

Marburg (Marburg Virus Disease)



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# Marburg Virus Disease Outbreaks

### Equatorial Guinea Outbreak Update

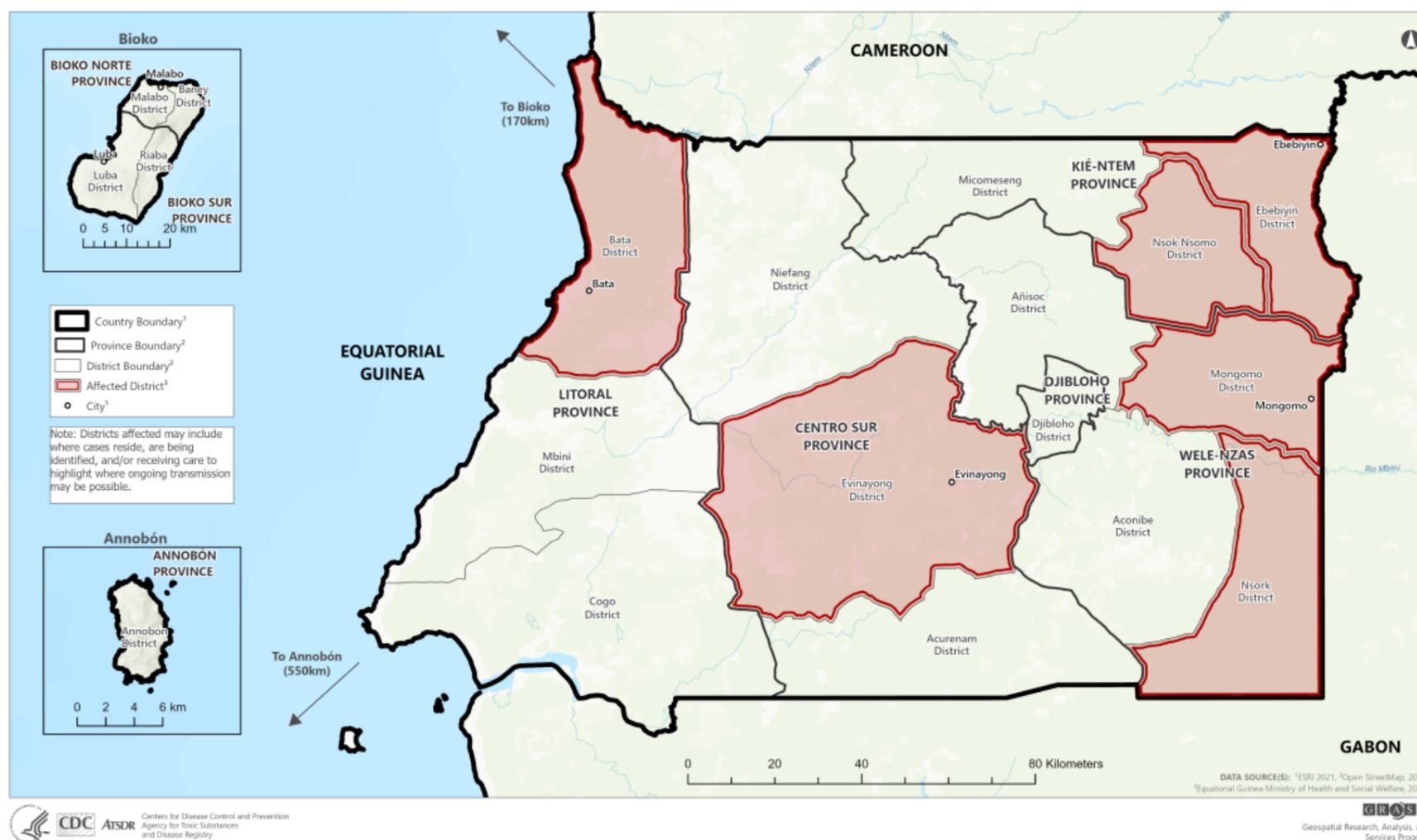
On February 13, 2023, the Government of Equatorial Guinea (GREG) declared a Marburg virus disease (MVD) outbreak, the country's first outbreak of the disease. Cases were reported in several provinces, including Kie-Ntem, Littoral, and Centro Sur. The government declared the outbreak over on May 15, with 16 confirmed cases and 12 deaths. One additional lab-confirmed sample was never linked to a specific patient since the sample was unlabeled. An additional 23 probable cases, all deceased, were also reported during this outbreak.

In response to a request from the GREG, CDC deployed staff with expertise in viral hemorrhagic fevers (VHF) and laboratorians to set up a mobile lab. The team assisted with the response, providing guidance and support for identifying and tracking illnesses, and laboratory testing and training.

The World Health Organization declared the outbreak over on June 8, 2023, 42 days after the last patient was discharged from treatment.

**Note:** Districts affected may include where cases reside, were identified, and/or received care to highlight where ongoing MVD spread may be possible.

**Equatorial Guinea: Marburg Virus Disease Outbreak 2023**  
Affected Districts\*



### Tanzania Outbreak Update



Year(s)	Country	Apparent or suspected origin	Reported number of human cases	Reported number (%) of deaths among cases	Situation
2022	Ghana	Ashanti Region	3	2	A fatal suspect case of Marburg virus disease (MVD) was identified in the Ashanti region of Ghana on July 7, 2022. MVD was initially detected at Ghana's national laboratory by polymerase chain reaction (PCR) and confirmed at the Institut Pasteur in Dakar, Senegal, marking the first detection of MVD in Ghana. Shortly after, two additional family members were also confirmed to have MVD. No additional cases outside the family cluster were identified. The outbreak was declared over in September.
2021	Guinea	Guéckédou	1	1 (100%)	One case was reported and confirmed by the Guinean Ministry of Health in a patient who was diagnosed after death. No additional cases were confirmed after more than 170 high-risk contacts were monitored for 21 days.
2017	Uganda	Kween	4	3 (75%)	A blood sample from Kween District in Eastern Uganda tested positive for Marburg virus. Within 24 hours of confirmation, a rapid outbreak response was begun. This outbreak occurred as a family cluster with no additional transmission outside of the four related cases. <sup>15</sup>
2014	Uganda	Kampala	1*	1	Overall, one case was confirmed (fatal) and 197 contacts were followed for 3 weeks. Out of these 197 contacts, 8 developed symptoms similar to Marburg, but all tested negative at the Uganda Virus Research Institute with support from CDC. <sup>14</sup>
2012	Uganda	Kabale	15	4 (27%)	Testing at CDC/UVRI identified a Marburg virus disease outbreak in the districts of Kabale, Ibanda, Mbarara, and Kampala over a 3-week time period. <sup>13</sup>

Year(s)	Country	Apparent or suspected origin	Reported number of human cases	Reported number (%) of deaths among cases	Situation
2008	Netherlands ex Uganda	Cave in Maramagambo forest in Uganda, at the southern edge of Queen Elizabeth National Park	1	1 (100%)	A 40-year-old Dutch woman with a recent history of travel to Uganda was admitted to hospital in the Netherlands. Three days prior to hospitalization, the first symptoms (fever, chills) occurred, followed by rapid clinical deterioration. The woman died on the 10th day of the illness. <sup>11,12</sup>
2008	USA ex Uganda	Cave in Maramagambo forest in Uganda, at the southern edge of Queen Elizabeth National Park	1	0 (0)	A U.S traveler returned from Uganda in January 2008. The patient developed illness 4 days after returning, was hospitalized, discharged and fully recovered. The patient was retrospectively diagnosed with Marburg virus infection. <sup>10</sup>
2007	Uganda	Lead and gold mine in Kamwenge District, Uganda	4	1 (25%)	Small outbreak, with 4 cases in young males working in a mine. To date, there have been no additional cases identified. <sup>9</sup>
2004 to 2005	Angola	Uige Province, Angola	252	227 (90%)	Outbreak believed to have begun in Uige Province in October 2004. Most cases detected in other provinces have been linked directly to the outbreak in Uige. <sup>8</sup>
1998 to 2000	Democratic Republic of Congo (DRC)	Durba, DRC	154	128 (83%)	Most cases occurred in young male workers at a gold mine in Durba, in the north-eastern part of the country, which proved to be the epicentre of the outbreak. Cases were subsequently detected in the neighboring village of Watsa. <sup>7</sup>
1990	Russia	Russia	1	1 (100%)	Laboratory contamination. <sup>6</sup>
1987	Kenya	Kenya	1	1 (100%)	A 15-year-old Danish boy was hospitalized with a 3-day history of headache, malaise, fever, and vomiting. Nine days prior to symptom onset, he had visited Kitum Cave in Mount Elgon National Park. Despite aggressive supportive therapy, the patient died on the 11th day of illness. No further cases were detected. <sup>5</sup>

Year(s)	Country	Apparent or suspected origin	Reported number of human cases	Reported number (%) of deaths among cases	Situation
1980	Kenya	Kenya	2	1 (50%)	Recent travel history included a visit to Kitum Cave in Kenya's Mount Elgon National Park. Despite specialized care in Nairobi, the male patient died. A doctor who attempted resuscitation developed symptoms 9 days later but recovered. <sup>4</sup>
1975	Johannesburg, South Africa	Zimbabwe	3	1 (33%)	A man with a recent travel history to Zimbabwe was admitted to hospital in South Africa. Infection spread from the man to his traveling companion and a nurse at the hospital. The man died, but both women were given vigorous supportive treatment and eventually recovered. <sup>3</sup>
1967	Germany and Yugoslavia	Uganda	31	7 (23%)	Simultaneous outbreaks occurred in laboratory workers handling African green monkeys imported from Uganda. <sup>1</sup> In addition to the 31 reported cases, an additional primary case was retrospectively serologically diagnosed. <sup>2</sup>

\*Numbers reflect laboratory confirmed cases only.

## References

1. Siebert R. Marburg Virus. In. *Virology*. New York: Springer-Verlag; 1972; pp. 98-153.
2. Feldmann H, Slenczka W, Klenk HD. Emerging and reemerging of filoviruses. *Archives of Virology*. 1996;11(Suppl.):77-100.
3. Conrad JL, Isaacson M, Smith EB, Wulff H, Crees M, Geldenhuys P, Johnston J. [Epidemiologic investigation of Marburg virus disease, Southern Africa, 1975](#) . *Am J Trop Med Hyg*. 1978 Nov;27(6):1210-5.
4. Smith DH, Johnson BK, Isaacson M, et al. Marburg-virus disease in Kenya. *Lancet*. 1982; 1(8276):816-820.
5. Johnson ED, Johnson BK, Silverstein D, et al. Characterization of a new Marburg virus isolated from a 1987 fatal case in Kenya. *Archives of Virology*. 1996;11(Suppl):101-114.
6. Nikiforov VV, Turovskii IU, Kalinin PP, et al. A case of laboratory infection with Marburg fever. *Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii*. 1994(3):104-106.
7. Bausch DG, Nichol ST, Muyembe-Tamfum JJ, et al. Marburg hemorrhagic fever associated with multiple genetic lineages of virus. *New England Journal of Medicine*. 2006;355:909-919.
8. Towner JS, Khristova ML, Sealy TK, et al. Marburgvirus genomics and association with a large hemorrhagic fever outbreak in Angola. *Journal of Virology*. 2006;80(13):6497-6516.
9. Adjemian J, Farnon EC, Tschiko F, et al. Outbreak of Marburg hemorrhagic fever among miners in Kamwenge and Ibanda districts, Uganda, 2007. *Journal of Infectious Diseases*. 2011; 204(Suppl 3):S796-S799.
10. Centers for Disease Control and Prevention. Imported case of Marburg hemorrhagic fever – Colorado, 2008. *Morbidity and Mortality Weekly Report*. 2009; 58(49):1377-1381.
11. World Health Organization. [Case of Marburg Haemorrhagic Fever imported into the Netherlands from Uganda](#) . 10 July 2008.

12. Timen A, Koopmans M, Vossen A, et al. [Response to Imported Case of Marburg Hemorrhagic Fever, the Netherlands](#). *Emerging Infectious Diseases*. 2009; 15(8):1171-1175.
13. Albarino CG, Shoemaker T, Khristova ML, et al. Genomic analysis of filoviruses associated with four viral hemorrhagic fever outbreaks in Uganda and the Democratic Republic of the Congo in 2012. *Virology*. 2013;442(2):97-100.
14. Uganda Ministry of Health. Press Release, Oct. 8, 2014.
15. Nyakarahuka L, Shoemaker TR, Balinandi S, et al. (2019) Marburg virus disease outbreak in Kween District Uganda, 2017: Epidemiological and laboratory findings. *PLoS Negl Trop Dis* 13(3): e0007257.

Last Reviewed: June 9, 2023