**DRAFT Zika Virus Community Response:**

The Zika virus, a mosquito-borne disease previously considered mild, has been implicated in an increasing number of microcephaly cases in infants whose mothers were infected during pregnancy. The urgency of addressing its pandemic spread through the Tropics has become acute. Large scale, top-down responses need time to be developed as there is no cure, no vaccine, and no readily available test for the disease. Here we propose a set of community-level strategies for reducing mosquito reproduction, reducing exposure to the virus, and constraining its geographical spread. The rapid generation time of the mosquito means that reducing its reproduction rate may confine it to smaller areas, halting its spread and subsequently enabling more targeted efforts to eliminate the virus in those areas.

| **objective** | **action** |
|---|---|
| 1. Reduce mosquito reproduction | Instruct every household in affected regions to place multiple small containers (cups, pots, etc.) filled with water in and around their homes to attract mosquitos to lay eggs, then flush and replace the water daily. The mosquitos carrying the Zika virus (*Aedes* species) already prefer such man-made containers for egg laying. Optionally, a toxin can be added to the water to kill either the eggs or adults, or the water can be treated with an appropriate household chemical as a toxin before disposal. Specially designed devices of this sort have been developed (https://en.wikipedia.org/wiki/Lethal_ovitrap). |
| 2. Reduce adult mosquito survival | Declare community-wide curfews/siestas to reduce outdoor exposure and to starve mosquitoes. These mosquitos are aggressive daytime biters. Siestas may be aligned with times of peak mosquito activity in the early morning and before dusk, but city-wide curfews at different times on different days are preferable to account for genetic variability in mosquito activity. Note: This method requires high compliance and a reliable means of preventing indoor bites (see next point). |
| 3. Reduce exposure especially for pregnant women | In addition to limiting time outdoors, mosquito screens should be placed across windows and doors to keep mosquitos outside of homes, especially the homes of pregnant women. Notes: Pregnant women might consider staying indoors during the course of their pregnancy. Bed nets may also be used either instead of, or redundantly with, screens. Pesticide treated screens may be considered. |
| | Reinforce existing recommendations of wearing protective clothing and using insect repellant (safely). |
| 4. Prevent geographic spread | Implement screening of travelers / provide information at airports and transit hubs about symptoms and the incubation period of seven days. To prevent new areas of local mosquito populations from catching the virus and transmitting it, promote self-isolation of symptomatic individuals in a screened home for 7 days for those traveling from areas of widespread infection to areas without infection. |
| 5. Alternatives that require further study and discussion | Use virus itself as vaccine: Since the primary harmed population is identified (pregnant women) and the disease is thought to be otherwise mild (fever, rash, joint pain), consider infecting everyone else so the virus contagion will stop. While superficially sound, this strategy requires careful evaluation of rare cases of disease harm, i.e. link to Guillain-Barre, the potential role of sexual transmission, and better understanding of potential unknown effects of this little-studied disease, so other approaches are preferred. |
| | The current suggestions from officials of El Salvador, Colombia and Brazil to avoid pregnancy does not solve the disease problem directly, but may contribute to inhibiting the severest effects. Whether this strategy can help improve the effectiveness of other efforts that can halt the disease might be considered. |

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