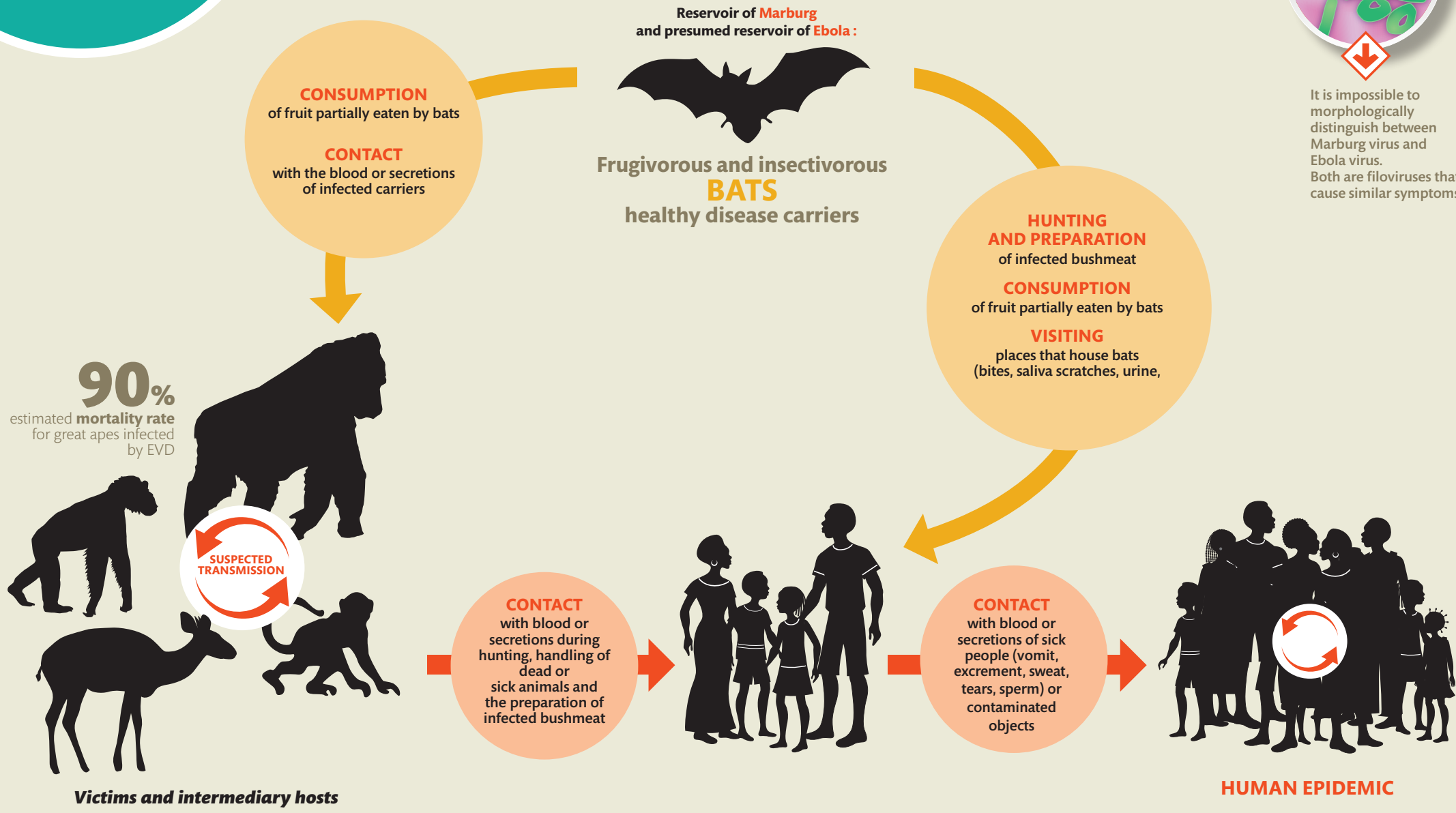


# THE VIRAL CYCLE OF EBOLA VIRUS DISEASE AND MARBURG VIRUS DISEASE



It is impossible to morphologically distinguish between Marburg virus and Ebola virus. Both are filoviruses that cause similar symptoms.





**EBOLA VIRUS** disease (EVD) and **MARBURG VIRUS** disease are **COMPLEX ZOOSES** for which the transmission cycles remain the subject of scientific research. While these filoviruses are distinct, their cycles and their impact share many similar characteristics.

## UNDERSTANDING THE CYCLE OF EBOLA AND MARBURG VIRUS DISEASES

### → CONCERNED SPECIES

**Humans, non-human primates** (chimpanzees, gorillas, monkeys), and **duiker antelopes**.

Pigs have been found to be susceptible to Ebola in laboratory settings, but their role in the epidemiology of the disease is unclear. Ebola virus antibodies have been found in dogs. However, to date, nothing suggests that domestic animals play an active epidemiological role in the transmission of EVD to humans.

### → RESERVOIR

Certain **frugivorous and insectivorous bats** are the presumed reservoir of Ebola and the confirmed reservoir of Marburg. While they do not themselves show signs of illness when infected, these bats can potentially transmit the virus to other species.

### → MODE OF TRANSMISSION

Inter- and intra-species transmission occurs **through direct contact** (via ingestion, broken skin, or mucous membranes) with the blood or other bodily fluids of infected animals and/or humans as well as through **indirect contact via contaminated surfaces or materials** (fruit, linens, and clothing).

Transmission at the wildlife-human interface is most often associated with **hunting, gathering wild animals that are sick or dead, and/or handling or consuming raw, contaminated bushmeat**.

### → ENVIRONMENTAL FACTORS

**Disruptions to the forest ecosystem** stemming from the extraction of natural resources and climate change.  
**Increased frequency of contact** between humans and wildlife.

## CLINICAL SIGNS

### → WARNING SIGNS in animals

- **Death from unknown and/or suspicious causes** of a large number of great apes or of other animals susceptible to EVD infection.
- **Similar symptoms to those found in humans**, particularly multiple haemorrhages and bloody discharge from the nose, mouth, and anus.
- **Unusual animal behaviour.**

→ **Persistence of the virus: the cadavers of animals and humans that died from either of these diseases are highly contagious and pose an elevated risk of disease transmission.**

### → PRINCIPAL SYMPTOMS in humans

- **Incubation period:**  
2 to 21 days (average: 4 to 9 days).
- **1<sup>st</sup> of symptoms:** muscle pain, headaches, and sore throat.
- **2<sup>nd</sup> of symptoms:** fever, bloody vomiting, bloody diarrhoea, bleeding of the nose or gums, rash, renal and hepatic insufficiency, and internal and external bleeding (for 1 out of 3 patients).

## WHAT SHOULD YOU DO WHEN YOU SUSPECT A CASE IN WILDLIFE?

- 1 **DO NOT TOUCH THE CARCASS** without personal protective equipment (PPE).
- 2 **ENSURE GOOD COORDINATION** between Wildlife Services, Veterinary Services and Public Health Services.
- 3 **COLLECT SAMPLES**, if possible, and send them to the national veterinary laboratory or a reference laboratory.
- 4 **BURY THE CARCASS SUFFICIENTLY DEEP** between two layers of quicklime or burn it as described in *Article 4.12.6 of the OIE Terrestrial Code*.
- 5 **NOTIFY WOAHP BY E-MAIL OR FAX OR THROUGH WAHIS** of every confirmed case of emerging infectious diseases (like EVD and Marburg) as per *Article 1.1.4 of the WOAHP Terrestrial Code*.

## WHAT MESSAGES SHOULD YOU SHARE WITH AT-RISK COMMUNITIES?

- 1 **DO NOT HUNT, PREPARE, HANDLE or EAT** bats.
- 2 Sick wild animals or those dead of unknown causes **SHOULD NOT BE HANDLED** or eaten.
- 3 **NEVER CONSUME** food containing animal blood nor raw or poorly cooked bushmeat.
- 4 **WASH YOUR HANDS** after handling bushmeat.
- 5 **ALERT** Veterinary Services or Wildlife Services, if you find a sick or dead wild animal.