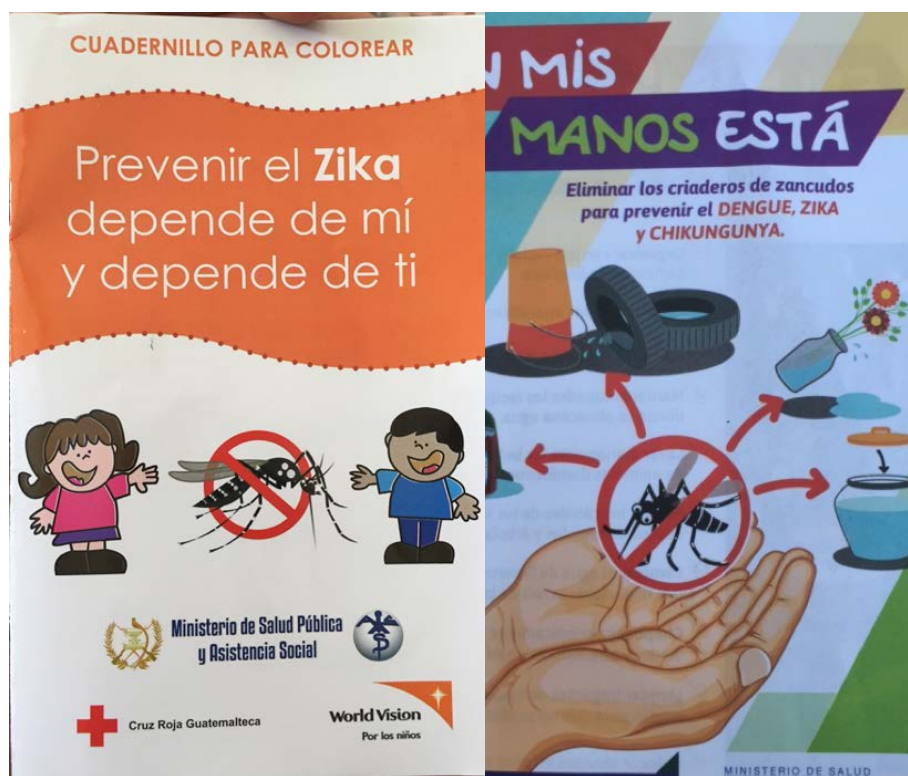


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## HC3 Landscaping Summary Report on Zika Coordination and Communication in Four Countries: Honduras, El Salvador, Dominican Republic and Guatemala March – April 2016

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June 9, 2016



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## **ACKNOWLEDGEMENTS**

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## ACRONYMS

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APROFAM	Asociación Pro Bienestar de La Familia de Guatemala (Association for the Well-Being of the Family, Guatemala)
CCP	Johns Hopkins Center for Communication Programs
CDC	Centers for Disease Control and Prevention
CENCET	Dominican Republic Centro Nacional de Control de Enfermedades Tropicales (National Tropical Disease Control Unit)
CPR	Contraceptive Prevalence Rate
DHS	Demographic and Health Surveys
DR	Dominican Republic
ENSMI	Encuesta Nacional de Salud Materno Infantil (National Survey of Maternal and Child Health)
GBS	Guillain-Barre Syndrome
GT	Grupo Tecnico
HC3	Health Communication Capacity Collaborative
JICA	Japan International Cooperation Agency
KAP	Knowledge, Attitudes, Practice
MINSA	El Ministerio de Salud (Ministry of Health)
MOH	Ministry of Health
MSPAS	Ministry of Public Health and Social Assistance
NGO	Non-government Organization
OSAR	Observatorio en Salud Reproductiva (Observatory Network for Reproductive Health)
PAHO	Pan American Health Organization
PASMO	Pan American Social Marketing Association
PCI	Project Concern International
RNA	Ribonucleic Acid
SBCC	Social and Behavior Change Communication
TSA	Environmental Health Technicians
UNAH	National University of Honduras
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Emergency Fund
USAID	United States Agency for International Development
WHO	World Health Organization
WV	World Vision

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## I. INTRODUCTION

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Zika is a communicable disease transmitted by the *Aedes aegypti* mosquito, which is native to Latin and Central American countries and also transmits dengue and chikungunya. The female *Aedes* mosquito bites mostly during the day and breeds in “clean” or standing water often found in containers in and around people’s homes. While the Zika virus is not a new virus, the current outbreak is the largest ever reported and spreading very rapidly throughout the Americas. Eighty percent of people infected with Zika are asymptomatic. The remaining 20 percent experience mild symptoms in the form of a fever, rash, joint pain and conjunctivitis.

The Zika outbreak has also coincided with a rise in reported cases of Guillain-Barre syndrome (GBS) and microcephaly, two severe neurological conditions. Based on research to date, there is scientific consensus that Zika virus is a cause of microcephaly and GBS<sup>1</sup>. A cure or vaccine for Zika does not exist, so preventative measures focus on vector control and awareness of risk and risk reduction for at-risk populations.

In response to a United States Agency for International Development (USAID) request, the Health Communication Capacity Collaborative (HC3) – based at the Johns Hopkins Center for Communication Programs (CCP) – conducted a social and behavior change communication (SBCC) landscape for Zika in four Central American countries: Honduras, El Salvador, Dominican Republic and Guatemala. Due to the urgent nature of Zika, HC3 moved quickly to conduct the four landscaping visits in March and April 2016. These were not lengthy situational analyses, but rather agile observation visits to quickly take the pulse of the Zika situation and the local response. The teams of two to three SBCC professionals conducting the SBCC landscaping have expertise in mosquito-borne diseases, *Aedes Aegypti* vector control, risk communication, strategy design and implementation of a range of behavior change communication, as well as experience in the regional Central American context, family planning/reproductive health and journalism.

Over the course of one week in each country, HC3 teams met stakeholders from the public, non-governmental organizations (NGOs) and private sectors. The visit to Honduras took place in mid-March, while the visits to El Salvador, Dominican Republic and Guatemala took place after Holy week in April. These interviews were not exhaustive of every single group involved in Zika control, but rather representative of the main stakeholders. Despite the rapid pace of the visits, a picture of the Zika situation emerged. This report is the culmination of that landscaping exercise. Below are the observations and impressions of the HC3 team, as well as concrete recommendations for USAID to consider as it formulates its strategy to support neighbors to the south in continuing to combat and prevent Zika.

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<sup>1</sup> World Health Organization. (2016). *Zika Virus, Microcephaly and Guillain-Barré Syndrome*. [http://apps.who.int/iris/bitstream/10665/204961/1/zikasitrep\\_7Apr2016\\_eng.pdf?ua=1](http://apps.who.int/iris/bitstream/10665/204961/1/zikasitrep_7Apr2016_eng.pdf?ua=1).

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## II. ZIKA STATISTICS

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As of May 18, 2016, thirty-five countries and territories in the Americas had confirmed local, vector-borne transmission of the Zika virus since 2015. Some countries have recently seen a downward trend in cases. However, this trend is consistent with downward trends of *Aedes*-borne diseases in prior years during seasonal fluctuations and the “dry season.” In countries where the outbreak started later, including the Dominican Republic, the trend of cases in April 2016 was still increasing or at a high plateau.

<b>Four Country Snapshot Zika Statistics as of May 18, 2016</b>				
	<b>Honduras</b>	<b>El Salvador</b>	<b>Dominican Republic</b>	<b>Guatemala</b>
<b>Population</b>	8M	6M	10.6M	15.5M
<b>Zika Suspected Cases<sup>2</sup></b>	18,417	11,281	1,674	915
<b>Zika Confirmed Cases<sup>3</sup></b>	2	46	72	261
<b>Contraceptive Prevalence Rate (Modern Methods)<sup>4</sup></b>	64%	68%	69%	49%
<b>Poverty<sup>5</sup></b>	62%	31%	41%	59%

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<sup>2</sup> Pan American Health Organization/World Health Organization. Accessed 18 May 2016. *Epidemic Diseases - Zika in the Americas*. Retrieved from: [http://ais.paho.org/hip/viz/ed\\_zika\\_countrymap.asp](http://ais.paho.org/hip/viz/ed_zika_countrymap.asp)

<sup>3</sup> Pan American Health Organization/World Health Organization. Accessed 18 May 2016. *Epidemic Diseases - Zika in the Americas*. Retrieved from: [http://ais.paho.org/hip/viz/ed\\_zika\\_countrymap.asp](http://ais.paho.org/hip/viz/ed_zika_countrymap.asp)

<sup>4</sup> PRB Data Finder 2015 for Honduras, El Salvador, Dominican Republic; DHS 2014/15 key Indicators Report for Guatemala.

<sup>5</sup> The World Bank. *Poverty headcount ratio at national poverty lines (percent of population)*. Retrieved from: <http://data.worldbank.org/indicator/SI.POV.NAHC>

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### III. OVERVIEW OF DENGUE, CHIKUNGUNYA AND ZIKA

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To understand the landscape of the Zika outbreak in the region, it is important to understand it in the context of the ongoing and historical public health response to dengue and chikungunya. These three diseases are not only transmitted by the same vector, but are also seen as one public health crisis. All three together cause significant morbidity and loss of productivity and resources to the region. In the same respect, the global public health interest and response to the current Zika outbreak is seen as not only a necessity but an opportunity to make strides in beating back all of the Aedes-borne diseases dramatically.

Dengue fever outbreaks are a long-term perennial problem in the region, with increasing or decreasing cases of dengue and dengue hemorrhagic fever from year to year, due to multiple serotypes of the virus in circulation, varying degrees of pre-existing immunity in the population and ineffective vector control. Only a portion of the clinically reported cases are confirmed in the lab because the number of suspected cases exceeds the diagnostic capacity of any lab. Many of the clinical symptoms and signs, when present, overlap with other febrile illnesses, resulting in over-reporting by the public and clinicians alike, while a high number of asymptomatic and mild cases results in under-reporting.

Vector control authorities and the general population report a seasonal increase of all types of mosquitoes during and right after a period of rain due to water accumulating in natural crevices and discarded containers such as scrap metal of varying size, cans, jars and tires strewn in the open. On the other hand, both authorities and the population report more mosquitoes in the water storage containers within the home during the drier periods due to the shortage of other habitats available to *Aedes aegypti* at such times. In any case, multiple dengue serotypes, persistence of water storage practices throughout the year, and ineffective vector control allows for endemic dengue in each of these four countries.

Chikungunya, which was recently introduced in the region, paints a very similar picture to dengue, but with the following important differences:

1. Lack of pre-existing immunity, therefore a very large number of cases.
2. Causes chronic joint pain that persists long after the febrile period, increasing perceived severity for the population compared to classical dengue, but the lack of hemorrhagic or shock syndrome decreases the perceived severity for the public health establishment.
3. Circulation of a single serotype, granting life-long immunity and delineating chikungunya outbreaks more clearly over the perennial endemic dengue picture.

Zika's acute signs and symptoms are similar to classical dengue and chikungunya with two important differences:

1. More conjunctivitis (pinkeye)
2. Less joint pain

A rash may occur with both dengue and Zika.

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## IV. ZIKA LANDSCAPE: SIMILARITIES ACROSS COUNTRIES

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### Coordinating Mechanisms

In all countries, the Ministry of Health (MOH) and/or government (Office of the President in Honduras) are leading the Zika efforts. The United Nations (UN) agencies, especially the Pan American Health Organization (PAHO) and United Nations Children's Emergency Fund (UNICEF), as well as United Nations Population Fund (UNFPA) and United Nations Office of Humanitarian Affairs (OCHA), are actively involved in guiding and consulting with the government and encouraging collaboration among stakeholders. Individual donors, such as the Japan International Cooperation Agency (JICA), and NGOs including the Red Cross, World Vision (WV), Plan International, Oxfam and others are rolling out their own activities within existing programs, as well as contributing to collaborative efforts and mobilizing additional resources when possible.

### Response

As discussed above, all four countries have had recent dengue and chikungunya outbreaks and are treating this Zika outbreak as they have previous *Aedes aegypti* epidemics, adding to and enhancing their ongoing dengue and chikungunya efforts. In this context, Zika is primarily seen as a vector control (breeding site reduction) issue, with house-to-house inspection and community clean up campaigns (“jornadas” as they are called across the region) established as the primary interventions. Fumigation is used in high incidence areas and where there is a positive Zika case identified.

When asked in each of the countries, the established protocol for fighting dengue and chikungunya (and now Zika) is threefold:

1. Periodic vector control interventions:
  - Community-based elimination of discardable containers and control of water storage.
  - Authority-based application of larvicides in people’s water storage containers and space spraying of adulticides outdoors.
2. Perifocal vector control of suspected and confirmed cases:
  - Authority-based elimination of discardable containers in the home of the case and that of the neighbor.
  - Authority-based application of larvicides in the water storage containers of the case in those of the neighbors.
  - Authority-based application of space adulticides inside and outside the home of the case and that of the neighbors.
3. Pro-active periodic entomologic surveillance to detect degree of *Aedes* mosquito vector infestation, virus circulation in *Aedes* mosquitoes, and *Aedes* vector susceptibility to adulticides and larvicides.

### Risk Perception

At the time of our landscaping visits, risk perception across all countries was low, due to: (1) Acceptance of mosquito-borne diseases as unavoidable; (2) Greater fear of mortality and morbidity of dengue and chikungunya than Zika; (3) A feeling that it’s not worth the effort to go to the clinic as “there’s nothing you can do;” and (4) No personal exposure to microcephaly/GBS as of yet. For these reasons, it is difficult to change behaviors that have become the norm, even during the countries’ prior *Aedes*



outbreaks. Despite low risk perception, all countries are attempting to motivate active engagement with campaign slogans encouraging individuals to do their part:

- **Honduras:** “Si No Hay Zancudo, No Hay Zika”
- **El Salvador:** “En Mis Manos Esta”
- **Dominican Republic:** “Salud Somos Todos”
- **Guatemala:** “Depende de Mi, Depende de Ti”

General household and cleanup campaigns are promoted by both government and NGO sectors as part of Zika prevention efforts, yet recommended container cleaning behaviors are labor intensive and need to be repeated frequently, which makes these behaviors difficult to sustain. They are a burden on the already overworked women who are the primary caregivers for all public health interventions in the home. While general cleanup campaigns are positive and promote overall healthy living, they also may lead to less focused messages and a diffused or scattered “call to action.” Community mobilizers and individuals can spend a lot of time picking up garbage, which is less likely to be an *Aedes* breeding site (especially during the dry season), rather than cleaning large water receptacles which may harbor the most mosquito eggs and larvae. Furthermore, a visually neat yard may give a false impression that water containers have been cleaned of eggs and larvae. Some outreach materials show a menu of actions people should take to clean up their yard to prevent Zika, including things like sweeping away puddles and leaves from backyards, which are not habitats in which the *Aedes* mosquito would breed in large number. This is another leverage point where more coordinated and state of the art SBCC might bring positive change.

### Infrastructure Challenges

In all countries, the underlying cause of the continuation of *Aedes*-borne illnesses is linked to limitations in old and inefficient water distribution systems and endemic water shortages. Seasonal drought (such as the severe drought over the past several years) can exacerbate water shortages. Poor access to water sources assures that people will continue to store water as often as they can and usually in containers accessible to mosquitoes. Efforts on the part of householders to protect their stored water are not adequate to stop *Aedes aegypti* from laying eggs inside these containers, given that the covers are rarely hermetic. Moreover, partial covering may enhance rather than reduce egg-laying because it provides protection and shade for this container-adapted mosquito. While water supply is an infrastructure problem that countries may find overwhelming to change, if it is not addressed, it will be impossible to eradicate *Aedes*-borne illnesses.

Public health officials in each of these countries are also challenged with understaffing and under budgeting. This leads to challenges with waste management, as well as limited resources for vector control itself, such as the purchase of insecticides, fuel and transportation, equipment for outreach and fumigation and compensation for staff.

Clogged sewage systems or standing open sewage also creates the ideal conditions for the propagation of *Culex* mosquitoes, the species that bites at dusk and is often more noticed and loathed by the population – but the *Culex* is not the vector for the dengue, chikungunya or Zika virus. This felt nuisance can result in confusion about *Aedes* versus *Culex* mosquitoes, not only by the population but often by civic authorities themselves, resulting in misdirected mosquito control efforts to the wrong mosquito type.

## **Vector Control Challenges**

In terms of vector control challenges, insecticides are not always available at the point of use where they are needed, are expensive, are damaging to the broader environment and prolonged use inevitably causes resistance. It also appears there is continued use of space spraying, despite PAHO recommendations of its limited effectiveness.

Recommended container cleaning behaviors are labor intensive and must be repeated very frequently which makes them difficult to sustain. Although vector control staff usually understand how to conduct effective household cleaning, when these skills are passed from trainers to other trainers to community volunteers to household members, the skills to perform the cleaning correctly – focused on large water containers and tires – often gets lost or misrepresented. Meanwhile, the behaviors easiest to carry out are those for general garbage clean ups, which tends to be a mistaken focus discussed by authorities and seen on TV spots.

## **Family Planning and Reproductive Health**

Due to the associated link between Zika and microcephaly, considerable concern exists regarding family planning use and access during this outbreak, as well as the availability of reproductive health services for pregnant women. In addition, nine countries worldwide have now reported (as of May 18, 2016) evidence of person-to-person transmission of Zika virus, probably via sexual transmission.

In terms of family planning use, Dominican Republic (DR) and El Salvador have high contraceptive prevalence rates (CPR) for modern methods, at 69 percent and 68 percent respectively, while Honduras has a modern method CPR of 64 percent and Guatemala of 49 percent.<sup>6</sup> However, all four countries have access challenges for specific populations, including youth and women in areas of high violence and gang activity, and Haitian migrants in the DR. El Salvador and Honduras are particularly violent. Family planning is provided at no cost by government clinics as well as some NGOs and members of the private sector. However, stock outs were mentioned in regions of each country, primarily due to violence-related distribution challenges and barriers to access. Guatemala in particular is challenged with national and local stock outs due to the overarching collapse of a significant portion of the primary health care system in 2014 and an ongoing lack of budget for supply chain logistics. Emergency contraception is available in the private sector in El Salvador, Dominican Republic and Guatemala. Abortion is illegal in these four countries, and predominantly illegal across the region.

The high rate of adolescent pregnancies was highlighted as a concern in all countries, with rates as high as 30 percent in El Salvador. Condoms are available in all countries and are promoted for HIV and sexually transmitted disease prevention in several countries. However, sexual transmission of Zika was not being addressed at the time of the landscaping visits. Additionally, the local Catholic Church has a historically unfavorable position on family planning.

In El Salvador and Dominican Republic, the government issued public warnings early in the Zika outbreak to avoid pregnancy. In particular, the Salvadoran Vice-Minister was quoted as recommending women consider avoiding pregnancy for up to two years. This triggered a global outcry regarding reproductive rights. It is worth noting that in-country, this remark is seen more as an off-the-cuff directive that was given during the rapid response phase. Nonetheless, it has brought to light perhaps more poignantly the

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<sup>6</sup> Modern contraceptive prevalence rate data sources: Population Reference Bureau (PRB) Data Finder 2015 for Honduras, El Salvador, and Dominican Republic; DHS/ENSMI 2014-15 Key Indicators Report for Guatemala.

challenges of subgroup access to family planning. In the DR, the Ministry of Health (MOH) advised women to consider postponing pregnancy during 2016 and highlighted that it is a personal, informed decision. In Honduras and Guatemala, no recommendation has been issued regarding delaying pregnancy in light of the risk of Zika. At the time of the four landscaping visits, WHO had not yet issued any guidance on delaying pregnancy.

All four countries have limited capacity to deal with a possible upsurge in microcephaly and GBS, including limited ultrasound equipment, a limited capacity for GBS testing and treatment, as well as limited capacity to provide newborn support, family support and counseling.

### **Laboratory Challenges**

Zika has specifically challenged in-county and global diagnostics due to: (a) lack of reagent availability for a hitherto relatively unknown disease; (b) cross-reactivity with dengue and chikungunya antibodies in immunoassays when present; (c) short window of detection both for antibody and for viral Ribonucleic Acid (RNA), before and after which the lab test is inconclusive. As a result, the number of confirmed cases remains minimal, causing rumors and lack of trust towards public health authorities in the local press and social media, as well as the population, and even among practicing clinicians.

Trust is an important aspect of SBCC, and risk communication, in particular; understanding the sources of distrust is a key first step to developing a risk communication strategy.

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## V. ZIKA LANDSCAPE: NUANCES ACROSS COUNTRIES

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### Coordination and Public Discourse around Zika

The four countries have all acknowledged and publicly addressed the Zika virus to differing degrees, which may be tied to the numbers of Zika cases reported. While El Salvador was the first among the four to report the current outbreak (it was the third country in the Americas, after Brazil and Colombia), their reported cases have peaked and are now said to be decreasing significantly. It is unclear if these numbers will go back up once the rainy season is in full swing. The government is promoting their early efforts as a success in beating the spread of the disease.

In Honduras, the President himself is the acting spokesperson for the Zika prevention campaign. However, coordination amongst all stakeholders began only recently. The Zika statistics in Honduras are the highest among the four countries but have been slow to emerge due in part to the difficulties with laboratory confirmation of suspected cases. In all countries, the lay public has had difficulty understanding the difference between suspected cases and confirmed cases due to these challenges.

During meetings in Honduras, stakeholders expressed that the general public was not very concerned about the outbreak, as few people thus far had any personal exposure to positive cases. In El Salvador, the initial wave of Zika seems to have peaked and memories of the mild symptoms are fading. Much more prevalent on people's minds was the recent chikungunya outbreak (2014) and recurring debilitation from their exposure to this disease. In contrast, in the DR, everyone seemed to know someone with Zika. However, since the confirmed number of cases is not high, there is some distrust of the official reporting. Guatemala seemed somewhere in between the two scenarios: while technical stakeholders with whom HC3 met are concerned that Zika is underreported in Guatemala, they, as well as the media, indicated that the general public is largely unconcerned about Zika and were more worried about chikungunya. Zika has been declared an emergency in all of the countries except for Guatemala.

While the government of each country is taking a lead in the response, transparency of their actions and plans, as well as the regular sharing of local statistics, varies widely. In El Salvador, two government-led coordinating mechanisms meet regularly: (1) an inter-sectoral government meeting that is held weekly and (2) a monthly meeting that includes government, NGOs and international and bilateral groups with the wider stakeholders, where there appears to be high technical involvement of partners.

In Guatemala, the Technical *Aedes* Group led by the Ministry of Public Health and Social Assistance (MSPAS) meets internally each week and bi-weekly with partners. Coordination with the latter can be ad hoc. The group has developed an integrated plan for dengue, chikungunya and Zika for the short-term (two months) and the long term (one year). The group is highly technical in its membership and discourse, lacking members with sufficient political influence to advocate for changes and swift action at higher levels. For example, the group has been unable to bypass considerable bureaucratic red tape to accept a large donation of insecticide. This has resulted in a several month delay in accessing and using the insecticide as part of the *Aedes* plan.

In the Dominican Republic, the government runs weekly meetings: one internal to the MOH and the other with all key national stakeholders at the national emergency response center. A communication roundtable convened by PAHO for the NGO and donor community also meets regularly. However, the NGOs are frustrated with the MOH's slow response to approve their individual risk communication and

community outreach plans and are not clear on why the confirmed cases are so low, creating a climate of distrust and hampering collaboration.

In Honduras, the coordination and transparency seemed less developed, with the government calling ad hoc meetings with different partners. However, we understand that since our visit more regular collaboration and meetings have taken place through the stakeholder group lead by UNICEF.

Both the El Salvador and DR Ministries of Health generate weekly bulletins available to all, while in Guatemala weekly statistics are shared at the Ministry's *Aedes* meeting, and Honduras generates weekly bulletins which are available for MOH key officers and international agencies. Both Honduras and Guatemala have decentralized health systems, which led stakeholders in Guatemala and Honduras to express concern that it created uncertainty around roles in terms of vector control and reporting (in the case of Honduras), and a disconnect between the technical guidance produced at the national level and implementation happening at the regional or local level. It can also cause a lag time between case identification at the regional level and case registration at the national level.

### **Vector Control, Surveillance and Laboratory Access**

Each of the countries seems to have identified their preferred method of breeding site control, adapted through the years of *Aedes* programs. However, HC3 did not see any recent data on the success or acceptance of these methods. In Honduras, the preferred method for promotion by the government is to clean water containers (at least "pilas" or wash basins) with "Untadita" (a combination of bleach and detergent applied directly to the mosquito eggs), while in El Salvador, Guatemala and DR the use of a larvicide (Abate®) is more prevalent. Applying bleach to the walls of the water containers is also used in El Salvador and the DR. Guatemala promoted scrubbing pilas and barrels, although to a lesser extent than larviciding. The El Salvador MOH is piloting the use of small fish ("alevines") in water barrels to control larvae. This approach has been used successfully in other Latin American countries.

El Salvador's strong surveillance system (a product of health reform) includes regular updates to the media about the recent successes in reducing larval indices across regions and shares numbers for each region. The Honduras and DR systems also seem strong, although both expressed challenges with resource mobilization and staffing to keep up with the existing outbreak. In Guatemala, stakeholders lack confidence in the surveillance system despite improvements made in the months since the Zika outbreak began, due to the diligence of the national Epidemiology unit, which investigated data discrepancies from the departments. The surveillance system is hindered by the dearth of health care facilities. In addition, not all health centers consistently report to the surveillance system. In all four countries, private providers do not have easy access to report Zika or test for it.

All countries report conducting larval surveys but with varying frequency. For example, the DR surveys three times a year and El Salvador frequently spot checks. Mention of infestation indices was non-specific in our conversations. The DR mentioned using a combined index consisting of the House Index, the Container Index and the Breteau. HC3 did not obtain any additional detail as to which exact index each country was referring to, how they combine the indices (in the case of the DR) or the sampling method and size. No country, except El Salvador, included any infestation data in their presentations to the HC3 team.

Laboratory capability varies across the four countries and may have had an impact on both the speed at which the epidemic was identified in the country, as well as the regularity with which updated numbers are released to the public. Honduras and El Salvador have high technical laboratory capacity, and local

staff are now trained and certified in the laboratory procedure though they have very limited reagents to conduct the tests.

The DR just gained capacity to complete their own testing in April 2016, and the Centers for Disease Control and Prevention (CDC) plans to provide reagent supplies. Guatemala has national laboratory facilities, but there is concern of gross underreporting as the suspected case rate is much lower than the other countries. However, the proportion of confirmed cases in Guatemala is considerably higher than the other countries.

### **Security**

Security plays an important role in vector control in all of these countries, in terms of violence and the presence of gangs, as it affects not only government access to houses for breeding site inspection and fumigation, but also MOH distribution of commodities such as larvicide (*Abate*<sup>®</sup>) and family planning methods. In El Salvador – and Honduras to a lesser extent – the gang problems are severe. In this instance, the MOH relies on the Red Cross and faith-based organizations to conduct community mobilization, clean up campaigns and educational campaigns.

In El Salvador, gang issues also affect access to family planning, antenatal care, post-natal and newborn care. For example, one problem is that young girls controlled by gang members are not allowed to venture out of the compounds.

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## VI. COUNTRY SUMMARIES

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### **Honduras Landscaping Summary (March 14-18, 2016)**

Honduras is a Central American country of approximately eight million (World Bank, 2014) with more than two thirds of the population living in poverty and half suffering from extreme poverty (World Bank, 2012). Water supply and sanitation varies greatly between urban and rural areas. Many areas of the metropolitan Tegucigalpa area are “ruled” by gangs. San Pedro Sula is an area prone to drought and civil unrest, with one of the highest murder rates worldwide due to drug trafficking. In 2014, the Honduras National Health Department was decentralized. As a result of this process, national technical guidelines are developed at the national level, but vector control is conducted at the regional level. These factors all have implications for vector control.

In Honduras, the first case of Zika related to the current outbreak was reported in December 2015. Zika cases increased drastically in January 2016. On February 2, 2016, President Hernandez declared a national health emergency. More than half of the Zika cases were reportedly coming from San Pedro Sula and very few from Tegucigalpa. Since in-country laboratory testing was limited due to a shortage of the necessary reagents, Zika testing was done in the U.S., resulting in a delay in reporting. At the time of the landscaping visit, Honduras had only two confirmed Zika cases. According to landscaping interviews, 15 Guillain-Barre syndrome (GBS) cases and one microcephaly case occurred during this period but none were attributed to Zika.

Family planning use in Honduras is high with approximately 64 percent CPR (modern methods). Contraceptives are available through the public and private sector, pharmacies and NGOs. Since 2009 the MOH has experienced serious financial constraints to purchase contraceptives, and in the last years UNFPA has supplied the country with donations of contraceptives. This process reduces corruption but takes more time, does not meet the demand and has led to stock outs. Emergency Contraception is not legal.

The national Zika response, known as the “Strategic Command against Zika,” is coordinated by the Vice Minister of Health of Honduras, Dr. Francis Contreras, in coordination with the Office of the President and the Minister of Health. The President has been very visible in the campaign to combat Zika and is featured in a series of TV and radio public service announcements (PSAs) calling for intensified clean up campaigns. According to the Vice Minister, the Strategic Command includes a network of allies, such as PAHO, UNICEF, Red Cross and others. The collaboration structure and role of each organization was not fully evident at the time of the landscaping visit. Since then, however, HC3 understands that a series of meetings have taken place to better coordinate the stakeholders.

The main actions called for by the Strategic Command include:

- **Community-based vector control** through clean up campaigns and cleaning of large water storage containers (pilas) and barrels, via increased outreach efforts by MOH Environmental Health Technicians (Técnicos Salud Ambiental or TSAs) stationed in every health region, and through local-level collaboration with community boards (“patronatos”), churches, NGOs and community volunteers.
- **Raising public awareness** through a communication campaign from the President’s office, with the slogan: “Si no hay zancudo, no hay Zika” (If there’s no mosquito, there’s no Zika).
- **Social mobilization education** through the schools and a program to engage students in reporting on (and encouraging cleaning of) breeding sites in their homes.
- **Fumigation by TSAs** with adulticide where suspected Zika cases are reported, generalized use of larvicides and biological control using *Bacillus thuringiensis israelensis* (BTI) in water storage containers.

At the time of the landscaping visit in March 2016, not many suspected Zika cases were announced (they were still referencing the February figures of 3,037) and the general population did not yet perceive a high risk for themselves. Although some people with whom HC3 met suspected they may have had Zika, recent dengue and chikungunya experiences seemed much more prominent in people’s minds. Since it is an election year, the rumor among both the general population and professionals is that Zika was perhaps a distraction or fear campaign fabricated by the government.

The Zika response at all levels was not standalone, but rather was seen as an opportunity to promote ongoing and enhanced mosquito control for dengue, chikungunya and Zika. The vector control program was using the campaign to push their ongoing *Aedes* breeding site reduction efforts. Even before the Zika emergency was announced, there was a push in Honduras to rid homes of breeding sites through house-to-house visits due to recent dengue and chikungunya outbreaks. The TSAs said they have had great success, citing a reduction in positive infestation indices. They limit adulticide fumigation to homes around a suspected case, although they spray schools monthly. Barriers related to working households and security prevent access to homes for fumigation and cause shortages of insecticides, as well as equipment and staff payment. They also discussed other measures they take, such as puncturing old tires to drain them of water and working with private cemetery owners to overturn flower pots left out during the rainy season.

Beyond the president’s communication campaign, the MOH Department of Normalization conducts social mobilization at the community level around healthy behaviors (including *Aedes* control) and a school-based pilot project that encourages youth to check their homes for breeding sites. At the time of HC3’s visit, the NGO, academic and donor community were waiting for more stringent guidance from the government on how to address Zika as a nation. The UN agencies, led by UNICEF, had just drafted a proposal for a unified Zika communication strategy, which they presented to HC3 and planned on presenting to the government in April 2016. Meanwhile, Red Cross, UNFPA and JICA were moving forward with their own social mobilization and material distribution efforts, as was the National University of Honduras (UNAH). The University’s efforts were mostly directed to their campuses and included highly trained epidemiologist, virologists, entomologists and social scientists eager to contribute their services and expertise at the national level. Many of the messages promoted general clean-up, while some focused more on the direct destruction of mosquito eggs on the walls of pilas using bleach, but none gave clear instructions on breeding site reduction methods or priorities.



## El Salvador Landscaping Summary (April 4-8, 2016)

El Salvador has a population of more than six million and is located between Guatemala (to the north) and Honduras (to the east). Considerable transit and migration takes place between these countries. The majority of the population is based in and around the capital city of San Salvador. A significant number of the population has migrated north for work and to escape one of the highest rates of homicides in the world. Many communities are controlled by gangs, which has wide implications for vector control and health promotion.

Zika was first detected in El Salvador in 2015 with an estimated 3,836 suspected cases. According to the weekly Ministry of Health or El Ministerio de Salud (MOH) health bulletin, by mid-April 2016 an additional 6,137 suspected cases were reported, totaling 9,973 cases thus far. In 2016, at the time of the visit, 194 suspected cases of Zika had been reported among pregnant women, and of those 43 are confirmed. Between mid-November 2015 and mid-April 2016, 151 cases of GBS were confirmed. In this same time period three cases of microcephaly were reported, none of which were linked to Zika. The highest burden of cases is in the San Salvador zone, and secondarily the provinces north of the capital city zone.

Family planning use is high in El Salvador, with 68 percent CPR (modern methods). Contraceptives, including emergency contraception, are available through the public sector, pharmacies and some NGOs. Approximately one third of births are among youth. Sexual violence, including domestic violence, is widely reported.

The MOH (El Ministerio de Salud - MINSAL) is leading the effort to combat and control Zika. The established health surveillance system has enabled the MOH to track the Zika outbreak closely and provide timely statistical updates. The MOH uses a proactive vector control approach conducted in close collaboration with the Civil Protection Agency. They have deployed workers to focus on larval surveillance through house visits during national “jornadas” – calls to action to mobilize all communities nationwide for cleanup days. The vector and health outreach workers check for breeding sites and report having visited approximately 80 percent of the accessible homes. Water storage barrels are prime breeding sites. In 2016, over one million water storage breeding sites were reportedly eliminated and 1,700 tires destroyed. Many homes, both rural and urban, have water storage tanks of some kind due to challenges with the water delivery system. Abate<sup>®</sup>, the most common larvicide, is used to kill larva in these containers. However, Abate<sup>®</sup> is distributed via health clinics and only available when clinics are open. The MOH is testing “alevines” in twelve municipalities – small tilapia fish which can live in water tanks and eat mosquito larvae. After a few months they are big enough for human consumption and serve as an accessible form of protein for rural communities. Home visits also include general sanitation cleanup efforts. In terms of fumigation, the MOH stated that community fumigation is less effective. Thus, it focuses efforts on household fumigation and reported fumigating 3,397 homes as of March 2016.

The MOH produced 12,000 pieces of Zika-related educational materials (such as fliers and posters – see cover image) which were distributed in communities and via radio. The key Zika prevention slogan is: ***“It’s in My Hands” to eliminate breeding sites for Dengue, Zika and Chikungunya.*** The call to action is for general clean up and breeding site elimination in and around the home. The MOH health education unit reported pretesting the materials. The visuals – while colorful and attractive – may not be entirely clear and the call to action may be too diffuse. The materials serve more for information dissemination than to change key behaviors. No research currently exists related to community and household perceptions, fears regarding Zika or what actions people have taken to prevent Zika in their family.

Outreach workers provide face-to-face orientation to the public on proper cleaning of water storage barrels using Abate® or bleach (said to be less effective), as well as covering receptacles and general cleanup of bottles and tires that may collect water. Zika prevention messages are now integrated with dengue and chikungunya prevention messages in the community. The MOH also staffs and promotes a health hotline but it is unclear how many calls the hotline has received regarding Zika.

Early on in the epidemic, some people felt that the Vice Minister's recommendation for women to consider avoiding pregnancy for up to two years triggered concerns. The MOH provided tips to pregnant women on preventing Zika (e.g. repellent, long sleeves etc.). Contraceptive methods were not specifically promoted although they are available through the public and private sector. High rates of sexual violence make the need for contraceptive access even more acute; it also inhibits the tracking of microcephaly and GBS cases as well as the provision of psychosocial support.

El Salvador has a wide group of stakeholders who seem well aligned and following the lead of the government in vector control and SBCC. PAHO leads the UN interagency group of 13 agencies which meet regularly. UNICEF is actively engaged with the Ministerio de Educación El Salvador (Ministry of Education) to reach teachers and school children as agents of change. UNFPA supports the MOH in procuring contraceptive supplies. Several NGOs, such as WV and Red Cross, are active at the community level. The media reports on Zika sporadically.

### **Dominican Republic Landscaping Summary (April 11-15, 2016)**

The Dominican Republic (DR), with a population of 10.6 million, is one of two island nations sharing Hispaniola, along with its neighbor, Haiti. The country has a high volume of tourism year round and a large gap between rich and poor. Similar to other low- and middle-income countries, the Dominican Republic is undergoing health reform, shifting budgets and responsibilities from the central level to the Regions and provinces, which in turn delegates the management of the health service network to the Regional level. This has implications for coordinated country-wide vector control. Santo Domingo is known for its many challenges in infrastructure around water supply and waste collection, including old water pipes, illegal connections or simply punctures to collect water. Poorer residents countrywide and those who lack a municipal water supply will wait until the rain comes, or buy water from commercial water trucks, and commonly store it in 35 gallon repurposed metal or plastic drums.

Zika has specifically challenged in-county and global diagnostics due to: (a) lack of reagent availability for a hitherto relatively unknown disease; (b) cross-reactivity with dengue and chikungunya antibodies in immunoassays when present; (c) short window of detection both for antibody and for viral Ribonucleic Acid (RNA), before and after which the lab test is inconclusive. As a result, the number of confirmed cases remains minimal, causing rumors and lack of trust towards public health authorities in the local press and social media, as well as the population, and even among practicing clinicians. The country epidemiologists that we interviewed mentioned that many of their colleagues remain unconvinced that Zika has indeed invaded the DR, while others speak of data censorship. Under-reporting of cases among Haitian migrants is a concern, as their temporary and often illegal status negatively affects their care seeking at health facilities.

Dengue fever outbreaks are a perennial problem. Vector control authorities report a seasonal increase of all mosquito types during and right after a period of rains, but they also report intensified mosquito larvae infestation in indoor water storage containers during drier periods due to a shortage of other habitats.

Family planning use is high in the DR with 68 percent CPR (modern methods). However, concern remains about the high youth pregnancy rate. Contraceptives are available through the public sector, pharmacies and NGOs. Emergency contraception is available in pharmacies and reportedly expensive. Condoms have been widely promoted and used over the years for HIV prevention. The Minister of Public Health advised the public to postpone pregnancies until 2017. This advice received a mixed response in the media.

When DR declared Zika a national public health emergency, the Inter-sectoral Humanitarian Response Committee was activated. This Committee – which includes MOH units, NGOs, the private sector, bilateral organizations, multi-lateral UN-based organizations and the media – meets in the capital bi-weekly. The DR Vice-Minister of Health, who has been leading and coordinating the bulk of the response, provides weekly updates to the Inter-sectoral Humanitarian Response Committee and the Center of Emergency Operations. The MOH has regularly posted Zika information on social media and has produced and aired at least one TV spot. The National Tropical Disease Control Unit (CENCET) leads vector control efforts which consist of chemical and biological control as well as training of trainers who in turn coordinate with municipal services to train a large range of volunteers, constituents and affiliates of faith-based and secular NGOs, schools and the army. These trainees are subsequently mobilized for community clean ups and door-to-door visits to counsel families on how to eliminate discardable containers and clean water storage containers effectively. The NGOs divide up the community according to where each has the most leverage and take responsibility for specific areas. Due to its mandate, UNICEF also works with the Ministry of Education. The press has been regularly writing about Zika.

The Dominican Republic’s established protocol for fighting dengue, chikungunya and Zika is threefold:

1. Community-based source reduction interventions, and authority-based chemical or biological control.
2. Perifocal vector control of suspected and confirmed cases through similar authority-based activities, as well as application of space adulticides inside the home of the case and its neighbors.
3. Pro-active periodic entomologic surveillance to detect degree of *Aedes* mosquito vector infestation and its susceptibility to adulticides and larvicides.

These measures are not always feasible due to chronic under-staffing and budgeting. Insecticides are not always available at the point of use where they are needed, are expensive, are damaging to the broader environment and prolonged use inevitably causes resistance. It also appears that space spraying continues to be used, despite PAHO recommendations of its reduced effectiveness. Recommended container cleaning behaviors are also labor intensive, require special skills and must be repeated very frequently, which makes them difficult to sustain and places an extra burden on the already overworked women caregivers. A long lag time between case identification and vector control unit notification creates a missed opportunity for perifocal control. Working to address these challenges, CENCET said that they have not been able to conduct insecticide susceptibility trials in a long time. They do conduct larval infestation “spot check” surveys three times a year to obtain a representative national sample. CENCET reports that the 35 gallon water storage drums are the number one priority container for *Aedes* control [actual data not shared].

MOH and UNFPA stated that the institutional attitude towards access and use of all modern contraceptives is generally positive, except among adolescents and highly mobile Haitian migrants. Consistent condom use by all age groups is the only method to prevent sexual transmission of Zika

between men and their partners, but the country has decided to not emphasize this behavior compared to vector control in order to keep everyone focused on the main transmission pathway.

The population seems concerned about Zika, but many people are reportedly puzzled as to why, if the same mosquito transmits Zika, dengue and chikungunya, one does not get sick with all three viruses at the same time, revealing a lack of full understanding of what a vector is. The DR's current health services lack the capacity to manage severe GBS or to early diagnose congenital sequelae. The implications of GBS for any breadwinner, child or caregiver, are particularly concerning. It also appears that space spraying continues to be used, despite PAHO recommendations of its reduced effectiveness. Another concern is that when effective cleaning information is passed from mentor trainers to other trainers to community volunteers to household members, the skills to perform breeding site elimination correctly – focused on large water containers and tires – often get lost or misrepresented.

The vector control messages are broad and repeated in informational materials and the TV spot which emphasize clean up campaigns of small containers rather than the larger drums and tires, which are more productive breeding sites. Outreach materials were seen as key to the collaboration partners. The NGO community was frustrated with the MOH's slow response to approve other risk communication and outreach plans and were also not clear as to why the confirmed cases are so low, creating a climate of distrusts which hampers collaboration.

### **Guatemala Landscaping Summary (April 18-22, 2016)**

Guatemala has a population of approximately 15.47 million (2013) and is a country of varied cultural groups, including a large population of Mayan heritage and over 20 languages. The country sees significant internal seasonal migration for agricultural labor (coffee and sugar), as well as international migration in search of employment. The government is mostly decentralized. The MOH is expected to provide free health care services to approximately 80 percent of the population (however, this coverage has reduced recently). A government social security initiative (Instituto Guatemalteco de Seguridad Social) provides services through employee health insurance to approximately 17 percent of the population approximately three percent accesses private providers.

The government faces a significant budget shortfall due to a large debt. This lack of funds affects the ability to pay health care worker salaries, purchase and maintain medical equipment, and procure and transport medical supplies, medicines, vaccines, family planning commodities and other essential items. A lack of leadership due to the frequent turnover of health ministers since 2014 has also severely affected the MOH. Another challenge is providing primary health care services after the collapse of the Programa de Extension de Cobertura, a decentralized health care system, which provided primary health care to 4.6 million people in rural and hard to reach parts of the country through government funded clinics administered by NGOs. This system was discontinued in late 2014 and a replacement primary health care system is planned but not yet implemented.

Stakeholders are in agreement that Zika is grossly underreported in Guatemala. The first Zika case was recorded in November 2015. In 2016 epidemiological week 14, Guatemala reported 915 suspected cases and 261 confirmed cases. In 2015-2016, the country had 57 confirmed cases of Zika among pregnant women. No cases of microcephaly or GBS were reported. The majority of the Areas de Salud (76 percent) have reported at least one confirmed case of Zika (epidemiological week 14). The national laboratory is able to test for Zika. The majority of confirmed cases are in women of reproductive age. The highest burden of disease is found in the departments of Zacapa, Santa Rosa, Quetzaltenango, Chiquimula, Suchitepéquez and Retalhuleu.

According to the Demographic and Health Surveys (DHS)/ Encuesta Nacional de Salud Materno Infantil (National Survey of Maternal and Child Health) (ENSMI) 2014-15 Key Indicators Report, the CPR with modern methods in Guatemala is 49 percent. Since 2014, due to the depletion of the MOH's fiscal resources, the supply of family planning commodities in government clinics has been irregular and stock-outs are common. Currently, the Ministry of Public Health and Social Assistance (MSPAS) National Reproductive Health Program has procured a stock of family planning commodities, with supplies for at least one year. However, a lack of funds for supply chain logistics limits the movement of the stock to health care centers throughout the country. The Asociación Pro Bienestar de La Familia (APROFAM) is the second most important provider of family planning and reproductive health services in the country, covering nearly 16 percent of the population. APROFAM clinics are among the best equipped in the country for antenatal care.

MSPAS is viewed by most stakeholders as the leader in the Zika response. Although the CDC has stated scientific consensus about the causative link between Zika and congenital malformations, MSPAS will not issue guidance on this point until a formal statement is made by the World Health Organization (WHO) and PAHO. Most stakeholders expressed hesitation to initiate programming around this due to lacking a formal announcement from MSPAS. As an initial step, the MSPAS Reproductive Health Program has developed a *Guide for Clinical Care of Suspected or Confirmed Zika Cases among Women of Reproductive Age, Pregnant Women and Newborns*. The guide is not yet public but will soon be pretested with the target user: health care providers. However, at the time of the landscaping visit, MSPAS Reproductive Health Program did not have the budget for printing or dissemination of the guide. The Program does not currently use any Zika communication material directed at pregnant women.

The Guatemala vector control program's focus is elimination of larval sources with larviciding (using Temephos one percent, Abate®), prioritizing large water storage containers in homes. They have a cadre of field staff ("operativos") that was recently cut by 50 percent. The Operativos make home visits to conduct entomological surveillance, physically destroy breeding sites, apply larvicide to large water containers and investigate houses where febrile outbreaks are reported. The Operativos also promote "deschatarrazacion" or junk clean up campaigns for homeowners to remove junk items for collection by municipal trucks. Fumigation with an adulticide is used in outbreaks to cut transmission, despite recognition that this method has limited sustainability. Finally, they promote scrubbing large water containers regularly during cleaning (no recommendation given about use of bleach or detergent). Because the Operativos have more contact with community members than others, they often find themselves in the position of ad hoc communicators about *Aedes* transmitted disease prevention, symptom recognition, and other topics. However, they are not trained in counseling or inter-personal communication (IPC). Similarly, the language they use is often too technical, hindering the effectiveness in their own interventions to engage households in vector control.

The MSPAS Health Promotion Program seeks to address Zika within its overarching Communication for Development platform, encouraging community and municipal participation and empowerment to identify and address the issues they face, and recognize this is a long-term strategy. For Zika, they promote: "Patio Limpio, Escuela Limpia, Municipio Limpio," which translates to "Clean Patio, Clean School, Clean Municipality." The MSPAS Health Promotion group was approached by WV and the Red Cross with pre-developed communication activities and materials (posters, radio, TV spots and a coloring book for children). These were adapted by MSPAS as official national communication materials for Zika. The slogan is "Zika depende de mi, depende de ti," which translates to "Zika depends on me, depends on you." These materials focus on vector control and personal prevention of mosquito bites.

Information on sexual transmission or the risks for women of reproductive age is not covered. No community guidance on GBS or microcephaly is currently available. World Vision has played an important role in mobilizing quickly to support MSPAS's response to Zika, and also supported the mass production of MSPAS's Zika communication materials. MSPAS lacks funds for printing and has limited resources for implementation and supervision due to the small number of field staff who have many duties in addition to Zika. Other groups are not required to utilize these materials.

The MSPAS's coordination mechanism, previously called the Grupo Tecnico (GT) Dengue, was recently renamed to GT *Aedes*. This group developed an integrated plan for dengue, chikungunya and Zika for the short (two months), medium and long term (one year). GT *Aedes* is led by the MOH Epidemiology Department and includes various departments across MSPAS. Every other week, after their internal meeting, the meeting is open to outside agencies like NGOs and USAID. PAHO provides technical leadership and guidance.

#### **Challenges:**

- Leadership has limited time to manage the GT *Aedes* group and take advantage of the opportunities it offers, which generates frustration.
- The group's role is entirely technical and informational, lacks political influence and the MSPAS response is slow to approve/receive donations (bottleneck).
- Coordination with partners outside of MSPAS is not necessarily deliberate or strategic, as the initiative to coordinate comes from cooperating partners themselves.
- While there is a lack of confidence in the capacity of MSPAS, non-governmental groups still expect MSPAS to lead the Zika response.

A number of UN agencies, NGOs, private sector groups, professional and civil society organizations are active in Guatemala's Zika response and coordinate with MSPAS to varying degrees. Of those with which the landscaping team was able to meet, Project Concern International (PCI), Pan American Social Marketing Association (PASMO), APROFAM, and World Vision are conducting SBCC activities focusing mostly on the prevention of vector-borne transmission. APROFAM's "Que no te pique" campaign involves educating its clinicians to counsel clients on Zika prevention, and their community health promoters share Zika prevention messages with clients during community visits. PASMO is pre-testing a Zika prevention kit for pregnant women containing condoms and repellent. PASMO is the only group providing information about prevention of sexual transmission. World Vision materials focus on larval breeding site reduction, promoting "patio limpio" (clean homes) with the MSPAS, as described above. World Vision also distributes untreated nets. With the MSPAS, World Vision implements a campaign in schools with a coloring book to help children identify breeding sites, and have begun a radio campaign. They have a community prevention kit for working with the Community Councils of Urban and Rural Development (COCODES) on community reduction of breeding sites. Challenges include translating information into other languages and that expected behaviors are mostly falling on the shoulders of women and children. PCI has a several platforms that can be leveraged, such as the "Mi Barrio" program to improve peri-urban infrastructure and a network of women entrepreneurs. PCI also has produced Zika posters and early in 2015 took the initiative to host an NGO coordination meeting on Zika. PAHO is employing a risk communication strategy using social media. Finally, several other groups have strong platforms to reach influential or key actors in Zika and are open to collaboration, including medical professional organizations, the Observatorio en Salud Reproductiva (Observatory Network for Reproductive Health) (OSAR), the media, military health and the sugar growers' association. The latter has also produced some radio spots and print materials on Zika.

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## VII. RECOMMENDATIONS

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### Communication Strategies

- All of the countries visited had national Zika control or prevention plans, some more technically developed than others. Each country could benefit from technical support in developing or refining their national Zika Communication Strategy and corresponding Zika SBCC Operational Plan. Final documents should include not only specific communication objectives, but also: key messaging (including, specific “calls to action”); guidance on key audiences, channels and tone (creative briefs); and identification of leadership, responsibilities and distribution of efforts across partners and geographic areas.

Developing national Zika control and prevention communication strategies and operational plans to implement the strategies with key partner leads to greater consistency of prevention messages in implementation and community outreach. The most effective way to ensure that both political and technical stakeholders buy into the strategy and messages is to include them as part of the design process. This includes Ministry of Health (including Zika leadership and/or coordinating body, vector control, surveillance/Epidemiology, health promotion, service providers, etc.); NGOs and other entities working in SBCC, community mobilization and advocacy (including faith based organizations and private sector); university and/or research representatives; and those responsible for family planning distribution and placement. The process can also include local leaders (especially in decentralized health systems) and democracy and governance partners where appropriate. Collaboration amongst partners should not stop at the strategy design phase, but ensure continued coordination, mapping and reporting of activities.

- While all countries were concerned about an inevitable resurgence in Zika cases once the rainy season arrives, it did not appear stakeholders were informed of the long-term planning that was or was not taking place. Every country needs to plan as soon as possible for a second wave of Zika and a possible upsurge in microcephaly/GBS cases. Planning should include a focus on:
  - Resource mobilization and allocation through and beyond the rainy season
  - A communication strategy based on possible scenarios of the epidemic (and according to phases)
  - Vector control plan based on possible scenarios of the epidemic (and according to phases)
  - Service provider needs and priorities
  - Family planning and reproductive health focus
  - Microcephaly and GBS management (patient, newborn and family support and counseling)

## Formative Research and Monitoring and Evaluation

- Each of the countries would benefit from rapid formative research to better understand the perceptions, myths and motivations around Zika, mosquito borne illnesses, breeding site reduction behaviors, use of family planning during the Zika outbreak and other related topics. Discussions had started in Honduras with the university to develop such a tool. WHO has also put together a resource package that includes a set of key knowledge, attitudes and practice (KAP) questions for Zika, microcephaly and GBS. UNICEF expressed interest in research on community perceptions around Zika and is supporting a literature review on community participation regarding dengue.

The research should include exploration of knowledge, attitudes and perceptions of vector control outreach workers, community mobilizers and service to better incorporate them as both target audience and disseminators of messages for Zika communication efforts.

- Ensure communication and mobilization activities include monitoring and evaluation that measures not only process indicators (e.g., materials produced and houses visited) but also impact indicators (household larval indices), if at all possible.

## Message Fine Tuning and Communication Platforms

- Overall, messaging should focus on framing Zika control as a reemphasis on the larger *Aedes aegypti* vector control (against dengue, chikungunya and Zika) with a "shared responsibility" tone, outlining specific calls to action for breeding site reduction by the family, and motivational messaging to reposition mosquito borne illnesses as beatable and not acceptable or inevitable. The majority of ministries visited already have Zika prevention slogans, which include a call to action to citizens to get involved in Zika prevention. However, in many of the countries, the call to action revolves around monthly or quarterly clean up mobilizations (jornadas) organized by the governments, which are insufficient to keep the mosquito population down. Every family is part of the solution—the MOH alone or government alone cannot make significant headway in fighting the three vector borne diseases.

Messages should not be positioned as "general cleanup messages." While these are good for overall and long-term health, for the immediate epidemic this confuses recipients about priority actions. Preventative behaviors should focus on the most important larval habitats and campaigns should de-emphasize behaviors directed at unimportant habitats. Monitoring (entomological surveys) and recognition campaigns should be based on this as well (i.e., no prizes for a clean yard, just for containers free of larvae/eggs.)

Linking Zika to microcephaly and GBS should be done in a way that is empowering, realistic within the local context and not fear based, with an emphasis on family planning access and informed choice and use. More attention should be paid to family planning messages in the Zika context for women and couples who choose to postpone pregnancy. Currently sexual transmission is not addressed in the region but this should be integrated into counseling guidelines.



At the same time, specific messages are needed for pregnant woman to avoid Zika, as well as women and couples who are thinking about having children in the near future. Most of the countries have some materials and messages for pregnant women, but personal protection messages can be stepped up and proactively integrated into a range of counseling and outreach opportunities.

- All four countries would benefit from technical support in identifying specific, realistic and effective calls to action to address in their communication strategy. This should include a technical vector control team to assess the available breeding site reduction techniques (e.g., larvicides, Untadita solution made with bleach and without detergent, alevines (small fish), house-to-house surveillance and jornadas), and to develop recommendations on priority actions for individuals and vector control teams, including recommended larval reduction techniques by container and geographic location.
- All four countries would benefit from developing audience specific materials based on technically sound and global recommendations. Regional guidance documents could be identified or developed for specific SBCC Zika materials, or generic and adaptable creative briefs/materials developed for country adaptation. These could include:
  - Provider jobs aids (family planning and Zika, sexual transmission, prenatal Zika prevention, microcephaly and GBS prevention and treatment)
  - Outreach workers' *Aedes* breeding site reduction aid
  - Press information packet
- Train vector control field staff and other NGO outreach workers in inter-personal communication, personal prevention of Zika, chikungunya, dengue, recognition of symptoms and health care seeking.
- Experience in the recent Ebola outbreak and other risk communication issues has demonstrated the importance of good press communication and education. Each country, if they have not already, should develop a system for regularly updating the press, as well as establishing open, transparent communication for questions and timely exchanges. Internews or a similar organization should be explored to develop a media training package and workshop, as well as developing a rumor tracking system as done by HC3 for Ebola.
- Digital platforms should be explored for improving communication and outreach to pregnant women and women of reproductive age via WhatsApp or along the lines of the txt4baby platform. This would be an opportunity to enable women of reproductive age to access information they need related to pregnancy prevention and family planning in the context of Zika. This falls into the context of the SMART client approach, where interventions empower women to answer the questions they might already have, think about what else they need to make decisions, and get access to resources to address their needs (informational and/or family planning services). The platform would need to be promoted, presumably through existing relevant mechanisms.
- Digital platforms can also support providers in family planning counseling and Zika prevention during pregnancy. WhatsApp groups could be organized for providers with Zika frequently asked questions as a job aid.

- An online portal and regional network should be developed to serve as a neutral platform for Zika stakeholders to share SBCC materials. Materials would include those locally produced and related to Zika prevention and treatment, such as vector control, maternal and child health and family planning, as well as materials from UNICEF, PAHO, WHO and other trusted public health agencies in the region. This would allow stakeholders to upload SBCC materials for review by the site administrator(s) and sharing (Note: USAID has subsequently approved funding for this activity).

## **Coordination**

- Countries should take advantage of the NGO community that has strong links to peri-urban and rural communities. Many of the NGOs use community participation methodologies that empower communities to be proactive in vector control. Bring on more partners who can widen the reach of this community, such as church networks and the private sector, who benefit from a healthy workforce and play a large role in some countries in the tourist industry.
- Interface with the Council of Ministers of Health of Central America and Dominican Republic (COMISCA) and the health arm of the regional coordinating body, Central American Integration System (SICA), to increase consistency in Zika prevention, especially prevention messages for pregnant women, family planning messages for couples and vector control messages for families, as well as to share lessons learned in Zika prevention and best practices as they emerge, across a region with substantial cross-border commerce and tourism.

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## VIII. COUNTRY SPECIFIC RECOMMENDATIONS

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In addition to the overarching recommendations above for all four countries, below are country specific suggestions tailored to the unique situation and context of each country:

### Honduras

- The Honduran government and Office of the President may want to consider recognizing and endorsing the inter-institutional coordinated body being led by UNICEF and jointly develop a short- and long-term plan for collaborative communication efforts. Many players are already working on Zika control and others who are waiting for guidance and leadership, but combined resources and messaging will greatly increase the effectiveness and success of these efforts.
- Identify internal or external technical SBCC support to refine and finalize the UN drafted Zika Communication Plan.
- Capitalize on the UNAH survey being designed by integrating additional KAP formative research questions and collaborating with other stakeholders outside of the university environment.
- Work with vector control at MOH and UNAH to identify the best source reduction interventions by area and include them in the national communication strategy.
- Further explore all the existing school curricula utilized for *Aedes* vector control, identify which ones were successful in promoting household participation, promote them nationally and include them in the national strategy.

### El Salvador

- *Abate*<sup>®</sup> is the primary vector control method being promoted but there appear to be challenges in distribution and access. Some people may have difficulty accessing this vector control method, as it is only distributed in public health centers. This access barrier should be further explored and addressed.
- Ensure that areas with security concerns have a targeted plan for a second wave of Zika prevention and control, including family planning access, and GBS/microcephaly tracking, treatment and services.
- Maximize the existing Ministerio de Salud de El Salvador (MINSAL) health hotline to promote targeted and technically accurate Zika prevention and control messages.
- Further explore scaling up and promoting alevines (small fish) as a vector control method in certain areas and rethink vector control approaches at the community levels, including focused breeding site reduction in barrels vs. backyards.
- Strengthen the link between vector control and local and municipal leadership.

### Dominican Republic

- Support DR Centro de Operaciones de Emergencias (COE) to develop an Emergency Response Protocol for health emergencies (CDC and/or PAHO may also be supporting this activity).
- Include Haitians as a priority population and develop audience specific activities in Zika strategy and outreach materials in Creole. USAID/Santo Domingo hopes to have access to the materials being developed in Haiti with support from USAID/Port Au Prince to share. Next steps will include an action plan for sharing across countries and specific distribution in DR.

- Accelerate the Ministry of Health material approval process (for purpose of checking fidelity to MOH messaging), by improving coordination among partners and MOH and ensuring materials follow the SBCC strategy.
- Advocate for an ecological approach to vector control that goes beyond the household. For example, explore and expand new initiatives with the private sector such as collaboration in the collection and disposal of old tires and partnerships with the tourist industry.
- Utilize environmental and ecotourism movements to forge alliances, especially with the private sector.

## Guatemala

- Bolster the leadership of GT *Aedes* with a staff member focused exclusively on the *Aedes* response who also has strong political networks and links to advocate for decision making and action at a higher level.
- Consider the possibility of coordinating with APROFAM and the Association of Obstetrics and Gynecology in antenatal care for pregnant women who are confirmed Zika cases in the catchment areas of these clinics and providers.
- Support publication and dissemination of the *Guide for Clinical Care of Suspected or Confirmed Zika Cases among Women of Reproductive Age, Pregnant Women and Newborns*, by MSPAS for health providers.
- Translate Zika, dengue and Chikungunya messages (specifically oral messages for radio spots or inter-personal communication) into one or two other languages to reach more of the population.
- Reinforce capacity and participation of civil society, including OSAR, as a model for other issues such as vector-borne diseases and explore the expansion of promising social mobilization initiatives in Quetzaltenango.
- Train vector control field staff (Operativos) in inter-personal communication skills, personal prevention of Zika, chikungunya and dengue, as well as recognition of symptoms and health care seeking