ZIKA VIRUS INFECTION

STEP-BY-STEP GUIDE TO RISK COMMUNICATION AND COMMUNITY ENGAGEMENT

Pan American Health Organization

World Health Organization
REGIONAL OFFICE FOR THE Americas

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Zika Virus Infection Step-by-Step Guide to Risk Communication and Community Engagement

www.paho.org/viruszika

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Contents

Acronyms

GBS	Guillain-Barré Syndrome
IEC	Information, education, and communication
IHR	International Health Regulations
PAHO	Pan American Health Organization
PHEIC	Public Health Emergency of International Concern
WHO	World Health Organization
ZIKV	Zika virus

Introduction

On 1 February 2016, the World Health Organization (WHO) announced that the cluster of microcephaly cases and other neurological disorders in newborns reported in Brazil since October 2015 and associated with the incidence of Zika virus (ZIKV) cases constituted a public health emergency of international concern (PHEIC).

Since then, information and communications about ZIKV and its consequences have multiplied exponentially, with information in many instances contradictory appearing in the news media, social networks, and other communication channels. This has led to considerable anxiety and confusion among the general public, mainly about issues related to the birth of babies with microcephaly and other congenital malformations born to mothers infected with ZIKV during pregnancy and to the higher incidence of Guillain-Barré Syndrome (GBS) associated with ZIKV.

This document provides

- Technical content on ZIKV, its manifestations, complications, modes of transmission, and prevention measures to be used in answering frequently asked questions and conveying messages in information and communication materials, community talks, press conferences, etc.

- Recommendations for the preparation of risk communication and action plans to respond to ZIKV.

This guide to activities and recommendations for managing risk communication on ZIKV is designed for spokespersons, health authorities and health workers, other sectors, and partners inside and outside the health sector to assist them in tailoring communication initiatives to the needs of each country and target audience.

The elimination of mosquito breeding sites remains the most important strategy for the prevention and control of ZIKV (as well as dengue and chikungunya) infection. Therefore, communication plans for the response to ZIKV should include intersectoral action and community engagement to modify behaviors and encourage sustained practices to eliminate breeding sites and control the mosquito, as well as to inform and educate target audiences about the steps they can take to prevent ZIKV transmission.

The fourth meeting of the Emergency Committee under the International Health Regulations[1] agreed that, "due to continuing geographic expansion and considerable gaps in understanding of the virus and its consequences, Zika virus infection and its associated congenital malformations and other related neurological disorders, ZIKV continues to be a Public Health Emergency of International Concern."

[1] Fourth meeting of the Emergency Committee under the International Health Regulations (2005) regarding microcephaly, other neurological disorders and Zika virus
http://www.who.int/mediacentre/news/statements/2016/zika-fourth-ec/es/

Frequently asked questions about ZIKV and its potential health consequences

The messages for different target audiences should be timely, accurate, applicable, and relevant and should therefore be tailored to the specific audience for which they are intended, be it the general public, pregnant women, women of reproductive age, health workers, partners and allies, or community leaders.

The frequently asked questions about ZIKV that follow can be used to disseminate information through a range of channels, including communication materials, call centers, institutional websites, social networks, community talks, and public appearances.

Below is a list of the most frequently asked questions about ZIKV, its manifestations or complications, and prevention measures.

ZIKV and modes of transmission

What is ZIKV and how do people become infected?

- ZIKV is a disease that people contract through the bite of an infected mosquito. When a mosquito feeds on the blood of an infected person and then bites others, it passes ZIKV to them. There is documentation that the infection can also be passed from mother to child, sexually, and through blood transfusions.

- *Aedes aegypti* is the mosquito that carries ZIKV, as well as dengue, chikungunya and yellow fever. This mosquito lives in and around dwellings and reproduces in any receptacle that contains water.

- Mosquitoes are born 7 to 10 days after the eggs are laid, emerging as larvae before taking the adult form. They have a life span of 3 to 4 weeks. Mosquitoes search for food close to their breeding site, biting people living nearby or who happen to be in the area. The mosquito's flight range is around 25 meters, though it may be as far as 500 meters.

- Aedes aegypti mosquitoes lay their eggs every 3 or 4 days. A single female can lay around 400 eggs in her lifetime. The eggs are also resistant to drought and can survive for more than a year, with larvae emerging when the eggs come into contact with water.

- The mosquito is most active, and therefore the risk of getting bitten the highest, at dawn and dusk.

- Zika is a new virus, which means that we are all at risk of getting this disease. It can strike women and men of any age. There is still no vaccine to prevent it.

What are the symptoms?

- Only one out of four people infected with ZIKV will have symptoms, and if they do, they will be very mild. Thus, many people will not realize they have the disease, as they will be symptom-free.

- The most common symptom is the sudden appearance of a rash, possibly coupled with a low-grade fever (more than 37.5°C), dry conjunctivitis (reddened eyes without secretions), and joint pain or inflammation.

Complications of ZIKV

Does ZIKV cause microcephaly and GBS[2]?

- Microcephaly is a birth defect in which a baby's head is much smaller than that of other children of same age and sex. This is due to abnormal development of the baby's brain in the womb or during infancy. Infants and children with microcephaly often have problems with brain development as they grow.

- Microcephaly can be caused by a number of environmental and genetic factors, including Down syndrome, exposure to drugs, alcohol, and other toxins in the womb, and rubella during the mother's pregnancy.

WHO, Zika virus and complications: Questions and answers: http://www.who.int/features/qa/zika/en/

- Based on a growing number of preliminary studies, there is a scientific consensus that Zika virus causes microcephaly and GBS.

- While intensive efforts are being made to learn more about the relationship between the virus and several neurological disorders, rigorous research to date supports the conclusion that there is an association between ZIKV and microcephaly and GBS.

What are the complications of ZIKV in pregnant women and their babies?

- There have been documented cases of microcephaly and other birth defects in babies born to mothers infected with ZIKV during pregnancy.

What is the relationship between ZIKV and GBS cases?

- GBS is a rare disorder in which the patient's immune system attacks the peripheral nerves. People of all ages can be affected, but it is most common in adults and men.

- The majority of people, even those with the most serious cases, fully recover. In 20% to 25% of cases, the chest muscles are affected, making breathing difficult. Serious cases are rare but can involve total paralysis.

Vector control or elimination

How can I protect myself and my family from being infected with ZIKV?

- The main prevention measure continues to be the elimination of mosquito breeding sites and the personal protection measures described below.

How do I eliminate mosquito breeding sites?

To eliminate the risk of mosquito-borne infection, it is recommended that you:

- Eliminate mosquito breeding sites in and around your home, as well as in public areas (for example, drains, cemeteries, uncultivated plots of land, markets, etc.) and/or private areas. Eliminating breeding sites should be everybody's responsibility—the authorities, the public sector, the private sector, NGOs, families, and individuals—and not just the public or health sector.

- Prevention implies knowing about the mosquito's behavior and breeding sites and understanding every individual's environmental responsibility in the ongoing elimination of breeding sites. This should be a continuous practice in homes and communities.

- Aedes mosquitoes prefer to lay their eggs in water found in receptacles in the home, schools, workplaces, and their surroundings, so it is important that everyone do their part in identifying and eliminating these breeding sites.

- Keeping the area surrounding the house clean and removing any containers where water can collect is key to eliminating the breeding sites for new mosquitoes.

- Avoid keeping water in receptacles inside and outside the home (vases, flower pots, bottles, containers where water can collect, the gutters

of roofs) to ensure that they do not become mosquito breeding sites.

- Hermetically seal water tanks or containers or treat them with chemicals (such as bleach, larvicides) or biological agents (for example, fish that feed on larvae) to destroy mosquito eggs and larvae.

- Do not allow trash to accumulate and put any trash in plastic bags that are tied shut.

- Unclog drains where water can stagnate.

- Thoroughly scrub sinks and vats to destroy any eggs that stick to their sides; this will prevent larvae from emerging when water is present.

- Keep the garden or property free of weeds, check planter saucers, pet's water bowls, etc.

- Turn containers not in use, such as plastic bottles, face down.

How can we eliminate populations of adult mosquitoes?

- Insecticide spraying operations to eliminate adult mosquito populations are not enough, since breeding sites must also be eliminated.

- Given the hours when the mosquito is most active, it is recommended that outdoor control measures be conducted at dawn and dusk. Thus, it is essential that individuals/families be notified about the fumigation schedules in their neighborhood or vicinity a day or two in advance, so that people will keep their doors and windows open to facilitate the insecticide's entry.

- When insecticide is applied indoors by health professionals or others, care should be taken to

ensure that kitchen utensils and food and water for human and animal consumption are properly covered or kept in enclosed spaces.

- When insecticide is applied indoors by health professionals or others, residents should leave the house during the treatment and keep it shut for 20 minutes after fumigation to guarantee that the mosquitoes die.

Personal protection against ZIKV

What can be done to prevent mosquito bites and the risk of sexual transmission[3]?

- Cover exposed skin with long-sleeved shirts, trousers, and hats.

[3]World Health Organization. Prevention of sexual transmission of ZIKV virus. Interim guidance update. 7 June 2016. WHO/ZIJV/MOC/16.1 Rev.2

- Hang screens in doors and windows to keep mosquitoes out.

- Sleep in areas protected by mosquito nets.

- Use repellents containing DEET, IR3535, or Icaridin that are recommended by the health authorities and follow the instructions on the label.

- Use repellents and regularly apply them to exposed skin or clothing. Pregnant women can also use repellents, as long as they follow the instructions on the product label.

- To minimize the mosquito's contact with dengue, chikungunya, or ZIKA patients, people suspected of having any of these diseases should always sleep or rest under mosquito nets.

Although ZIKV is transmitted mainly by infected mosquitoes, sexually transmitted cases have also been confirmed; this is troubling, given the association between ZIKV infection and complications such as microcephaly, GBS, and other neurological disorders. In some case studies, ZIKV has been detected in saliva and urine.

Sexual transmission

What steps can be taken to protect against sexual transmission?[4]

- All people with ZIKV infection and their sexual partners should receive information about the risk of the sexual transmission of ZIKV, contraceptive measures, and safe sex, and, whenever possible, be provided with condoms.

- Women who have unprotected sex and do not wish to become pregnant for fear of ZIKV infection should have access to and counseling on emergency contraception services.

- To prevent negative consequences for the pregnancy and baby, men and women of childbearing age residing in areas where the virus is known to be circulating should receive accurate information and guidance, so that they will consider postponing pregnancy and follow the recommendations for prevention, particularly the use of condoms.

- The decision to have children and when should be considered a strictly personal matter and be based on complete information and access to affordable quality health services.

- Pregnant women's sexual partners living in or returning from areas where the virus is circulating should practice safe sex or abstain from sex for at least the duration of the pregnancy.

- Women who plan to become pregnant and return from areas with known circulation of ZIKV should wait at least eight weeks before attempting to conceive to give a potential ZIKV infection time to clear. This period will be six months if their male partner has symptoms of the disease.

- Men and women who return from areas with known ZIKV circulation should practice and continue safe sex or abstain from sex for at least eight weeks following their return.

a. If ZIKV symptoms appear before or during that time, men should practice safe sex or abstain from sex for at least 6 months.

b. WHO does not recommend systematic semen analysis for

[4] World Health Organization. Prevention of sexual transmission of ZIKV virus. Interim guidance update. 7 June 2016. WHO/ZIJV/MOC/16.1 Rev.2

ZIKV detection; however, men with symptoms of the disease can be offered these tests 8 weeks after their return, depending on the country's policy.

WHO always recommends safe sex, especially the systematic and proper use of condoms to prevent HIV, other sexually transmitted infections, and unwanted pregnancies.

Vertical transmission of ZIKV

Can a pregnant woman pass ZIKV to her unborn baby during pregnancy or childbirth?

- It has been verified that some pregnant women pass ZIKV to their unborn baby.

- Infection in late pregnancy can be passed to the baby during pregnancy and childbirth, although this hypothesis has not yet been scientifically demonstrated.

- Pregnant women in general and those with symptoms of ZIKV infection in particular should see a health professional who will monitor the pregnancy.

Can women infected with ZIKV breastfeed?

- ZIKV has been detected in breast milk, but there is no proof that it is transmitted to a baby through breastfeeding.

- WHO recommends exclusive breastfeeding during the first six months of life.

For more information, see Breastfeeding in the context of ZIKA virus, at:

http://www.who.int/csr/resources/publications/zika/breastfeeding/en/

Preventing ZIKV in pregnant women

What are the recommendations for preventing ZIKV infection in pregnant women?[5]

- Pregnant women should adopt the same general personal protection measures to avoid mosquito bites.

- The use of repellents containing DEET, IR3535, or Icaridin for personal protection are not contraindicated during pregnancy, provided they are used according to the instructions on the product label.

- Even if they have no symptoms, pregnant women should always go for prenatal check-ups and follow medical advice.

- If pregnant women develop a fever, conjunctivitis (redness of the eyes), a rash, pain, or malaise, they should immediately go to the nearest health center.

- Pregnant women, as well as the general public, should avoid using drugs without a doctor's recommendation.

What are the recommendations for women of childbearing age or those who plan to become pregnant?

- It has been shown that ZIKV infection during pregnancy results in babies with microcephaly and other birth defects; it is therefore recommended that women living in or traveling to areas where ZIKV is circulating postpone pregnancy.

- Pregnancy is a decision for individuals or couples; when deciding in favor of pregnancy, it is recommended that people adopt all the self-protection measures indicated to prevent this disease.

- If pregnancy is suspected, visit the health center and follow the health workers' recommendations.

- If you wish to postpone pregnancy, it is important that you visit a health facility to obtain information on available family planning methods.

- If your partner has been in an area where mosquitoes infected with ZIKV are circulating, it is recommended that condoms be used when you have sex, given the possibility of becoming infected with the virus through semen.

For more information, see the publication: Ensuring human rights in the provision of conceptive information and services, at:
http://www.who.int/reproductivehealth/publications/family_planning/human-rights-contraception/en/

What should I do if I have symptoms of the disease?

- Visit a health facility, especially if you are pregnant or suspect you are. People with chronic diseases should, too.

World Health Organization. Prevention of sexual transmission of ZIKV virus. Interim guidance update. 7 June 2016. WHO/ZIJV/MOC/16.1 Rev.2

[5]World Health Organization. Psychosocial support for pregnant women and for families affected by microcephaly and other neurological complications in the context of Zika virus. Interim guidance for health-care providers. 2016

How concerned about ZIKV should the public and pregnant women be?

- Pregnant women have the same risk of being infected with ZIKV through the bite of an infected *Aedes* mosquito as the rest of the population.

- Many women may not learn that they have ZIKV because they will not develop symptoms.

- Everyone, including pregnant women and women of childbearing age, should avoid exposure to mosquito bites—for example, by wearing clothes that cover their skin (long sleeves), sleeping under treated mosquito nets, and using the repellents indicated by the health authorities, following the instructions on the label. It is very important to find and eliminate potential mosquito breeding sites in every home and its surroundings.

Are there antiviral or other treatments? Is there a vaccine?

- There is currently no vaccine to prevent ZIKV infection. Normal treatment for the infection is limited to treating the symptoms as they appear and providing supportive care. Thus, mosquito control and the elimination of breeding sites are essential for protecting everyone's health.

Other potential questions:

- What are the recommendations for pregnant women living in or traveling to areas where ZIKV is circulating?

- Can people travel to a country where ZIKV is circulating?

- Concerning future pregnancies, what are the recommendations for women of childbearing age in areas where the virus is circulating?

- How do health workers confirm that a baby has microcephaly? What is microcephaly and what other types birth defects can occur? What are the consequences for the development of babies born with some of these birth defects?

- What are the consequences of this disease? What are its symptoms? What should be done if symptoms appear? Is there a treatment for this disease? Is it curable? What complications can occur?

For more information on how to respond to these and other questions, visit the frequently asked question section of the PAHO website:
www.paho.org/viruszika

Communication activities with respect to Zika virus infection

Communication Objectives for Public Health Communication Officials

- Communicate information about ZIKV in a timely manner, addressing the population's public health concerns and need for information about the potential complications of this disease.

- Segment audiences to emphasize the risks of ZIKV to the more vulnerable groups at higher risk--in this case, women of reproductive age, pregnant women, and health workers.

- Continue promoting individual behavioral changes, social mobilization, and community engagement to control the vector and eliminate breeding sites in dwellings.

- Keep the public fully informed about the risk of ZIKV infection, state what is known, and describe the efforts of health institutions and the international community to respond to this health emergency, as well as the research and other action being taken to learn more about this new disease.

- Maintain the credibility of health institutions and public confidence in them by disseminating accurate, evidence-based information.

- Set up a system for monitoring public speculation and conjecture to dispel rumors and refute inaccurate information and misconceptions as quickly as possible.

- Quickly respond to the concerns and specific information needs of the public, partners and allies, health care providers, and the public health community in general.

- Adopt a consistent and uniform government (national) approach to strategic and operational communications. Include partners and allies from the nongovernmental sector (NGOs, private enterprise, the community).

- Set up a system for ensuring the consistency of the messages conveyed by personnel from the national government, hospitals, and the rest of the local health authorities. A content guide for standardized messages is one alternative for promoting consistency in messaging, as is a protocol or policy to regulate the release of public information about this issue.

Basic suppositions

- Without mosquitoes there is no disease. Reducing *Aedes* mosquito populations, eliminating breeding sites, avoiding bites, and cleaning up the environment remain the basic tools for lowering the risk of ZIKV infection.

- The more that new cases of microcephaly and/or other birth defects and GBS are reported in the Americas, the more sensationalism there is likely to be in the media: the media and social networks may be the first to announce these events unofficially.

- There will be a gap between reports of the first probable suspected cases and their confirmation; the longer this period, the greater the speculation by the media and the public. Thus, the period between confirmation of these cases and public announcements should be as brief as possible.

- The demand for information by the health authorities, partners, the media, government agencies, the general public, and other audiences will be enormous, immediate, and persistent. This will put considerable pressure on the government to rapidly divulge the facts.

- Social networks will exponentially increase the pressure and demand for information. They will also increase the potential for inaccurate information and rumors, which will spread like wildfire.

- There will be incomplete and inaccurate information, and rumors and misconceptions will circulate. People may take action based on this information.

- Health guidelines and recommendations may change as more is known about the health impact of ZIKV—for example, the complications of congenital malformation syndrome, GBS, and modes of transmission. As a result, the information must be updated as it changes.

Guiding principles for preparing risk communication plans

- When there is uncertainty about health risks (for example, not knowing for certain how many children will be born with congenital malformations and/or the association between ZIKV and GBS), people need information not only about what is known and unknown about this infection,

but about what action the authorities are taking to find answers to the questions still pending. It is important to publicize this action to guarantee the population's confidence that the authorities are working to identify evidence-based reasons for decision-making, determining the actual level of risk to the public, and issuing preliminary guidance for making decisions that will help people protect their own health and that of others. Insofar as possible, this information should be disseminated before related cases are diagnosed, as this will help allay initial concerns.

- Timely, transparent dissemination of accurate and accessible evidence-based information about ZIKV infection gives the public confidence in the action taken by the health authorities, especially when the real effects of a new disease in the Region still are unknown. It is important to use all available channels (social networks, institutional websites, community leaders, mass media, target audiences of partners and allies, etc.) to reach the population with consistent messages.

- Coordinating messages and disseminating the information to all health organizations and health officials are essential to avoid confusion that can undermine public trust, spark fear and anxiety, and hinder response measures.

- To prioritize messages, there must be a hierarchy, considering those that will have a greater impact (in containing the infection) and produce faster behavioral changes in the population.

- Information targeting the public should be accessible, technically accurate but tailored to the various audiences, and complete enough to promote support for official policies and measures such as the control and elimination of mosquitoes and breeding sites. It is important to translate the messages into other languages or

dialects, as necessary, adopting an intercultural approach.

- The community should be at the center of the response. Thus, it is important to design activities that encourage social mobilization and effective community engagement for mosquito control and the elimination of breeding sites.

- The information provided should reduce speculation to a minimum and avoid the the exaggerated interpretation of data, as well as

assessments of public health research and zcontrol measures that are too sanguine.

- It will be important to ensure that our guidance and recommendations can change as we learn more about this disease.

- Prepare contingency plans; that is, create mechanisms and activities for potential public awareness campaigns and social mobilization.

- The foundation for behavior modification will be education, whose results will be manifested in changes in environmental practices and the maintenance of dwellings and their surroundings. Schools and community leaders are key to effecting these changes.

- It is important to keep journalists constantly updated about the evolving situation. Thus, trained spokespersons should make regular appearances and provide consistent information.

- The accuracy of the data must be ensured to avoid contradictory information.

Evaluation of risk perception

With any health event, it is necessary to analyze the individual perceptions of different audiences about the event—in this case, ZIKV infection and its potential complications and the mosquito's association with the transmission of this disease, as well as sexual transmission. This is essential for implementing prevention and control activities with the active engagement of individuals and communities.

The population's risk perception is based on what people think or perceive about their possibility of contracting this disease, its severity, the benefits of modifying their behavior versus the personal costs, and their willingness to make these changes.

Analyzing risk perception is important for the design and implementation of successful communication activities:

The table below is a practical aid for people to rate the following problems to better define their risk

	VERY HIGH RISK	HIGH RISK	MODERATE RISK	LOW RISK
Dengue				
Why?				
Chikungunya				
Why?				
ZIKV				
Why?				
Microcephaly				
Why?				

The table below provides sample questions for use in public surveys

DIMENSION	ZIKV	*AEDES* MOSQUITO
Familiarity	Are you aware of this risk?	Are you aware of this risk?
Understanding	Do you understand what form complications of ZIKV take?	Do you understand what form the complications take?
Uncertainty	Can you predict whether you will be infected with ZIKV in the next five years? (It doesn't matter whether or not the respondent believes he will; only whether he can predict what will happen)	Can you predict whether you will develop a disease resulting from a mosquito bite in the next five years? (It doesn't matter whether or not the respondent believes he will; only whether he can predict what will happen)
Control	Can I personally take steps to reduce my risk of ZIKV infection?	Can I personally take steps to reduce mosquito populations?
Equity	Are there people whose living conditions put them at greater risk of ZIKV infection?	Are there people whose living conditions put them at greater risk of ZIKV infection?
Benefits	Is there any benefit to contracting ZIKV infection?	Is there any benefit to controlling mosquitoes and their breeding sites?
Fear	Are you afraid of falling ill with ZIKV infection?	Are you afraid of falling ill from a mosquito bite?
Mistrust	Are there institutions responsible for preventing the risk of ZIKV that are taking steps to do so?	Are there institutions responsible for reducing mosquito populations and eliminating breeding sites that are taking steps to do so?
Reversibility	Can people recover from ZIKV infection?	Can people recover from mosquito-borne diseases?

DIMENSION	ZIKV	*AEDES* MOSQUITO
Personal Interest	Have you felt that you or your immediate family are at risk of getting dengue?	Have you felt that you or your immediate family is at risk of getting chikungunya?
Ethics and Moral	Do you believe that people who become infected with ZIKV have risk behaviors?	
Known Victims	Did you have ZIKV? Do you know anyone who has had ZIKV or dengue?	
Catastrophe-magnitude	Do you think your country is at risk of a ZIKV epidemic?	Do you think your country is at risk of an epidemic of mosquito-borne diseases?
Other		

Other questions on attitudes and practices can be included in this survey, since the table above primarily explores knowledge.

A useful tool for conducting Knowledge, Attitudes, and Practices (KAP) studies is the WHO methodology developed specifically for ZIKV, which is available at:
http://www.who.int/csr/resources/publications/zika/kap-surveys/en/

Main communication channels

The Ministry of Health may use a variety of channels to disseminate information and messages to the media and the public on the general response to ZIKV, be it on the action taken by public health institutions, prevention measures (non-pharmaceutical interventions), recommendations for more vulnerable groups, what to do, where to go, etc.

The key information channels include, but are not limited to:

- Briefings for the media, including televised press conferences and information for journalists over the phone.

- Social networking channels (for example, Twitter, Facebook, YouTube, Instagram, podcasts, text messages, etc.).

- Micro-websites with detailed information on ZIKV (frequently asked questions, etc.).

- Radio broadcasts of public service announcements.

- Distribution of print materials (informational, educational, etc.).

- Other social and community engagement activities.

- Channels used by other partners and allies (churches and parishes, town hall meetings, sporting events, celebrities, etc.).

If ZIKV-associated cases of congenital malformation syndrome in newborns or GBS are detected, the Ministry of Health can:

- Collaborate closely with other public health and local authorities (for example, hospital staff and the members of medical, academic, and research associations) to assess the situation and prepare for public announcements.

- Prepare a statement and send it to the entire media list.

- Issue an official announcement for the media.

- Simultaneously send text messages and live tweets to inform the population (if possible).

- Grant interviews with public health officials who are well-versed in the matter and prepared to respond to questions from the media.

- Issue a fact sheet containing key data and information on the preparations made by the government and health authorities for a response.

- Update the website with basic public information.

- Update the list of frequently asked questions for the telephone hotline (if any); ensure that the telephone hotline number is included in all materials distributed and provided to the media.

- Update the information for international partners that provide technical cooperation.

- Provide information on cases that arise, protecting the patients' identity and/or preventing stigmatization and discrimination against patients and their families.

Audience segmentation

Health authorities will widely disseminate information to the general public, health workers, and the public health community to inform them about ZIKV infection and address their concerns.

Some of the specific audiences are identified below. All of these groups have concerns and information needs, both mutual and differentiated, which requires a special communication effort tailored to each segment. This will help to build and maintain the trust of these audiences and better manage their expectations.

GENERAL PUBLIC	• People living in areas where there is a risk of infection • Pregnant women and women of reproductive age • Patients and individuals with symptoms
HEALTH WORKERS	• Physicians and other health workers • Hospital workers • Workers from medical associations • Laboratory staff
TRAVELERS AND TOURIST INDUSTRY	• Travelers to areas where there is a risk of infection • Airline workers • Cruise workers
COMMUNITY ORGANIZATIONS	• Schools • Faith-based organizations • Businesses • Civic organizations

Examples of channels, by target audience

CHANNEL	INDICATE AUDIENCE TYPES TO BE REACHED THROUGH THIS CHANNEL
SOCIAL NETWORKS	• General public • Health workers • Partners and allies • Journalists • Travelers
WEBSITES	• General public • Health workers • Journalists • Travelers

CHANNEL	INDICATE AUDIENCE TYPES TO BE REACHED THROUGH THIS CHANNEL
THE MEDIA	• Journalists • General public
PHYSICIANS' AND NURSES' ORGANIZATIONS AND NETWORKS	• Health workers • Public health community
NATIONAL TELEPHONE HOTLINE (CALL CENTERS)	• General public • Pregnant women and their partners • Women of reproductive age
MEDICAL CONSULTATIONS–HEALTH CENTERS	• Pregnant women and their partners • Women of reproductive age • General population
PARTNERS AND ALLIES: Partners that can participate in communication initiatives and should receive up-to-date information and key messages, so that they are prepared to answer questions from the public and/or share answers with their target audiences.	• Health workers • Public health community • General public • Travelers • NGOs and organizations that provide social protection for vulnerable populations • Target audiences of these partners and allies
COMMUNITY CENTERS	• Community leaders • The public • Community dispensaries • Schools • Other
OTHER: Points of entry, workplaces (factories, assembly plants, unions, schools, health centers, prisons, etc.)	• Workers • Travelers • People in confinement

Appointment of official ZIKV spokespersons

It is important to identify and appoint skilled spokespersons to interface with the media about ZIKV. The main spokespersons that interface with the media should be identified as in the example below:

Dr. XXXX
Mr./Ms. XXX

Tasks for internal organization of the risk communication team

1. Draft a transparency policy containing the criteria (protocol) for disseminating public information, including a process for quickly approving announcements and warnings for public distribution in the event of a real or potential public health risk, as well as protocols for issuing announcements or warnings outside office hours.

2. Determine which members of your communications team will serve as contacts for the Ministry in coordinating communications with other institutions involved in the response to the ZIKV outbreak.

3. Activate the team responsible for monitoring the media, social networks, and other information channels to monitor risk perception in the target audiences.

4. Designate and train official spokespersons.

5. Determine what steps should be taken with respect to the at-risk population and make the necessary preparations to tailor/disseminate the prepared messages to the target audience through previously identified channels.

6. Issue the first announcement of the event and subsequent announcements as the situation evolves. Clearly and quickly answer the initial questions from the media, partners, and allies, and the public.

- The information should be disseminated before rumors with inaccurate information begin to circulate.

- In the first announcement, the spokesperson should include information on measures to prevent the disease, the situation surrounding the first case(s), and the action that the health authorities are taking to protect the public and health workers.

7. Inform the media when and where updates will be provided and where to find them online or through other channels.

8. Use a variety of channels to keep in constant communication with the public.

Tasks to address the needs of the most vulnerable populations

- Identify mechanisms to communicate with hard-to-reach vulnerable groups to ensure that they have access to information on how to prevent the infection and where to go for medical care or counseling.

- Obtain the support of primary care physicians, nurses, midwives, and health promoters so that they receive the information and transmit it to users.

- Work with celebrities and other spokespersons to disseminate information on measures to prevent the disease.

Preparatory stage

- Prepare the mechanisms for transmitting the information and decide who will be responsible for doing so (including partners and allies).

- Prepare the public for the possibility of microcephaly cases. During the preparatory phase, it is important to disseminate messages describing what steps the government is taking to protect the public and health workers, inform the population about measures for the protection of individuals and families, reduce stigma, and strengthen early interventions.

Preparation of messages and distribution channels

- Prepare and test the key messages, including basic information on the threat that ZIKV poses to health, measures to eliminate breeding sites, and personal protection measures.

- Draft preliminary versions of press releases, public service announcements, and documents with frequently asked questions that include information on protecting health and on the potential complications of ZIKV in babies born to mothers who contracted the disease during pregnancy.

- Select the communication channels that will be used to distribute the messages, tailoring the information to the target audiences.

- Continually update the information in other channels (such as websites, social networks, print materials, and radio announcements).

- Collaborate with health workers in drafting and communicating disease prevention messages at the first level of care through the comprehensive health care models.

- Engage the community in the response, working with community leaders and providing them with support to carry out interventions with community engagement and social mobilization.

Examples of immediate activities in your communication plan

The following are suggested activities that can be implemented in the event of a ZIKV outbreak in your country, region, or specific cities. These activities are not listed in order of importance, nor should they be implemented in a particular sequence. Some of the activities can be implemented simultaneously or before or after the point in which they appear on the list, as the situation warrants.

ACTIVITIES
• Adapt and distribute the key messages to the public.
• Prepare and issue messages for a press release.
• Report to partners and allies.
• Hold a briefing for journalists (educational briefing about the event).
• Upload information to the Ministry of Health website and keep this information updated.
• Post messages in social networks.
• Respond to media requests.
• Monitor the information appearing in the media and social networks, as well as the questions asked by the public.
• Inform and offer guidance to health workers, the public and private health community, and laboratories.
• Update the list of frequently asked questions and their responses for call centers.
• Activate the call centers.
• Hold press conferences to make public announcements with updated information on the course of the event.
• Prepare and provide supplementary information, education, and communication materials for the various target audiences.

ACTIVITIES

- Monitor and evaluate the news media, social networks, and the questions asked by the public.
- Activate communication channels with communities, partners, and allies, and other previously identified groups.

Examples of the principal key messages

- The Ministry of Health knows that the public is concerned about this situation. We understand these concerns and are taking them very seriously. When we know more about the event and its consequences, we will update the information and issue public announcements.

- This situation is still evolving. The Ministry of Health is investigating the following:

- How many people had symptoms and the health status of those individuals and their children.

- There is currently no vaccine that protects against ZIKV infection. Treatment is limited to treating the symptoms as they appear and providing supportive care. Therefore, eliminating breeding sites is essential for protecting everyone's health.

- Pregnant women have the same risk as the rest of the population of acquiring ZIKV infection, which is transmitted through the bite of an infected *Aedes* mosquito and can also be transmitted.

- Everyone, including pregnant women and women of childbearing age, should avoid mosquito bites—for example, by wearing clothing that covers their skin (long sleeves), using treated mosquito nets, and applying the repellents indicated by the health authorities, following the instructions on the label. In each home and its surroundings, it is very important to look for potential mosquito breeding sites and eliminate them.

- The government has been preparing the response to an event like this by:

- Improving surveillance to monitor the geographic spread of the virus and obtaining the laboratory tests needed to detect cases.

- Training health workers and health centers in the use of appropriate response protocols.

- Disseminating updated information to the general public, travelers, and domestic and international partners and allies.

- Actively working to control and eliminate the mosquito and its breeding sites.

- The Ministry of Health will provide new information about ZIKV infection online at: www.example.com

Messages for service providers

- Keep up-to-date on the latest scientific information about ZIKV and its potential consequences.

- Follow the latest guidelines on the diagnosis and treatment of ZIKV infection and its potential consequences.

- Familiarize yourself with the available support or referral services and systems for women and families affected by ZIKV infection during pregnancy and/or by grade IV microcephaly.

- Remember that pregnant women with ZIKV may be upset, sad, or anxious; you should therefore be very careful in communicating with these patients.

- Ask your pregnant patients what they know about ZIKV and its potential consequences.

- Take the time to listen to your patients' reactions.

- Throughout the consultation, encourage your pregnant patient and her family to take notes and return to the health center if they have additional questions.

- Explain to pregnant women with ZIKV the need for regular check-ups to monitor their baby's neurological development and assess potential complications.

- Encourage women to invite a trusted person (her husband, a friend, or a family member) to be present at the consultation or any follow-up.

- Guarantee the confidentiality of every visit.

- Use simple words and avoid technical jargon so that patients understand the information you are giving them.

"Listen": monitoring communications

- Establish mechanisms to monitor the effectiveness of communication and methods for understanding the public's attitudes and motivations.

- Create a team to monitor the media and set up a telephone helpline.

- Identify and communicate often with community leaders in at-risk populations and other target groups to learn about their information needs and concerns.

- Engage the community and its leaders in an ongoing dialogue about their concerns and the response activities.

- Activate the call centers and monitor calls from the public.

- Hold meetings with the community and influential personalities.

- Monitor the news and social networks.

- Regularly share the results from the monitoring of information channels with the authorities, spokespersons, experts, risk managers, partners, and the communications team, ensuring that they are analyzed and used in the development of new communications activities and materials.

that address misconceptions or inaccurate information and the public's concerns and in the modification of ZIKV response interventions.

Media relations

- Create or update the databases of news media

- Determine the logistics for collaborating with the media and provide continuous updates

- Organize educational briefings for journalists about ZIKV and its complications

Community engagement

1. Rapidly determine the community's attitude toward vector control and the behavioral objectives we want to meet.

- What behavior needs to be modified to control mosquitoes and their breeding sites? Why is this not being done? How can we influence those behaviors and better support them? What barriers exist? Why have some people modified their behavior and others have not? How are changes achieved?

- What do health workers and residents think about the effectiveness of the control measures instituted to date and what are their expectations?

- Who are currently or potentially the most important actors in the sphere of domestic hygiene? Who influences those actors?

- What are the best media for transmitting that information?

- What terminology and ideas about the disease, mosquitoes, and hygiene should be used?

- What resources does the community have that would permit more effective control of the mosquito?

2. Establish lines of action, prepare materials, and test them with the target audience.

3. Reorient activities in line with the research conducted about the community, such as KAP studies, opinion polls, etc.

Glossary

Zika virus:

Zika virus (ZIKV) is an arbovirus of the genus flavivirus (family Flaviviridae), and very similar to other viruses such as dengue, yellow fever, Japanese encephalitis, and West Nile virus. Zika virus is transmitted by infected mosquitoes, mainly of the genus Aedes. It was first isolated in 1947 from a rhesus monkey during a study on jungle yellow fever transmission in Uganda's Zika Forest. In 1968, it was isolated in humans for the first time in Uganda and the United Republic of Tanzania. Outbreaks have subsequently been recorded in Africa, Asia, the Western Pacific, and, more recently, the Americas.

Guillain-Barré Syndrome:

In its typical form, Guillain-Barré syndrome (GBS) occurs as progressive, symmetrical, subacute, ascending paralysis that reaches its peak at four weeks and is accompanied by the absence of reflexes. In many cases, it is preceded by a history of infection.

Microcephaly:

Microcephaly is defined as an occipitofrontal circumference below -2 standard deviations from the average for the reference population by age and sex.

Congenital ZIKV syndrome:

The syndrome currently described includes the presence of microcephaly, with other signs such as craniofacial disproportion, as well as other anthropometric disproportions, redundant scalp with visible folds, hypertonia or spasticity, irritability, and epileptic seizures.

Entomological surveillance:

Entomological surveillance is the continuous, orderly, systematic, and planned process of collecting data on disease vectors and their environment in order to describe, analyze, assess, interpret, and make decisions about vector control. Entomological surveillance, combined with disease surveillance, makes it possible to adopt appropriate control measures. As a result, hard reference data are needed for the adoption of rational control measures. Entomological surveillance is a component of epidemiological surveillance. It is also an essential vector control activity, must be conducted in both the rainy and dry seasons, and should cover both the immature and adult phases of the vector.

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Pan American Health Organization

World Health Organization
REGIONAL OFFICE FOR THE Americas

525 Twenty-third Street, NW
Washington, DC 20037, EUA
Tel: +1 (202) 974 –3000
www.paho.org

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