



Leprosy

Taking big steps toward zero leprosy

The fight against leprosy is one of the greatest public health successes in history. Yet, still today, 2 to 3 million people are living with disability and stigma as a result of the disease. Leprosy often occurs in hard-to-reach communities with poor access to healthcare, where untreated patients continue to spread the infection without knowing it.

2 to 3 million

PEOPLE
live with leprosy today

202 185

NEW CASES
from 132 countries in 2019

>68 million

BLISTER PACKS
of multidrug therapy (MDT) donated
by Novartis since 2000

>7.3 million

LEPROSY PATIENTS
treated thanks to Novartis
MDT donations since 2000

For more than 30 years, Novartis and the Novartis Foundation have been working with partners around the world to eliminate leprosy. Multidrug therapy (MDT) has been a major breakthrough in the treatment of leprosy and its free availability to patients has reduced the global disease burden by 95% in the past three decades. MDT consists of three drugs, two of which were developed in the research laboratories of Novartis in the 1980s. According to the World Health Organization (WHO), Novartis MDT donations have helped to treat more than 7.3 million patients since 2000. Despite this progress, for the past ten years, around 200 000 new cases have been reported each year, including among children, which is demonstrating ongoing transmission.

Renewed commitment to achieve zero leprosy

Since 2000, Novartis has been donating multidrug therapy through the WHO. In 2020, we renewed our pledge to extend our donation with the WHO through 2025.

In 2018, the Novartis Foundation was a founding member of the formation of the Global Partnership for Zero Leprosy (GPZL) to help interrupt transmission and achieve zero new leprosy cases. The group focuses on three key areas: accelerating research; partnering with national leprosy programs; and increasing advocacy and resource mobilization.

The same year, we began working with the WHO to introduce a robust replenishment process, significantly improving stock availability for leprosy medicines globally. A monthly review process was implemented to enable immediate visibility of demand fluctuation, hence strengthening the supply chain capability and reducing the likelihood of needing to fulfill rush medicine orders.

Interrupting transmission is key to disease elimination

Beyond treatment, the Novartis Foundation has pioneered innovative approaches to fight leprosy.

One of these innovative initiatives is the Leprosy Post-Exposure Prophylaxis (LPEP) program, which aims to decrease leprosy transmission by providing preventative treatment to close contacts of newly diagnosed leprosy patients. The evidence generated by LPEP in the seven countries where

the program was operational from 2014-2018 led to the inclusion of this strategy in the WHO Guidelines for the Diagnosis, Treatment and Prevention of Leprosy in 2018. Results from the program, which covered more than 150 000 people across seven countries, show that large-scale implementation of this strategy could accelerate leprosy elimination by decades¹.

As a testimony to how LPEP can accelerate progress toward zero leprosy, the program won the eyeforpharma Most Valuable Collaboration Award in 2019.

Using data and digital tools to accelerate elimination

Artificial Intelligence (AI), data and digital technologies offer huge opportunities to accelerate leprosy elimination, starting with early detection. For instance, we implemented LEARNs, a mobile phone-based tool to accelerate leprosy diagnosis in the Philippines and are currently exploring using it in other countries. We are also collaborating with the Ecole polytechnique fédérale de Lausanne in Switzerland on a diagnostic test, incorporating quantitative polymerase chain reaction for early detection. Further, we are supporting the use of electronic health management tools in tertiary care leprosy hospitals.

In 2019, the Novartis Foundation also announced a strategic alliance with Microsoft and the Oswaldo Cruz Foundation to develop an AI-enabled accelerator of leprosy diagnosis that can analyze images of skin lesions.

In January 2020, Microsoft selected the Novartis Foundation as one of the initial four partners of their new AI for Health initiative, a five-year program to scale up global health initiatives with the power of AI. This will provide Novartis with access to the latest technology, resources, and technical experts to help further embed AI in our leprosy work.

Reference

1. Richardus JH et al. Leprosy post-exposure prophylaxis with single-dose rifampicin (LPEP): an international feasibility programme. *Lancet Global Health*, published online on 29 October 2020. Available at: [http://www.thelancet.com/journals/langlo/article/PIIS2214-109X\(20\)30396-X/fulltext](http://www.thelancet.com/journals/langlo/article/PIIS2214-109X(20)30396-X/fulltext)