

More than 1 billion people in approximately 80 countries are threatened by lymphatic filariasis, commonly known as elephantiasis, a devastating parasitic infection spread by mosquitoes. The disease has infected over 120 million people, leaving more than 40 million incapacitated or disfigured.

# What if you were among the 120 million people infected by a disfiguring, mosquito-borne disease?

Imagine what it would be like to contract lymphatic filariasis (LF). Seemingly harmless mosquito bites lead to LF worms invading your body to live in your lymphatic vessels. These thread-like worms, two to four inches long, begin wreaking havoc on your body. Your arms, legs, breasts and genitals can swell to grotesque proportions through what's known as lymphoedema or elephantiasis. If you're a man, you may get hydrocele, which can swell your scrotum to the size of a basketball — or larger. Debilitating fevers and pain may plague you. And even if you experience no outward symptoms, all the while parasites are damaging your lymphatic system, kidneys and immune system.

If you're afflicted by LF, you might feel ashamed and alone, and try to hide your condition. Because of your chronic illness, you're frequently unable to work or care for your children. The cycle of poverty within your family only worsens, and has a far-reaching ripple effect on your community and country.

This scenario is indeed a reality for millions of poor, vulnerable people affected by LF in Africa, Asia, the Pacific, the Middle East, and the Americas. LF threatens one-fifth of the world's population – the same as malaria – and causes enormous disability, yet few people outside of affected countries are even aware of it.

(left) A mother with lymphoedema and her son outside their house in Malawi; (middle) a Ghanaian woman suffers the consequences of lymphoedema; (right) an Indian man with advanced elephantiasis



### **About Lymphatic Filariasis**

- Transmitted by mosquitoes, lymphatic filariasis (LF) is caused by thread-like parasitic worms that damage the human lymphatic system
- Affects approximately 80 of the world's poorest countries
- 1 billion+ people are at risk of infection
- 120 million people are already infected
- Of those, more than 40 million have swelling of the limbs and breasts (lymphoedema) and genitals (hydrocele), or swollen limbs with dramatically thickened, hard, rough and fissured skin (elephantiasis)
- Even those showing no external signs of infection suffer internal damage to the lymphatic system, kidneys and immune system
- Usually contracted in childhood, often before age five
- One of the world's most disabling and disfiguring diseases
- A disease of poverty, LF is often linked to poor sanitation and poor housing quality
- LF prevents the afflicted from experiencing a normal working and social life, furthering the cycle of poverty





# Who can help me?

The disability and suffering that LF causes can be prevented by interrupting the spread of infection and caring for existing patients. The Global Alliance to Eliminate Lymphatic Filariasis, launched in 2000, brings together national Ministries of Health and more than 40 diverse public and private partners including the World Health Organization, companies within the private sector, international development agencies and foundations, non-governmental organisations, research institutions, and local communities, all united for a common purpose: a future free of LF.

### What if you had the resources to stop LF in its tracks?

We can – and we must – break the cycle of LF infection and reach out to those who are already suffering. External funding is urgently needed to help the Global Alliance to Eliminate Lymphatic Filariasis do just that. A far-reaching partnership, the Global Alliance is dedicated to a future free of LF, with an ambitious goal of eliminating the disease worldwide by 2020.

Just taking two medicines once a year for at least five years can protect those at risk. In some places, all it takes is using drug-fortified table salt for a couple of years. For those already afflicted, basic hygiene practices, exercise and, in some cases, surgery can keep the disease in check.

A finger-prick blood test, called an ICT, can detect LF in minutes, any time of the day or night – no lab work required. This accurate diagnostic tool makes it faster and easier than ever before to map disease patterns in affected countries, so that LF programmes can be implemented in the right place, at the right time.

#### Treatment requires expertise, cooperation

It sounds so simple. But treating more than 1 billion people is an ongoing, complex challenge. Those at risk of infection often live in remote areas that are difficult to access. Reaching individuals who need treatment takes technical expertise and tremendous community cooperation.

Global Alliance partners are making a powerful difference. For example, GlaxoSmithKline and Merck & Co., Inc. are donating drugs – albendazole and Mectizan® (ivermectin) – for as long as necessary to eliminate the disease as a public health problem, providing the largest, long-term donation ever made to a global health initiative. The Bill & Melinda Gates Foundation, the Department for International Development (UK), the Japan International Cooperation Agency, and the Arab Fund for Social & Economic Development contributed critical seed money that helped begin to transform the dream of eliminating LF into a reality. Programme costs are shared by national Ministries of Health, which often cover a substantial proportion, and by external partners. To keep costs low, the programme relies on Alliance partners' generosity, from drug donations to community volunteerism.

Together, the Global Alliance is mobilising a wide array of political, financial and technical resources to stop LF in its tracks now, and for generations to come.

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## Preventing and treating LF

#### History of the effort to eliminate LF

The Global Programme for the Elimination of Lymphatic Filariasis was established in 1998 by the World Health Organization (WHO), following a 1997 landmark resolution by the 50<sup>th</sup> World Health Assembly to eliminate LF as a public health problem by 2020. In 1998, GlaxoSmithKline and Merck & Co., Inc. each announced their commitment to donate the necessary drug supplies and were joined by many other partners around the world. 2000 marked the launch of the Global Alliance to Eliminate Lymphatic Filariasis.

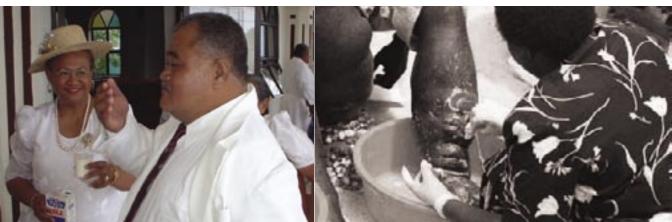
### The Global Programme & the Global Alliance

- Global Programme to Eliminate LF, coordinated by WHO, organises and implements country programmes and coordinates operational issues to achieve the goal of eliminating LF by 2020.
- Global Alliance to Eliminate LF is a broad, global partnership of 40+ public and private-sector partners, and Ministries of Health in LF endemic countries. The Alliance mobilises political, financial and technical expertise to support the Global Programme.

### Global Programme uses unique two-pronged approach

- Stopping the spread of infection: Cycle of LF transmission can be broken in as little as five years, by treating at-risk communities annually with different combinations of safe and effective drugs, two of which are donated by Global Alliance partners GlaxoSmithKline and Merck & Co., Inc.
- Alleviating suffering and disease: Disability and suffering can be greatly reduced through simple hygiene practices and, in some cases, surgery.

(Below left) Distributing medicines at a church in American Samoa; (Below, right) A Tanzanian health official washes a woman's leg to help relieve her lymphoedema. (Above, right) Haitian school girls show off drugs that can keep them free of LF.



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## China breaks the cycle

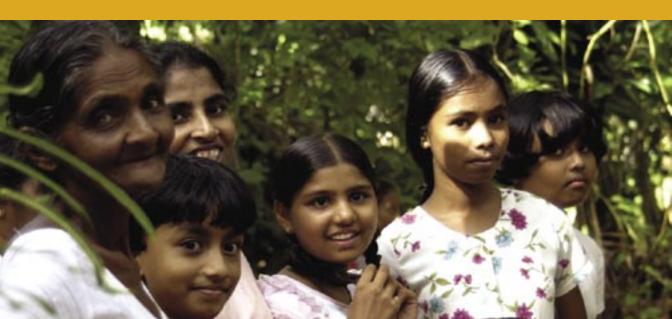
China initially targeted LF in the 1950s, because it was one of five diseases draining the country's agricultural productivity. With commitment and will, China broke the cycle of LF transmission by distributing drugs on a mass scale and fortifying table salt with DEC, an anti-parasitic drug. Before implementation, 330 million people were at risk of infection. As of 1994, LF transmission in China had ceased. The successful programme proved extremely cost-effective. In one province, China calculated a cost-benefit ratio of 1 to 5.7 (One yuan spent on filariasis control produced 5.7 yuan in benefits). Lessons learned in China, and other affected countries, are speeding up the elimination of LF on a global scale.





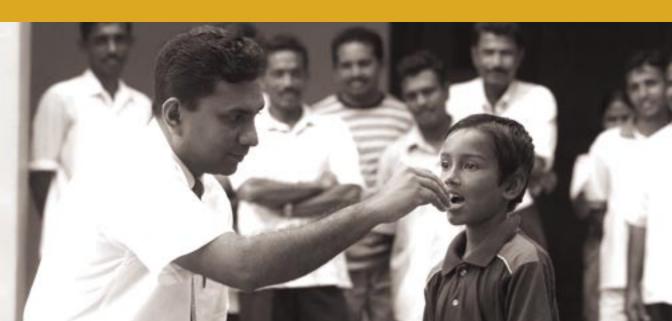
## What can a community do?

Community volunteers are essential to the continued success of the LF programme. In Sri Lanka (pictured), almost 50,000 volunteers fanned out in 2003, during the third annual mass drug distribution, reaching





more than 87% of 9.8 million people at risk. On bikes and on foot, teams of volunteers visited communities to distribute drugs in a single day. Volunteers also mobilised to target special groups like school children, setting up booths to administer medicines.





# What will happen to my children?

Intestinal parasites like hookworm, whipworm, and roundworm are an enormous health burden in many countries, robbing children of their growth and development. Remarkably, the same drugs used to prevent LF also get rid of these intestinal worms, boosting kids' growth and development and preventing anaemia.

\* Mectizan® (ivermectin) has formal regulatory approval for lymphatic filariasis and onchocerciasis and is donated by Merck & Co., Inc. for those indications.

# What if your actions had more health benefits than you ever imagined?

It's exciting to think about eradicating the scourge of LF. But there's even more good news: the same drugs that prevent LF also combat intestinal parasites that affect the most vulnerable – especially children who face a high risk of infection and long-term damage. So by eliminating LF, the Global Alliance is also helping protect people from the ravages of hookworm, roundworm, whipworm, lice, scabies and other devastating parasitic infections.

Additionally, the Global Alliance is finding innovative, cost-effective ways to integrate LF programmes into existing community-based initiatives. For example salt fortified with iodine and fluoride can also be fortified with DEC (a drug that eliminates LF). In Africa, where LF co-exists with river blindness and schistosomiasis, drugs to treat all three diseases can be distributed at the same time. Bednets that help control malaria are even more effective at fending off LF. Where trachoma and nutritional initiatives are already in place to give out vitamins and drugs, LF drugs can be added.

### Strengthening health systems, improving access to care

The benefits of these types of synergies are extensive. Health systems are strengthened, and poor people have better access to appropriate treatments. Children who grow up without the burden of LF and other parasitic diseases are far more likely to stay in school, and become adults who can work and contribute to their communities, building more robust economies. They'll be embraced by those around them, instead of shunned because of the stigma of their disease. Marriages will thrive. Healthy children will be born, furthering the positive socio-economic cycle. By its actions, the Global Alliance offers millions of the world's poorest people extraordinary hope for a better life.

## Creating a healthier world

Drugs that prevent LF also offer the tremendous added benefit of treating intestinal parasites – at no additional cost. Extended benefits of LF treatment in children include improvements in:

- growth and development
- physical fitness
- physical activity
- school attendance
- cognitive performance

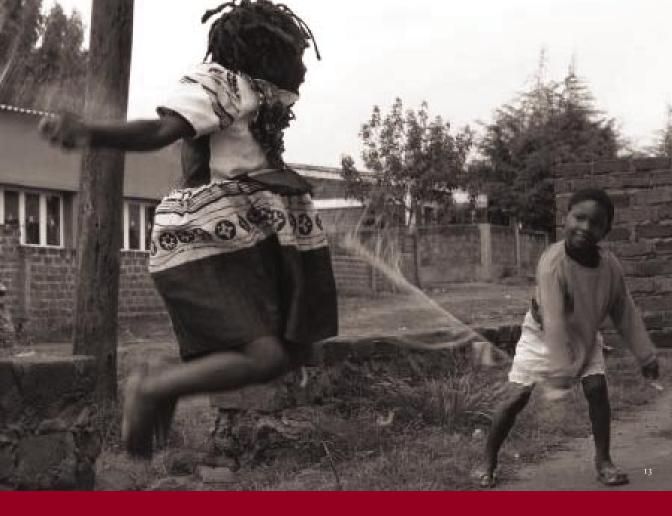
LF programmes can be cost-effectively integrated into other community-based health initiatives such as:

- malaria
- school-based deworming programmes
- trachoma
- onchocerciasis (river blindness)
- schistosomiasis

LF treatment helps children grow up healthier and stronger, enabling them to stay in school.

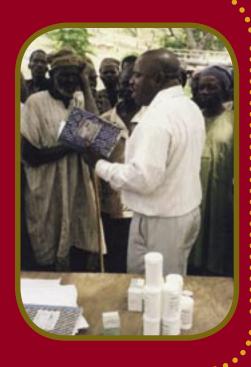






# Nigeria takes an integrated approach

Distributing drugs to eliminate LF can be integrated into existing national and local public health strategies quickly and cost-effectively, often with little need for extra resources. For instance, two states in Nigeria distribute drugs to treat LF at the same time as they're treating river blindness and schistosomiasis. A similar approach is underway in many countries fighting LF. Increasingly, the Global Alliance is seeking ways to integrate prevention and treatment activities with other disease programmes for maximum efficiency.





# Can you change my life?

More partners, funding, support services, and research are still urgently needed to eliminate LF as a public health problem. While many country programmes have commenced, more resources are required to scale up efforts to reach entire at-risk communities. A lack of care today will deny millions of people the chance to lead full and productive lives tomorrow.

### What if we could eliminate LF in our lifetime?

### Together, we will.

Clearly, we're headed in the right direction. The tools to eliminate LF are in place – a proven programme exists with safe, cost-effective treatments that can change lives for the better, supported by a strong and diverse Global Alliance. Success stories are plentiful. In countries where LF treatments have been provided for three or four consecutive years, this disabling infection is declining dramatically.

But there is much more to be done. Lost productivity from LF costs billions of US dollars each year. There are still more than 1 billion poor people who are at risk, and 120 million who are suffering. Fighting this neglected disease is critical to pushing back poverty, alleviating suffering, enhancing economic and social development, and strengthening public health capacity.

Many challenges lie ahead. There is an urgent need for additional external funding to start the programme in some countries and scale it up in others. Disability services must be expanded. More operational research is essential. Additional implementing partners, as well as those who can assist with advocacy, are vital to our future. Political commitment is critical, along with community involvement. Above all, we must keep our momentum going strong! It won't be easy. But with determination and focus, together we can – and we will – achieve freedom from LF in our lifetime.

Women share experiences at a support group in Ghana; A family reaps the benefits of the LF campaign in the Dominican Republic.



## Scaling up, reaching out

While the Global Alliance is making inroads in eliminating LF, there is still much to be done to achieve a world free of LF by 2020.

Additional external funds are essential:

- to start and scale up country programmes to reach everyone at risk
- to reach more people who are disabled by LF
- to maximize programme effectiveness through operational research

Additional partners in both endemic and non-endemic countries are critical for implementation and advocacy.

#### Credits

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In French Polynesia, the LF programme distributes medicines to protect the health of schoolchildren.





# Please join us!

You can join with the Global Alliance to make our vision of a future free of LF a reality. For more information about LF and the Global Alliance, please contact one of the offices listed on the back cover or visit our website: www.filariasis.org.

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