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Engaging Community and Faith-Based Organizations in the Zika Response, United States, 2016

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During the past decade, widespread media attention has been paid to threats of emerging infectious diseases, including 2009 influenza A (H1N1), Ebola, and now Zika. The US public receives information about these diseases from various sources, including mainstream news providers, social networking sites, and other internet services.[1] Even so, many members of the public may not know how to find evidence-based information about protecting their health during infectious disease outbreaks. Zika provides a good example. Much of the public may know that Zika virus infection during pregnancy can cause microcephaly and other severe birth defects,[2] that the virus primarily spreads through infected mosquitoes, and that people can also get Zika virus through sex. Even so, rumor, fear, misinformation, and challenges in identifying evidence-based information can still lead to misperceptions about Zika virus and prevent people from adopting behaviors that might prevent Zika-related birth defects.

Public acceptance of a message often depends on the source.[3] During difficult situations, people often turn to trusted leaders for advice. Trusted leaders can include community or religious leaders, such as pastors, priests, rabbis, and imams.[4] These trusted leaders may even be a community's first point of contact for health concerns such as Zika virus, even if it is not their area of expertise. Based on the influence that community and religious leaders may have on their constituents' awareness and behaviors and the potential for Zika virus to cause harm, the US Department of Health and Human Services (HHS) developed the *Health Ministers Guide on Zika*[5] and the *Zika Action Guide for Health Ministers*[6] to help "health ministers" (ie, any ordained, certified, or lay leader in a community who is dedicated to improving the public's health)[7] guide Zika virus prevention in their communities (Table).

In September 2016, HHS, the Centers for Disease Control and Prevention (CDC), the Office of the Governor of the Commonwealth of Puerto Rico, and the Florida Department of Health collaborated on a series of webinars to engage community and faith-based organizations (CFBOs) in the Zika response. In this commentary, we summarize key concepts from these webinars as a guide for local governments in the United States and US territories that want to engage CFBOs, using a previously developed 10-step approach that has been updated for the Zika response.[8,9]

A 10-Step Approach for Engaging CFBOs to Deliver Zika Health Messages

Step 1: Incorporate Community Engagement and Other Health Communication Activities into the Zika Response

Providing health messaging to CFBOs is part of an integrated health communication effort. Because communities listen

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Table. Resources for health communicators working with community and faith-based organizations to prepare for Zika virus and other public health emergencies

Source	Resource	Tools Offered	Website
US Department of Health and Human Services	*Health Ministers Guide on Zika*	A brief guide designed to help communities learn about Zika infection	http://www.hhs.gov/sites/default/files/health-ministers-zika-2016.pdf
	Zika Action Guide for Health Ministers	A brief guide describing the role of health ministers in preventing Zika infection depending on phase of transmission	http://www.hhs.gov/sites/default/files/action-guide-zika-2016.pdf
	HHS Center for Faith-Based and Neighborhood Partnerships	Website with tool kits and resources to help community organizations work with health departments. Tools are available to assist faith leaders in helping communities address Zika concerns.	http://www.hhs.gov/partnerships/resources/index.html
Centers for Disease Control and Prevention	Zika home page	Information on Zika virus provided by the Centers for Disease Control and Prevention	https://www.cdc.gov/zika/
	Travelers' Health website	Website with information for travelers	http://wwwnc.cdc.gov/travel/page/zika-information
	Crisis and Emergency Risk Communication Program	Tools that can help health department communicators involve partner organizations, including resources on working with communities and building consensus during a public health crisis. A free online course provides risk communication techniques to help partners communicate accurate risk information.	http://emergency.cdc.gov/cerc/resources/pdf/cerc_2014edition.pdf http://emergency.cdc.gov/cerc/training/basic/index.asp
	Clear Communication Index	A research-based tool to help users develop and assess public communication materials	http://www.cdc.gov/ccindex/index.html
Florida	Florida Faith-Based and Community-Based Advisory Council	Website of formal advisory council designed to enlist, enable, empower, and expand the work of volunteer faith-based and community-based organizations	http://www.flgov.com/fbcb/
	Florida Faith Symposium	Symposium brings together >500 faith and state government leaders to highlight opportunities, facilitate connections, and initiate action to empower Florida's children and families to become productive and self-sufficient	http://www.faithsymposium.com
Puerto Rico	Faith-Based and Neighborhood Communities Office	Puerto Rico Emergency Management Agency (PREMA) created an alliance with >50 faith-based and neighborhood communities	http://www.salud.gov.pr/Sobre-tu-Salud/Pages/Condiciones/Zika.aspx
		Distribution of brochures about Zika to faith-based and neighborhood communities and distribution of Zika kits to pregnant women	http://www.salud.gov.pr/Sobre-tu-Salud/Pages/Educacion.aspx#materialzika
Other Resources	The Plain Language Action and Information Network (PLAIN)	A document checklist for plain language	http://www.plainlanguage.gov/howto/quickreference/checklist.cfm
	National Voluntary Organizations Active in Disaster	A nonprofit, nonpartisan, membership-based organization that has resources for organizations wishing to share knowledge and resources in disasters	www.nvoad.orghttp://flvoad.communityos.org/cms/
	Public Health and Faith Community	A guide developed by the Association of State and Territorial Health Officials (ASTHO) in collaboration with Emory University's Interfaith Health Program, designed for public health and religious leaders. It aims to strengthen public health agencies' capacity to build partnerships and reduce the spread of influenza.	http://www.astho.org/Infectious-Disease/Public-Health-and-Faith-Community-Partnerships-Model-Practices-to-Increase-Influenza-Prevention-Among-Hard-to-Reach-Populations

closely to public health authorities during a crisis, an emergency response may provide an opportunity to quickly build or strengthen community engagement. Because of the heightened stress level during a crisis, these engagements should be handled carefully to avoid insensitive communications that might alienate audiences.[3] Health communication and health promotion professionals can work with influencers, or people who can persuade others, to promote a concept through one-on-one communications or social media. Influences are trusted by the target population and can offer guidance on strategic health communication plans.

Step 2: Assemble a Community Engagement and Health Communication Team

Public health agencies interested in working with CFBOs can assemble a community engagement and health communication team. Although roles and experience of team members will vary by situation, inclusion of people with scientific knowledge of the disease and experience with diverse communities' cultures, languages, traditions, and communication preferences will facilitate accurate and appropriate messaging. Team members should communicate respectfully with people of all religious beliefs, no matter their own personal beliefs. Team members must also respect the legal and ethical boundaries between government and religious institutions. For example, when the US federal government collaborates with religious groups, the purpose of the assistance is only to provide public health information. The assistance must be provided in a secular way and must neither promote nor inhibit religion. Furthermore, no "excessive entanglement between church and state" should be allowed.[10]

Step 3: Determine Which Risk Factors Place Members of a Community at Risk of Being Infected With the Zika Virus

Factors specific to each community can affect the probability of members becoming infected with the Zika virus. Community engagement personnel should consider working with scientists to determine the following:

- Physical or community risk factors, such as species of mosquitoes that can promote transmission of Zika virus and language or communication barriers.
- Behavioral or ideological risk factors that may increase risk. For example, although condoms can reduce the risk of sexual transmission of Zika virus, not all faith-based or community-based groups promote their use. The use of condoms during pregnancy to prevent Zika transmission may be a difficult concept for many people to accept, especially in faith-based traditions that prohibit condoms and other contraceptives.
- Activities that community members can undertake to minimize risk factors, such as handing out insect repellent, distributing culturally appropriate information, installing window or door screens, eliminating mosquito habitats, and encouraging people to reduce the risk of transmission by using condoms or not having sex.

Step 4: Identify Communities Most in Need of Information About Preventing Zika Virus Transmission

Communities with active or anticipated local mosquito-borne Zika virus transmission should be prioritized. The team might use key informant interviews and ethnography to identify communities where people often mistrust particular information sources (eg, government agencies) or may have a higher risk of receiving misinformation about Zika virus infection. In some communities, preventing the sexual transmission of Zika virus is a particular challenge because, although condoms can help reduce the risk of Zika virus transmission, not all faith-based or community-based groups promote their use. CFBOs can help health officials become familiar with the unique communication needs of communities that have the greatest need for accurate information.

Step 5: Connect With CFBOs That Can Help Reach Communities

Ideally, health departments should consider working with networks established before the public health crisis rather than trying to create new networks when a crisis arises. Some states have established networks for working with faith-based communities and other grassroots organizations. For example, the Florida Faith-Based and Community-Based Council is a formal advisory council to the Florida Executive Office of the Governor and the Florida Legislature. The Florida Faith Symposium brings together more than 500 faith-based and state government leaders to highlight opportunities and facilitate connections. The National Voluntary Organizations Active in Disaster and its state counterparts are another nonpartisan, nonsectarian source of established networks for working with CFBOs (Table).[11] These networks could be valuable in Zika virus outreach because their members might be readily motivated to take action.

Motivational theories suggest that connecting with one's values is an important incentive for action.[12,13] Protecting the most vulnerable populations is a common value among many faith-based communities (Table). Zika virus infection can affect pregnant women and their fetuses, both of which are recognized as vulnerable populations. Zika virus infection during pregnancy can cause microcephaly and other health conditions.[2] The potential for Zika virus infection may also be challenging for vulnerable populations in other ways. For example, pregnant women who struggle financially may not have air-conditioning or mosquito screens and may live in areas where trash and standing water collect, making it difficult for them to avoid mosquitoes.

Box 1. Top 5 things everyone needs to know about Zika virus (https://www.cdc.gov/zika/about/needtoknow.html)

1. Zika virus primarily spreads through infected mosquitoes. People can also get Zika virus through sex.
Many areas in the United States have the type of mosquito that can spread Zika virus. These mosquitoes are aggressive daytime biters and can also bite at night. Also, Zika virus can be passed through sex from a person who has Zika virus to his or her sex partners.

2. The best way to prevent Zika virus infection is to prevent mosquito bites.

- Use insect repellent registered with the US Environmental Protection Agency.
- Wear long-sleeved shirts and long pants.
- Stay in places with air-conditioning or window and door screens.
- Remove standing water around people's homes.

3. Zika virus causes birth defects and other health conditions.
Zika virus infection during pregnancy can cause a serious birth defect called microcephaly that is a sign of incomplete brain development. Doctors have also found other problems in pregnancies and among fetuses and infants infected with Zika virus before birth. If a woman is pregnant and has a partner who lives in or has traveled to an area with Zika virus, she should not have sex with her partner or should use condoms the right way, every time, during the pregnancy.

Zika virus infection can rarely cause Guillain-Barré syndrome (GBS), a disease of the nervous system in which a person's own immune system damages nerve cells, sometimes causing muscle weakness, paralysis of the arms and legs, and, in severe cases, the muscles that control breathing. Only a small percentage of those with Zika virus infection get GBS. The Centers for Disease Control and Prevention (CDC) is continuing to investigate this link.

4. Pregnant women should not travel to areas with Zika virus.
Check CDC's Zika travel website for a list of travel notices for areas with Zika virus (https://wwwnc.cdc.gov/travel/page/zika-travel-information). If a woman must travel to one of these areas, she should talk to her health care provider first and strictly follow steps to prevent mosquito bites and sexual transmission during her trip.

5. Even if they do not feel sick, travelers returning to the United States from an area with Zika virus should take steps to prevent mosquito bites for 3 weeks so that they do not spread Zika to mosquitoes, who can then spread Zika virus to other people.
Zika virus infections often have very mild or no symptoms, so a person who has Zika may not know it but could still spread Zika to others. Couples with a partner who lives in or has traveled to an area with Zika virus can use condoms or not have sex to reduce the chance of passing the Zika virus during sex.

Step 6: Anticipate and Identify Information Needs

Some information on Zika virus is general and should be shared broadly (Box 1). However, community engagement personnel should also consider identifying information needs that are unique for each community. For example, in Puerto Rico, focus groups were held by the Department of Public Health of Puerto Rico and CDC to determine barriers to contraceptive use. Religious beliefs, married women's discomfort in telling their partners to use condoms, and affordability of condoms were found to be reasons for not using condoms (unpublished data, Department of Health of Puerto Rico, 2016).

For many cultural groups, communicators should pay close attention to language translations. For example, Spanish spoken in Puerto Rico differs from the universal Spanish that is used for translations. After receiving this feedback from field personnel, CDC started translating materials especially into Puerto Rican Spanish for use in Puerto Rico. In addition, a Puerto Rican staff member began reviewing all of the materials.

Some communities with missionaries or other volunteers involved in humanitarian work may have an interest in preventing Zika virus infection among these groups (Box 2). Other CFBOs might seek guidance on organizing efforts whereby community volunteers eliminate mosquito habitats by periodically emptying or covering containers with standing water (eg, animal dishes, buckets, bowls, flower pots) where mosquitoes that transmit Zika virus typically lay eggs.

Step 7: Work Together to Develop and Adapt Zika Virus Messages for Affected Communities

Understanding a community's health beliefs and perceptions of disease can help the team develop messages that are consistent with a community's experiences, expectations, culture, and context. For Zika virus, cultural sensitivity is especially important because pregnant women and their partners need to understand how to protect themselves not only from mosquito bites but also from sexual transmission of Zika virus.[14] Preventing the sexual transmission of Zika virus is a sensitive topic because, although condoms can help reduce the risk of Zika virus transmission, not all faith-based or community-based groups promote their use. How and when discussions about sexual transmission take place depend on the local culture and context. In some communities, it may be appropriate for clergy or other community leaders to consider how traditional religious teachings affect

Box 2. Preventing Zika virus infection during missionary and other volunteer humanitarian work overseas

We know a lot about preventing some of the risks of Zika virus based on experience with a similar virus—dengue. People can become infected with dengue virus and Zika virus after being bitten by an infected mosquito. The same species of mosquito carries both the dengue virus and the Zika virus.

Certain characteristics of missionary travel may affect the risk of becoming infected with Zika virus. Missionaries often stay in houses without window screens or air-conditioning. They also often engage in outdoor activities, such as construction work, that may expose them to mosquitoes. Past outbreaks show that missionaries are at risk even during short-term trips. Outbreaks of mosquito-borne diseases, particularly dengue fever, have been previously detected among missionary groups.

- In 2008, missionaries from Minnesota and Iowa traveled to the Dominican Republic to help with reconstruction after tropical storm Olga. They stayed approximately 1 week in a tropical-style house, with fans and some window screens but no air-conditioning. Of the 14 missionaries seeking health care for a nonspecific febrile illness after their return, 12 had serologic evidence of a previous dengue infection.[20]
- In 2010, missionaries from Nebraska and Georgia traveled to Haiti for 7 to 11 days. A local physician notified the state health department of a cluster of dengue-like illness in missionaries after their trip. In a follow-up investigation, 23 missionaries provided blood samples for complete laboratory testing, and 7 were found to be infected with dengue virus.[21]

All travelers and their partners should learn about travel-associated risks before traveling. The latest travel notices can be found on CDC's Travelers' Health website www.cdc.gov/travel. CDC recommends that women who are pregnant do not travel to areas with active transmission of Zika virus. If a pregnant woman must travel to an area with Zika transmission, she should strictly follow steps to prevent mosquito bites:

- Use insect repellent registered with the US Environmental Protection Agency that has 1 of these active ingredients: DEET, picaridin, IR 3535, oil of lemon eucalyptus or para-menthane-diol, or 2-undecanone.
- Stay in buildings with air-conditioning or window and door screens.
- Wear long-sleeved shirts and long pants.
- Avoid sexual transmission—use condoms throughout the pregnancy with a partner who has traveled.

CDC recommends all travelers consult a travel medicine specialist 4 to 6 weeks before travel. CDC's Travelers' Health website (www.cdc.gov/travel) provides information on how to find a travel medicine clinic. CDC Travelers' Health information is also available on social media, including Twitter (https://twitter.com/cdcgov) and Facebook (https://www.facebook.com/CDCTravelersHealth).

Abbreviation: CDC, Centers for Disease Control and Prevention.

their ability to partner in public health efforts. They may conclude that it is acceptable to have candid conversations with women or their partners about ways to prevent sexual transmission of Zika virus and how this relates to their religious beliefs. These leaders can work with local governments and health care providers to identify common ground in religious beliefs and Zika virus prevention and develop communication messages together. They should refer to the CDC website for detailed information.[15]

Efforts to engage faith communities in public health messaging must recognize that messages shared by a faith-based organization with its members must be consistent with the values of that organization. If the message is not consistent, the organization might choose to deliver only partial, and possibly more limited, information. Alternatively, leaders of such organizations might be persuaded to encourage members (eg, pregnant women with concerns about Zika virus) to speak privately with an informed health care provider. Leaders can show compassion about the anxiety a congregant may have about Zika virus, help him or her write out questions in advance, and reinforce public health messages after a medical appointment.

Some faith communities may develop their own messages and share them with public health officials to review for scientific accuracy. Alternately, health departments may develop messages and then share them with community partners for feedback. A third, and perhaps preferable option, is a 2-way approach in which public health agencies provide CFBOs with current scientific information and they work together to develop messages (Table).

Step 8: Carefully Select and Seek Access to Appropriate Channels to Convey and Amplify Messages

CFBOs understand local communication preferences and can advise on which methods (eg, radio, news services, social media, public events, and sermons) will work best to reach a given congregation or community. CDC communication resources are available in several languages and for low-literacy audiences. Because many adults now receive some of their news from social media, partner organizations can post videos and other materials about Zika virus on their social media channels and distribute posters and fact sheets. A congregation or community can be encouraged to proactively host a Zika virus educational session in which experts demonstrate the safe and effective use of insect repellents, explain how to recognize and eliminate places where mosquitoes lay eggs, and offer private advice about preventing sexual transmission of Zika virus. CFBOs usually know which method is most appropriate for their constituents. In Puerto Rico, CFBOs implemented various activities

Box 3. Faith-based and community-based groups implement activities for mosquito prevention and Zika virus education in Puerto Rico.

In Puerto Rico, state and local municipalities' efforts have included the following:

- Conducting house-to-house visits to detect places where water accumulates
- Inspecting window screens; providing brochures and literature
- Teaching people how to properly eliminate mosquito breeding sites
- Distributing insect repellent and explaining how to use it properly
- Distributing condoms
- Encouraging neighborhood solidarity
- "Zika Action Days" were held at retail stores and shopping malls. Repellents were distributed at these and other community events (including concerts).

Faith-based and community-based groups have direct relationships with their communities. These organizations know their congregations or constituent families, know where expectant mothers live, and know where mosquitoes live and lay eggs. The government recognizes these organizations as first responders in any emergency. In June 2016, >100 organizations committed to an alliance between the government and faith-based and community-based organizations. Although condoms prevent the spread of Zika virus, not all faith-based or community-based groups promote their use. It has been important to identify other areas with common goals. Agreed-upon roles for faith-based and community-based groups include these activities:

- Establishing teams that can inspect their neighborhoods weekly
- Planning ahead for mission trips and travel to areas with Zika virus
- Building a culture of solidarity and commitment to helping one another
- Educating and empowering community members to help prevent the spread of Zika

(eg, condom distribution, house-to-house visits) to curb Zika virus transmission (Box 3).

Step 9: Monitor, Evaluate, and Improve Health Communications

Health communication staff members should find out what people know, what they do not know, and how they want to receive information. Staff members should consider monitoring public reactions to information and adjusting messages accordingly. Evaluation of outreach activities can help identify barriers, provide evidence of success, determine a need for additional resources, and encourage collaboration.[16] Some evaluation metrics can be obtained from Facebook comments, Twitter tweets and retweets, and other social media.[17-19] Community meetings provide opportunities to gather feedback on communication products. Regular engagement with faith leaders can also provide insight into barriers, opportunities, and potentially conflicting messages from other sources.

Step 10: Recognize, Publicly Affirm, and Maintain Relationships

Public health emergencies provide strong motivation to form mutually beneficial partnerships that might otherwise be difficult to form. Health departments should consider maintaining relationships with CFBOs after public health crises have ended to help prepare communities from future emerging infectious disease threats. Maintaining these relationships can be challenging because of shifting health department funding and priorities. Health agencies can designate sufficient resources to maintain CFBO partnerships as a regular part of emergency response capacity.

Public Health Implications

Communities may not know how to find evidence-based sources of information and may not recognize misinformation. Although condoms can help reduce the risk of Zika virus transmission, not all faith-based or community-based groups promote their use. Engaging CFBOs in developing culturally appropriate health messages that resonate with the populations at risk for Zika virus may help prevent disease and justify the additional efforts required to develop and maintain such partnerships.

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