



## GUINEA WORM: COUNTDOWN TO ZERO TIMELINE

### 1450 B.C.

The Old Testament of the Bible mentions Guinea worm disease — or dracunculiasis — as “the fiery serpent.”

### 19TH & 20TH CENTURY A.D.

As water treatment facilities emerge, Guinea worm disease is eliminated in many areas throughout the world, except parts of developing nations in Africa and Asia with poor water quality.

### 1980

The global initiative to eradicate Guinea worm disease begins at the U.S. Centers for Disease Control and Prevention (CDC) with Dr. Donald Hopkins.

### 1981

The steering committee of the International Drinking Water Supply and Sanitation Decade (1981-1990) issues a statement supporting Guinea worm disease eradication as a subgoal, which the World Health Assembly later endorses. IDWSSD’s goal of providing safe drinking water for all people worldwide provides an unprecedented opportunity to eradicate Guinea worm disease — the only infectious disease transmitted by drinking water alone.

### 1986

Estimates indicate there are 3.5 million cases of Guinea worm disease annually, with approximately 120 million people at risk in 21 countries in Africa and Asia.

The World Health Assembly adopts its first resolution formally targeting Guinea worm disease as the second major infectious disease to be eradicated — after smallpox — but sets no target date.

The Carter Center, in partnership with the U.S. Centers for Disease Control and Prevention and others, begins leading the Guinea worm eradication campaign to wipe out Guinea worm disease from all endemic countries.

## 1987

Pakistan is the first country the Carter Center-led Guinea worm eradication campaign assists. Ghana is the second.

## 1988

President and Mrs. Carter witness the suffering caused by Guinea worm disease for the first time, visiting patients in two endemic villages — Elevanyo and Denchira — in Ghana.

African ministers of health resolve to eradicate dracunculiasis by the end of 1995, a target date that is endorsed by the World Health Assembly in 1991.

## 1989

Nigeria, the third country assisted by The Carter Center, reports 653,492 cases of Guinea worm disease, making it the most endemic country in the history of the program.

The Carter Center organizes an International Donors Conference in July in Lagos, Nigeria. Donors, including UNDP, UNICEF, and U.S. Peace Corps, commit approximately \$10 million in new support, greatly increasing the funding available to the program for the first time. The USAID mission in Ghana commits \$2 million a month later.

## 1990

American Cyanamid Co. announces the donation of ABATE® — a nontoxic larvicide that kills the tiny water fleas carrying infected Guinea worm larvae. American Home Products — then BASF Corporation later — assume the ABATE donation program. By 2009, more than \$4 million of ABATE Larvicide has been donated to the eradication effort.

E. I. du Pont de Nemours & Co., in partnership with Precision Fabrics Group, agrees to donate more than 1 million square yards of nylon materials for household water filters that will be used to prevent Guinea worm disease infection through careful water filtration. They later increase their donation to more than 2 million square yards.

## 1992

With the encouragement of President Carter, former Mali Head of State General Amadou Toumani Touré made the eradication of Guinea worm disease in Mali and in other French-speaking endemic countries in West Africa his personal mission. President Touré's mother had suffered from Guinea worm as a young girl. A year later, the United States Agency for International Development (USAID) pledges more than \$1 million to the Guinea worm program in Mali.

The government of Japan joins the global partnership to eradicate Guinea worm disease.

## 1993

Pakistan becomes the first country to stop transmission of Guinea worm disease during the campaign.

## 1994

Kenya stops transmission of Guinea worm disease.

In a grant signing ceremony held at the Department of State in Washington, D.C., USAID presents The Carter Center with a grant of \$3.5 million to help mobilize eradication efforts and provide short-term technical assistance to endemic countries.

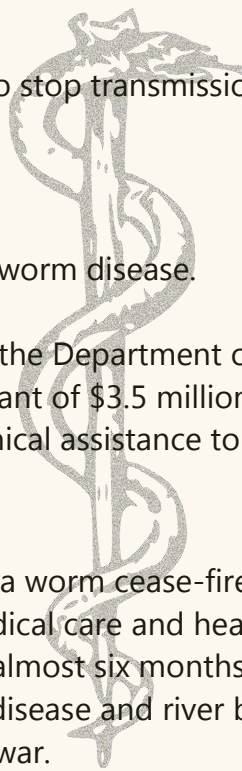
## 1995

President Carter negotiates a "Guinea worm cease-fire" between two sides in Sudan's civil war, allowing much needed medical care and health education to be conducted in the country. The cease-fire lasts for almost six months and is the beginning of sustained interventions against Guinea worm disease and river blindness (onchocerciasis) during the subsequent 10 years of the civil war.

## 1996

India stops transmission of Guinea worm disease.

The WHO International Commission for the Certification of Dracunculiasis Eradication meets for the first time and, by 2015, certifies 198 countries, territories, and areas worldwide as dracunculiasis-free.



## 1997

Cameroon, Senegal, and Yemen stop transmission of Guinea worm disease. As a result, Guinea worm disease is now eliminated from Asia, leaving the disease only in Africa.

The government of Canada joins the global partnership to eradicate Guinea worm disease.

## 1999

Former Nigeria Head of State General (Dr.) Yakubu Gowon, with the encouragement of President Carter, makes the eradication of Guinea worm disease in Nigeria his personal mission. Working with the Nigeria Guinea Worm Eradication Program, he made more than 81 visits to 125 endemic villages between 1999-2006. This support, with other concurrent changes — including funding from the Bill & Melinda Gates Foundation — were a tipping point in the Nigeria program.

Chad stops transmission of Guinea worm disease.

## 2000

The first Guinea worm disease eradication grant from the Bill & Melinda Gates Foundation is awarded to The Carter Center through the World Bank for \$15 million. At a special ceremony in Atlanta, The Carter Center honors the first seven countries for stopping transmission of Guinea worm disease. The Guinea worm campaign leader, General Touré of Mali attends the ceremony.

## 2001

Central African Republic stops transmission of Guinea worm disease.

Nine million pipe filters — one for every man, woman, and child at risk of Guinea worm disease in Sudan — are distributed by Sudanese health workers to all sides of the civil war, with assistance and donations by The Carter Center, with Health and Development International, Hydro Polymers of Norsk Hydro, and Norwegian Church Aid.

## 2002

Northern Sudan stops transmission of Guinea worm disease.

## 2003

Fewer than 32,000 cases of Guinea worm disease are reported, a reduction of 99 percent since the program began. Uganda stops transmission of Guinea worm disease. Once

ranked as the third-most endemic country in the world, Uganda's swift success in eliminating the disease remains a model for other countries' eradication campaigns.

## 2004

The eradication program achieves a more than 50 percent reduction of annual cases of Guinea worm disease compared to the year before, the largest percentage reduction in a single year since 1986.

Mauritania and Benin stop transmission of Guinea worm disease.

Leaders at the World Health Assembly in Geneva and representatives from ministries of health, including Sudan, President Carter, UNICEF, and WHO agree to complete the eradication of Guinea worm disease by the end of 2009. 30,000 Guinea worm medical kits, consisting of supplies donated by Johnson & Johnson, are assembled by more than 300 corporate volunteers and members of Atlanta's diplomatic community for distribution in the most endemic countries: Sudan, Ghana, and Nigeria.

## 2005

Ghana, Sudan, and Nigeria account for more than 90 percent of all remaining cases. There are 10 Guinea worm-endemic countries remaining in the world.

On January 9, the signing of a peace agreement in Sudan gives the eradication program unprecedented access to previously inaccessible areas. The Carter Center-assisted Guinea worm program office begins moving its Southern Sudan headquarters into the southern part of the country for the first time since the campaign began in 1986.

The Carter Center receives a \$25 million challenge grant from the Bill & Melinda Gates Foundation, which inspires the contributions of many other donors and is instrumental in revitalizing the eradication campaign.

## 2006

The Carter Center receives the \$1 million 2006 Gates Award for Global Health from the Bill & Melinda Gates Foundation during the Global Health Council's 33rd Annual International Conference on Global Health in Washington, D.C.

Cote d'Ivoire, Burkina Faso, and Togo stop transmission of Guinea worm disease.

The Carter Center honors Benin, Central African Republic, Mauritania, and Uganda for stopping transmission of Guinea worm disease during a special ceremony in Atlanta.

The Jimmy and Rosalynn Carter Award for Guinea Worm Eradication is presented by the Carters to former Nigeria Head of State General (Dr.) Yakubu Gowon and Dr. Emmanuel Miri, resident technical adviser for the Carter Center's health programs in Nigeria since 1998, for their key roles in Nigeria's impending victory over Guinea worm disease.

## 2007

With the support of more than 500 donors, The Carter Center raises \$20 million to complete the challenge grant from the Bill & Melinda Gates Foundation in just two years. Foundations, corporations, governments, and individuals responded to the challenge, with the final contribution to be matched provided by the Howard G. Buffett Foundation. John Moores, chairman of The Carter Center's Board of Trustees, supports a visit by President and Mrs. Carter and several Center staff to Ghana, Sudan, Ethiopia and Nigeria.

## 2008

Guinea worm disease reaches an all-time low of 4,619 cases reported in six endemic countries.

The Carter Center honors Cote d'Ivoire, Burkina Faso, Ethiopia, and Togo for stopping transmission of Guinea worm disease during a special ceremony in Abuja, Nigeria. The Carters present Mali President Amadou Toumani Touré with the Jimmy and Rosalynn Carter Award for Guinea Worm Eradication for his "exceptional efforts" as a leader and spokesperson for the eradication campaign.

Ethiopia, which believed it had interrupted transmission in 2006, reports new cases, some of which were infected in Ethiopia.

The Bill & Melinda Gates Foundation announce a \$40 million challenge grant to The Carter Center. The successful completion of the challenge will raise \$72 million toward the cost to eradicate Guinea worm disease. The United Kingdom's Department for International Development immediately pledged £10 million (approximately US\$15 million). Both the Gates Foundation and DFID grants will be shared between the Center and the World Health Organization.

Nigeria and Niger stop transmission of Guinea worm disease.

## 2010

Former U.S. President Jimmy Carter visits the last stronghold of Guinea worm disease, Southern Sudan. The Carter Center health delegation included Dr. John Hardman, Carter

Center president and CEO, Dr. Donald Hopkins, vice president for Health Programs, and Richard Blum, a member of the Carter Center's Board of Trustees. President Carter urged intensification of efforts to wipe out the waterborne parasitic infection during the next transmission season beginning in April.

Guinea worm eradication receives \$500,000 donation from the OPEC Fund for International Development, presented during a special ceremony in Atlanta to former U.S. President Jimmy Carter by His Excellency Director General Suleiman Jasir Al-Herbish.

Ghana stops transmission of Guinea worm disease.

## 2011

The Carter Center honors Nigeria and Niger as the two most recent countries to mark a full year with no indigenous cases of Guinea worm disease. Former U.S. President Jimmy Carter, Carter Center Vice President for Health Programs Dr. Donald R. Hopkins and Director of the Guinea Worm Eradication Program Dr. Ernesto Ruiz-Tiben, presented the awards during the Feb. 17 ceremony in Atlanta.

Ghana Vice President John Mahama officially announces in July that the country has completed 14 consecutive months reporting zero indigenous cases of Guinea worm disease, indicating that the disease cycle has been broken after a 23-year nationwide battle.

South Sudan, which harbors the majority of the world's remaining cases of Guinea worm, becomes an independent state on July 9, 2011.

The Children's Investment Fund Foundation (CIFF) grants The Carter Center \$6.7 million between 2011 and 2015. The John P. Hussman Foundation issues a \$1 million challenge grant to support the global eradication of Guinea worm disease.

## 2012

\$40 million in donations announced Jan. 30 from the Bill & Melinda Gates Foundation, His Highness Sheikh Khalifa bin Zayed Al Nahyan, president of the United Arab Emirates (UAE), and the Children's Investment Fund Foundation (CIFF), which will enable a Carter Center-led eradication campaign to end Guinea worm disease by 2015.

During a press conference held in early 2013 with former U.S. President Jimmy Carter, Carter Center Vice President of Health Programs Dr. Donald R. Hopkins, and Guinea

Worm Eradication Program Director Dr. Ernesto Ruiz-Tiben, The Carter Center announced the lowest cases totals in the history of the eradication campaign – 542 cases of Guinea worm disease were reported from January – December 2012 in South Sudan, Chad, Mali, and Ethiopia.

Chad is reclassified as an endemic country, after having reported indigenous cases for 3 consecutive years.

## 2013

3 indigenous cases of Guinea worm disease are reported in South Darfur, Sudan following local contamination, likely from a previously undetected imported case in 2012. The Carter Center assists the Sudan Guinea Worm Eradication Program to implement active surveillance and interventions. No further cases of Guinea worm disease were detected.

## 2014

The Carter Center expands its responsibility to include assisting surveillance in non-endemic areas of the remaining endemic countries. As the leader of the international campaign, the Center assists national programs for 3 years after they break transmission of Guinea worm disease, and helps them prepare for official certification by the WHO.

## 2015

Ghana is certified by the World Health Organization as Guinea worm-free.

*Countdown to Zero: Defeating Disease*, a special exhibition on disease eradication created in collaboration with The Carter Center, opens at the American Museum of Natural History.

CIFF contributes an additional \$20 million of funding over six years to The Carter Center to help finish eradicating Guinea worm disease.

South Sudan goes seven consecutive months (Nov. 2014-May 2015) without reporting a confirmed case of Guinea worm disease.

22 human cases of Guinea worm disease are reported worldwide in 2015, the greatest single percentage reduction of human cases in the history of the global campaign.

## 2016





President Carter visits the Palace of Westminster to deliver a historic lecture on Guinea worm eradication, as part of the Lord Speaker's Global Lecture Series in London.

