

Global Health R&D Showcase



The ongoing effort to control the infectious diseases that afflict the world's poorest is a long-fought battle. Millions of people in developing countries continue to suffer from malaria, tuberculosis and neglected tropical diseases. But now the fight is being approached from a new perspective, thanks to the Japan-based Global Health Innovative Technology (GHIT) Fund.

This fund is the first public-private partnership for funding global health research and development. Launched little over a year ago with over US\$100 million of investment capital, the three-way partnership between the Japanese government, leading Japanese pharmaceutical companies, and the Bill and Melinda Gates Foundation is already supporting 21 global product development partnerships.

Putting global health on the agenda

To mark the first anniversary of the fund's inauguration, a Global Health R&D Showcase was held in Tokyo, Japan, on 6 June 2014. BT Slingsby, CEO and executive director of the GHIT Fund, welcomed the diverse audience of over 350 attendees and explained that the fund was created to tap into Japanese innovation with the goal of eliminating infectious diseases by developing better global health technologies.

Peter Piot, director of the London School of Hygiene and Tropical Medicine, opened

proceedings by discussing Japan's past experiences with infectious disease, which were a principal stimulus of the GHIT Fund's mission. Infectious and parasitic diseases were common in prewar Japan, but after the Second World War the provision of a public health service and the eradication of these diseases were made a priority. From its recovery, Japan has been able to forge one of the world's largest economies.

He also noted that Japan was the first country to put global health on the agenda of industrialized nations with its presentation of the Okinawa Infectious Diseases Initiative at the Kyushu-Okinawa G8 Summit in 2000. The GHIT Fund is continuing that groundbreaking tradition, he said.

"There is no doubt that the GHIT Fund is a pioneer," said Piot. "Pharma is joining forces for the first time, with significant government involvement, to capitalize on a treasury of pharmaceutical discovery in Japan."

New drugs for malaria

Reflecting the magnitude of the task that the GHIT Fund has set itself, six eminent panelists at the anniversary event discussed three projects backed during the fund's first year.

Medicines for Malaria Venture and Takeda Pharmaceutical Company of Japan are collaborating on two new experimental drugs for malaria. "Takeda is offering its

pharmaceutical and chemistry, manufacturing and control expertise," explained president and CEO of Takeda, Yasuchika Hasegawa. The result is new formulations with improved solubility, allowing researchers to trial viable alternatives to existing treatments.

The discovery of new medicines is vital for a disease that is constantly developing resistance to existing treatments. The GHIT Fund is also helping the process of drug discovery by enabling access to the drug libraries of Japanese pharmaceutical companies such as Takeda. In less than a year of partnership, Medicines for Malaria Venture has already obtained encouraging data from its screening program, which will allow it to evaluate the next steps toward drug development.

The partnership has been particularly rewarding for Takeda's research leaders, who typically focus on developing treatments for non-communicable diseases aimed at affluent markets such as Japan. "Without partnering with the GHIT Fund, we would not have had the opportunity to focus on infectious diseases such as malaria," Hasegawa said.

David Reddy, CEO of Medicines for Malaria Venture, pointed out that the assets of Japanese pharmaceutical companies are substantial, and their willingness to partner with nonprofit organizations is tremendous. "We're together on one side of the table, with the problem on the other."

Combinations for Chagas disease

A second collaboration funded by the GHIT Fund is a clinical trial of a treatment for Chagas disease, which is being jointly





An event to mark the first anniversary of a groundbreaking collaboration between the Japanese government, pharmaceutical firms, and the Bill and Melinda Gates Foundation delivered a key message — healthy people create healthy economies.

run by the Drugs for Neglected Diseases initiative and the Japanese pharmaceutical firm Eisai. Chagas disease is caused by infection with the protozoan parasite *Trypanosoma cruzi* and is prevalent in Latin America and the Caribbean.

So far, few treatments for Chagas disease have been tested in clinical trials. Bernard Pécoul, executive director of the Drugs for Neglected Diseases initiative, explained that the collaboration with Eisai is investigating a combination therapy to improve management of the chronic phase of the disease. This therapy consists of a new drug originally developed by Eisai as an antifungal and benzimidazole, an existing treatment. If successful, Eisai's drug will be made available at cost.

Based on its success to date, the Drugs for Neglected Diseases initiative hopes to use its partnership with Eisai as a model for its entire portfolio of candidate drug compounds, Pécoul noted.

Haruo Naito, president and CEO of Eisai, said this kind of collaboration brings many benefits.

"The mission of modern pharmaceutical companies is not just to contribute to solving diseases in economically developed countries. We need to ensure that we offer new treatments to the greater global community, including developing countries as well," he said.

The huge cost of drug development means public-private partnerships are an important mechanism for developing treatments for infectious diseases. "We need to share risks and funding, and the mechanism offered by the GHIT Fund is excellent for this."

Treating schistosomiasis in preschool children

Another collaboration highlighted at the showcase is focused on schistosomiasis, an infection caused by parasitic worms that afflicts more than 240 million people across 78 countries.

The project aims to develop a pediatric formulation of praziquantel, the World Health Organization-recommended treatment for schistosomiasis, and brings together the expertise of the Pediatric Praziquantel Consortium's six partners — one of which is Japan's Astellas Pharma.

Currently, administering praziquantel to children is beset by several difficulties. There is a lack of clinical trial data for children under the age of four and the large tablets are difficult to swallow and bitter when crushed.

Astellas's chairman Masafumi Nogimori explained that to overcome the problems with administering treatment, the company provided the consortium with the initial technology to produce a smaller and less bitter tablet that is orally dispersible, making it suitable for very young children. In collaboration with consortium partners, production has now been scaled up and optimized, and in principle the formulation can be manufactured locally and stored in the hot and humid tropical climates of endemic countries.

The new pediatric formulation is now moving into the clinical development phase. This will generate vital data in young children with the goal of achieving registration of the formulation in endemic countries.

"Japanese research institutions and universities, the Japanese government, as

well as private companies, have accumulated a lot of know-how to develop medicines for the treatment of infectious diseases throughout historical fights against soil-transmitted parasites and malaria in Japan," Nogimori noted. "It therefore makes sense to integrate this know-how under the public-private partnership research model in order to expedite or increase the chances of the development of new therapeutic agents."

Trevor Mundel, president of the Global Health Division of the Bill and Melinda Gates Foundation, expressed his happiness that the private-sector companies brought together by the GHIT Fund over the last year have already developed a rich portfolio and are keen to expand their partnerships over the next few years.

In closing the event, Kiyoshi Kurokawa, chair of the GHIT Fund board, noted that Japan's advanced technology could have enormous impact if applied more widely around the world.

Through sharing ideas, healthcare innovations and knowledge, Japanese companies can make a great contribution to combating infectious disease. Thanks to the unique funding and perspectives of the GHIT Fund, he said, the prognosis is extremely positive.

GHIT Fund

Global Health Innovative Technology Fund

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