Our Challenge

The community of Paris, Bello, celebrated the country's first release of mosquitoes with *Wolbachia* in May 2015

The Eliminate Dengue research program is developing a natural method to reduce the global burden of dengue.

We are using naturally occurring bacteria – called *Wolbachia* – that reduce the ability of mosquitoes to pass dengue between people.

In the laboratory, we have shown our approach reduces dengue transmission when we introduce these bacteria into mosquitoes. We are also seeing that our approach has the potential to reduce transmission in the community.

Field trials have been underway since 2011, and we are now working on making our method more affordable and effective for large cities around the world that are affected by dengue.

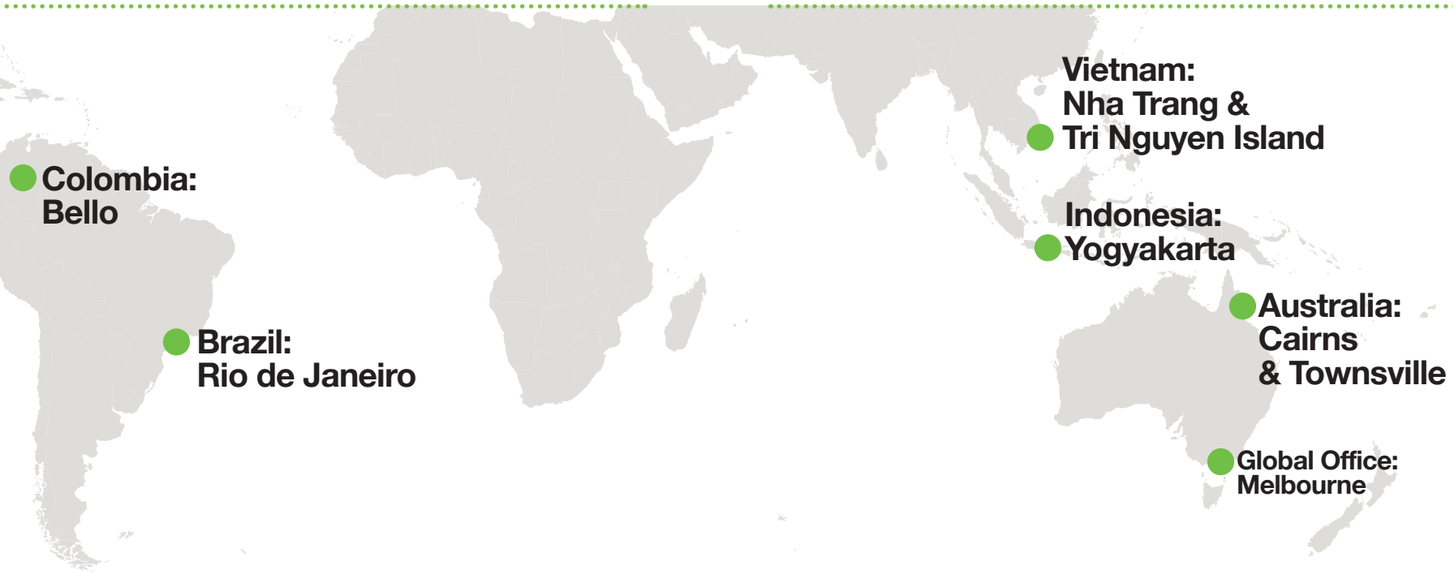
390 MILLION
DENGUE INFECTIONS EACH YEAR

2.5 BILLION
PEOPLE ARE AT RISK OF GETTING DENGUE

What is *Wolbachia*?

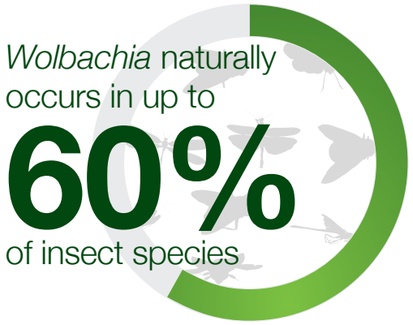
Wolbachia is a type of bacteria that lives within insect cells and is passed from one generation to the next through the insect's eggs. *Wolbachia* naturally occurs in up to 60% of insect species including fruit flies, butterflies and some mosquito species, but not the *Aedes aegypti* mosquito.

We have transferred *Wolbachia* from other insects into *Aedes aegypti* eggs. Using these eggs, we rear populations of mosquitoes with *Wolbachia* in the laboratory then release these mosquitoes into the wild.




Local volunteers release mosquitoes in Paris, Bello

School participation is now part of our Townsville trial




Community open day at our Yogyakarta laboratory


Rearing mosquitoes with *Wolbachia* in Rio de Janeiro


The support of communities like Nha Trang is critical to our research

Project sites around the world

Ongoing small-scale trials in Australia, Vietnam, Indonesia, Brazil and Colombia are helping us develop and refine our methods.

Small trials began in 2011, and in 2014 we began our first city-wide trial in northern Australia. We plan to undertake further large-scale trials in Indonesia and Vietnam in 2016 - 2017.

Cairns, Australia

Ongoing trials aim to increase *Wolbachia* coverage across the city

Townsville, Australia

First city-wide field trial underway since 2014

Rio de Janeiro, Brazil

Expanding number of small-scale trials across the city

Bello, Colombia

Latest field trial site - started in 2015

Yogyakarta, Indonesia

Planning and monitoring underway for potential city-wide trial

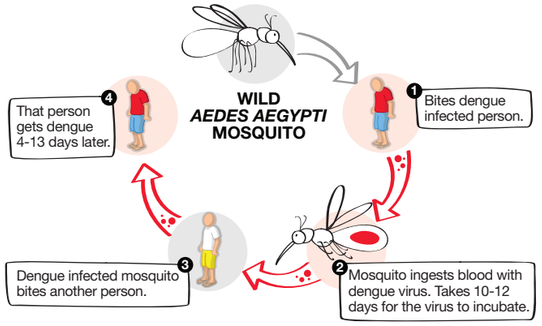
Tri Nguyen Island, Vietnam

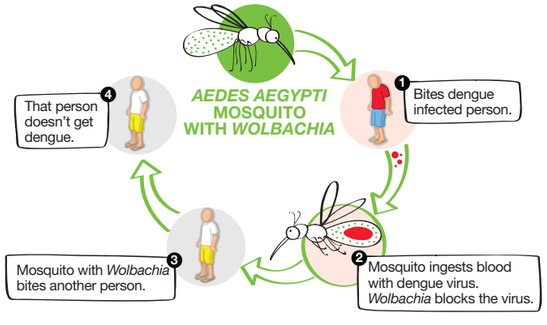
Wolbachia established

Nha Trang, Vietnam

Monitoring began in 2015 as part of initial planning phase

How our method works

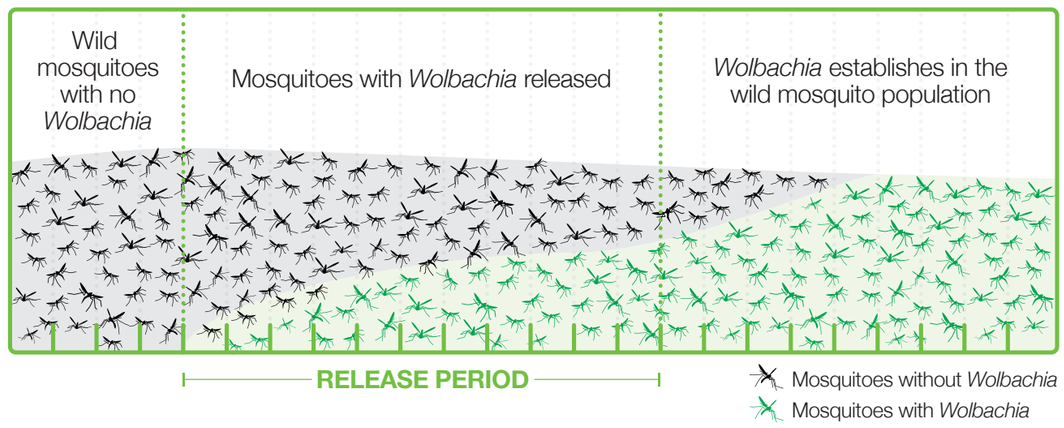




The *Aedes aegypti* mosquito is the primary species responsible for transmitting dengue between people.
(Though some other mosquito species also transmit dengue)

When *Wolbachia* is introduced into the *Aedes aegypti* mosquito, it reduces the mosquito's ability to pass dengue between people.

How *Wolbachia* establishes in a mosquito population



When we release mosquitoes with *Wolbachia* they breed with other mosquitoes, passing the *Wolbachia* to their offspring and subsequent generations.

2005
- Research program launched with support from the Foundation for the National Institutes of Health through the Grand Challenges in Global Health Initiative of the Bill & Melinda Gates Foundation

2006
- *Wolbachia* successfully transferred from fruit fly into *Aedes aegypti* mosquito

2007
- Community consultation starts in preparation for first field trial (Cairns, Australia)

2009
- *Wolbachia* shown to block dengue virus in the mosquito

2010
- Australian CSIRO risk assessment determines *Wolbachia* method has negligible risk (lowest possible rating)
- Regulatory approval obtained for first release of mosquitoes with *Wolbachia* in Australia

2011
- First release of mosquitoes with *Wolbachia* (Cairns, Australia)
- Monitoring shows that *Wolbachia* can establish in wild mosquito populations

2013
- First South East Asian trial begins (Tri Nguyen Island, Vietnam)
- Experiments show field-caught mosquitoes with *Wolbachia* have reduced ability to transmit dengue

2014
- First small-scale Indonesian trials begin in Yogyakarta
- First South American trial begins (Tubiacanga, Brazil)
- First city-wide trial begins in Townsville, Australia

2015
- Dengue outbreak in Cairns, Australia. No local dengue transmission in areas where *Wolbachia* has established
- First Colombian trial begins in Paris, Bello
- Independent scientific modelling predicts *Wolbachia* method will have significant impact on dengue transmission
- City-wide monitoring begins in Yogyakarta, Indonesia and Nha Trang, Vietnam
- Planning underway for future large-scale releases of mosquitoes with *Wolbachia*

Community support & regulatory approval

We seek community support and regulatory approval before we release mosquitoes with *Wolbachia*.

We consult local stakeholders and authorities to:

- Determine relevant approval processes
- Obtain regulatory approval to release mosquitoes with *Wolbachia*

We work with communities to:

- Explain our research
- Seek feedback on our research
- Respond to questions and concerns
- Encourage community involvement

Funders & supporters

We have developed relationships with foundations, governments and research institutes around the world. These include:

- The Foundation for the National Institutes of Health through the Grand Challenges in Global Health Initiative of the Bill & Melinda Gates Foundation
- A Wellcome Trust Award (No. 102591)
- The Tahija Foundation, Indonesia
- The Gillespie Family Foundation
- The Australian and Queensland governments
- The Brazilian government

ELIMINAR A DENGUE DESAFIO BRASIL

ELIMINAR EL DENGUE DESAFIO COLOMBIA

ELIMINATE DENGUE TANTANGAN INDONESIA

HƯỚNG TỚI LOẠI TRỪ SỐT XUẤT HUYẾT TẠI VIỆT NAM

ELIMINATE DENGUE OUR CHALLENGE

CONTACT US

Email contact@eliminatedengue.com

eliminatedengue.com

JOIN THE CONVERSATION

Eliminate Dengue: Our Challenge

@eliminatedengue