

re:define possible



About the World Mosquito Program

WMP is owned by **Monash University** and is a non-profit organisation focused on protecting people worldwide from mosquito-borne diseases like **dengue, Zika, yellow fever, and chikungunya**.

It utilises *Wolbachia* bacteria to naturally reduce mosquitoes' ability to transmit these viruses.



We're global in reach

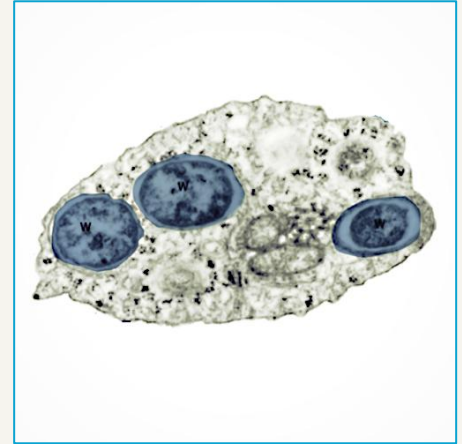
We have partnered with governments and communities to deploy our *Wolbachia* method in **14 countries** in Latin America, Asia and Oceania since 2011, protecting over **15 million people**.

re:think the solution – introduction of *Wolbachia* into *Ae. aegypti*

Wolbachia – a naturally occurring bacteria that is already found in 50% of all insect species.

Reduces the ability of viruses to replicate in *Ae. aegypti*¹⁻⁷ and significantly limits the mosquito's ability to transmit viruses to people.^{8,9}

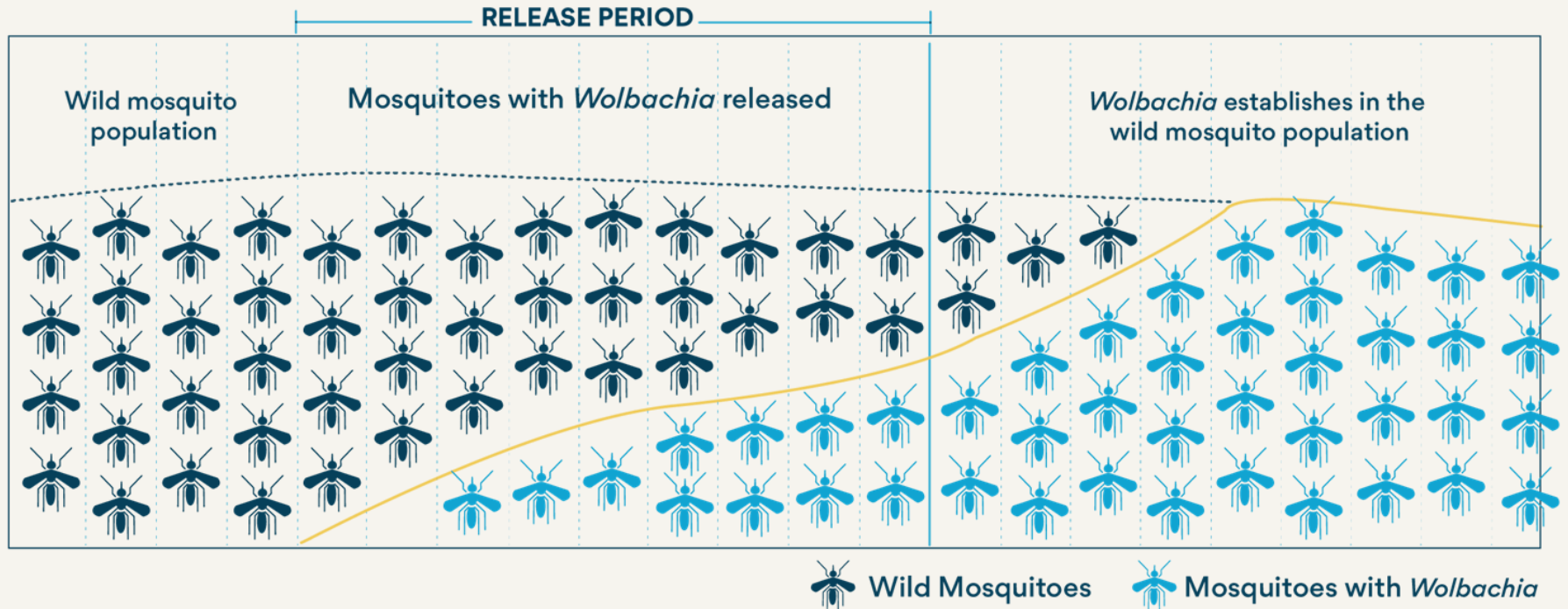
Safe, effective, and affordable method to reduce the transmission of dengue, chikungunya, Zika, and other mosquito-borne viruses.



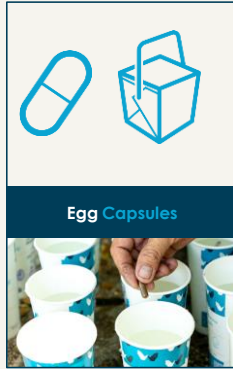
WMP's *Wolbachia* method has a multivalent mode of action against dengue (four serotypes), chikungunya, Zika and yellow fever.

¹Alioto MT, et al. Sci Rep 2016;6(1):28792:2. Alioto MT, et al. PLOS Negl Trop Dis 2016; 10(4):e0004677:3. Dutro Heverton Leandro C. et al. Cell Host & Microbe 201 & 1916):771-4:4. Moreira LA. et al. Cell 2009; 13917): 1268-75: 5. Rocha MN, et al. Gates Open Res 2019;3:161:6. WolkerT, et al. Nature 2011:476073611:450-37. Hoffmann AA, et al. Nature 2011:476073611:454-7 8. Carrington LB. et al. Proc Natl Acad Sci 2018 115(2:361-6: P. Flores HA, et al. PLOS Pathogens 2020:1614):e1008433.

re:think the solution – *Wolbachia* mosquito releases

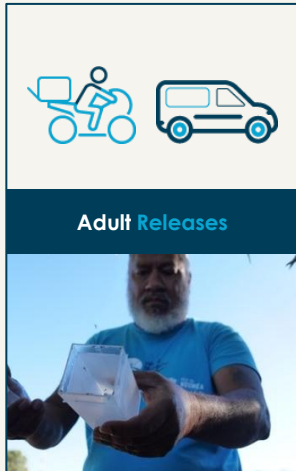


Wolbachia delivery



- **Egg Preparation:** Capsules containing Wolbachia-infected mosquito eggs are prepared by WMP.
- **Distribution:** Egg capsules are placed in buckets/ with water and food and are distributed in strategic locations. The hatching process is activated.
- **Hatching:** Mosquito eggs hatch into larvae in the water cups over a few days.
- **Release:** The newly hatched Wolbachia-carrying mosquitoes emerge and are released into the environment
- **Wolbachia Establishment:** Released mosquitoes breed with the local population, spreading Wolbachia and reducing the ability to transmit diseases.

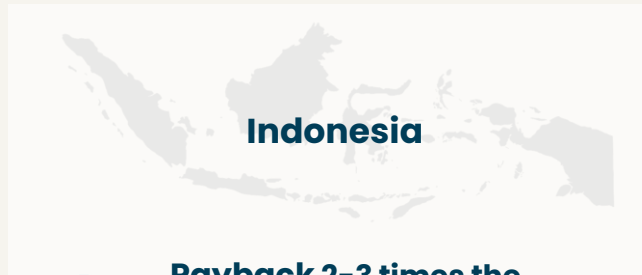
- **Rearing:** Mosquitoes carrying Wolbachia are bred in the WMP facility.
- **Preparation:** Adult mosquitoes are packed into small, secure release tubes.
- **Transport:** The release tubes are transported to the target community by foot, motorcycle, or car.
- **Release:** Field teams release the mosquitoes at specific intervals and locations within the community.
- **Wolbachia Establishment:** Released mosquitoes breed with the local population, spreading Wolbachia and reducing the ability to transmit diseases.



re:invest in what works – economic modeling predicts

***Wolbachia* will be highly cost-effective or cost-saving in high burden urban centres.**

WMP's Wolbachia Method offers substantial long-term economic and societal benefits through a healthier population, by minimising the need for frequent and costly mosquito control efforts.



Indonesia



Payback 2-3 times the investment over 10 years through savings in medical costs and lost productivity.

Brady OJ, et al. BMC Medicine 2020



Colombia

Returning USD \$5.61 for every dollar invested over 10 years, through reductions in healthcare costs and a healthier population.

Shepard DS, et al. Unpublished report 2024



Brazil

Wolbachia deployments projected to yield positive **economic returns BRL R\$45 to BRL R\$550 (average BRL R\$279) per inhabitant over 20 years for every BRL R\$ per inhabitant invested**, through savings in healthcare costs and a healthier population.

Averting USD \$25,000 in direct healthcare costs and USD \$530,000 in indirect costs, and avert 5.56 disability-adjusted life years (DALYs) lost due to ill-health.

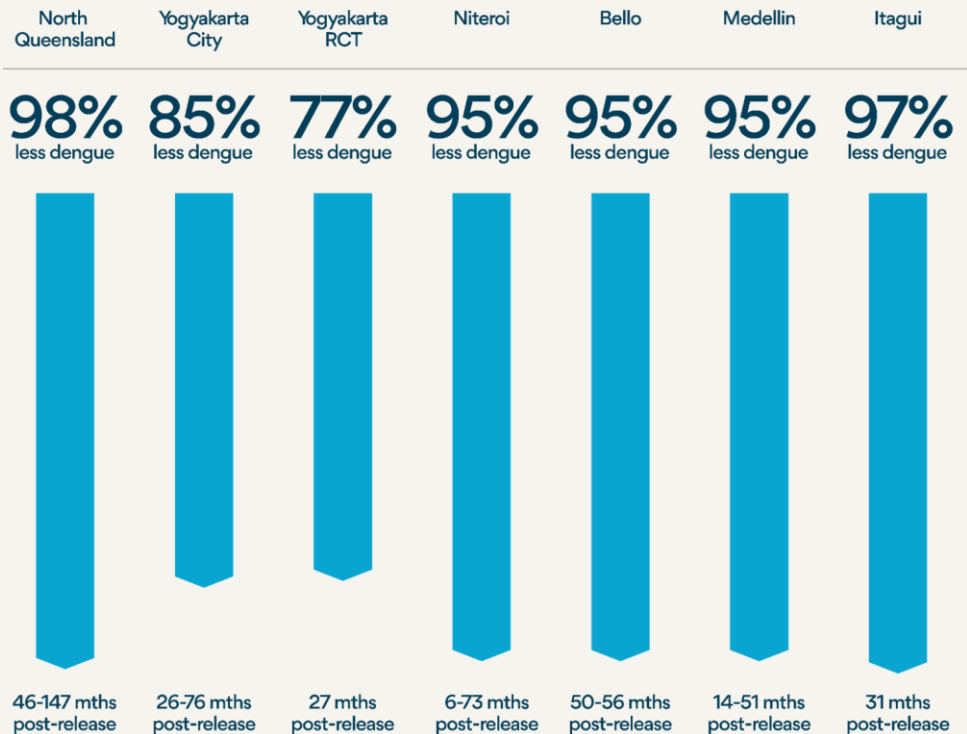
Zimmermann IR, et al. Lancet Reg Health Am 2024

Wolbachia mosquitoes only need to be released **once**.

Protect a **large number of people** in a small area.

More **sustainable** and cheaper long-term than existing interventions.

Protect against other diseases like chikungunya, Zika, yellow fever.



Reduced dengue incidence following Wolbachia releases

re:define impact

Wolbachia has delivered sustained impact

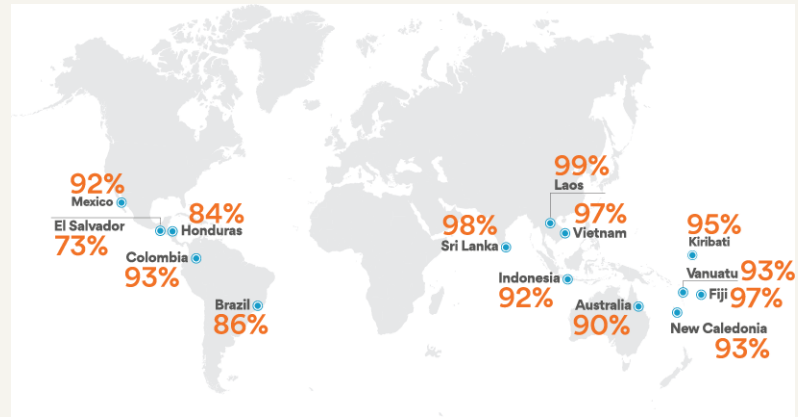
In Yogyakarta, Indonesia, a randomized controlled trial showed:

- 77% drop in dengue cases
- 86% reduction in hospitalizations
- Results that exceed the efficacy of insecticide-treated nets for malaria.

Self sustaining and cost-effective method:

- 1,4 million dengue cases prevented, including
- 90,000 dengue hospitalisations
- US\$230 million in economic benefits, from averted healthcare costs and a healthier population.

Community engagement



- Project sites **can adapt key acceptance indicators** to suit specific circumstances
- **Pre-release survey measures acceptance and awareness levels** and show change from baseline survey
- Traditional and social media are **measured by sentiment and reach**
- **Complaints are tracked and resolved** in a Community Feedback System
- CRG endorsement offers an **independent external perspective on public acceptance**



93% acceptance
(global average)

Community Engagement

A collaboration between:



World
Mosquito
Program™



MONASH
University

Let's redefine what's possible.