Dracunculiasis (Guinea worm disease) is caused by , a parasitic worm. Approximately 1 year after a person acquires infection from contaminated drinking water, the worm will emerge through the skin, usually on the lower limb. Pain and secondary bacterial infection can cause temporary or permanent disability that disrupts work and schooling. In 1986, the World Health Assembly called for dracunculiasis elimination ( ). The global Guinea Worm Eradication Program, supported by The Carter Center, World Health Organization (WHO), UNICEF, CDC, and other partners, began assisting ministries of health of countries in which dracunculiasis is endemic in meeting this goal. At that time, an estimated 3.5 million cases occurred each year in 20 countries in Africa and Asia (,). This report updates published ( ) and unpublished surveillance data reported by ministries of health and describes progress toward dracunculiasis eradication. A total of 148 cases were reported in 2013 from five countries (in order of prevalence: South Sudan, Chad, Mali, Ethiopia, and Sudan) compared with 542 cases in 2012 from four countries (South Sudan, Chad, Mali, and Ethiopia). The disease remains endemic in four countries in 2014 (South Sudan, Chad, Mali, and Ethiopia), but the overall incidence is falling faster in 2013 compared with 2012 (by 73%) and continues to fall faster in the first 6 months of 2014 (by 71%) compared with the same period in 2013. Failures in surveillance and containment, lack of clean drinking water, insecurity in Mali and parts of South Sudan, and an unusual epidemiologic pattern in Chad ( ) are the main remaining challenges to dracunculiasis eradication.

Because the lifecycle of is complex, its transmission can be interrupted using several strategies ( ). Dracunculiasis can be prevented with four main interventions: 1) educating residents in communities where it is endemic, and particularly persons from whom worms are emerging, to avoid immersing affected body parts in sources of drinking water, 2) filtering potentially contaminated drinking water through a cloth filter, 3) treating potentially contaminated saffected bo TJ T* 0 Tc 0 Tw (indigenous)Tj 8.8 0 0 8.8 365.1957 556.8246 Tm (†)Tj 11 0 0 11 369.4197 553.5245 T is validated by a supervisor within 7 days of emergence of the worm; and 5) temephos is used if there is any uncertainty about contamination of sources of drinking water, or if a source of drinking water is known to have been contaminated. All of these criteria must be achieved for each emerged worm for the case to be considered contained.

† An indigenous case of dracunculiasis is defined as an infection occurring in a person exhibiting a skin lesion or lesions with emergence of one or more Guinea worms in a person who had no history of travel outside his or her residential locality during the preceding year.

dracunculiasis are kept under active surveillance, with daily searches of households for persons with signs and symptoms suggestive of dracunculiasis. These searches are conducted to ensure that detection occurs within 24 hours of worm emergence so that patient management can begin to prevent contamination of water sources. Villages in which endemic transmission of dracunculiasis is interrupted (i.e., zero cases reported for ≥12 consecutive months) also are kept under active surveillance for 3 consecutive years.

WHO certifies a country free from dracunculiasis after that country maintains adequate nationwide surveillance for ≥3 consecutive years and demonstrates that no cases of indigenous dracunculiasis occurred during that period. As of the end of 2013, WHO had certified 197 countries, areas, and territories as free from dracunculiasis ( ). Nine countries remain to be certified: four countries where it is currently endemic (South Sudan, Chad, Mali, and Ethiopia), three countries in the precertification stage (Ghana, Kenya, and Sudan), and two countries never known to have had endemic dracunculiasis (Angola and the Democratic Republic of the Congo).

Although the 1991 and 2004 World Health Assembly goals to eradicate dracunculiasis globally in 1995 and 2009, respectively, were not achieved (,), considerable progress toward eradication has been made since 1986 in reducing the annual number of reported cases. This progress continued with a 73% decrease in cases between 2012 (542 cases) and 2013 (148) followed by a 71% decrease in cases during the first 6 months of 2014 (27) compared with the same period in 2013 (92). This 71% decrease in cases during the first half of 2014 compared with the same period in 2013 did include an increase in cases in Chad (from five cases in 2013 to six cases in 2014), but cases decreased in Ethiopia, Mali, and South Sudan. There also was a 29% reduction in the number of villages in these four countries reporting cases during January–June 2014 (20 villages) compared with January–June 2013 (28).

Surveillance is a challenge everywhere dracunculiasis exists. Of particular concern, surveillance for dracunculiasis remains constrained in most dracunculiasis-affected areas of Mali because of insecurity since March 2012. CDC tested 50 specimens during January 2013–June 2014 from suspected cases in humans in seven countries in which dracunculiais is or was endemic; 22 (44%) specimens were determined to be .

. The 10 southern states of the former Sudan became the independent Republic of South Sudan in July 2011. The South Sudan area reported all of the indigenous cases since 2002, except for three cases detected in Sudan in 2013. The South Sudan Guinea Worm Eradication Program reported 113 cases in 2013, of which 76 (67%) were contained (Table 1), which was a reduction of 78% from the 521 cases reported in 2012. During January–June 2014, the South Sudan Guinea Worm Eradication Program reported a provisional total of 19 cases (79% contained), from 13 villages, compared with 74 cases (70% contained) reported from 52 villages in January–June 2013; a reduction of 74% in cases and 75% in the number of villages reporting cases (Table 2). South Sudan reported zero cases during November 2013–February 2014. Of the cases reported in the first 6 months of 2014, 95% were from Kapoeta East County (in Eastern Equatoria State), where failure to repair a key bridge that collapsed in May 2012 made delivery of supplies more complicated and costly. As previously described ( ), movements of persons along multiple routes for seasonal activities such as livestock grazing and farming as well as sporadic insecurity created during interethnic cattle raiding and other reasons have presented unusually complex challenges to this program.

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	01	01 *	(%)	01	01 (%)	.	(%)	≥1		
South Sudan	113	0	(67)		(-78)	6,682	(100)	79	40	39
Mali	11	0	(64)		(57)	101	(85)	8	0	8
Chad	14	0	(57)		(40)	703	(100)	9	0	9
Ethiopia	7	0	(57)		(75)	72	(93)	5	1	4
Sudan	3		(100)							1
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Moreover, genetic testing to compare whether the worms obtained from humans and those obtained from dogs were . confirmed that they were undistinguishable ( ). During November–December 2013, after five human cases (none contained) were discovered in Sarh district (Moyen Chari Region), an area under passive surveillance, The Carter Center expanded its assistance and began implementing active surveillance in that district. The working hypothesis, based on biologic, environmental, and epidemiologic investigations by CDC and The Carter Center is that the cases in humans and dogs are associated with an intense domestic and commercial fishing industry along the Chari River (where nearly all the cases have occurred) and involve a fish that serves as a paratenic host (an intermediate host in which no development of the parasite occurs). New cases occur when inadequately cooked fish are consumed by humans and when raw fish or fish entrails are consumed by dogs ( ).

months with no cases, the program reported two cases in June 2014, which is a reduction from the seven cases reported during January–June 2013. The source of both cases in 2014 is uncertain. Since October 2013, at the request of the government, The Carter Center expanded its assistance for active surveillance to include all 79 villages in Abobo district and 22 villages in Itang district, in addition to all 72 villages in Gog district, which were already under active surveillance. For several years all cases have occurred in Gambella Region, where the government and WHO have now assigned Guinea worm surveillance officers in all Guinea worm-free districts.

. Sudan reported a small outbreak of two cases of Guinea worm disease in June 2013 and one case in September 2013. All three cases occurred at Kafia Kingi village in South Darfur, all were contained, and all patients were members of the same family. Kafia Kingi and four nearby villages at risk were placed under active surveillance and provided with health education, filters, and temephos interventions. Sudan reported no cases in January–June 2014. Dracunculiasis is not considered to be endemic in Sudan, and the country is in the precertification stage of eradication.

Cases reported in the global Guinea Worm Eradication Program reached a historic low in 2013, and based on current trends, fewer than 100 cases are expected to be

1. World Health Assembly. Resolution WHA 39.21. Elimination of dracunculiasis: resolution of the 39th World Health Assembly. Geneva,