

JACOZIKASAFE UPDATE



This paper provides an introduction to the Zika virus and its health and economic impact to the City of Jaco, Costa Rica. I, John David Arnold, Ph.D. (PPEP CEO, www.ppep.org), recently spent three weeks in this city; plus visiting other parts of Costa Rica and Nicaragua susceptible to the Zika virus. Below is one the best tested primer's I've seen on the subject of the Zika virus and its education/ prevention. The City of Jaco Costa Rica's model, which began last May 2016, can be replicated almost anywhere. My email address is jarnold@ppep.org. My cell number is 520-591-5600. It should be noted I'm not a medical doctor nor do I make any medical or treatment claims. We are merely passing on information that was shared with me and observations made it should be verified and adapted to each local environment.

The following introduces the town's positive response to addressing this pandemic.

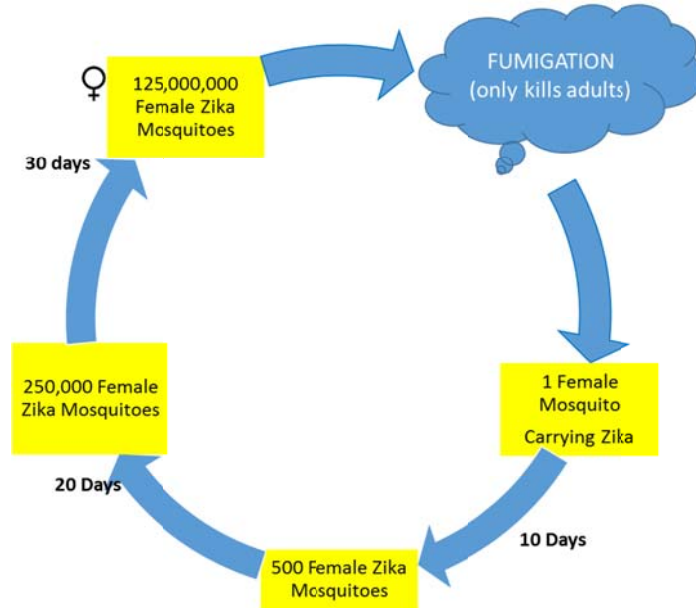
We are documenting our experience and sharing the lessons learned in the hope this information will be beneficial for other communities.

- JACOZIKASAFE started May 28, 2016 in response to a spike in Jaco Zika cases. We are a Non-Profit/Non-Political small group comprised of Costa Rican and Canadians.
- OBJECTIVE – To develop an integrated and sustainable program for the Canton of Jaco, Cost Rica, to minimize the **health and economic risks** resulting from the Zika virus pandemic.
- ZIKA FACTS
 - Zika is a virus transmitted primarily by Aedes mosquitoes (7 - 10 day life cycle – lays 1,000 eggs in 4 to 5 different breeding locations). Typically travel only 150 meters from breeding site during their life.
 - Zika eggs can lay dormant for up to one year. Add water ---they hatch
 - And while the Zika virus is currently the number one headline --- there are currently 12,000 cases of Dengue and xxx Chikungunya in Costa Rica year todate.
 - A growing concern among scientists is that the Zika virus might mutate leading to additional health risks.
 - The Aedes mosquito thrives in urban areas where there is garbage, plastic, stagnant water and blood sources (people, cows, horses, dogs, birds, etc.).



ZIKA
DENGUE
CHIKUNGUNYA
YELLOW FEVER

- Female Aedes mosquitoes typically need 4 to 5 blood meals to produce their eggs. This means they are effective multipliers. A person with Zika who is in turn bitten by a non Zika virus carrying mosquito will pass on the virus to the new mosquito.



- People with Zika virus can have symptoms including mild fever, skin rash, conjunctivitis, muscle and joint pain, malaise or headache lasting for 2-7 days.
- There is scientific consensus that Zika virus is a cause of microcephaly and Guillain-Barré paralysis syndrome. Links to other neurological complications are also being investigated including brain abnormalities, vision problems and joint deformities.
- In a recent study completed in Brazil, 6% of babies born with microcephaly had hearing loss.

“Pregnant women infected by the virus have a 28 percent likelihood of giving birth to a child with microcephaly, a birth defect in which the baby has a disproportionately small head and an underdeveloped brain. These children will not develop normally and will require lifelong support, causing a drain on families and the medical infrastructure. The current estimated lifetime medical cost to care for such a child is \$10 million.

Additionally, Zika causes Guillain--Barré syndrome (GBS) in up to 1 percent of those infected, and GBS causes muscular paralysis. The cost to treat an individual with GBS is in excess of \$500,000 per year.” Reported by the World Health Organization

- Zika virus typically stays in the blood for five days --- body fluids for six months.
 - Zika can be passed on through sexual contact and blood transfusions.
 - There aren't any vaccines for Zika.
- ZIKA PREVENTION
 - Wear long-sleeved shirts and long pants.
 - Stay in places with air conditioning and window and door screens to keep mosquitoes outside.
 - Take steps to control mosquitoes inside and outside your home.
 - Treat your clothing and gear with permethrin or buy pre-treated items.
 - Use Environmental Protection Agency (EPA)-registered insect repellents. Always follow the product label instructions. When used as directed, these insect repellents are proven safe and effective even for pregnant and breastfeeding women. Do not use insect repellents on babies younger than 2 months old. Do not use products containing oil of lemon eucalyptus or para-menthane-diol on children younger than 3 years old.
 - Mosquito netting can be used to cover babies younger than 2 months old in carriers, strollers, or cribs to protect them from mosquito bites.

- Sleep under a mosquito bed net if air conditioned or screened rooms are not available or if sleeping outdoors.
- Prevent sexual transmission of Zika by using condoms or not having sex.
- **ZIKA ERADICATION**
 - Eliminating Zika (and Dengue, Chikungunya) will take years and fundamental changes in how a community assumes collective responsibility for its citizen's health.
 - The World Health Organization recommends the only sustainable and environmentally responsible solution to constraining the Zika virus is by fully engaging the wider community in removing all sources of stagnant water, applying larvacides where appropriate and supporting containment options such as bats, birds and fish.
 - Fumigation only kills adult mosquitoes – not the mosquito eggs nor the larvae. It is also unclear what beneficial insects and animals are affected through fumigation. It is also unclear as to the health impact on people (particularly small children) from fumigation.
 - Small communities cannot afford the costs associated extensive fumigation.
- **CREATING A ZIKA MASTER PLAN**
 - This is the most important step when organizing a response to a pandemic. And while the program needs to be flexible in response to changing dynamics, the initial plan needs to establish boundaries for what the program will include and what will be excluded.
 - The organizing team will face many pressures to add projects and set unrealistic delivery targets.
 - Research best practices used in other “similar” countries. Assessing and comparing what has and has not worked will improve project development.
 - There are excellent resource materials available from international organizations (World Health Organization, World Bank).
 - Dedicated project management is essential to deliver results and establish credibility (which leads to funding).
 - Organizing projects and securing volunteers is extremely time consuming -- but it is an important step to achieving early wins, establishing credibility and elevating awareness.
 - Securing funding can be a roadblock. It is critical to identify the target fundraising market(s) and to ensure presentations clearly explain the economic and social impact from Zika.
 - It is important to also reach out to international organizations for fund raising such as Rotary. There are also other governmental and social organizations prepared to support professionally managed community-led groups.
 - We used the following 30 day plan to launch and promote JacoZikaSafe



- **JACOSIKASAFE ACHIEVEMENTS TODATE**
 - Worked with hotel owners to extend San Jose based fumigation program.

- Recruited more than 100 volunteers for community and beach clean-up of 50,000 lbs. of garbage and 395 tires collected for recycling.
 - Created and distributed 4,000 educational flyers and Zika Guerrero badges.
 - Printed 1,000 Zika Safe stickers which are now posted throughout Jaco. Stickers have also been sold for \$1 as an additional fundraiser.
 - Distributed 1,000 Rotary printed WHO educational brochures.
 - Distributed 1,000 safety-skewed "Zika Golden Rule" posters through the Red Cross, and aimed at visitors attending the World Surfing Games in August.
 - Hired a mobile loud speaker to announce garbage clean-up dates and promote community awareness.
 - Maintained timely media relations.
 - Hired a full-time Program Officer to connect private and public sector and drive programs.
 - Petitioned the Municipality to develop contract criteria for beach clean-up.
 - Launched an informative Facebook page in June to promote Jaco as Zika Safe --- 36,000 readers reached todate.
 - Submitted grant application to Rotary International for project funding.
 - Submitted fund appeal to Richmond, Virginia based Rotary which resulted in a sponsored 59 mile bike ride fundraiser.
 - Held two town hall civic meetings: keynote speakers from Ministerio de Salud, Municipalidad de Garabito and community leaders.
 - Personally met with key influencers in the Tourism sector to garner support for clean-up programs.
 - Hand delivered fact sheets to Jaco store owners.
- **UPCOMING PROGRAMS**
 - Developing a "Zika Safe" Accreditation Program with Ministerio de Salud to promote tourism.
 - Delivering a comprehensive Zika Educational program – quarterly school awards and prizes.
 - Sponsoring a follow-up garbage clean-up campaign with the Municipality and Jaco volunteers.
 - Advancing a petition-based program to elevate community issues directly with the Municipality.
 - Funding University of Costa Rica projects focused on eradicating Zika in Jaco.
 - Funding a University of Costa Rica Science Scholarship based on a Jaco mosquito entomological project.
 - Additional JacoZikaSafe Facebook page funding to promote Jaco tourism as being "Zika Safe"

Donations will receive a Rotary tax deduction receipt for US and Canada tax filing. Deposit Instructions ---- please note in the detail section "JacoZikaSafe" to ensure account deposit:

Los datos de la cuenta son:

Asociación Club Rotario de San José

Cédula Jurídica: 3-002-045634

ScotiaBank:

Dollars: 12300001000179068

Colones: 12300001000153057

Detalle: JacoZikaSafe