THE END FUND | ENDING NEGLECTED DISEASES

Partnering to End **Neglected Tropical Diseases in Rwanda**

INTESTINAL WORMS
Over 1.5 billion people require treatment

SCHISTOSOMIASIS
206 million people require treatment

LYMPHATIC FILARIASIS
856 million people require treatment

TRACHOMA
190 million people require treatment

RIVER BLINDNESS
198 million people require treatment

NEGLECTED TROPICAL DISEASES

What are NTDs?

Neglected tropical diseases (NTDs) are a group of parasitic and bacterial infectious diseases that affect more than 1.5 billion of the world's most impoverished people, including 836 million children. Over 40% of the global NTD burden is concentrated in sub-Saharan Africa, where the END Fund focuses the majority of its work. NTDs rank among the four most devastating groups of communicable diseases.

How do NTDs affect people?

They cause severe pain and long-term disability, and lead to death for more than 170,000 people per year worldwide. The effects of NTDs, such as swollen limbs and blindness, result in social isolation. Amongst children, infection leads to malnutrition, cognitive impairment, stunted growth, and the inability to attend school. Social isolation and physical ailments make working difficult for people with NTDs. Many people are unable to provide for themselves or their families and are left in a cycle of poverty.

1.5 billion
are affected by NTDs

836 million
of the affected are children

170,000
people die each year from NTDs

WHAT IS THE INVESTMENT CASE FOR NTDs?

Studies show that NTD treatment is the single most cost-effective means of improving children's attendance in school and increasing their capacity to learn and concentrate.

Thanks to pharmaceutical companies that generously donate the needed drugs, about 50 cents per person per year funds the training of health workers and delivery of medication needed to treat an individual for the five most common NTDs, making it a "best-buy" in public health. Additionally, every dollar invested in NTD control and elimination produces between $27 and $42 worth of economic benefit.

According to research from Erasmus University, if the WHO 2020 targets for NTDs are reached, sub-Saharan Africa would save $52 billion by 2030 due to decreased out-of-pocket expenses and productivity losses. **Rwanda alone would save almost $320 million and 1.18 million disability-adjusted life years or years lost of "healthy" living.**

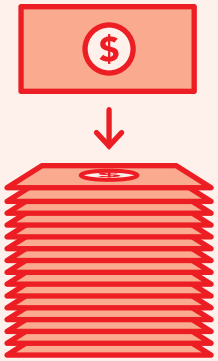
50¢

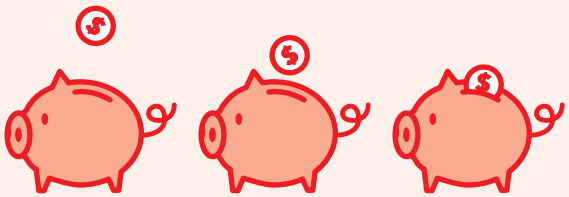
per person, per year
to treat the five
most prevalent NTDs

Every dollar produces

$27-42

worth of economic benefit





$52B

of potential savings
for Africa

$320M

of potential savings
for Rwanda alone

"What was distinctive about this investment proposition was the opportunity to not just do the good but the great...we saw a unique investment opportunity emerging that could catalyse change on a major scale which is why we chose to prove the concept in two small countries so they could act as case studies for others to follow."

— **Alan McCormick,** *Partner, Legatum,*
on the Legatum Foundation's initial NTD
investment in Rwanda and Burundi in 2007

NTDs IN RWANDA

Following the Genocide against the Tutsi in 1994 through the creation of Rwanda's NTD program in 2007, there had been little, if any research on NTDs.

Even though intestinal worm infections were the second leading cause of health center visits, there was minimal understanding of the NTD burden throughout the country.

Between 2007 and 2008 the Ministry of Health (MoH) mapped the prevalence of intestinal worms, schistosomiasis, lymphatic filariasis, and trachoma. The mapping results clearly showed that there was a heavy burden of both intestinal worms and intestinal schistosomiasis in many areas. The prevalence of intestinal worm infection ranged from 7.6% to 95.8% in districts with an overall country prevalence of 65.8%. The prevalence of schistosomiasis ranged from 0% to 69.5% across the surveyed schools, with an overall country prevalence of 2.7% among school children. High-infection areas were localized around bodies of water where fresh water snails live, which act as vectors for the disease.

In 2014, after many years of treatment through mass drug administration (MDA), the MoH remapped for both intestinal worms and schistosomiasis in order to have up-to-date disease prevalence and intensity data. The MoH opted to use the new Point-of-Care Circulating Cathodic Antigen (POC-CCA) urine test to assess the presence of intestinal schistosomiasis and the previously used kato-katz method to assess for both diseases. Since POC-CCA is a more sensitive test than kato-katz, the results of the remapping showed that schistosomiasis was more widespread throughout the country than previously believed and the disease was actually present in almost all districts and in areas surrounding perennial water bodies. This meant that more people who required treatment for schistosomiasis would receive it.

More than

1.7M

people in need of treatment for schistosomiasis

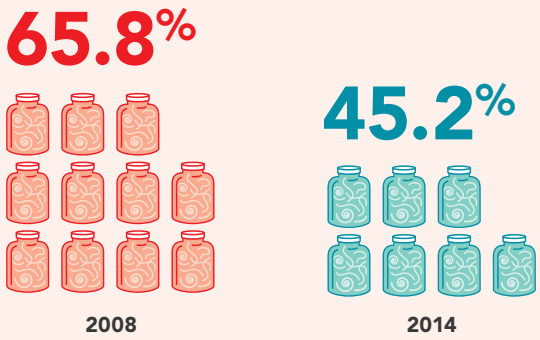
More than

4.3M

people in need of treatment for intestinal worms

Prevalence of Intestinal Worms

The remapping of intestinal worms in 2014 showed an over 30% decrease in prevalence levels nationwide compared to the initial mapping in 2008.



NTD INVESTMENTS IN RWANDA

In 2007, the Legatum Foundation first invested in Rwanda following an article featured in the *Financial Times* that highlighted the cost effectiveness of treating NTDs.

Prior to this, due to competing health and development priorities in the country, limited funds had been allocated to NTDs from both bilateral governments and other donors.

Rwanda offered an ideal opportunity to pilot the use of private philanthropy to help end these diseases. Through this investment, the Legatum Foundation provided $3.3 million to Geneva Global—a leading philanthropic consulting firm—to support partners including Rwanda's MoH, the Access Project, and Imperial College London's Schistosomiasis Control Initiative (SCI).

In addition to funding disease mapping and drug delivery through MDA, investments included equipping health facilities with diagnostic equipment, training health personnel, and developing indicators that were added to the country's Health Management Information System. These investments not only laid the foundation for continued treatment and control, but also developed the long-term capacities of the national health system.

Pharmaceutical companies GlaxoSmithKline, Johnson & Johnson, and Merck Serono generously donate the necessary drugs to treat schistosomiasis and intestinal worms.

"Including NTDs in the training curriculum for 45,000 community health workers represents an innovative development in Rwanda's approach to tackling NTDs and will be critical to the sustainability of a national program that has already produced remarkable health gains through mass drug administration. By supporting this key initiative, the UBS Optimus Foundation is proud to invest in improving the health and cognitive and physical development of over 4 million children in Rwanda."

— **Phyllis Costanza,**
CEO UBS Optimus Foundation

To build on the success of this initial investment, the END Fund was launched in 2012 as a private, philanthropic initiative to end the five most common NTDs. Bill Campbell—formerly with JPMorgan Chase & Co and currently President of Sanoch Management—joined the movement soon after as the Board Chair, following a happenstance meeting in Rwanda while evaluating causes for his family's foundation. Rwanda has remained a key partner to the END Fund since even before its founding. There is now a consortium of donors still partnering and investing in the future of the country, which includes integrating NTDs into the health system. What started as a three-year pilot has turned into over a decade of investment and commitment.

Total Investments 2008–2018
by the END Fund and
the Legatum Foundation

$6 Million

"It wasn't easy...but we did actually make a huge difference to millions of people and we got to national coverage quite quickly. The work that we do is pro-poor, it's cost effective, and it really makes a difference."

— **Professor Alan Fenwick,** *Founder, Schistosomiasis Control Initiative (SCI),* reflecting on NTD work and the early years of the Rwanda program.

PROGRESS IN RWANDA

Rwanda has come a long way in its efforts to control NTDs. Though there were a number of NGOs involved in small-scale deworming efforts in targeted communities, there was no large-scale coordination of NTD control efforts in place prior to the 2007 launch of the National Neglected Tropical Diseases Program. In addition, there was minimal data on the prevalence, distribution, and public health significance of the various NTDs.

Number of treatments delivered 2008–2017

Almost

52 Million

Value of treatments delivered 2008–2017

Over

$2.7 Million

The National Neglected Tropical Diseases Program has always been government-led and country-owned, and sustainability has been a priority of the MoH since its inception, providing a strong foundation to control these diseases of poverty. In the early years of the program, remarkable progress was achieved in cultivating leadership, building capacity, strengthening health systems, and generating program efficiency. It was built on a promising health infrastructure that was founded on human capital, prevention efforts, and strong partnerships. With the support of the Access Project and SCI, the National Neglected Tropical Diseases Program had already demonstrated its commitment to sustainability by the second year of the partnership. It conducted nationwide mapping for intestinal worms and schistosomiasis, developed a strategic plan, integrated NTD control efforts into its national health plan, and organized integrated Mother and Child Health (MCH) Weeks.

The launch of a new strategic NTD plan in 2012 developed in line with Rwanda's Vision 2020 goals coincided with several renewed partnerships—including one with the END Fund—and efforts to control NTDs were further prioritized by the MoH. Between 2012 and 2016 the National Neglected Tropical Diseases Program supported twice-yearly treatment of preschool and school-age children for intestinal worms through the integrated MCH Weeks and annual treatment of school-age children for schistosomiasis.

With the more sensitive disease remapping conducted in 2014, the country had a more clearly defined prevalence map outlining a wider distribution of schistosomiasis. By 2017 when the results of the POC-CCA remapping were used to determine treatment strategies, treatment was rolled out in all endemic districts of the country and more than one million school-age children were treated for schistosomiasis—up significantly from 230,000 children who were previously treated.

The MoH demonstrated further commitment to controlling NTDs in 2017 when they purchased all the praziquantel needed to ensure health facilities had the drugs for routine clinical case management. In 2018 the MoH validated two new significant documents—National NTDs Master Plan (2018-2024) and National NTDs and Other Parasitic Diseases Guidelines for the control and elimination of these diseases. With a new grant from the END Fund in 2018, the National Neglected Tropical Diseases Program is working to further embed NTD knowledge in the local communities and the health system by training approximately 45,000 community health workers to recognize and refer NTD cases to local health centers. Lab staff in 20 sentinel health centers were trained and labs are now equipped to test people and treat them if diseases are found.

TOWARDS AN NTD-FREE RWANDA

Over the last decade, Rwanda has experienced sustained economic growth, notable reductions in poverty, increases in life expectancy, and significant improvements in health.

Admirably, Rwandan leaders have also pledged to decrease the country's reliance on foreign aid and transform Rwanda from an agriculture-based economy to a knowledge-based, middle income economy.

It is clear that sustained efforts to keep NTD burdens low in Rwanda will help drive continued improvements in health, education, and economic prosperity. Increasingly, Rwandans across the country are aware of the importance of deworming. The Rwandan MoH now has a committed, experienced NTD team delivering a national, high-quality deworming program. With the training of all community health workers on NTDs and inclusion of NTD medicines and diagnostic capacity at clinics, NTDs are now fully integrated into the national health system. The final stage to achieve full national sustainability of the program will be to phase out external funding and ensure ongoing deworming efforts are part of the annual national health budget.

President Kagame's leadership of the African Union in 2018 offers a unique and exciting opportunity to showcase Rwanda's successes in ending NTDs and inspire others to increase support and political will for the same goal. Over 600 million people in Africa are in need of treatment for at least one NTD, and with committed leadership, continued awareness raising, increased funding, and targeted treatment efforts, NTDs can be ended across the entire continent by 2030.

“Building on 10-years of experience that helped our country reach an encouraging level in controlling the most common NTDs, Rwanda is more than committed to using all cost effective strategies to attain the fixed program’s vision: Rwanda free of neglected tropical diseases.

The Government of Rwanda values the partnership established with the END Fund and other stakeholders toward elimination of NTDs in the country of 1000 hills. Resource mobilization is still needed for Rwanda to further control and integrate all remaining NTDs into the existing health system and where a relevant multi sectoral approach will be explored for better sustainability.”

— **Dr. Diane Gashumba,**
Minister of Health, Rwanda

For press or media inquiries
contact **communications@end.org**

The END Fund would like to thank the generous photographers and organizations whose images are reproduced in this report with their kind permission. These include: Center for Neglected Tropical Diseases, Geneva Global, Gerald Chirinda, Jonathan Olinger, and Lindsay Branham of Discover the Journey (DTJ), and Mo Scarpelli/Rake Films.

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