

# WHAT IS MONKEYPOX?

## MONKEYPOX QUICK OVERVIEW



**A rare zoonotic viral infection** caused by the monkeypox virus, a genus of Orthopoxvirus in the Pox family of viruses that includes smallpox, cowpox and vaccinia viruses.



**Human monkeypox is a smallpox-like illness** characterized by a prodrome of fever and malaise accompanied by progressive appearance of vesiculopustular skin lesions.



**Morbidity and mortality** of human monkeypox is milder than smallpox. However, fatalities are estimated at up to 10%.

## HOW DO PEOPLE GET IT?

### Transmission via animals

The virus is transmitted by direct contact with infectious secretions from animals via handling of infected animals or consumption of poorly cooked bush meat.

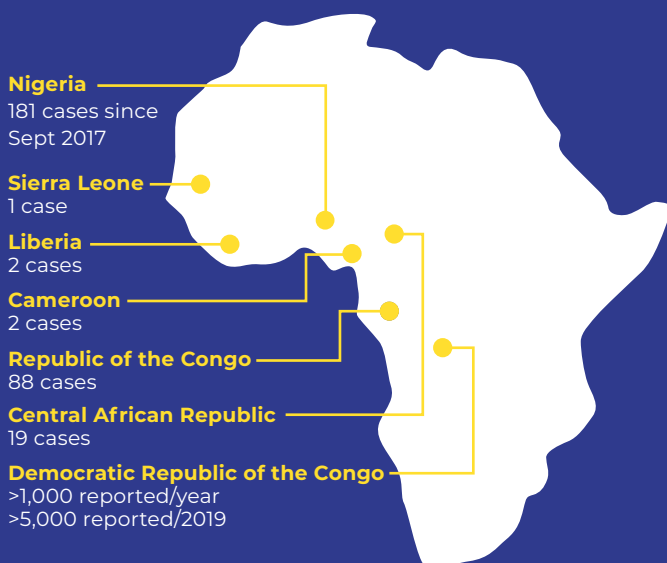
### Person-to-person transmission

Importantly, person-to-person transmission occurs mainly via respiratory droplets, direct contact with infected secretions of patients or from contaminated patient environment.

## WHERE IS MONKEYPOX?

First reported in 1958 among laboratory monkeys, but the first human case was reported in 1970 in the Democratic Republic of Congo.

Since 2016, cases have been confirmed in:



Two distinct monkeypox viruses clades exist; the Congo Basin and West African.

The outbreaks in Nigeria and DRC continue today.

## REPORTED CASES IN NIGERIA – SEPTEMBER 2017 TO DECEMBER 2019

### Greater than 300 suspected cases:

- 181 confirmed cases
- 8 deaths recorded, five of which were in HIV+ patients
- 3 health care workers were among the confirmed cases
- 5 cases in a prison facility (unclear source of infection)
- The most affected age group is 21-40 years
- 79% of the confirmed cases are males

**Represents the largest documented outbreak in West Africa to date.**

### Monkeypox References:

- <http://outbreaknewstoday.com/monkeypox-in-drc-more-than-5000-cases-reported-in-2019/>
- <https://apps.who.int/iris/bitstream/handle/10665/330302/OEW51-23122019.pdf>
- [www.who.int/csr/don/05-june-2018-monkeypox-cameroon/en/](http://www.who.int/csr/don/05-june-2018-monkeypox-cameroon/en/)
- [outbreaknewstoday.com/cameroon-reports-monkeypox-case-in-the-south-west-region-46441/](http://outbreaknewstoday.com/cameroon-reports-monkeypox-case-in-the-south-west-region-46441/)
- [www.who.int/csr/don/05-october-2018-monkeypox-nigeria/en](http://www.who.int/csr/don/05-october-2018-monkeypox-nigeria/en)
- MMWR Weekly / March 16, 2018 / 67(10);306-310
- PNAS 2010; 107 (37); 16262-16267
- Lancet Infect Dis 2019; 19: 872-79

## SIGNS AND SYMPTOMS

### Incubation period

Incubation period of monkeypox is usually from 6 to 16 days but can range from 5 to 21 days.

### Infection period

Infection divided into two periods:

#### Invasion period

(0-5 days) characterized by fever, intense headache, lymphadenopathy (swelling of the lymph node), back pain, myalgia (muscle ache) and an intense asthenia (lack of energy).

#### Skin eruption period

(within 1-3 days after appearance of fever) in which various stages of rash appear often beginning on face and then spreading elsewhere on the body.

### Most affected is:



The face in

**95% of cases**



Palms of the hands and soles of the feet in

**75% of cases**

Evolution of rash from maculopapules (lesions with a flat bases) to vesicles (small fluid-filled blisters), pustules, followed by crusts occurs in approximately 10 days. Three weeks might be necessary before the complete disappearance of the crusts.

### The number of the lesions varies from a few to several thousand:

**70%** of cases affecting oral mucous membranes

**30%** of cases affecting genitalia

**20%** of cases affecting conjunctivae (eyelid), as well as the cornea (eyeball)

One of the most significant sequelae of monkeypox infection is corneal scarring and concomitant loss of vision.

Full understanding of the range of clinical manifestations – including complications and sequelae – as well as of features of illness that may be predictive of illness severity and poor outcomes is currently evolving.

## UNDERSTANDING OF MONKEYPOX EPIDEMIOLOGY IS STILL EVOLVING

### Learnings from Nigeria as of December 2019

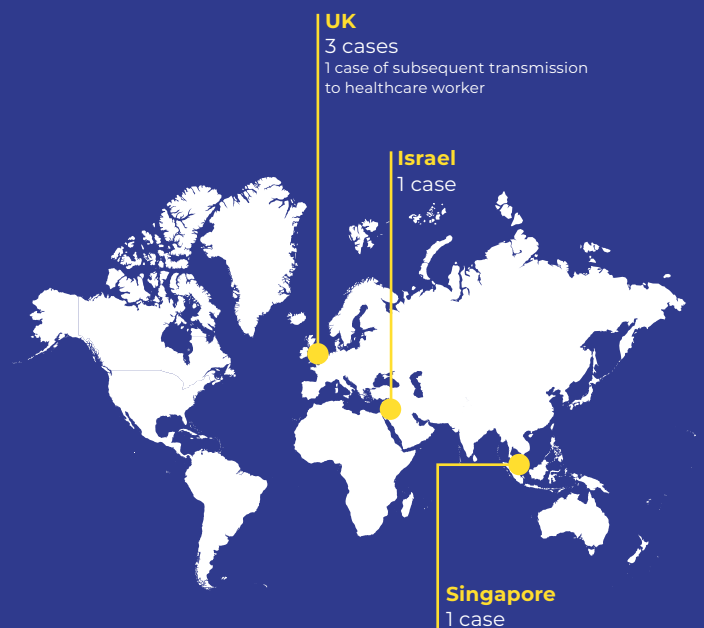
Wide geographic spread of monkeypox throughout southern Nigeria has been observed.

Majority of cases identified in urban or sub-urban areas: state capitals.

No clear seasonal pattern has been detected:

- The monkeypox animal reservoir has not been identified, despite animal surveillance efforts
- Fewer than 10% of monkeypox cases had a prior history of animal contact, and no cases had a prior history of dead or sick animal contact

Risk of international spread, as a total of 5 cases originating from Nigeria with no obvious skin lesions at the time of travel have been confirmed between September 2018 and December 2019:



UK and Israeli cases later documented lesions first appeared on genitals. Multiple routes of transmission may be possible.

### Identified monkeypox Risk Factors to date in Nigeria:

- 1 Young adult males
- 2 HIV infections
- 3 High-risk sexual behaviour
- 4 Occupational status (civil servants, traders, students and those in urban and sub-urban settings having a higher risk)