In 1986, the world health community began a campaign to eliminate the guinea worm (Dracunculus medinensis) from the entire world by the year 2000. If successful, this will be only the second global disease ever completely eradicated (smallpox, which was abolished in 1977 was first), and the only time that a human parasite will have been totally exterminated worldwide. Known as the fiery serpent, the guinea worm is a terrible scourge of many tropical countries. Infection starts by drinking stagnant water contaminated with tiny water fleas (called cyclops) containing guinea worm larvae. Inside the human body, the worms grow to as long as one meter (3 ft). After a year of migrating through the body, a threadlike adult worm emerges slowly through a painful skin blister. Most worms come out of the legs or feet but they can appear anywhere on the body. The 8 to 12 weeks of continuous emergence are accompanied by burning pain, fever, nausea, and vomiting. Many victims bathe in a local pond or stream to soothe their fever and pain. When the female worm senses water, she releases tens of thousands of larvae, starting the cycle once again.

As the worm emerges from the wound, it can be rolled around small stick and pulled out a few centimeters each day. Sometimes the entire worm can be extracted in a few days, but the process usually takes weeks. If you pull too fast and the worm breaks off, the part left in your body can die and fester, leading to serious secondary infections. If the worm comes out through a joint, permanent crippling can occur. There is no cure for guinea worm disease once the larvae are ingested. There is no vaccine, and having been infected once doesn't give you immunity. The only way to break the cycle is through behavioral changes. Community health education, providing clean water from wells or by filtering or boiling drinking water, eliminating water fleas by chemical treatment, and teaching infected victims to stay out of drinking supplies are the only solutions to this dreadful problem.

When the eradication campaign was started in 1986, guinea worms were endemic to 16 countries in sub-Saharan Africa as well as Yemen, India, and Pakistan. Every year about 3.5 million people were stricken and at least 100 million people were at risk. With the leadership of former U.S. President Jimmy Carter, a consortium of agencies, institutions, and organizations—including the WHO, UNICEF, the United Nations Development Program (UNDP), the World Bank, bilateral aid agencies, and the governments of many developed countries—banded together to fight this disease. Although complete success has not yet occurred, encouraging progress has been made. Already the guinea worm infections are down more than 96 percent. Pakistan was the first country to be declared completely free of these parasites. Infection rates in Kenya, Senegal, Cameroon, Chad, India, and Yemen are down below 100 cases per year. More than 80 percent of all remaining cases occur in Sudan, where civil war, poverty, drought, and governmental resistance to outside aid have made treatment difficult.

An encouraging outcome of this crusade is the demonstration that public health education and community organization can be effective, even in some of the poorest and most remote areas. Village-based health workers and volunteers conduct disease surveillance and education programs allowing funds and supplies to be distributed in an efficient manner. Once people understand how the disease spreads and what they need to do to protect themselves and their families, they do change their behavior. And when the campaign is completed and guinea worms are completely vanquished, the health workers and volunteers will be available for further community development projects.