



OXITEC

Role of Trust in Advancing Animal Biotechnology

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Second International Workshop for Regulation of Animal Biotechnology

August 2014

Collaborators



**Instituto Conmemorativo
Gorgas de Estudios de la Salud**

*Líderes de la investigación,
comprometidos con la solución de los problemas de la salud*



**MINISTRY OF HEALTH
MALAYSIA**

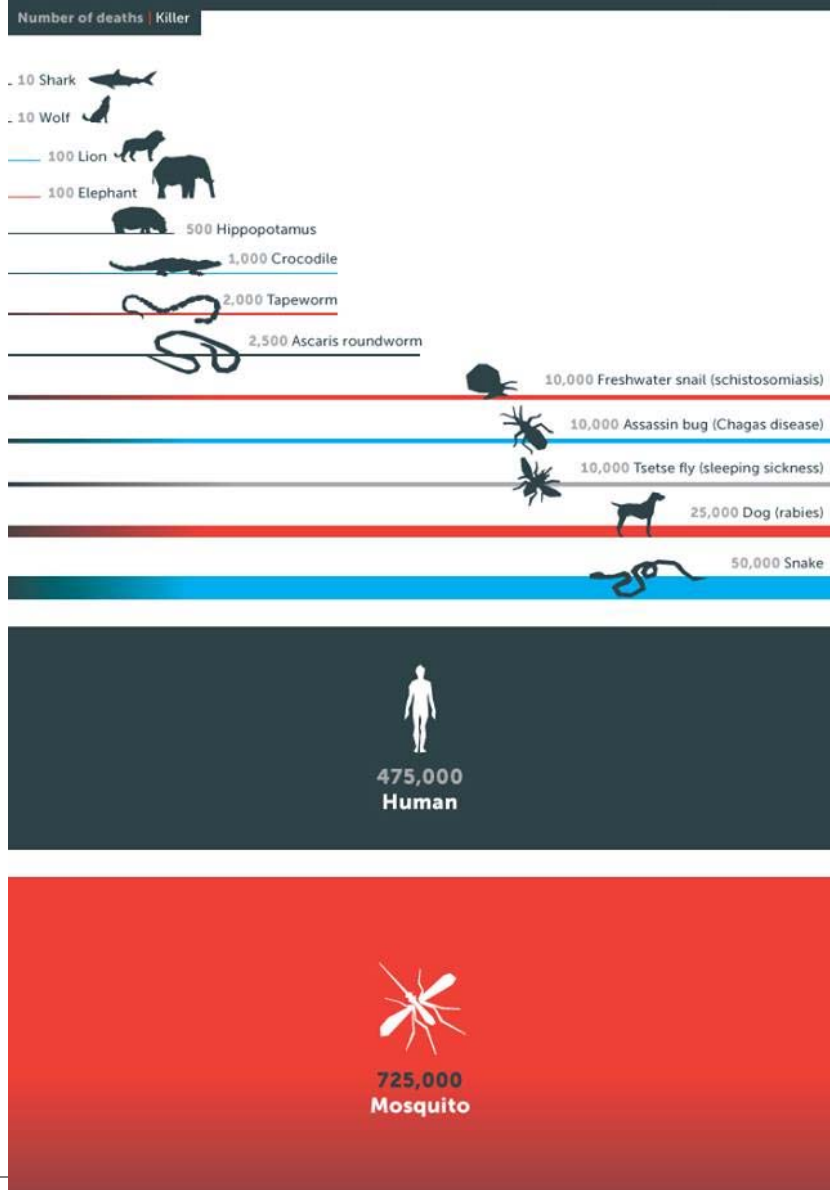
**MOSQUITO RESEARCH
and CONTROL UNIT**



World's Deadliest Animals



Number of people killed by animals per year

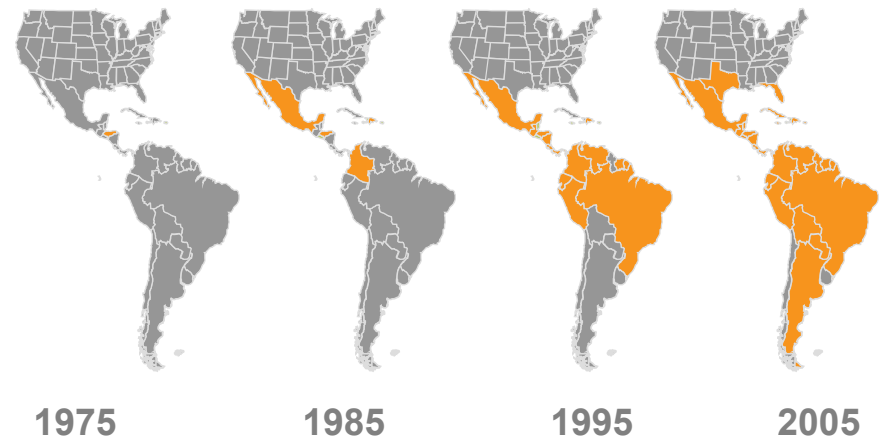


Dengue fever: a serious health burden



- 50 -100 million cases pa, increasing
- No cure or vaccine
- \$5 bn estimated burden of cost
- Symptoms – joint/muscle pain ‘Breakbone fever’
- Severe forms, which can be fatal, increase with new serotypes
- Dengue mosquito (*Aedes aegypti*) is an invasive species in most countries
- Same mosquito spreads other diseases e.g. Yellow Fever

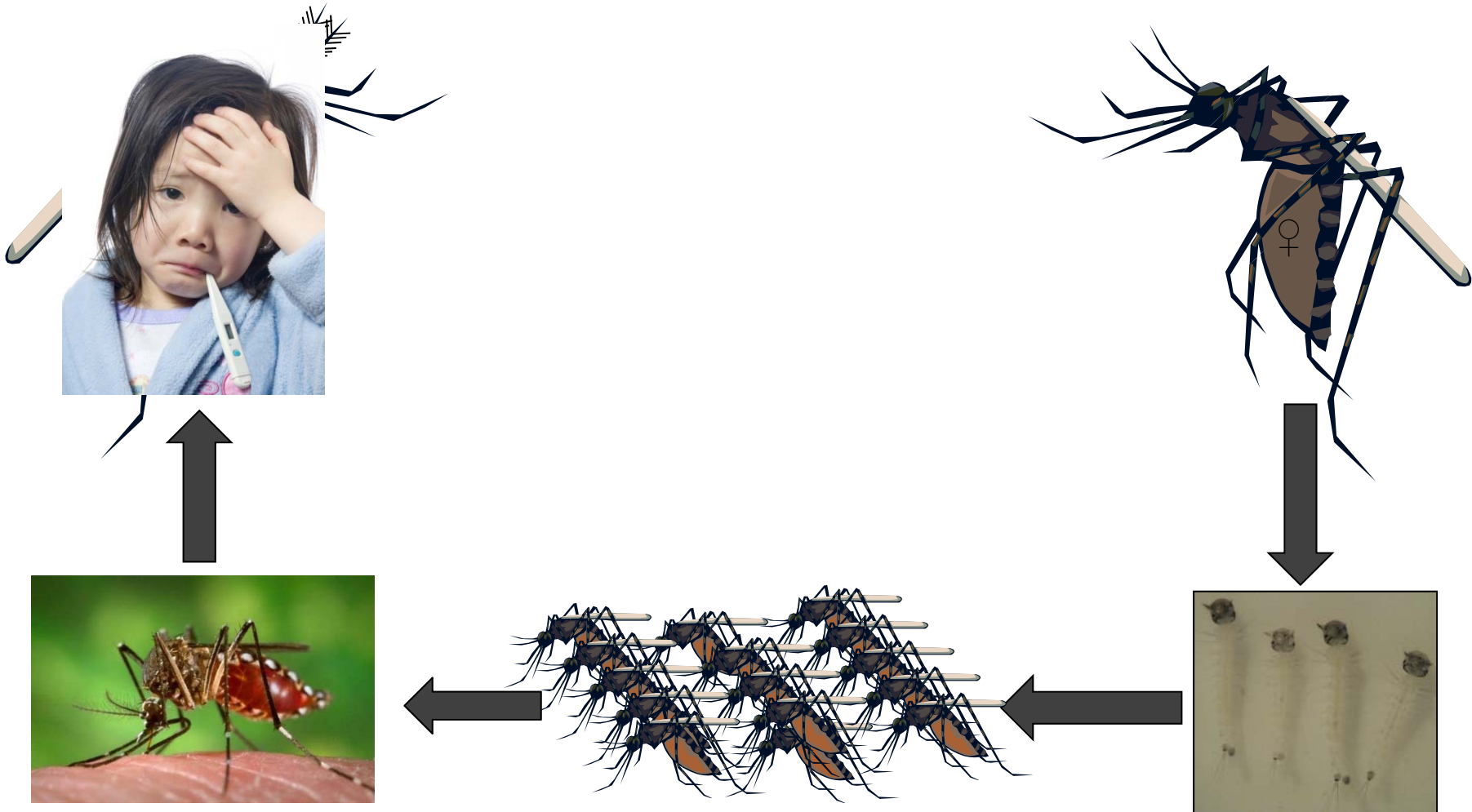
Dengue’s spread through the Americas



*Dr Margaret Chan, 2012
Director General, WHO*

“Today, dengue ranks as the most important mosquito-borne viral disease in the world. Everywhere the human and economic costs are staggering”

Aedes aegypti: Usual disease transmission



What do we do?



- PRODUCE AND RELEASE MOSQUITOES



Program Overview. Production->release



Eggs produced



Rear release generation



Eggs -> Pupae

Separate Male Pupae



Placed in release device



RELEASES

- Initial x 3 releases/week,
- Moving release from truck,
- Mapping to insure even coverage.



Images in collaboration with USP/Moscamed

Why is Oxitec releasing...?

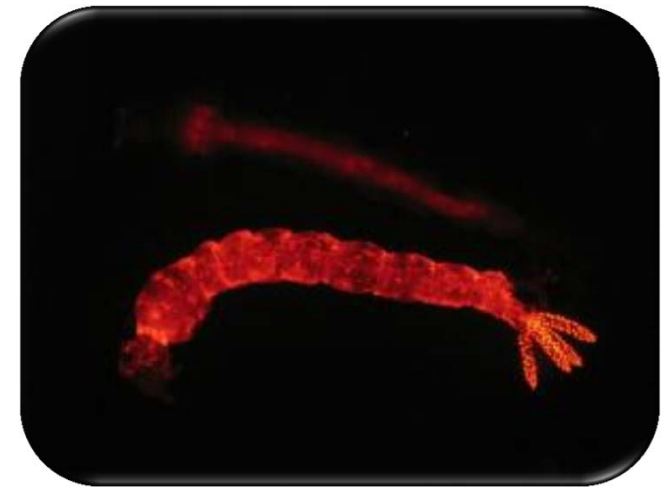


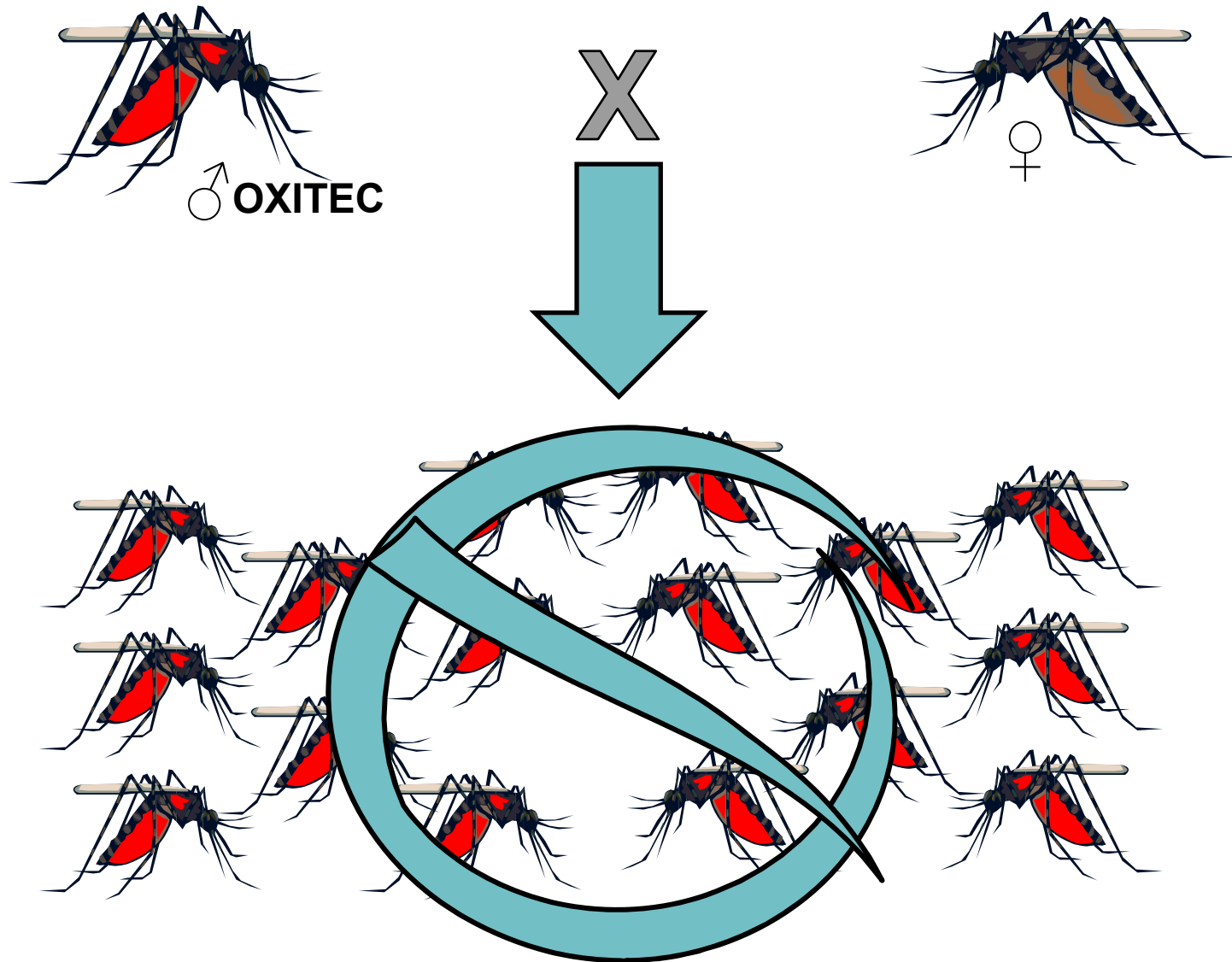
- What is the first thing that came to someone's mind?
- What is the relation between the population and mosquitoes?
- Why Oxitec is releasing males mosquitoes?

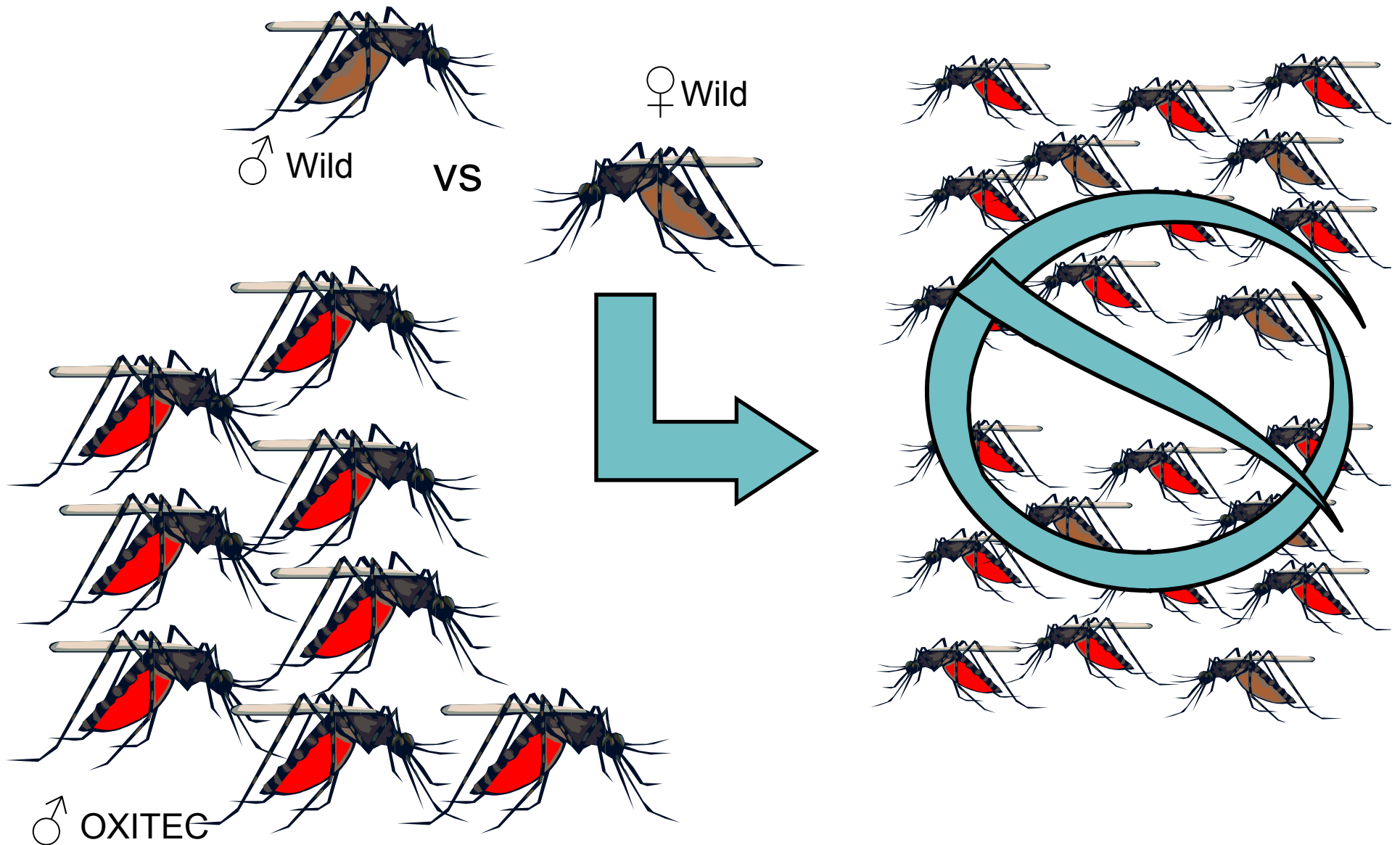


Image in collaboration with USP/Moscamed

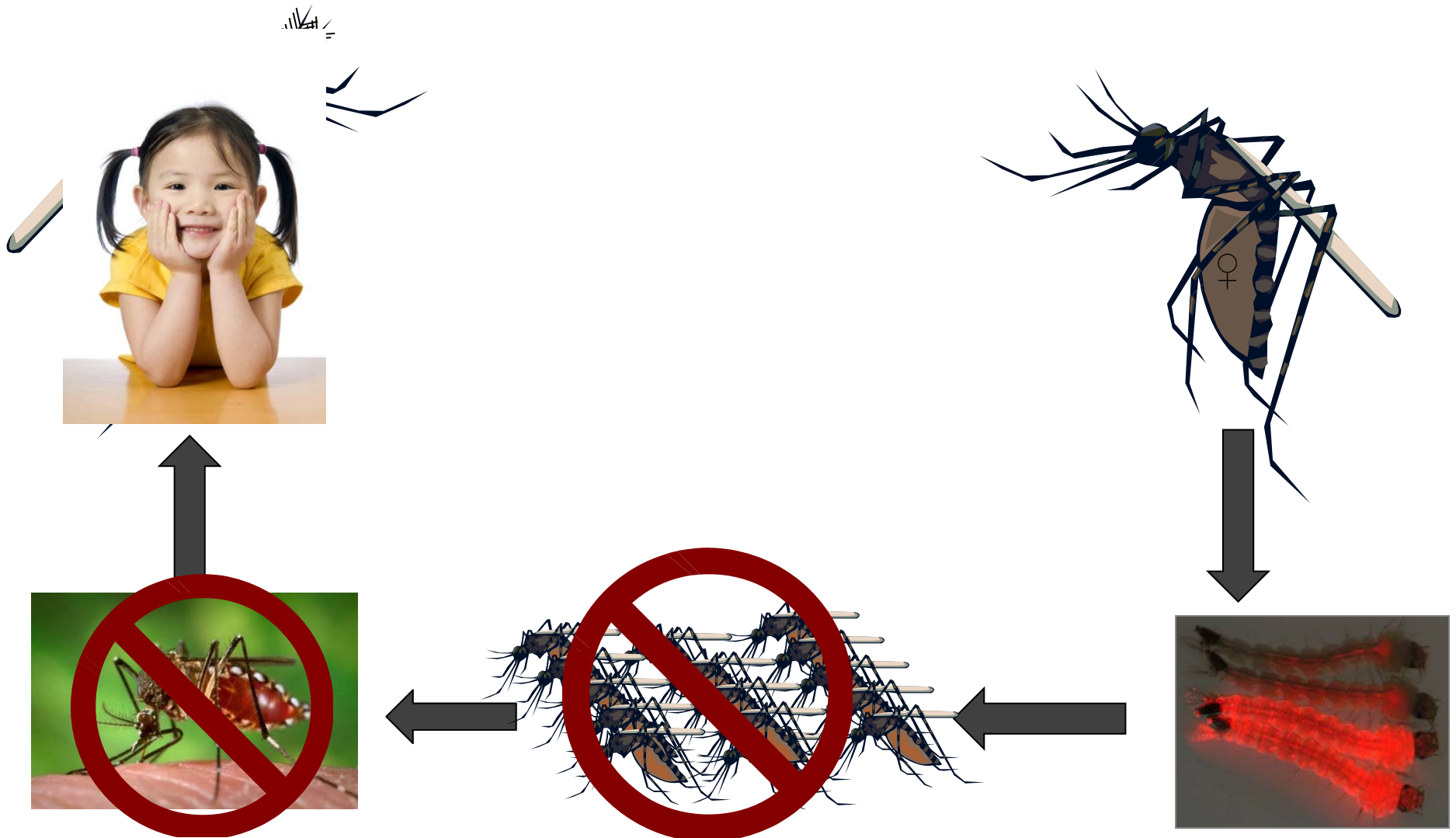
- Based on SIT – Sterile Insect Technique
- Genetic modified males released only
- They transfers their additional, lethal gene for their offspring
- Also transfer a fluorescent marker (DsRed).



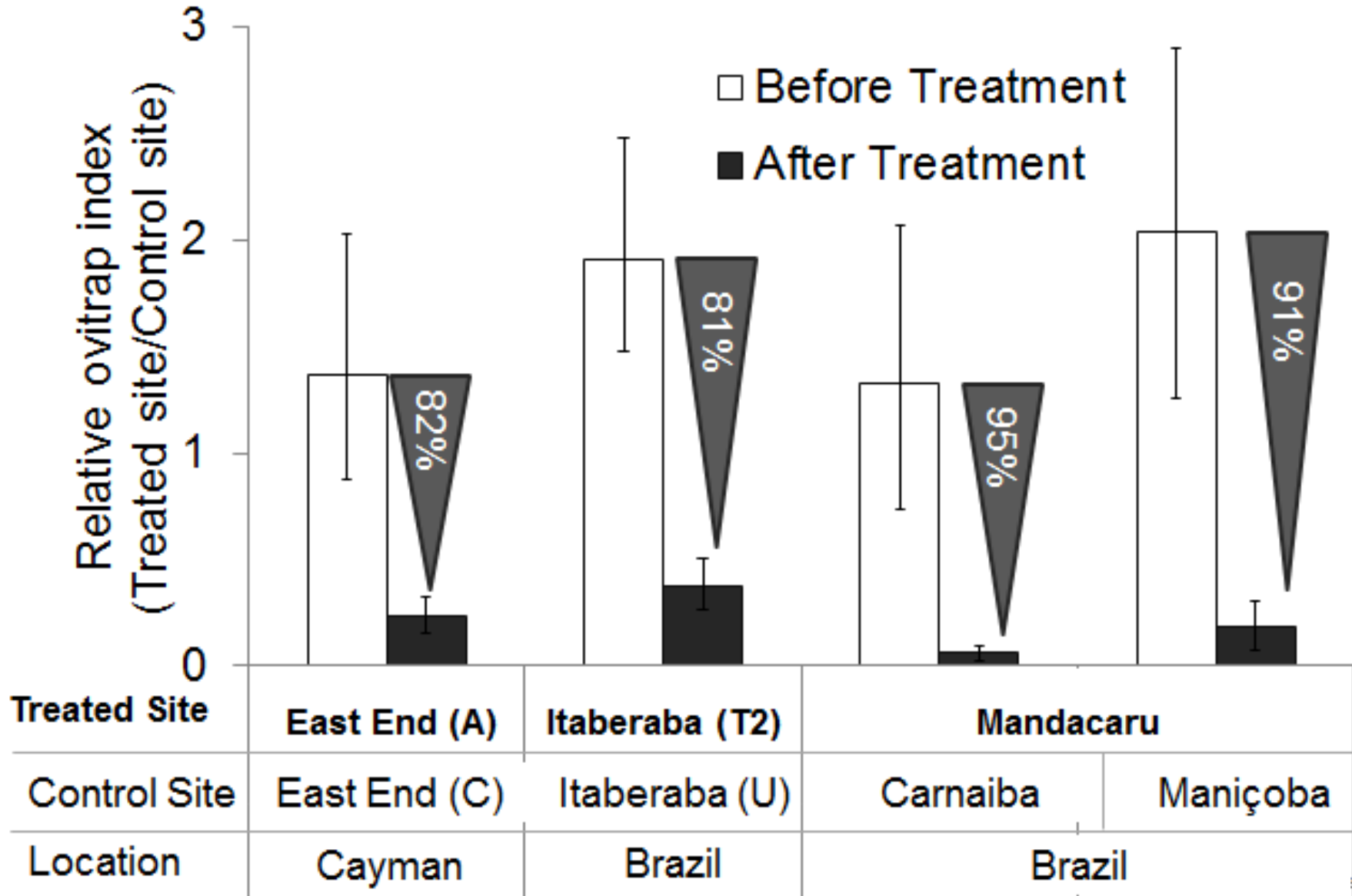




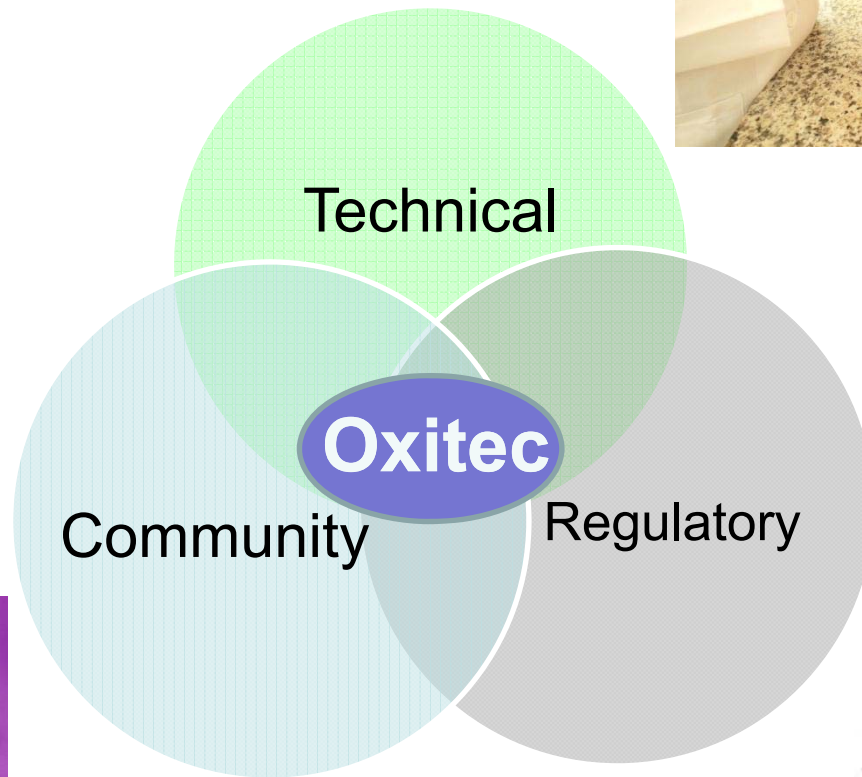
Aedes aegypti – OX513A lineage



Summary of suppression studies



From the lab to the field



Nature

Community Engagement

- Schools/universities presentations
- Media – TV, Radio, News, Blogs
- Folders and leaflet
- Door to Door
- Car with loudspeakers

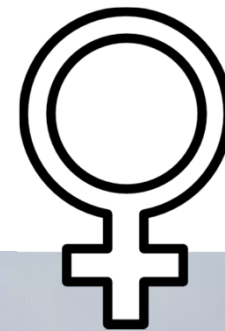
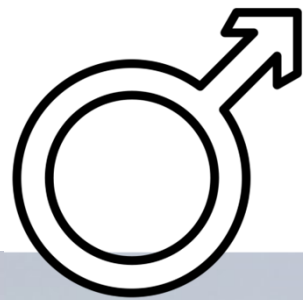


Community Engagement Plan



			Weeks											Start Release	
			-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0
City Wide	Media	Radio													
		Print													
		TV													
		Poster													
	Events	Infor Tent													
		Training professors													
Key Influences	University	1 identify													
		Contact and Visit													
		Arrange seminars													
	Public Health Workers	Vector control agesnts													
		Primary health carer													
		Information buletin													
Target Community	Leaflet campain														
	mail shot														
	loudspeakers														
	Door to Door														
	Community centre														
	Schools														

- Difference males and females



- Difference *Aedes* and others mosquitoes

Mosquito *Aedes* \ Dengue



Active during the day

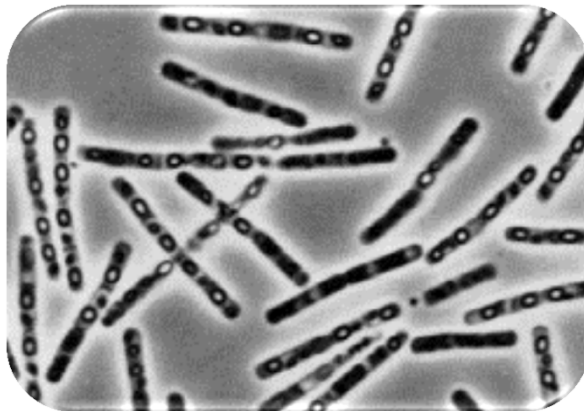
Muriçoca (*Culex*)



Active during the night

Main Information

- Other methods to control mosquitoes



- How technology works
 - SIT

Community Engagement Plan



- Schools/universities presentations



Image in collaboration with USP/Moscamed

Community Engagement Plan



- Media – TV, Radio, News, Blogs
- At the opening we were in:

- 5 TV channels
- 14 newspapers
- > 82 websites
- 4 radio channels



Community Engagement Plan



Image in collaboration with USP/Moscamed

- Folders and leaflet



Community Engagement Plan



- Door to Door



Image in collaboration with USP/Moscamed

Community Engagement Plan

- Car with loudspeakers



- Locally before release start

- During the releases is not recommended



Image in collaboration with USP/Moscamed

Conclusion

- Community engagement is a crucial activity in the project;
- Need support from the community to implement public health solutions;
- Once people understand a new solution, their apprehension becomes admiration.



Image in collaboration with USP/Moscamed

Thank you

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