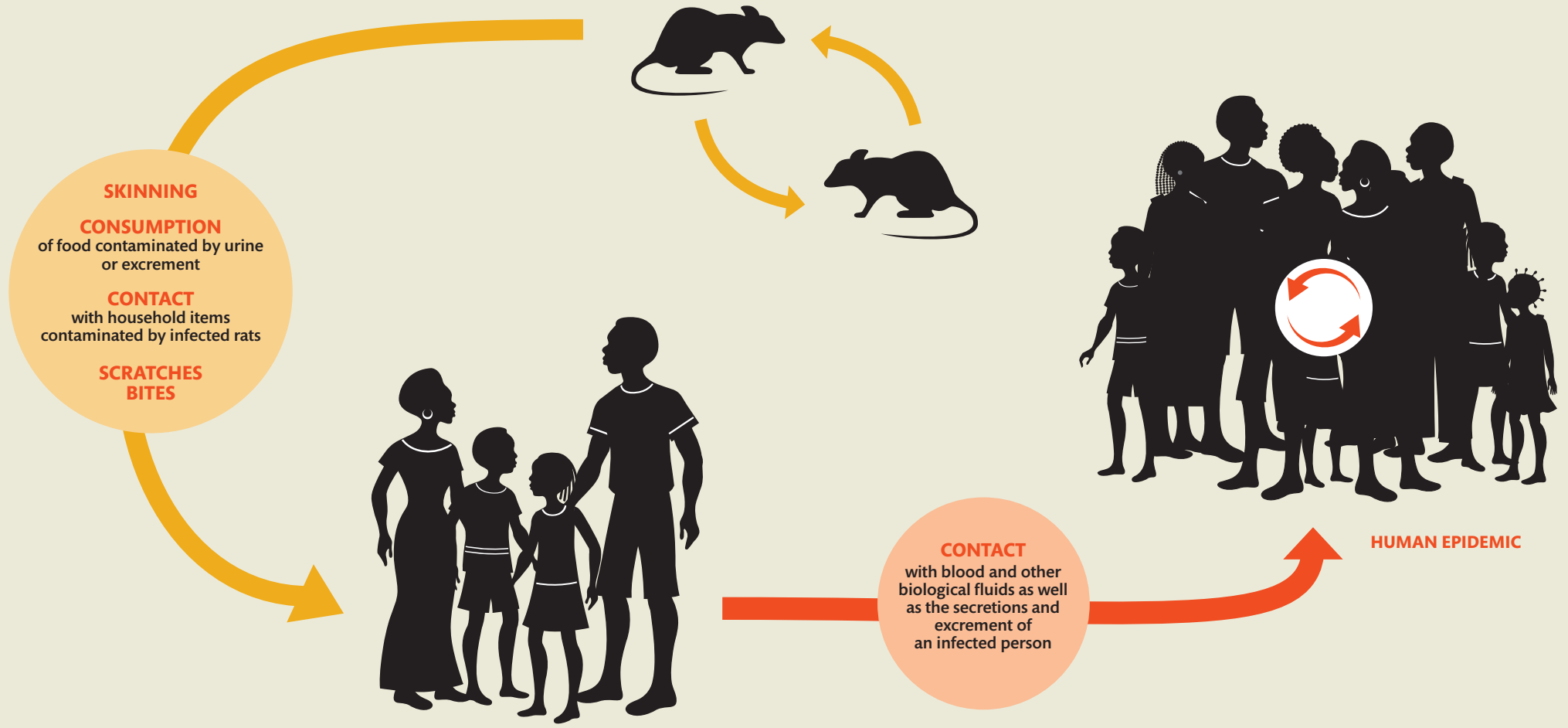


THE VIRAL CYCLE OF LASSA FEVER



Lassa fever virus is an arenavirus

Healthy carriers, natural hosts of **Lassa fever virus**
CERTAIN SPECIES OF RAT
 particularly *Mastomys* rats





LASSA FEVER is a zoonosis caused by an arenavirus that is found in the urine and excrement of the *Mastomys* rat. While rats are asymptomatic, symptoms of this viral haemorrhagic fever can be severe in humans, particularly among **PREGNANT WOMEN AND CHILDREN**.

UNDERSTANDING THE CYCLE OF LASSA FEVER

→ CONCERNED SPECIES

Humans.

→ RESERVOIR

Peri-domestic rodents, especially rodents of the genus *Mastomys*, commonly referred to as «multimammate rats».

Infection does not make rats sick, but they excrete the virus in their urine and excrement.

→ MODES OF TRANSMISSION

The mechanisms for transmission between rodents of the genus *Mastomys* are thought to occur through contact with the excretions of existing carriers.

• Human transmission occurs through:

- Direct contact with the blood and other biological fluids as well as the secretions or excretions of infected rats.
- Indirect contact with the excretions of infected animals (inhalation of contaminated dust).
- Contact with contaminated food or household items.

• **Inter-human transmission** occurs through direct contact with the blood or other biological fluids as well as the secretions or excretions of an infected person.

→ ENVIRONMENTAL FACTORS

Climate-related factors: The rainy season can increase the frequency of contact between humans and rats, which would be more likely to seek refuge in homes.

Ecological factors: Changes in the habitat of the reservoir animal caused by deforestation and the urbanisation of rural areas also influence human-rat contact.

CLINICAL SIGNS

→ PRINCIPAL SYMPTOMS in humans

- **Incubation period:** average of 10 days (range 2-21 days).
- **1st symptomatic phase (non-specific):** fever associated with headaches, sore throat and muscle pain, as well as generalized weakness.
- **2nd symptomatic phase** (severe forms of the disease, after 7-8 days): signs of mucosal haemorrhage (epistaxis, sub conjunctival haemorrhages, bleeding from the gums, microscopic haematuria with possibility of oedema of the neck and face) and neurological conditions (shock, seizures, coma and deafness).
- **3rd symptomatic phase** (severe forms of the disease): multiple organ failure (ARDS, renal failure) associated with anasarca and hemodynamic shock. Possibility of death between the second and third week. High mortality rate among women in late pregnancy.
- **Duration of symptoms:** 1 to 4 weeks.

80% of cases observed in the third trimester of human pregnancy are fatal for both mother and foetus.

WHAT SHOULD YOU DO DURING A HUMAN EPIDEMIC?

- 1 **ENSURE GOOD COORDINATION** between Veterinary Services and Health Services (including hygiene committees) as well as with associations active in the affected communities.
- 2 **DURING ACTIVE OUTBREAKS, COLLECT SAMPLES FROM RATS**, if possible, and send them to the national veterinary laboratory or a reference laboratory.
- 3 **NOTIFY THE OIE BY E-MAIL OR FAX OR THROUGH WAHIS** of every confirmed case of emerging infectious diseases (like Lassa fever) as per *Article 1.1.4 of the OIE Terrestrial Code*.

WHAT MESSAGES SHOULD YOU SHARE WITH AT-RISK COMMUNITIES?

Lassa fever is a disease of animal origin transmitted by rats:

- 1 **DO NOT TOUCH OR PLAY** with rats.
- 2 **DO NOT EAT** food contaminated by rat urine or excrement.
- 3 **TAKE PRECAUTIONS TO PREVENT RAT BITES AND SCRATCHES, AS WELL AS CONTACT** with their urine or excrement.
- 4 All meat consumed **SHOULD BE WELL COOKED**.
- 5 **PROTECT LEFTOVER FOOD** in rat-resistant containers (containers with lids).
- 6 **KEEP YOUR HOME** and its surroundings clean:
 - Cut plants near homes.
 - Fill all holes in the house to prevent rats from entering.
 - Pick up garbage and throw it in a garbage pit far from homes.
- 7 **GO TO THE NEAREST HEALTH CLINIC** as soon as possible, if you are scratched or bitten.