

## Ebola Hemorrhagic Fever

## Chronology of Ebola Hemorrhagic Fever Outbreaks

Known Cases and Outbreaks of Ebola Hemorrhagic Fever, in Chronological Order

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Year(s)	Country	Ebola subtype	Reported number of human cases	Reported number (%) of deaths among cases	Situation
1976	Zaire (Democratic Republic of the Congo - DRC)	Ebola virus	318	280 (88%)	Occurred in Yambuku and surrounding area. Disease was spread by close personal contact and by use of contaminated needles and syringes in hospitals/clinics. This outbreak was the first recognition of the disease. 1
1976	Sudan (South Sudan)	Sudan virus	284	151 (53%)	Occurred in Nzara, Maridi and the surrounding area. Disease was spread mainly through close personal contact within hospitals. Many medical care personnel were infected. 2
1976	England	Sudan virus	1	O	Laboratory infection by accidental stick of contaminated needle. <sup>3</sup>
1977	Zaire	Ebola virus	1	1 (100%)	Noted retrospectively in the village of Tandala. 4
1979	Sudan (South Sudan)	Sudan virus	34	22 (65%)	Occured in Nzara, Maridi. Recurrent outbreak at the same site as the 1976 Sudan epidemic. 5
1989	USA	Reston virus	0	0	Ebola-Reston virus was introduced into quarantine facilities in Virginia and Pennsylvania by monkeys imported from the Philippines. 6
		Reston	4		Ebola-Reston virus was introduced once again into quarantine facilities in Virginia, and Texas by

2/8/2014 Outbreak Table   Ebola Hemorrhagic Fever   CDC							
1990	USA	virus	(asymptomatic)	0	monkeys imported from the Philippines. Four humans developed antibodies but did not get sick. Z		
1989-1990	Philippines	Reston virus	3 (asymptomatic)	0	High mortality among cynomolgus macaques in a primate facility responsible for exporting animals in the USA. § Three workers in the animal facility developed antibodies but did not get sick. §		
1992	Italy	Reston virus	0	0	Ebola-Reston virus was introduced into quarantine facilities in Sienna by monkeys imported from the same export facility in the Philippines that was involved in the episodes in the United States. No humans were infected. 10		
1994	Gabon	Ebola virus	52	31 (60%)	Occured in Mékouka and other gold-mining camps deep in the rain forest. Initially thought to be yellow fever; identified as Ebola hemorrhagic fever in 1995. 11		
1994	Ivory Coast	Taï Forest virus	1	0	Scientist became ill after conducting an autopsy on a wild chimpanzee in the Tai Forest. The patient was treated in Switzerland. 12		
1995	Democratic Republic of the Congo (formerly Zaire)	Ebola virus	315	250 (81%)	Occured in Kikwit and surrounding area. Traced to index case-patient who worked in forest adjoining the city. Epidemic spread through families and hospitals. 13		
1996 (January- April)	Gabon	Ebola virus	37	21 (57%)	Occured in Mayibout area. A chimpanzee found dead in the forest was eaten by people hunting for food. Nineteen people who were involved in the butchery of the animal became ill; other cases occured in family members. 11		

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1996-1997 (July- January)	Gabon	Ebola virus	60	45 (74%)	Occurred in Booué area with transport of patients to Libreville. Index casepatient was a hunter who lived in a forest camp. Disease was spread by close contact with infected persons. A dead chimpanzee found in the forest at the time was determined to be infected.
1996	South Africa	Ebola virus	2	1 (50%)	A medical professional traveled from Gabon to Johannesburg, South Africa, after having treated Ebola virus-infected patients and thus having been exposed to the virus. He was hospitalized, and a nurse who took care of him became infected and died.
1996	USA	Reston virus	0	O	Ebola-Reston virus was introduced into a quarantine facility in Texas by monkeys imported from the Philippines. No human infections were identified.
1996	Philippines	Reston virus	0	o	Ebola-Reston virus was identified in a mokey export facility in the Philippines. No human infections were identified. 16
1996	Russia	Ebola virus	1	1 (100%)	Laboratory contamination
2000-2001	Uganda	Sudan virus	425	224 (53%)	Occurred in Gulu, Masindi, and Mbarara districts of Uganda. The three most important risks associated with Ebola virus infection were attending funerals of Ebola hemorrhagic fever case-patients, having contact with case-patients in one's family, and providing medical care to Ebola case-patients without using adequate personal protective measures. 18
October					

## October

2/8/2014		Outb	reak lable   Ebola Hemorrh	agic Fever   CDC	
2001- March 2002	Gabon	Ebola virus	65	53 (82%)	Outbreak occured over the border of Gabon and the Republic of the Congo. 19
October 2001- March 2002	Republic of Congo	Ebola virus	57	43 (75%)	Outbreak occurred over the border of Gabon and the Republic of the Congo. This was the first time that Ebola hemorrhagic fever was reported in the Republic of the Congo. 19
December 2002-April 2003	Republic of Congo	Ebola virus	143	128 (89%)	Outbreak occurred in the districts of Mbomo and Kéllé in Cuvette Ouest Département. 20
November- December 2003	Republic of Congo	Ebola virus	35	29 (83%)	Outbreak occured in Mbomo and Mbandza villages located in Mbomo distric, Cuvette Ouest Département. 21
2004	Sudan (South Sudan)	Sudan virus	17	7 (41%)	Outbreak occurred in Yambio county of southern Sudan. This outbreak was concurrent with an outbreak of measles in the same area, and several suspected EHF cases were later reclassified as measeles cases. 22
2004	Russia	Ebola virus	1	1 (100%)	Laboratory contamination. 23
2007	Democratic Republic of Congo	Ebola virus	264	187 (71%)	Outbreak occurred in Kasai Occidental Province. The outbreak was declared over November 20. Last confirmed case on October 4 and last death on October 10. 24 25
December 2007- January 2008	Uganda	Bundibugyo virus	149	37 (25%)	Outbreak occurred in Bundibugyo District in western Uganda. First reported occurance of a new strain. <sup>26</sup>
November 2008	Philippines	Reston virus	6 (asymptomatic)	0	First known occurrence of Ebola-Reston in pigs. Strain closely similar to earlier strains. Six workers from the pig farm and slaughterhouse developed antibodies but did not become sick. 27 28
December					Outbreak occurred in the

2/8/2014		Outbr	eak I able   Ebola Hemorrha	agic Fever   CDC	
2008- February 2009	Democratic Republic of the Congo	Ebola virus	32	15 (47%)	Mweka and luebo health zones of the Province of Kasai Occidental. 29
May 2011	Uganda	Sudan virus	1	1 (100%)	The Ugandan Ministry of Health informed the public that a patient with suspected Ebola Hemorrhagic fever died on May 6, 2011 in the Luwero district, Uganda. The quick diagnosis from a blood sample of Ebola virus was provided by the new CDC Viral Hemorrhagic Fever laboratory installed at the Uganda Viral Research Institute (UVRI). 30
June- October 2012	Uganda	Sudan virus	11*		Outbreak occurred in the Kibaale District of Uganda. Laboratory tests of blood samples were conducted by the UVRI and the U.S. Centers for Disease Control and Prevention (CDC). 31
June- November 2012	Democratic Republic of the Congo	Bundibugyo virus	36*	13* (36.1%)	Outbreak occurred in DRC's Province Orientale. Laboratory support was provided through CDC and the Public Health Agency of Canada (PHAC)'s field laboratory in Isiro, and through the CDC/UVRI lab in Uganda. The outbreak in DRC has no epidemiologic link to the near contemporaneous Ebola outbreak in the Kibaale
November 2012- January 2013	Uganda	Sudan virus	6*	3* (50%)	Outbreak occurred in the Luwero District. CDC assisted the Ministry of Health in the epidemiologic and diagnostic aspects of the outbreak. Testing of samples by CDC's Viral Special Pathogens Branch occurred at UVRI in Entebbe. 31 Ongoing outbreak across
March 2014-	Guinea, Liberia, and Sierra	Ebola virus	909*	?	Guinea, northern Liberia, and now eastern Sierra Leone. Numbers of patients

**Present** Leone

is constantly evolving due to the on-going investigation. 32

\*Numbers reflect laboratory confirmed cases only.

## References

- 1. World Health Organization. <u>Ebola haemorrhagic fever in Zaire, 1976 ₹ [PDF 959KB]</u> 

  Report of an International Convention. *Bulletin of the World Health Organization*. 
  1978;56(2):271-293.
- 3. Emond RT, Evans B, Bowen ET, et al. A case of Ebola virus infection. *British Medical Journal*. 1977;2(6086):541-544.
- 4. Heymann DL, Weisfeld JS, Webb PA, et al. Ebola hemorrhagic fever: Tandala, Zaire, 1977-1978. *Journal of Infectious Diseases*. 1980;142(3):372-376.
- 5. Baron RC, McCormick JB, and Zubeir OA. Ebola virus disease in southern Sudan: hospital dissemination and intrafamilial spread [PDF 276 KB] . Bulletin of the World Health Organization. 1983;61(6):997-1003.
- 6. Jahrling PB, Geisbert TW, Dalgard DW, et al. Preliminary report: isolation of Ebola virus from monkeys imported to USA. *Lancet*. 1990;335(8688):502-505.
- 7. Centers for Disease Control. Update: <u>Filovirus infection in animal handlers</u>. *Morbidity Mortality Weekly Report*. 1990;39(13):221.
- 8. Hayes CG, Burans JP, Ksiazek TG, et al. Outbreak of fatal illness among captive macaques in the Philippines caused by an Ebola-related filovirus. *American Journal of Tropical Medicine and Hygiene*. 1992;46(6):664-671.
- 9. Miranda ME, White ME, Dayrit MM, Hayes CG, Ksiazek TG, and Burans JP. Seroepidemiological study of filovirus related to Ebola in the Philippines. *Lancet*. 1991;337:425-426.
- 10. World Health Organization. <u>Viral haemorrhagic fever in imported monkeys</u> <u>↑ [PDF 1.21 MB]</u> . *Weekly Epidemiological Record*. 1992;67(24):183.
- 11. Georges AJ, Leroy EM, Renaud AA, et al. Ebola hemorrhagic fever outbreaks in Gabon, 1994-1997: epidemiologic and health control issues. *Journal of Infectious Diseases*. 1999;179:S65-75.
- 12. Le Guenno B, Formenty P, Wyers M, et al. Isolation and partial characterisation of a new strain of Ebola virus. *Lancet*. 1995;345:1271-1274.
- 13. Khan AS, Tshioko FK, Heymann DL, et al. The Reemergence of Ebola Hemorrhagic Fever, Democratic Republic of the Congo, 1995. *Journal of Infectious Diseases*. 1999;179:S76-S86.
- 14. World Health Organization. Ebola haemorrhagic fever South Africa ★ [PDF 470 KB] 

  ☑ . Weekly Epidemiological Record. 1996;71(47):359.
- 15. Rollin PE, Williams J, Bressler D, et al. Isolated cases of Ebola (subtype Reston) virus among quarantined non-human primates recently imported from the Philippines to the United States. *Journal of Infectious Diseases*. 1999;179 (suppl 1):S108-S114.
- 16. Miranda ME, Ksiazek TG, Retuya TJ, et al. Epidemiology of Ebola (subtype Reston) virus in the Philippines, 1996. *Journal of Infectious Diseases*. 1999;179 (suppl 1):S115-S119.
- 17. Borisevich IV, Markin VA, Firsova IV, et al. Hemorrhagic (Marburg, Ebola, Lassa, and Bolivian) fevers: epidemiology, clinical pictures, and treatment. *Voprosy Virusologii Problems of Virology* (Moscow). 2006;51(5):8–16 [Russian].
- 18. Okware SI, Omaswa FG, Zaramba S, et al. An outbreak of Ebola in Uganda. *Tropical Medicine and International Health*. 2002;7(12):1068-1075.
- 19. World Health Organization. <u>Outbreak(s) of Ebola haemorrhagic fever, Congo and Gabon, October 2001- July 2002</u> ☐ [PDF 518 KB] ☑ . Weekly Epidemiological Report. 2003;78(26):223-225.
- 20. Formenty P, Libama F, Epelboin A, et al. Outbreak of Ebola hemorrhagic fever in the

- Republic of the Congo, 2003: a new strategy? Medecine Tropicale (Marseille). 2003;63(3):291-295.
- 21. World Health Organization. Ebola haemorrhagic fever in the Republic of the Congo Update 6 . Weekly Epidemiological Record. 6 January 2004.
- 22. World Health Organization. <u>Outbreak of Ebola haemorrhagic fever in Yambio, south Sudan, April-June 2004</u> [PDF 159 KB] . Weekly Epidemiological Record. 2005;80(43):370-375.
- 23. Akinfeyeva LA, Aksyonova OI, Vasilyevich IV, et al. A case of Ebola hemorrhagic fever. *Infektsionnye Bolezni (Moscow)*. 2005;3(1):85–88 [Russian].
- 24. <u>Declaration de son Excellence Monsieur le Ministre de la Santé Publique annonçant la fin de l'épidémie de FHV à virus Ebola dans les zones de santé de Mweka, Luebo et Bulape dans la Province du KasaiOccidental . Mardi, le 20 novembre 2007. Dr Victor Makwenge Kaput, Ministre de la Santé Publique.</u>
- 25. World Health Organization. Ebola virus haemorrhagic fever, Democratic Republic of the Congo Update. ☐ [PDF 337 KB] ☑ . Weekly Epidemiological Record. 2007;82(40):345-346.
- 26. MacNeil A, Farnon EC, Morgan OW, et al. <u>Filovirus Outbreak Detection and Surveillance:</u> <u>Lessons from Bundibugyo</u> . *Journal of Infectious Diseases.* 2011;204:S761-S767.
- 27. World Health Organization. Ebola Reston in pigs and humans, Philippines [PDF 240 KB] . Weekly Epidemiological Record. 2009;84(7):49-50.
- 28. Barrette RW, Metwally SA, Rowland JM, et al. Discovery of Swine as a Host for the Reston *ebolavirus*. *Science*. 2009;325;204-206.
- 29. World Health Organization. <u>End of the Ebola Outbreak in the Democratic Republic of the Congo</u> 

  ☑ . *Global Alert and Response*. 17 Febuary 2009.
- 30. Shoemaker T, MacNeil A, Balinandi S, et al. Reemerging Sudan Ebola Virus Disease in Uganda, 2011. *Emerging Infectious Diseases*. 2012;18(9):1480-1483.
- 31. 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.
- 32. Ministry of Health Guinée Conakry 📆 [PDF 470 KB] 🗗

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