Need for new participatory paradigms of vector and epidemic control

C. James Hospedales, Executive Director, Caribbean Public Health Agency (CARPHA)
Dengue fever is endemic in the Caribbean Region

Spread by *Aedes Aegypti* and *Ae. albopictus* mosquitoes

Resurgence of dengue and emergence of DHF over the past 30 years as a global public health problem

Prior to 1990s, outbreak every 10 years; now almost annually

All 4 DEN serotypes circulating in the Region
Reported cases of Dengue in the English- and Dutch-speaking Caribbean, 1980 - 2013
CHIKUNGUNYA

- Chikungunya virus (CHIKV) spread detected St. Martin on Dec 6, 2013
- By December 2014, CHIKV spread to all 26 CARPHA Member States
- At end 2014, among the 26 member states there have been
  - 4,635 confirmed/probable cases
  - 87,711 suspected cases
  - 3 deaths
- Among 11 other countries of the region reported
  - 18,615 confirmed/probable cases
  - 775,086 suspected cases
  - 177 deaths

- DESPITE LARGE EXPENDITURES ON VECTOR CTRL, EDUCATION ETC., BY CARPHA and MEMBER STATES
CHIKUNGUNYA EXPERT CONSULTATION AND PARTNERS FORUM MARCH, 2015
NEED FOR NEW PARTICIPATORY PARADIGMS OF EPIDEMIC CONTROL

- **Participatory**: involve government, people and business

- **New paradigms**: move beyond vector control (which has mostly failed), to allow citizens to report their symptoms and vector indices by cell phones, and receive immediate messages on how to avoid spread; get tech companies to develop games and Apps on ChikV, etc
NPHIs are CENTRAL in new participatory paradigms, e.g.,
- Citizen reports by cellphone would go to the NPHI
- Preventive messages going out
- Laboratory support to confirm or refute diagnoses

NPHIs also need to evolve, to allow such participatory approaches, to partner with communities and businesses, as traditional paradigms are not working

If it had been a more lethal virus....
Mobile phone game to launch end-October developed by PPP
CARPHA HOUSEHOLD/YARD CLEAN-UP GUIDE TO ELIMINATING MOSQUITOES: BASIS FOR THE GAME
ADVANCE ONE LEVEL FOR EACH MOSQUITO BREEDING SITE SUCCESSFULLY DESTROYED
You Have been infected with the dengue virus!

question:
At eum partem tincidunt. Eum illud movet vidisse ea, solum soleat quaeque id qui, qui populo maluisset ex. Pro cu latine molestiae, sea melius vidisse ei. Sed cu nisi scripsert. Ad viris voluptatum sed

A  At eum partem tincidunt.
B  At eum partem tincidunt.
C  At eum partem tincidunt.
D  At eum partem tincidunt.
SUMMARY

- CHIKV’s arrival and rapid spread through the Caribbean posed many challenges

- Vector control challenges:
  - The same Aedes aegypti mosquito vector transmits Dengue, Chikungunya, Yellow Fever, Zika
  - High levels mosquito infestation (we feed them, house them, provide breeding sites)
  - Heavy reliance on the use of insecticides lead to development of insecticide resistance

- Concerted efforts and responses were launched on multiple fronts

- The Final Frontier to be conquered remains the environment around the home, and in stopping epidemic transmission

- Need for new participatory paradigms in epidemic control and in education
Thank you! Merci!

CARPHA Trinidad campus