PRIMARY RISK ASSESSMENT

MPOX CLADE I EPIDEMIC IN THE DEMOCRATIC REPUBLIC OF THE CONGO AND NEIGHBOURING COUNTRIES, 2022 - 2024

Date of the signal	Date of the RA	Signal provider	Experts consultation	Method
5 April 2024	22 May 2024	ECDC	**Permanent experts:** Adrae Taame (Vivalis), Patrick Smits (Departement Zorg), Caroline Boulouffe (AVIQ), Jorgen Stassijns (Sciensano), Bertrand Draguez (FPS Health) Specific experts: Emmanuel André (UZ Leuven), Leila Belkhir (Saint-Luc, UCL), Koen Blot (Sciensano), Isabel Brosius (ITM), Natalia Bustos-Sierra (Sciensano), Simon Couvreur (Sciensano), Zoe Crokart (Hôpital Citadelle), Steven De Keukeleire (RZ Tienen), Marie-Angélique De Scheerder (UZ Gent), Pierre-Louis Deudon (CMG), Wouter Dhaeze (Departement Zorg), Achille Djena (AVIQ), Naima Hammami (Departement Zorg), Niel Hens (U Hasselt/U Antwerpen), Thomas Lamot (Vivalis), Tinne Lernout (Sciensano), Agnes Libois (CHU Saint-Pierre), Charlotte Martin (CHU Saint-Pierre), Laurens Liesenborghs (ITM), Geert Molenberghs (U Hasselt/KU Leuven), Elizaveta Padalko (UZ Gent), Sophie Quoilin (CHU Saint-Pierre), Anne Simon (CHU Helora/HSC), Patrick Soentjens (ITM, Defensie/Défense), Stefan Teughels (Domus Medica), Dimitri Van der linden (UCL Saint Luc), Marjan Van Esbroeck (ITM), Koenraad Van Hoorde (Sciensano), Marc Van Ranst (UZ Leuven), Erika Vlieghe (UZ Antwerpen), Hilde Jansens (UZ Antwerpen), Olivier Denis (LHUB-ULB), Maureen Mooken (Vivalis)	**Email consultation** 13/05/2024
Dates of update				**Online meeting** 19/08/2024
19 August 2024		WHO, ECDC, Swedish Public Health Agency		
19 September 2024				
4 February 2025				**Email consultation** 05/02/2025

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SIGNAL	**On August 14 2024, the World Health Organisation (WHO) declared that the sustained mpox outbreak in the DRC and other African countries constitutes a Public Health Emergency of International Concern (PHEIC). On August 15 2024, Sweden reported the first case of clade I mpox to be diagnosed outside the central African region.**

UPDATE 04/02/2025

Epidemiological situation regarding mpox due to clade I in Africa

As of 26 January 2025, and since 2024, the countries with the highest number of confirmed cases are the Democratic Republic of the Congo (n = 13 459), Burundi (n = 3 242), and Uganda (n = 2 450) [1]. In recent weeks, the number of reported confirmed cases has increased markedly in Uganda, while it was stable or decreasing in the DRC and Burundi (Figure 1). The figures for the last two months should be interpreted with caution, as the holiday period may have affected surveillance and reporting [2].

In the DRC, the situation remains concerning with circulation stable at a high level. Based on the most recent genomic surveillance data (last sequence from sample collected 15 November 2024), only sub-clade Ib MPXV has been detected in North and South Kivu, Tanganyika, and Haut Katanga, while sub-clades Ia and Ib co-circulate in Tshopo, Mai-Ndombe, Kasaï and Kinshasa (Figure 2). The recent escalations of the conflict in the east of the DRC and the resulting large-scale population displacement increase the risk of spread of multiple diseases, including mpox, among vulnerable populations and severely hamper the mpox surveillance and response [3].

ECDC continues to provide regular updates, via the Weekly Communicable Disease Threat Report, of the list of countries in which community transmission of mpox clade I is established or suspected based on available evidence. In the update of 31 January 2025, the following countries are listed as reporting community transmission: Burundi, Central African Republic, the DRC, Rwanda, and Uganda. In Kenya and Rwanda, the extent of undetected transmission is unclear [2**Error! Bookmark not defined.**]. In addition, the detection of multiple mpox clade Ib cases with travel history to Tanzania and the United Arab Emirates suggests that undetected transmission may be ongoing in these countries [2, 4].

Epidemiological situation regarding mpox due to clade I in Belgium and Europe

In December 2024, the first two cases of mpox due to sub-clade Ib were identified in Belgium, both in Wallonia. The first case involved an infection linked to travel to an African country where the sub-clade Ib of MPXV circulates. Later in December, the child of the first case also developed symptoms of mpox, and infection with the sub-clade Ib was confirmed. Both father and child made a full recovery. Six high-risk contacts were followed up, including four health care workers. None of them developed symptoms of mpox. On 30 January, a second child was reported to have symptoms. An infection with MPXV was confirmed via PCR. Clade differentiation is ongoing at the time of writing, but infection with clade Ib is strongly suspected. Multiple routes of transmission, including via fomites, are under consideration.

As of 3 February, twenty-one cases of mpox due to the sub-clade Ib of MPXV have been detected in European countries, including nine in the United Kingdom, seven in Germany, three in Belgium, one in France and one in Sweden. In three instances secondary transmission occurred within the household, namely in Germany (three secondary cases), the United Kingdom (three secondary cases) and Belgium (two secondary cases[a]). Based on available information, all secondary transmission events in Europe

[a] Note clade identification of the third case is pending at the time of writing

were due to close contacts, with the possible exception of the most recent case in Belgium. In all cases, with the exception of the case in France, the primary case has been linked to exposure in an affected African country. The case in France involved a person who had not travelled to Central Africa, but who had been in contact with two people returning from Central Africa.

Risk assessment

For the following elements of the Primary Risk Assessment (PRA) of 22 August 2024, new information is available to inform this updated assessment.

Risk of dissemination, and of importation in Belgium

The recent upsurge in imported cases, with thirteen cases reported in Europe since December 2024, may be related to increased travel to affected areas over the holiday period. In addition, the increasing circulation in countries other than the DRC, such as Burundi and Uganda, has increased the risk of dissemination to countries such as the UK which have a larger volume of incoming travellers from the latter countries than from the DRC [5]. The risk of importation to Belgium was already assessed as high in previous assessments, based on the relatively high volume of travellers from the DRC to Belgium (see PRA of 22 August 2024). The circulation in the DRC remains on a high plateau, but could worsen due to the ongoing instability and increased population movement. Given the challenging context for surveillance, a potential increase in circulation may initially remain undetected. Further (sporadic) imported cases of clade Ib MPXV in Belgium are therefore to be expected.

Transmissibility

Current outbreaks of mpox due to different (sub-)clades affect different populations in different settings, which results in different outbreak characteristics [2]. No clear difference in inherent transmissibility of different MPXV (sub-)clades has been demonstrated to date [2**Error! Bookmark not defined.**]. There is still a lack of evidence allowing direct comparison of transmissibility between clade I and clade II.

Severity

Previous risk assessments were based on the assumption that the case fatality rate (CFR) for clade I observed in the DRC at the time (May and August 2024) was likely to be an overestimation of the true CFR and that the true CFR in Belgium would be lower than the true CFR in the DRC, including among children. As mentioned in the PRA of 22 August, results from a hospital-based observational study and from the PALM007 trial support this assumption. Recent results add further supporting evidence.

The CFR currently observed based on syndromic surveillance[b] in the DRC remains at the lower end of the range (0 – 11 %) initially considered (Figure 3). The observed CFR is higher (2 – 5 %) across all age groups in endemic provinces, where clade Ia circulates, than in North and South Kivu (less than 0.5 %), where clade Ib has been consistently detected. Outside the DRC, 12 deaths have been reported among 4 716 confirmed cases of mpox due to sub-clade Ib (CFR 0.23 %) [2]. No deaths have been reported among 32 cases detected outside of the African continent [2].

Multiple factors may contribute to the difference in observed CFR, including more intensive case finding efforts (less overrepresentation of severe cases), nutritional status (especially among children) and overall health condition, access to care, or potential clade-specific differences in severity. In a prospective observational cohort study at Kamituga Hospital in South Kivu, Brosius et al. [6] observed two deaths (both children under 5 years old) among 427 confirmed cases who were admitted to hospital between May and October 2024 for isolation and/or medical care (in-hospital mortality rate 0.5 %).

[b] Including all suspected cases, irrespective of PCR confirmation

Conclusion

The risk evaluation published in the Primary Risk Assessment of August 22 remains unchanged. The risk for the general population remains low.

ANNEX: FIGURES

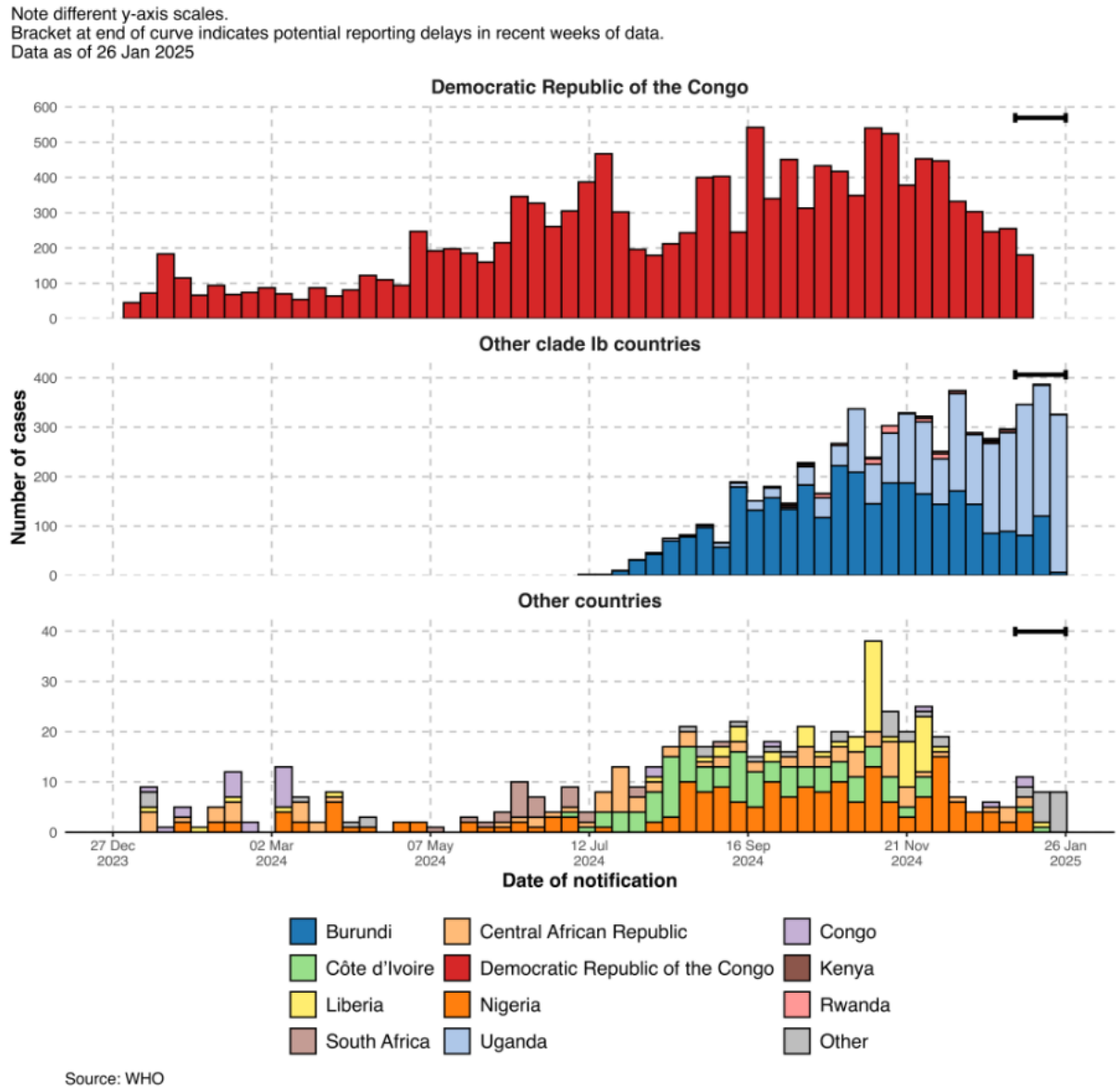

Figure 1: Weekly number of confirmed cases in African countries. It should be noted that the testing rate is lower in the DRC than other countries. Many suspected cases in the DRC are never tested. Source: WHO Global report on mpox

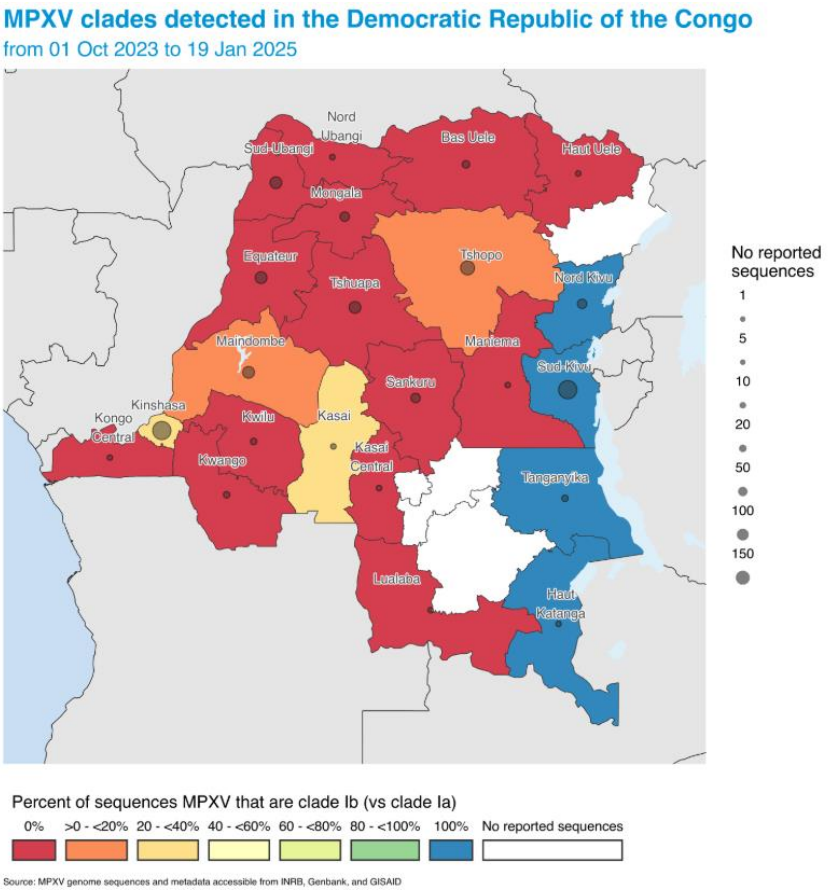

Figure 2: Genomic surveillance of sub-clades Ia and Ib of MPXV in the DRC. Source: WHO Global report on mpox

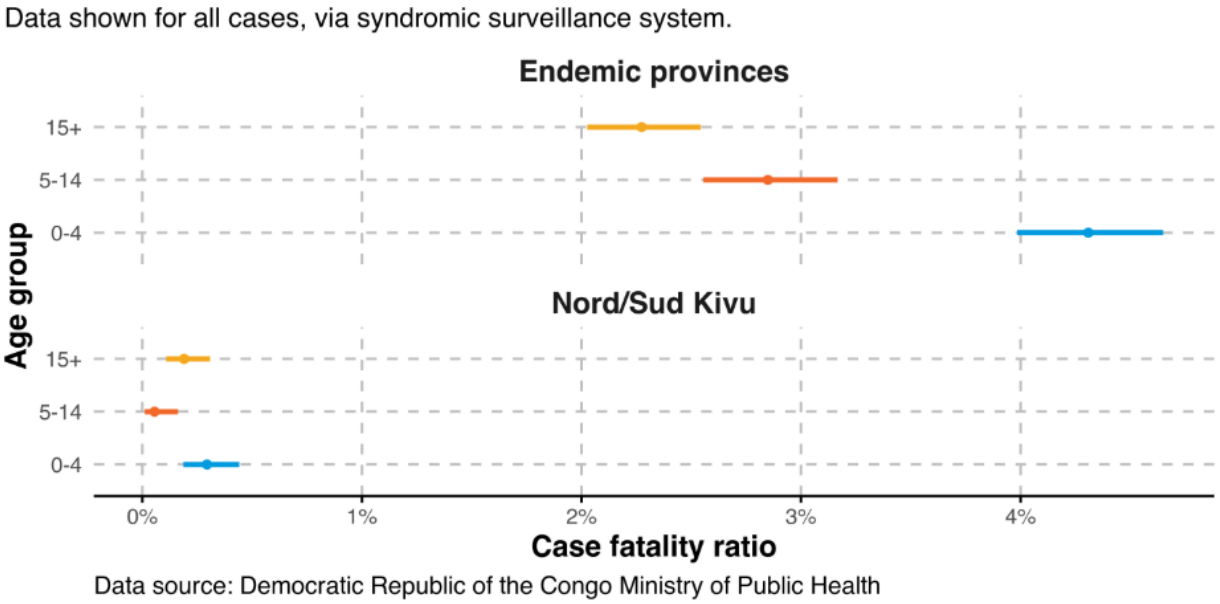

Figure 3: Observed case fatality ration (syndromic surveillance) by age group in North/South Kivu and in endemic provinces. Source: WHO Global report on mpox

REFERENCES

[1] 2022-24 Mpox (Monkeypox) Outbreak: Global Trends
[2] Multi-country outbreak of mpox, External situation report #46 - 28 January 2025
[3] DR Congo crisis: A public health 'nightmare' is unfolding, warns WHO
[4] ECDC Communicable disease threats report, 24-31 January 2025, week 5
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[6] Brosius et al., 2025. Epidemiological and clinical features of mpox during the clade Ib outbreak in South Kivu, Democratic Republic of the Congo: a prospective cohort study. The Lancet https://doi.org/10.1016/S0140-6736(25)00047-9