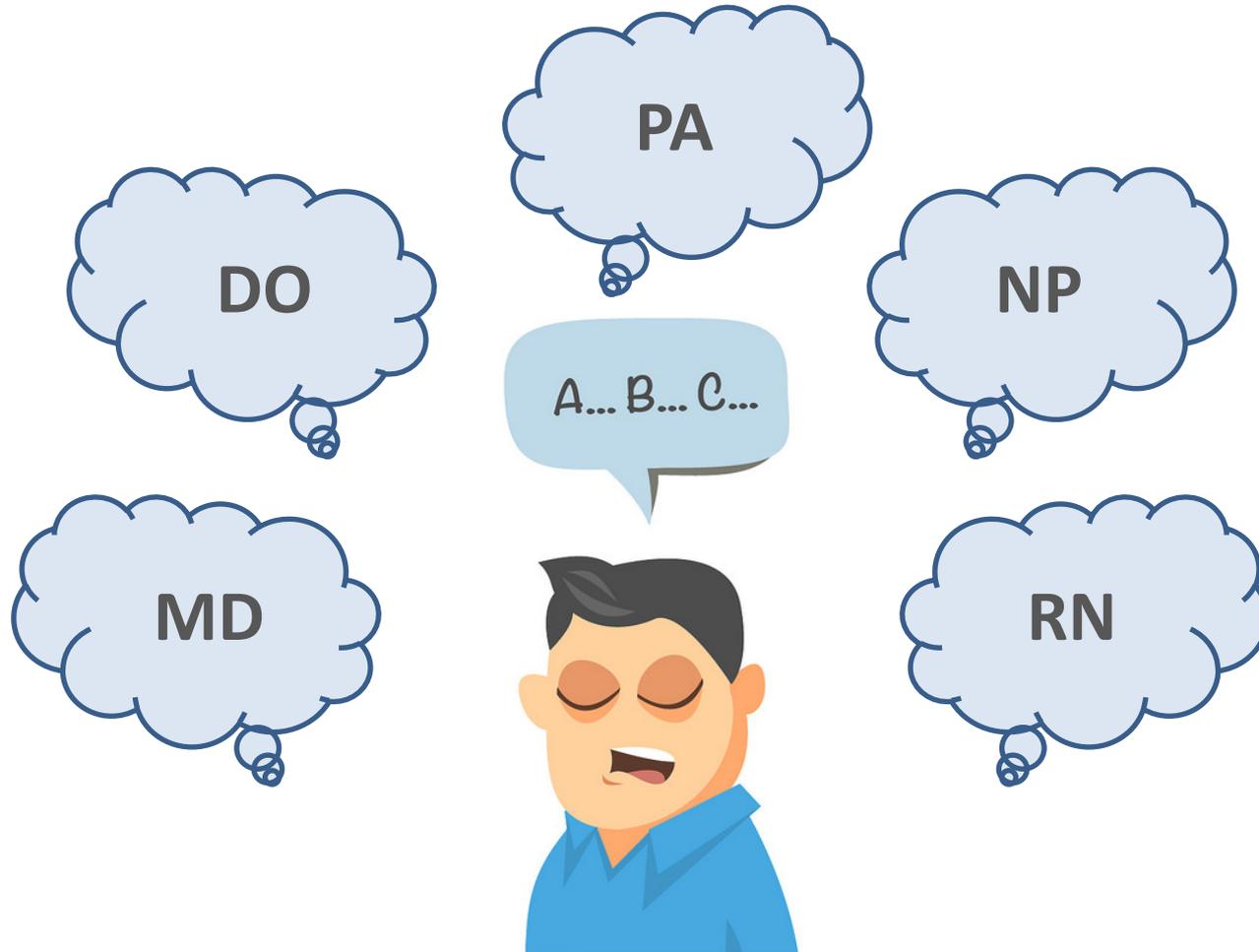
# Survey Score



30 = 

10 = 

# Comparing Qualifications



# Comparing

10...9...  
8...7...6...



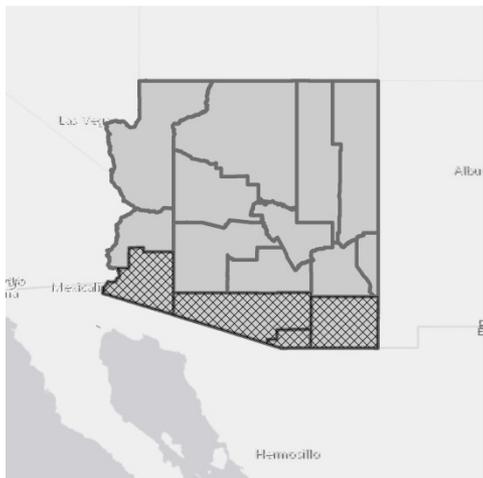
# Qualifications



30= 

10= 

MD/DO (N=106)	NP/PA (N=39)	RN (N=15)
<b>20.2</b> CI (19.5-20.8)	<b>17.6</b> CI (16.6-18.5)	<b>17.9</b> CI (16.2-19.6)



<b>NP/PA Border (N=5)</b>	<b>NP/PA Non border (N=34)</b>
<b>20.8</b> CI (20.2-21.3)	<b>17.1</b> CI (16.1-18.1)

# MD/DO are more likely to know that :



Dengue can have hemorrhagic manifestations

Transmission via blood transfusion



The right diagnostic test

IV fluids as treatment



Images from:  
Amenclinicsph  
oto cc by-sa 2.0

Ape Lab CC by-  
NC-ND 2.0

Wellness GM cc  
by-sa 2.0

# Comparing

10...9...  
8...7...6...



...

“Have you heard about the increase in dengue cases in Sonora”?

YES (N=96)	NO (N=74)
<b>20.2</b> CI (19.5-20.8)	<b>18.2</b> CI (17.3-19.0)

# How did you hear about it?

Local health department  
Health alert network (HAN)  
Mass media

Hospital/clinic staff  
Other

# “Having heard of the increase in dengue cases in Sonora” are more likely to:



Incorrectly believe that dengue is locally-acquired in AZ



Notify local health department



Ask about travel history



Know the right diagnostic test



IV fluids as treatment



# Comparing

10...9...  
8...7...6...



...

## Specialized in infectious diseases?

YES (N=15)	NO (N=156)
<b>23.2</b> CI:(22.1-24.4)	<b>18.9</b> CI: (18.4-19.4)

# ID specialist could *improve* in:



Believing that dengue is locally-acquired in AZ **47%**



Notifying the local health department **80%**



Asking for travel history **87%**



Knowing the right diagnostic test **80%**



**Specializing in Infectious Diseases**

**Being a MD or DO**

**Having heard of the  
increase in dengue cases  
in Sonora**



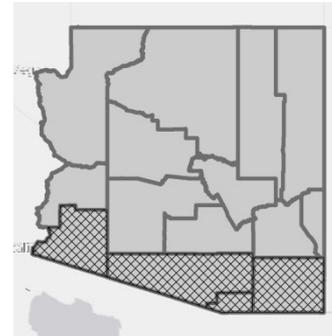
**NP/PA in  
border  
counties**

# Recommendations



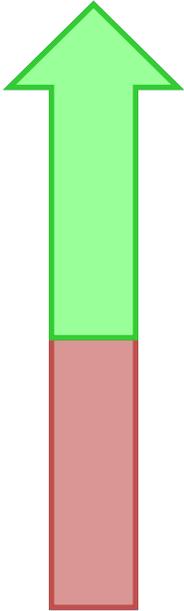
Non ID specialties

Border and non  
border



NP/PA/RN/BSN

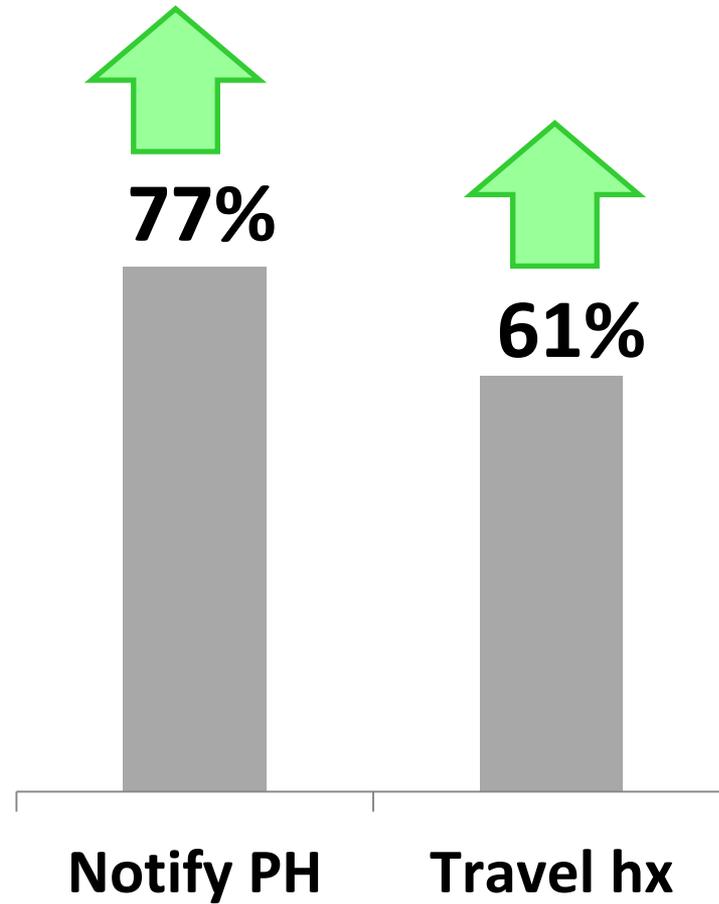
# Recommendations



**Diagnostic  
tests**

**Diagnosis and  
Treatment  
Confidence**

# Recommendations





# Acknowledgements

- Arizona Dept. of Health Services
  - Hayley Yaglom
  - Jefferson Jones
  - Joli Weiss
  - Kasia Golenko
  - Ken Komatsu
  - Laura Adams
  - Laura Erhart
  - Lydia Plante
  - Lisa Villarroel
  - Mariana Casal
  - Orion McCotter
- University of Arizona
  - Kacey Ernst
- Maricopa County Public Health
  - Melissa Kretschmer

# THANK YOU

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