



Definitions .....

# Background

The Maricopa County Department of Public Health (MCDPH), the 3<sup>rd</sup> largest public health jurisdiction in the United States<sup>1</sup>, promotes and protects the health of over 4 million residents. Part of its mandate (legal responsibility) is to be prepared for a variety of public health emergencies, including local spread of a disease carried by mosquitoes. While a general plan to respond to such a local, community-based outbreak had been outlined, a protocol detailing the response did not exist, and a response had never been practiced.

To address this gap, MCDPH, together with Maricopa County Environmental Services Department Vector Control Division (VC), drafted a document (the Response Protocol). This draft outlined a coordinated response to the spread of a mosquito-borne disease in a Maricopa County community. It was reviewed and discussed by 52 stakeholders [Appendix] on December 7<sup>th</sup>, 2017, during a workshop hosted by MCDPH.

The workshop successfully gave participants an opportunity to explore their individual response plans, roles, and responsibilities in the event that a mosquito-borne disease outbreak occurs within the county. Throughout the workshop, several improvements were incorporated into the Response Protocol, including recommendations to develop appropriate trainings for staff and partners and to identify staffing, supplies, and resource needs.

During the workshop, participants were asked if they had interest in hosting an exercise to practice the Response Protocol. The Town of Gilbert was one of three communities that expressed interest.

---

<sup>1</sup> Maricopa County, AZ, *About Maricopa County*. Retrieved from <https://www.maricopa.gov/3598/About-Maricopa-County> 5/22/18.



A total of 142 homes were approached. All contacted individuals were offered a free backyard assessment by VC, regardless of their participation in the interview.

Table 1: Survey Response Rate

Status	Neighborhood Interview	VC Backyard Assessment
Completed	56 (39%)	29 (20%)
Refused	52 (37%)	80 (56%)
No Answer	34 (24%)	

## Knowledge of Mosquitoes

The 1<sup>st</sup> section of the questionnaire focused on respondents' general knowledge of mosquitoes and mosquito bite prevention. Almost 90% of households believed mosquito control to be important and 89% felt that mosquitoes were a problem to some degree in their area. Still, only 16% of households reported contacting any mosquito control service in 2017.

Respondents were also asked if they had items outside their home where mosquitoes could breed (e.g., vases with water or fountains), and they self-identified 122 potential mosquito breeding sites. In the 29 backyard assessments completed by Vector

Control, over 350 potential breeding sites were identified. This demonstrates a gap in knowledge of what potential mosquito breeding sites are, as VC staff identified 10-15 breeding sites per home compared with only 2 when respondents identified sites themselves.

Many neighborhoods in Maricopa County, including Lindsay Meadows, are affected by mosquitoes. In response, the Arizona Department of Health Services (ADHS) and MCDPH developed multiple resources on mosquito



Respondents reported having heard about these diseases through a variety of sources; most often cited were TV News (44 times), and internet (20 times).







# Discussion / Conclusion

While a survey of 56 households cannot possibly be representative of the knowledge, perception of risk, and behaviors of the over 4 million residents of Maricopa County, this survey offers a neighborhood snapshot to guide further information gathering efforts. This exercise also provided a unique and vital opportunity for MCDPH and VC to practice responding to a mosquito-borne outbreak and identify potential gaps in our plans. Additionally, the coordination of the neighborhood survey was an opportunity for MCDPH to partner with a local community and to conduct educational outreach with Maricopa County residents. In preparation for the exercise, Public Health staff created the Response Protocol and multiple training and tracking documents; having these in place will be vital to conducting an organized and rapid response in the future. The custom-developed GIS mapping application played a key role in enabling successful communication through real-time information sharing between interviewers, Vector Control, and the Exercise Control Center.

In the weeks before April 7, neighborhood residents were informed about the upcoming exercise. Multiple notifications were sent using an online platform (Nextdoor) and flyers were posted on mailboxes around the community. However, most households were still unaware that the exercise was occurring. Recommendations for informing the public in the future would be to use the United States Postal Services' Every Door Direct Mail, a targeted, affordable advertising technique, as well as potentially using multiple social media applications.

MCDPH extends its sincere appreciation to all of the participants; from the active participation of numerous stakeholders in the December 2017 workshop, which helped to shape the Response Protocol, to the staff who crafted logistics, volunteers who administered the questionnaire, and to Gilbert for welcoming us into their community. All of the input and responses will help shape future methods of sharing disease information and communicating public health emergency notifications.

## Resources

Maricopa County Disease Information Line: (602) 506-6767  
Maricopa County Vector Control Main Number: (602) 506-0700  
Maricopa County Mosquito Complaint Line: (602) 506-6616  
[WeArePublicHealth.org](http://WeArePublicHealth.org)  
[FightTheBiteMaricopa.org](http://FightTheBiteMaricopa.org)  
[facebook.com/MCDPH](https://facebook.com/MCDPH)

## 12/07/17 Workshop Participants

State