

A group of women, likely in a developing region, are smiling warmly at the camera. They are wearing vibrant, colorful headscarves in shades of red, orange, yellow, and purple. The woman in the center foreground is the most prominent, with a bright smile and a nose ring. The background is slightly blurred, showing other women in similar attire.

# 100 Under \$100

One Hundred Tools for  
Empowering Global Women

Betsy Teutsch

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#### **COVER PHOTOGRAPHY CREDITS**

**Front cover:** © Tanzeel Ur Rehman/Cover Asia Press, Courtesy of Photoshare. In rural Rajasthan, India, Vijaylaxmi Sharma, 24, escaped her own child marriage ten years ago and now helps save other young girls from this tragic cultural tradition

**Front cover flap:** A Zambian bike recipient, Ethel takes her cousin with her to school. © Brooke Slezak/World Bicycle Relief

**Back cover (from left to right):** Kangaroo caring mom with her twins, skin-to-skin © UN Foundation/Talia Frenkel; A wondrous inflatable LED light arrives in Haiti. © LuminAID; Vananh Le demonstrates plastic thatch roofing, piloted in Ecuador. © David Saiaa/Reuse Everything Institute; Rauha Heita, Bicycle Empowerment Network's lead bike mechanic, Okalongo, Namibia. © Michael Linke

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Dr. Pilar Mateo is the inventor of Inesfly, an insecticide-infused paint.  
© Inesfly-Bolivia

# Inesfly: Insecticide-Infused Paint

Dr. Pilar Mateo invented insecticide-infused paint, protecting people from deadly Chagas disease (spread by vinchuca beetles); it shows promise fighting other insect-borne diseases, too.



PilarMateo.com • @PilarMateoh • Inesfly.com •  
@inesfly • MOMIM.org • @momim\_momim

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Spanish paint chemist Dr. Pilar Mateo has become a global humanitarian through her invention of an insecticide-infused paint called **Inesfly**.

When applied on a house's exterior, it helps to protect rural, impoverished Bolivians from nighttime vinchuca bites. These blood-sucking, vampire-like beetles live in crevices of the mud walls of indigenous peoples' homes. Vinchucas infected with the parasite that causes Chagas disease transmit it to humans.

When bitten by an infected vinchuca, victims initially experience a bout of flu-like symptoms. Then Chagas disease lies dormant, eventually erupting and damaging the digestive system and heart, sometimes fatally. In Latin America, the epicenter of the vinchucas' territory, an estimated 25 million people are infected.

Mateo's Valencia-based family owned a paint factory. She earned her doctorate in paint chemistry and joined the family business. When a local hospital was closing down due to a cockroach invasion, she had an idea. Her innovation—insecticide-infused paint, toxic for roaches but not to humans—was a success.

Word spread and a Bolivian activist helping impoverished indigenous Bolivians combat

chronic vinchuca infestation invited Mateo to visit and try her technique there. She accepted and her product has worked as intended. Inesfly effectively “vaccinates” houses, rather than people. Deploying Inesfly reduced infestation rates from as high as 90 percent to nearly zero.

Mateo's micro-encapsulated paint slowly releases insecticide.

- ✓ Because just small amounts of insecticide are gradually released, the paint is less toxic than fumigation. (Inesfly uses a mix of WHO-approved insecticides).
- ✓ Treatments last two years; spraying needs to be done twice yearly.
- ✓ Comprised of both insecticides that kill mature insects and insect growth regulators, which kill eggs and young insects, it reduces overall insect population.
- ✓ It is proving effective in fighting malaria and dengue fever, diseases that are transmitted by mosquitoes.
- ✓ It is approved for use in more than fifteen countries.

Inesfly has opened a second factory, in Accra, Ghana, producing paint that protects against

malaria, central to African public health. Manufacturing nearer to purchasers lowers labor and transport costs and builds local capacity.

Challenges:

- Inesfly does not work on thatch, common among the poor.
- It is ineffective against pesticide-resistant insects.
- Many end users cannot afford it.
- Houses need to be repainted/retreated after a few years.

Mateo embedded herself in the Bolivian Chaco, the home region of indigenous peoples most impacted by Chagas disease, for extended periods. Realizing that their vulnerability to Chagas disease was directly connected to their impoverishment, she became a co-founder of the **Indigenous Women of the World Movement (MOMIM)**, which fights for social equality and cultural diversity.

She has also founded the **Pilar Mateo Foundation**, focusing on applying science and knowledge to action on behalf of those who most need it.

photo (facing page): A volunteer waters ► seedlings in the RisingMinds.org greenhouse, constructed from 3,000 plastic bottles and local bamboo in Ponyebar, near Lake Atitlan, Guatemala. © RisingMinds