

## National surveillance of monkeypox in the Central African Republic 2001 - 2021

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**Background:** Monkeypox is a zoonosis occurring in the forest areas of Central and West Africa, with a clinical presentation similar to smallpox and high mortality. The description of the epidemiological and clinical manifestations of monkeypox remains scarce, especially in the Central African Republic (CAR), which is the fourth most affected country (Bunge EM et al, 2022). We report here the analysis of data collected by the national surveillance system set up in CAR since 2001.

**Material and methods:** National surveillance of monkeypox in CAR is based on a system of continuous training of health centre staff and on a national alert system: each suspected case of monkeypox is notified to the Institut Pasteur in Bangui, the regional reference centre. When a case of monkeypox is confirmed by PCR, an investigation team is sent to the field to carry out the epidemiological and clinical investigation in humans and an investigation of potential animal reservoirs, according to a "One Health" approach. Epidemiological, clinical and virological data obtained from the national monkeypox surveillance in CAR were analysed to investigate the frequency and characteristics of outbreaks and the clinical severity of the disease.

**Results:** Ninety-five suspected monkeypox outbreaks were reported in CAR between 2001 and 2021, of which 40 were attributed to monkeypox, 32 to varicella and 23 had no confirmed etiology. The number of outbreaks has been increasing since 2018, apart from a transient decrease in 2020, with the size of the outbreak varying over the whole period from 1 to 13 for confirmed cases, with no outbreak exceeding 25 cases (confirmed and suspected cases). Two forest regions were mainly concerned, Lobaye and Mbomou (respectively 40% and 25% of the epidemics). The median age (IQR) of the 99 confirmed cases was 15.5 (5.5-28) years, with only two cases born before 1980, and therefore likely to have been vaccinated against smallpox. The case-fatality rate was 12.1% (12/99), rising to 17.4% (8/46) in children. Of the 498 subjects with serological results, 342 (68.5%) were positive for IgG (immunoglobulin) against monkeypox virus.

**Conclusion:** The recent increase in the number of monkeypox outbreaks in CAR should be viewed with caution, given the decrease in smallpox vaccination coverage and the high case-fatality associated with this disease, particularly in children. A better understanding of the zoonotic sources of infection and the environments involved could help in designing appropriate prevention measures.