

Researcher joins quest for malaria-free world ^[1]

Discovery ^[2]

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A life-changing trip to Africa has inspired a Novartis scientist to join the global quest to rid the world of malaria.

Manishha Patel recently returned from Kenya where she was visiting the frontline in the battle to stop nearly half a million children a year dying from the preventable and eradicable disease. For Patel, a cancer researcher at the Genomics Institute of the Novartis Research Foundation ^[3] (GNF) in San Diego, CA, the trip was both educational and inspirational. “We found out about the daunting challenges of malaria control as well as the new diagnostics, treatments and vaccines coming through,” she says.

But it was visiting clinics in urban slums and isolated rural areas that left the biggest impression. “The rates of malaria infection in the poorest areas are truly frightening, especially for children,” says Patel. “We talked to so many people who’d lost loved ones – sadly, they saw malaria as an inevitable fact of life.

“There are lots of places that don’t have access to education about malaria. They also lack essential mosquito nets, diagnostic tests and treatments, which could all save lives.

“In one clinic, there were eight patients with malaria, all of them under five years old. Two toddlers had contracted cerebral malaria – where the parasite crosses the blood-brain barrier. There was every chance they would be cured of the infection, but serious brain damage was likely and would be irreversible. It was heartbreaking.”

So affected has Patel been by her experiences in Kenya that she has started looking for new opportunities to combine her scientific expertise with public health advocacy and outreach work to eliminate malaria in the developing world. “Eventually, I want to be part of a team that brings research and resources to where they are needed most,” she says.

“There is no need for hundreds of thousands of people to be dying from malaria every year and millions more to be made very ill. Great progress is being made, but there’s much more to be done – through public education, new diagnostics and therapies, better access to treatment and support for healthcare professionals.

“If millions of children in the developing world could be free of the threat of malaria, just think what they could accomplish. It’s not just a huge health issue, but a huge social issue, too.”

The Power of One

Patel secured her place on the trip thanks to her support of the Power of One ^[4] (Po1), a global online fundraising campaign to close the malaria treatment gap in Africa. Every dollar donated to Po1 pays for a course of potentially lifesaving antimalarial treatment for a child in Africa – and Novartis matches every treatment donated by the public with a further treatment provided free of charge.

Novartis encouraged employees to support Po1 ^[5] by making donations themselves and persuading others to dip into their pockets. By signing up a record number of supporters, Patel won one of three spots on the trip on offer to employees.

Supporting such a worthy cause came naturally to Patel, who learned the importance of altruism from an early age. “My parents are from a very poor part of Gujarat in India,” she says. “They moved to Canada, where I was born, and they encouraged me and my two siblings to be grateful for the opportunities we had and to help others who aren’t so lucky.”

The simple message of Po1 – one dollar given, one life saved – had an immediate appeal to Patel. “The chance to make an impact for children in Africa really resonated. I wanted to help any way I could.”

Patel, who joined GNF in 2013 on a postdoctoral fellowship, sent emails to colleagues, family members and friends, and handed out leaflets at work and in her community. “I found myself being pretty persistent – probably even annoying at times!” she admits. That tenacity paid off as Patel recruited 330 people to support Po1 and raised more than \$3,000 – enough, with Novartis match-funding, to pay for 6,000 children to be treated.

Combating a killer

Malaria is a potentially lethal mosquito-borne disease. Every year, there are around 200 million cases worldwide and it kills almost 600,000 people, mostly children in the developing world. Every minute, a child dies of malaria in Africa. Management of the disease involves measures to prevent mosquito bites, accurate diagnosis and prompt treatment.

The current treatment of choice for the most common, uncomplicated form of malaria is artemisinin-based combination therapy (ACT), which is recommended over older treatments to which malaria parasites have developed resistance. With malaria parasites now showing early signs of resistance to artemisinins, new treatments are urgently needed to attack the malaria parasites in novel ways as well as to wipe them out at every stage of their lifecycle, blocking their transmission. The Holy Grail of drug development for malaria is a single-dose cure to replace today’s standard multi-dose treatments. This would address the problem of patients failing to complete the full course of treatment, which greatly exacerbates drug resistance.

Novartis is one of the leaders of global efforts to combat malaria. The company’s Malaria Initiative ^[6] is one of the pharmaceutical industry’s largest access-to-medicine programs and has already delivered more than 700 million treatments without profit across Africa.

A decade ago, the Novartis launched the first fixed-dose ACT. In late 2013, the company announced the discovery of a new class and malaria drug target, PI4K.

“I’m proud to be working at a company that is serious about malaria control and elimination,” says Patel. “I also feel privileged to have made such an eye-opening and emotional journey to Africa. I hope it will be the springboard for me to do more to help those affected by malaria and to contribute to getting rid of the disease.”

- [Help save lives by contributing to the Power of One](#) [4]
- [See more from the trip to Kenya on social media via #FocusOnMalaria](#) [7]
- [Read Manishha’s blog post on Novartis Explores Research & Development](#) [8]

Main image: Holding a little boy named Abraham, Novartis’ Manishha Patel meets with volunteer health workers in Kibera, Kenya. Credit: Nadine Schecker for Novartis AG.

Tags:

[Malaria](#) [9]

[Novartis Institutes for BioMedical Research](#) [10]

[Tropical Diseases](#) [11]

[Postdoc Program](#) [12]

[Careers](#) [13]

[Biomedical Jobs](#) [14]

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Links

[1] <https://www.novartis.com/stories/discovery/researcher-joins-quest-malaria-free-world>

[2] <https://www.novartis.com/stories/discovery>

[3] <http://www.gnf.org/>

[4] <https://www.malarianomore.org/po1>

[5] <http://www.malaria.novartis.com/newsroom/feature-stories/2014-11-zambia.shtml>

[6] <http://www.malaria.novartis.com/>

[7] <https://tagboard.com/FOCUSONMALARIA/search>

[8] <https://www.novartis.com/our-focus/cancer/oncology-disease-areas/acute-myeloid-leukemia>

[9] <https://www.novartis.com/tags/malaria>

[10] <https://www.novartis.com/tags/novartis-institutes-biomedical-research>

[11] <https://www.novartis.com/tags/tropical-diseases>

[12] <https://www.novartis.com/tags/postdoc-program>

[13] <https://www.novartis.com/tags/careers>

[14] <https://www.novartis.com/tags/biomedical-jobs>