World Health Organization

Emergencies preparedness, response

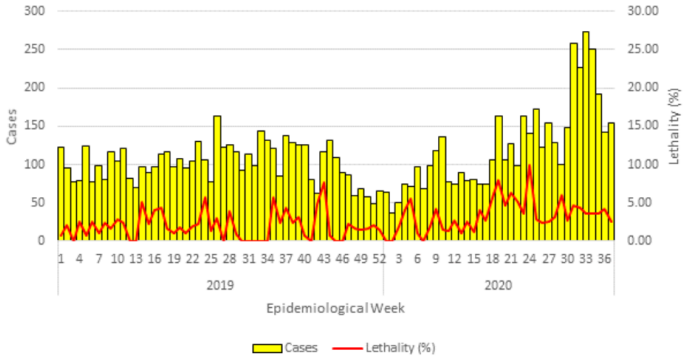
Monkeypox – Democratic Republic of the Congo

Disease outbreak news
1 October 2020

From 1 January through 13 September 2020, a total of 4,594 suspected cases of monkeypox, including 171 deaths (case fatality ratio 3.7%), have been reported in 127 health zones from 17 out of 26 provinces in the Democratic Republic of the Congo. The first epidemic peak was observed at the beginning of March 2020 (epi week 10), with 136 cases reported weekly (Figure1). From 1 January through 7 August, the Institut National de Recherche Biomédicale (INRB) received 80 samples from suspected cases of monkeypox, of which 39 samples were confirmed positive by polymerase chain reaction. Four out of the 80 specimens were skin lesions (crusts/vesicles), the remaining samples were blood. There is no further information at this time regarding the outcome of these 80 patients whose samples were tested. Confirmatory testing remains ongoing.

During the same period in 2019, 3,794 suspected cases and 73 deaths (CFR 1.9%) were reported in 120 health zones from 16 provinces while a total of 2,850 suspected cases (CFR 2.1%) were reported in 2018.

Figure 1: Distribution of suspected cases of monkeypox and case fatality ratio, by epi week, from 1 January 2019 through 13 September 2020.



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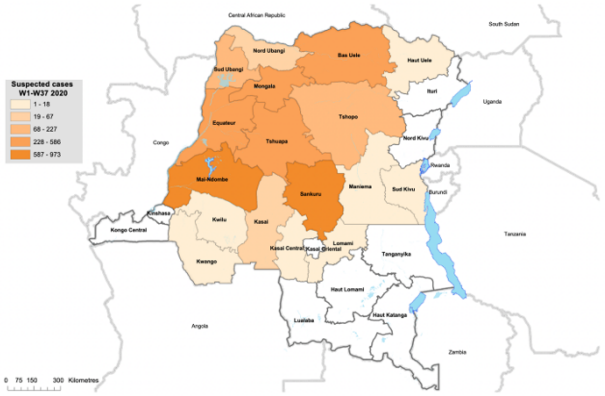
The provinces reporting the highest number of suspected cases include Sankuru with 973 (21.2%) suspected cases, Mai-Ndombe with 964 (21%) suspected cases, Equateur with 586 (12.8%) suspected cases, Tshuapa with 520 (11.3%) suspected cases and Mongala with 518 (11.3%) suspected cases (Figure 2). From 1 January to 13 September, Kwilu province is reporting the highest case fatality ratio of 16.7% (1 death/6 suspected cases), followed by Tshopo 8.1% (17 deaths/211 suspected cases), and Mai-Ndombe 7.8% (75 deaths/964 suspected cases).

Active outbreaks in Mai-Ndombe province (located south of Equateur province, in the north west side of the country) have been reported since January 2020. The outbreak in Inongo health zone (Mai-Ndombe

province) is one of the most concerning outbreaks where one-fourth of its territory is affected. This outbreak has been ongoing since June 2020, comprising 65% of the total number of suspected cases with an estimated case fatality ratio of 10%. Moreover, Inongo health zone borders Bikoro health zone (Equateur province); Equateur province is the location of the current Ebola outbreak, and now also a monkeypox outbreak.

Within the Democratic Republic of the Congo, majority of suspected cases (58%) are above the age of five; however, the case fatality ratio for children under the age of five is higher at 4.2% (80 deaths/1,907 suspected cases) as compared to 3.4% in cases over the age of five (91 deaths/2,687 suspected cases).

Figure 2: Distribution of cases by province from 1 January through 13 September 2020 (epi weeks 1 to 37).



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Source: Integrated Disease Surveillance (IDS) Report for the Democratic Republic of the Congo, Epidemiological Week 37, 2020

Monkeypox cases were reported in health zones which are also experiencing multiple disease outbreaks, including measles, polio due to cVDPV, malaria, cholera, and COVID-19, in addition to an ongoing Ebola virus disease outbreak in Equateur Province which continues to experience armed conflict and violence. The security situation in the Democratic Republic of the Congo remains unstable, further disrupting surveillance efforts and response activities. Affected regions for this outbreak continue to experience armed conflict and population displacements.

Potential exposure might be linked to proximity to the forest with many possible animal reservoirs, including for hunting activities.

With global circulation of the virus causing COVID-19 and ongoing insecurity in the region, there is a risk of disruption of access to health care due to the COVID-19 related burden on the health system. As of 16 September 2020, a total of 10,401 cases of COVID-19 including 267 deaths were reported in the DRC.

Public health response

WHO is working with national authorities to obtain more information about cases and laboratory capacity. Investigation and confirmation of suspected cases will help to further understand the range of the virus in DRC.

Technical support is being provided to the Ministry of Health to rapidly develop and implement a comprehensive response plan to strengthen surveillance at national and local levels, including further outbreak investigation and response activities.

One major challenge to the current emergency includes inadequate funding to respond to the multiple ongoing outbreaks in the country. Weaknesses of surveillance and laboratories, along with a high number of refugees crossing the border from Kasai province into Angola, could all contribute to further spread of the outbreak.

The support of partners such as the Centers for Disease Control and Prevention (CDC), United Nations High Commissioner for Refugees (UNHCR) and non-governmental organizations (NGOs) will be critical for the control of this outbreak.

WHO risk assessment

Monkeypox is a sylvatic zoonosis with incidental human infections that occur sporadically in the rain forests of Central and West Africa. It is caused by the monkeypox virus (MPXV) which belongs to the Orthopoxvirus family, the same group of viruses as smallpox.

There are two distinct clades of monkeypox virus, the Congo Basin clade and the West African clade. Monkeypox due to the Congo Basin clade virus has seen reported mortality of up to 10% of cases, whereas the West African clade usually displays fatal outcomes in less than 1% of cases. HIV infection appears to increase the risk of death in people infected with monkeypox virus.

The animal reservoir remains unknown. However, evidence suggests that native African rodents may be potential sources. Contact with live and dead animals through hunting and bush meat are presumed drivers of human infection. The disease is self-limiting with symptoms usually resolving within 14-21 days. Severe cases occur more commonly among children and immunocompromised population, particularly persons with HIV, and are related to the extent of virus exposure, patient health status and severity of complications. The case fatality ratio has varied between epidemics but has been between 1% and 10% in documented events. There is no specific treatment licensed for monkeypox and a recently approved vaccine is not yet widely available for the public sector.

Since identification of the first human case of monkeypox in 1970 in the Democratic Republic of the Congo (then known as Zaire) in a 9-month-old boy, and until the year 1986, 95% of cases worldwide were reported in the DRC. Cases of monkeypox have also been reported from other African countries - Benin, Cameroon, the Central African Republic, Gabon, Côte d'Ivoire, Liberia, Nigeria, the Republic of the Congo, Sierra Leone, and South Sudan. In 2003, an outbreak occurred in the United States of America following the importation of infected animals. Single imported cases were identified in Israel and the United Kingdom in 2018, and in Singapore in 2019, all following diagnosis in travelers from Nigeria. In the UK, a secondary case was confirmed in a health worker.

With the eradication of smallpox and the subsequent cessation of routine smallpox vaccination, human monkeypox has appeared with increasing frequency in unvaccinated populations.

The risk is assessed as high at national level, moderate at regional level, and low at global level.

WHO advice

Several orthopoxviruses, and specifically the monkeypox virus, circulate in wildlife populations and sporadically spill over to affect human beings. Reducing contacts with and reliance on wildlife will enhance disease prevention efforts for zoonoses that affect wildlife, including monkeypox.

Strengthening cross-border collaboration with neighboring countries (Republic of Congo, DRC and Central African Republic) including sharing of data and information is needed.

Residents and travelers to endemic areas / countries should avoid contact with sick, dead or live animals that could harbor monkeypox virus

(rodents, marsupials, primates) and should refrain from eating or handling bush meat. The importance of hand hygiene using soap and water, or alcohol-based sanitizer should be emphasized. Hand washing stations and infection control initiatives such as use of disinfectants should be put in place in hospital settings. Any illness during travel or upon return should be reported to a health professional, including information about all recent travel and immunization history.

Timely contact tracing, surveillance measures and raising awareness among health care providers are essential to preventing secondary cases and effective management of monkeypox outbreaks. Infection control in health facilities is crucial. Health-care workers caring for patients with suspected or confirmed monkeypox should implement standard, contact and droplet infection control precautions.

Samples taken from people and animals with suspected monkeypox virus infection should be handled by trained staff working in suitably equipped laboratories. Confirmation of monkeypox depends on the type and quality of the specimen and the type of laboratory test. Thus, specimens should be packaged and shipped in accordance with national and international requirements. Polymerase chain reaction (PCR) is the preferred laboratory test given its accuracy and sensitivity. For this, optimal diagnostic samples for monkeypox are from skin lesions - the roof or fluid from vesicles and pustules, and dry crusts. PCR blood tests are often inconclusive because of the short duration of viremia relative to the timing of specimen collection after symptoms begin. Serology is not indicated to detect acute infection. For these reasons, blood should not be routinely collected from patients unless part of research or a wider outbreak investigation which includes identifying previous cases.

Vaccinia vaccine used during the smallpox eradication program was also protective against monkeypox. Some countries and WHO maintain emergency stockpiles of smallpox (vaccinia) vaccine. A new safer third generation vaccinia vaccine (known as modified vaccinia Ankara vaccine) approved in 2019 for prevention of monkeypox is not yet widely available for the public sector. Antiviral agents are also being developed.

WHO does not recommend any restriction for travel to and trade with Democratic Republic of the Congo based on available information at this point in time.

For more information on Monkeypox:

- WHO factsheet on monkeypox
- WHO weekly bulletin on outbreaks and other emergencies week 39
- Introduction to Monkeypox online training on OpenWHO
- Monkeypox re-emergence in Africa: a call to expand the concept and practice of One Health
- Human monkeypox - After 40 years, an unintended consequence of smallpox eradication

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AFRO weekly Bulletin on outbreak and other emergencies

Emergence of Monkeypox as the Most Important Orthopoxvirus Infection in Humans

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