



Maricopa County
Department of Public Health

Mosquito Borne Disease Report, 2016



Disease	Number of Cases
Local	
West Nile Virus (WNV)	63
St. Louis Encephalitis (SLE)*	0
Travel-Related	
Chikungunya	4
Dengue	12
Malaria	31
Yellow Fever*	0
Zika	36

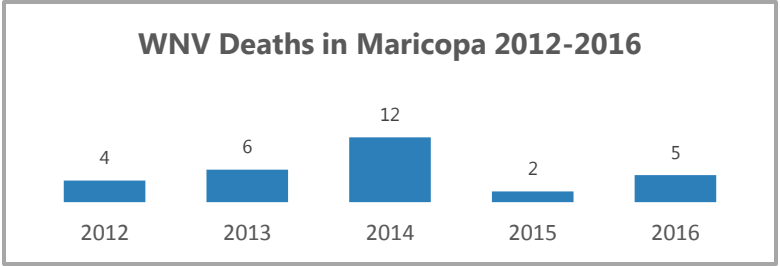
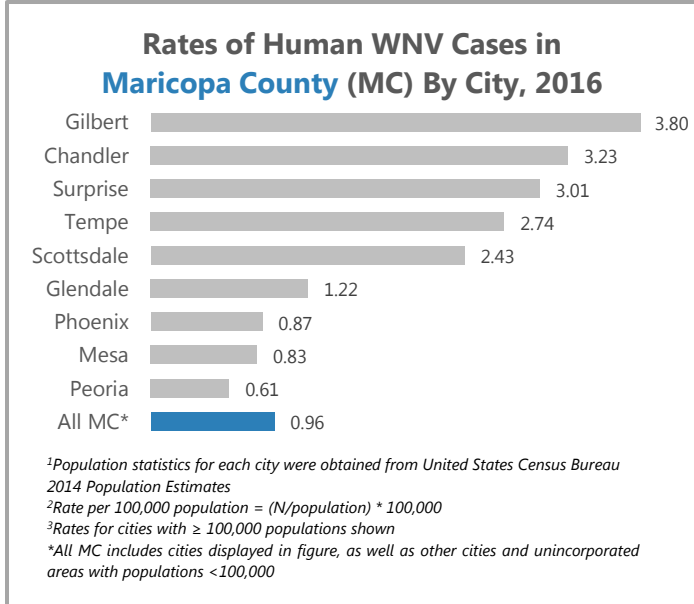
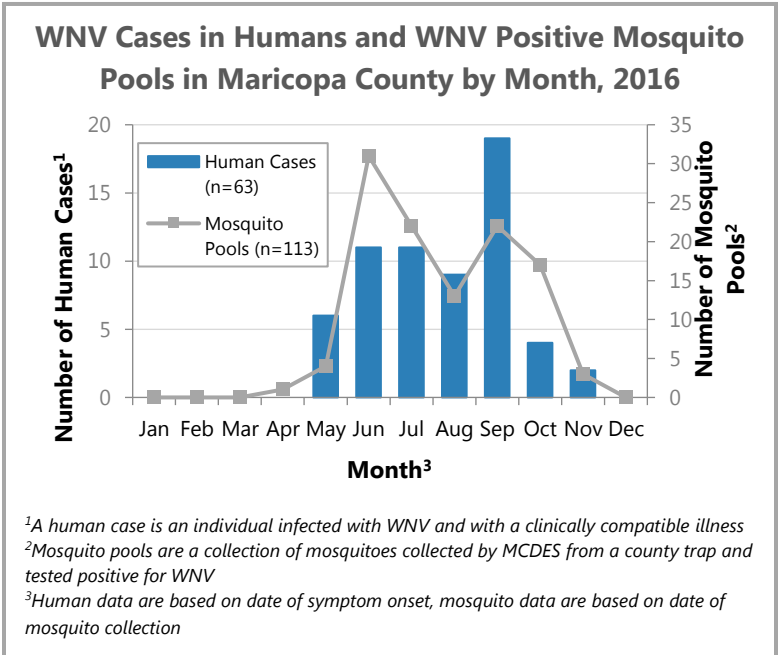
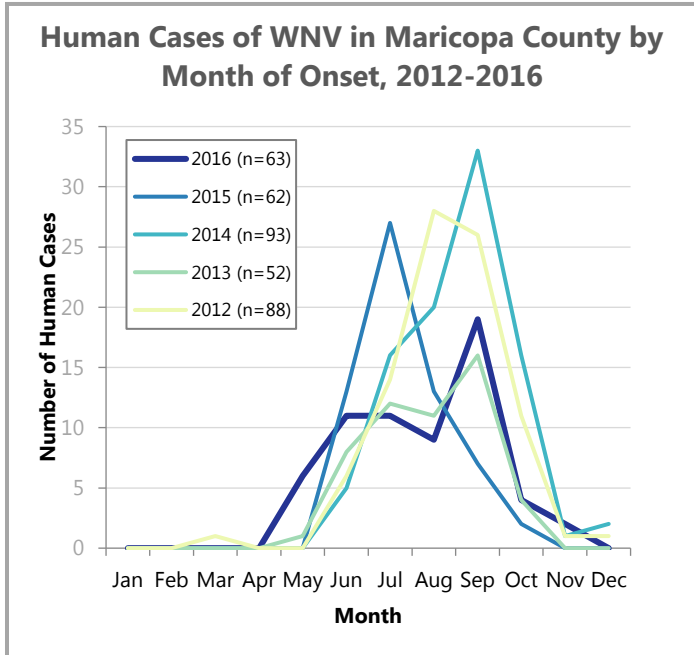
*Yellow fever and St. Louis encephalitis had 0 cases in 2016 and are not included in this report.

Office of
Epidemiology

West Nile Virus 2016 End of Year Report

West Nile virus (WNV) arrived in Arizona in 2003 and is now endemic in Maricopa County. The Maricopa County Department of Public Health (MCDPH) Office of Epidemiology collaborates with the Maricopa County Department of Environmental Services (MCDES) Office of Vector Control to identify and monitor areas of WNV activity. This report describes trends in human infections during 2016. Please visit <http://www.maricopa.gov/wnv/> for more information about WNV.

Characteristics of Human WNV Infections: Maricopa County, 2016							
Year Total*	Non-neuroinvasive†	Neuroinvasive	Hospitalized	Deaths	Demographics		
					Gender M/F	Median Age (Range)	Race/Ethnicity
63	17 Fever	22 Encephalitis 23 Meningitis 1 Other	45 Neuroinvasive 3 Non-neuroinvasive	5	37/26	50 (4-93)	41 White, Non-Hispanic 2 Black, Non-Hispanic 1 Asian/Pacific Islander 6 Hispanic or Latino 1 Native American 1 Other, Non-Hispanic 11 Unknown
*Viremic donors who do not become symptomatic (3) are not included in year total							



WNV Mortality Description 2016				
Confirmed Deaths	Clinical Presentation	Median Age (Range)	Gender M/F	Race/Ethnicity
5	4 Encephalitis 1 Meningitis	77 (48-93)	1/4	4 White, Not Hispanic 1 Unknown

Mean age of West Nile Virus survivors (48 years) versus deaths (75 years) was statistically significant for 2016 ($\alpha=0.05$).

Travel Associated Mosquito-Borne Disease, 2016

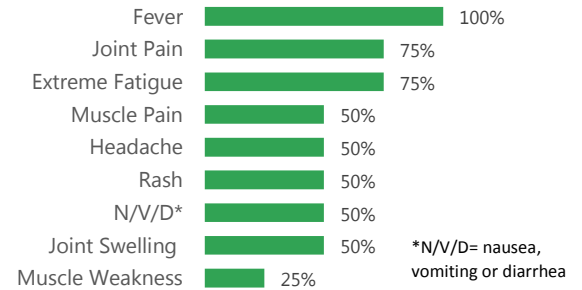
Travel-Associated Mosquito-Borne Disease refers to those infections that do not currently circulate in Maricopa County and can only be acquired by traveling to other regions. In 2016, cases of chikungunya, dengue, malaria and Zika viruses were identified in Maricopa County residents; all of these diseases were acquired as a result of travel to an area of the world where the disease is present. Maricopa County has the mosquito capable of transmitting chikungunya, dengue, and Zika, but no infected mosquito or locally-acquired cases have ever been discovered. While Arizona used to have endemic local transmission of malaria, mosquito control efforts led to eradication of malaria in Arizona by the early 1900s.

Chikungunya

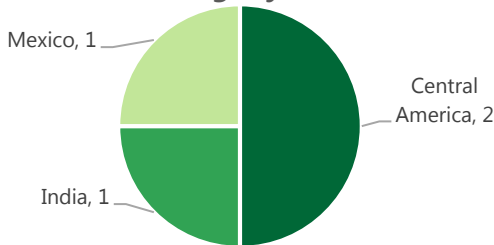
Characteristics of Human Chikungunya Infections: Travelers Returning to Maricopa County, 2016

Year Total	Hospitalized	Deaths	Demographics		
			Sex M/F	Median Age (Range)	Race/Ethnicity
4	0	0	0/4	59 (34-71)	3 Hispanic or Latino 1 White Not Hispanic

Symptoms (n=4)



Location of Disease Transmission, Chikungunya, (n=4)



Onset Month in 2016, Chikungunya[†]



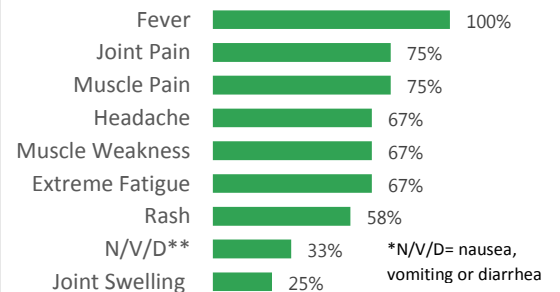
[†]1 case reported in 2016 had onset in 2015

Dengue

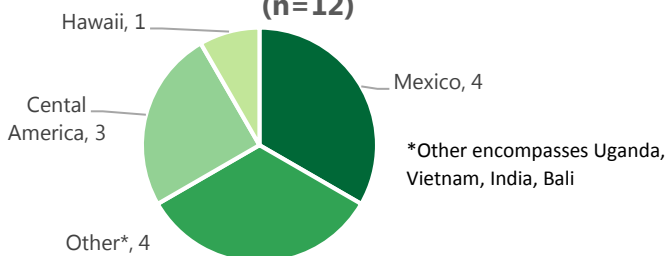
Characteristics of Human Dengue Virus Infections: Travelers Returning to Maricopa County, 2016

Year Total	Hospitalized	Deaths	Demographics		
			Sex M/F	Median Age (Range)	Race/Ethnicity
12	3	0	4/8	30 (13-60)	1 Asian/Pacific Islander 6 Hispanic or Latino 2 White, Not Hispanic 3 Unknown

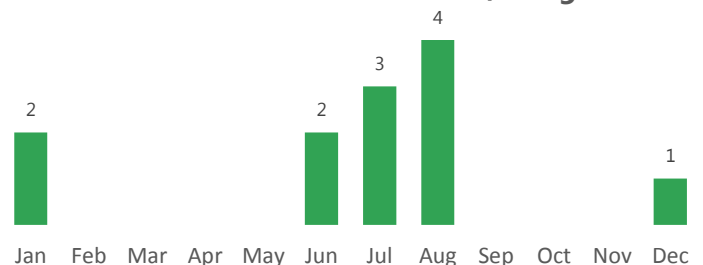
Symptoms (n=12)



Location of Disease Transmission, Dengue, (n=12)



Onset Month in 2016, Dengue



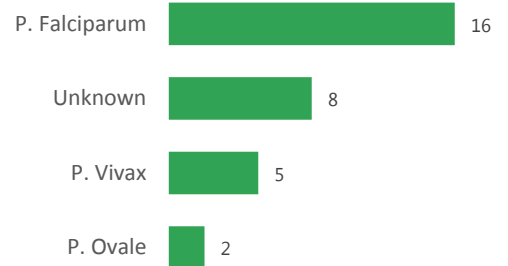
Travel Associated Mosquito-Borne Disease, 2016

Malaria

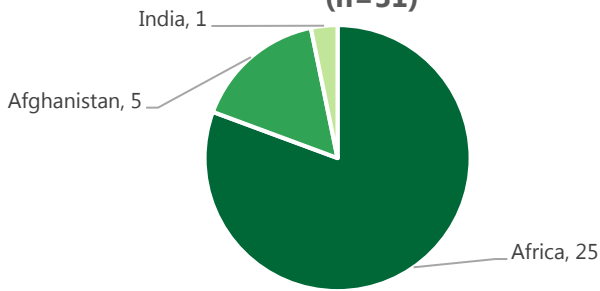
Characteristics of Human Malaria Infections:
Travelers Returning to Maricopa County, 2016

Year Total	Hospitalized	Deaths	Demographics		
			Sex M/F	Median Age (Range)	Race/Ethnicity
31	16	0	18/13	14 (0-70)	16 Black Non-Hispanic 6 Other Non-Hispanic 1 Hispanic or Latino 2 White Non-Hispanic 6 Unknown

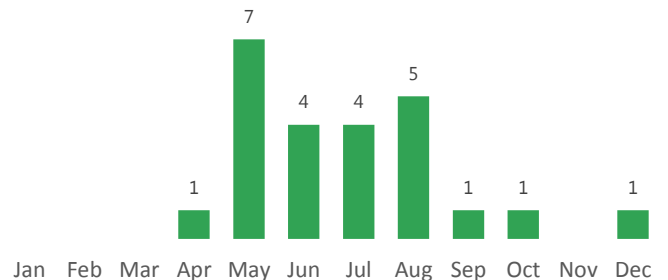
Malaria Species (n=31)



Location of Disease Transmission, Malaria,
(n=31)



Onset Month in 2016, Malaria[†]



[†]Onset date was unknown for 7 cases

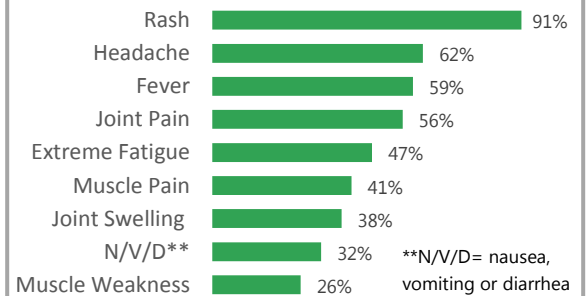
Zika Virus

Characteristics of Human Zika Virus Infections:
Travelers Returning to Maricopa County, 2016

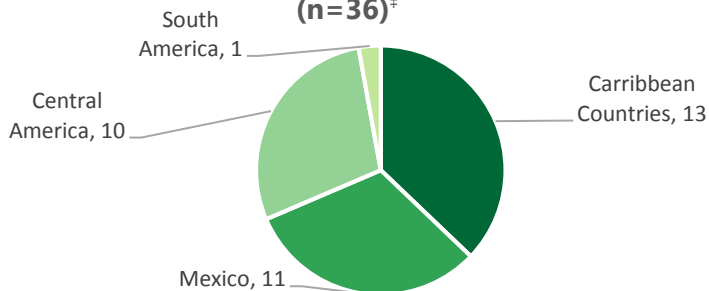
Year Total*	Reported Symptom	Hospitalized	Deaths	Demographics		
				Sex M/F	Median Age (Range)	Race/Ethnicity
36	34	0	0	9/27	36 (1-75)	19 Hispanic or Latino 4 White Non-Hispanic 13 Unknown
				Pregnant		
				4		

*Cases of unspecified flavivirus (n=4) are not included in year total

Symptoms (n=34)



Location of Disease Transmission, Zika,
(n=36)[‡]



[‡]1 case of sexual transmission with no history of travel

Onset Month in 2016, Zika

