UF IFAS Extension UNIVERSITY of FLORIDA

UF/IFAS PEER REVIEWED AEC695

Understanding Public Perceptions of Mosquito-Related Information Sources and Adapting Research Findings to the Needs of Industry Professionals[1]

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Prevent & Protect Series Overview

The *Prevent & Protect* publication series focuses on the creation of different material formats to resonate with various audiences and ways to maximize efficacy in communicating with the public about mosquito-related risks and mosquito control topics. The UF/IFAS Center for Public Issues Education in Agriculture and Natural Resources (PIE Center) created the *Prevent & Protect* project to educate local elected and appointed officials and targeted audiences about mosquito control in a simplified, understandable format to increase public understanding of scientific information on the topic. The overview of the *Prevent & Protect* project can be found in the EDIS publication AEC694, *Public Perceptions of Mosquitoes and Mosquito Control*. This document describes the importance of understanding and adapting to public perceptions of information sources and how scientists can adapt their research findings based upon the needs of professionals in the field to create usable outreach materials.

Information Sources and Information-Seeking Behavior

Mosquitoes pose a great deal of risk to community health as transmitters of disease. Mosquitoes and other vectors, such as ticks, cause almost 700,000 deaths worldwide per year, making mosquitoes the most common vector of disease (World Health Organization [WHO], 2017). When working to maximize the efficacy of risk communication—which addresses issues that have the potential to cause harm—on mosquito control through the creation of *Prevent & Protect* outreach materials, it was important to understand which sources the target audiences would trust and utilize. Trust's components can be categorized as competence, honesty, and benevolence (Grayson, 2016). If the audience does not view the source as trustworthy, it will be less likely that effective communication inspires direct action (Dong, Hu, & Zhu, 2018). Similarly, when communicating on any topic, it is important to first understand how the public searches for information on that topic, if at all.

As part of the *Prevent & Protect* project, a survey of communication and education professionals from Florida's

1. This document is AEC695, one of a series of the Department of Agricultural Education and Communication, UF/IFAS Extension. Original publication date May 2020. Visit the EDIS website at https://edis.ifas.ufl.edu for the currently supported version of this publication.

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mosquito control districts (MCD) and local Department of Health (DOH) offices was conducted. The survey included questions on what sources they used most frequently for information on mosquitoes and mosquito control methods. Similar questions were asked to members of the general public through an online survey of 500 Floridians and eight focus groups conducted in four locations across Florida. The public survey also included questions on the perceived trustworthiness of various sources, such as university scientists, Department of Health professionals, and news media.

- **Professionals.** Sources of mosquito and mosquito-control information used most frequently by DOH professionals were Florida DOH reports/publications and Florida DOH online mosquito control communication resources. The sources used most frequently by MCD professionals were Florida Department of Agriculture and Consumer Services (FDACS) reports/publications and Florida DOH reports/publications. Both DOH and MCD professionals rarely used private mosquito control companies when seeking such information.
- **General Public.** Most members of the public stated that they either rarely or never sought out information on mosquitoes or mosquito control. If they were to search out information, however, they said that they would be most likely to use the following (in order): local mosquito control programs' websites, Centers for Disease Control and Prevention (CDC) websites, DOH websites, websites about mosquitoes ending in ".org," and county government websites. On average, the sources that they found most trustworthy were the following (in order): CDC websites, DOH websites, UF/IFAS Extension websites, local MCD websites, county government websites, websites about mosquitoes ending in ".org," CDC social media, DOH social media, UF/IFAS social media, local MCD social media, local pest control company websites, and websites about mosquitoes ending in ".com."

Applying Lessons about Information Sources and Information-Seeking Behavior

The information-seeking behaviors of a group will differ based upon the topic, but some general lessons can be applied based upon responses from research associated with the *Prevent & Protect* survey and focus groups:

- **Use .org website addresses.** Utilizing a ".org" web address, if possible, could generate a greater sense of trust in the target audience than using a ".com" website address. In addition to showing a higher level of average trust in ".org" websites, survey respondents stated that they were on average more likely to seek out ".org" websites about mosquitoes than ".com" websites about mosquitoes.
- **Partner with other trusted and well-known organizations to increase reputability.** In the case of the *Prevent & Protect* outreach materials, members of the public saw the information as trustworthy because of the project's collaboration with mosquito experts at such institutions as the University of Florida, FDACS, and the Florida Department of Health.
- **Take advantage of social media as an information source.** While survey research showed that people were less likely to seek out social media actively as a source of information, it is a source that they will see even when not searching actively for information on a particular subject. In the case of the *Prevent & Protect* project, the public did not respond that social media was a source they were likely to seek out. However, survey respondents did on average view social media as a trustworthy source if the posts were coming from CDC, DOH, UF/IFAS, or local MCD social media pages.

Communicating Scientific Information

After a project is completed, the next step for many researchers is to move on to outreach, particularly to professionals in that research field who could apply the researchers' results. Findings that could be useful can be shared with professionals working in that field and then, ideally, used in their own communications with the public. However, when deciding what information to disseminate to professionals, it is important to take into account how the needs of professionals in the field may differ from scientists in academia and to adjust the way the research is presented accordingly.

As a part of the *Prevent & Protect* research, a survey was sent to communication and education professionals working in mosquito control districts (MCD) and local Department of Health (DOH) offices. DOH communication and education professionals reported that they more often outreached via local DOH websites and Florida DOH websites when communicating about mosquito-related topics. MCD communication and education professionals reported using print materials and community events as their main methods of communication with the public.

Based on the results of the survey, it was decided that *Prevent & Protect* print materials should continue to be

provided to MCD professionals due to their use of print materials and community events as the primary methods used to communicate information to the public. However, it was decided to promote the online options to the DOH professionals, because that is what they seemed more likely to use.

Applying Lessons about Communicating Scientific Information

The following recommendations, based on findings of the DOH and MCD survey, are provided to develop outreach materials more likely to be utilized by industry professionals to communicate to their audiences:

- **Avoid jargon.** Academic terms that may be understood by experts may not be widely used or understood by the general public, who in the end will be the target audience for these materials. Make sure terminology is easily understood by all.
- **Keep it cost-effective.** If the materials are expensive to reproduce or use on a larger scale than the industry professionals are going to require, it is less likely that they will be adopted. Find ways to make materials inexpensive. For example, the *Prevent & Protect* social media graphics are free to download and use.
- **Know what's already out there.** By assessing the needs in the industry to which you are attempting to provide materials, you will avoid spending time recreating something that has already been done. Creating something new that fills an existing gap is the best way to ensure that your materials will be of use for professionals in the field. Information to determine "what's already out there" can be gathered through such methods as focus groups, surveys, interviews with industry professionals, and reviews of existing materials, such as websites, print materials, videos, and social media posts.
- **Consider the industry professionals' target audience.** In Florida, there were needs for professionals to communicate with their audience in a variety of languages, and so versions of the same materials were provided in English, Spanish, and Haitian Creole.

Summary

By learning where audience members seek information on a specific topic and how they decide whether or not a source can be considered trustworthy, an organization can better position itself to grow its reputation as a reliable source of accurate information. In addition, scientists often find themselves in a position where they need to share their findings with the public or with professionals in the field who are addressing issues related to a particular topic. Creating communication materials that complement existing materials will help ensure industry professionals will adopt and use these new materials.

Additional Information

Prevent & Protect—https://preventmosquitoes.org

UF/IFAS Florida Medical Entomology Laboratory—https://fmel.ifas.ufl.edu

Prevent & Protect: Mosquito Control Messages for Your Community is supported by the Smith-Lever Special Needs Competitive Grant Program (grant award no. 2016-41210-25622) from the USDA National Institute of Food and Agriculture. Any opinions, findings, conclusions, or recommendations expressed in this work are those of the author(s) and do not necessarily reflect the view of the US Department of Agriculture. This work is also supported by a grant from the Florida Department of Health. Special thanks to the following organizations for their assistance in developing the content for this project: Florida Department of Agriculture and Consumer Services, Centers for Disease Control and Prevention (CDC) Southeastern Center of Excellence in Vector Borne Diseases, and UF/IFAS Entomology and Nematology Department.

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