



Mpox Scenario-Based Human Health Risk Assessment for the United States as of 7 October 2024 – Clade II

Currently, the Center for Outbreak Response Innovation (CORI) judges the ongoing sporadic mpox infections in humans in the United States to be in Scenario 1, meaning the virus circulating in the United States is the same clade (clade IIb) that expanded globally in 2022, and cases of clade IIb are growing globally. Cases have been steadily climbing over the last 6 months. The increase in reported cases of IIb across Africa indicates an increased risk for heightened spread to the US.*

This judgment is based on available data from ongoing mpox case reporting to the US Centers for Disease Control and Prevention (CDC), Africa CDC, WHO, and wastewater surveillance.

While the US is not yet in Scenario 2 (surge of clade II cases during the fall in the US), the recent increase of clade II mpox cases across Africa increase the likelihood of new imported cases and clusters of viral spread. The US should be on heightened alert for increased clade II spread through travel and local transmission over the coming weeks and months.

See the detailed risk assessment beginning on the next page for further information. Appendices and regularly updated situation report and epi curve available [here](#).

Scenario-Based Human Health Risk Assessment for the US

	Risk to MSM community	Risk to sex workers	Risk to healthcare workers	Risk to general public
Scenario 1 – Baseline summer increase of clade II in US	Moderate	Moderate	Low	Low

Our **confidence** in these risk scores is **moderate**.

To minimize the transmission of clade IIb clade in the US, CDC and WHO recommend the following:

- All individuals with an [increased risk of infection](#) should receive 2 doses of JYNNEOS vaccine.
- [Clinicians should consider mpox](#) when lesions consistent with mpox are observed in a patient, even if an alternate etiology (eg, herpes simplex virus, syphilis) is considered more likely.
- Healthcare professionals should [wear all recommended personal protective equipment \(PPE\)](#) when completing mpox testing.

**This document will be updated only when new information becomes available that could change our assessment.*



Mpx Scenario-Based Human Health Risk Assessment for the United States

Center for Outbreak Response Innovation (CORI)

Updated as of 7 October, 2024

Clade 2 updates since the last update on September 30, 2024:

- Clade IIB Mpx cases in the US continue to grow, with the [US reporting](#) 33,812 cases and 61 deaths as of September 30, 2024.
- [Mpx outbreaks](#) have been reported across Africa, including clade IIB outbreaks in Cameroon, Cote d'Ivoire, Kenya, Liberia, South Africa, and Nigeria.
- The risk assessment has been revised to include new scenarios that separate clade I and II to help differentiate the risk between each clade of Mpx spread beyond the scope of the original risk assessment and new evaluations are necessary. CORI judges that the current Mpx scenario is in scenario 1, with continued heightened transmission of clade II Mpx in the US as the summer comes to a close.

CORI has identified 3 key scenarios that may shape the risk of clade II mpx in the US for the upcoming year. These scenarios consider the health risks of clade II, taking into account the differing impacts to various population groups as clade II circulates within the US.

Features that would characterize each scenario include:

- **Scenario 1 – Baseline:** Cases of clade IIB continue to grow in the US as seen in the past 6 months
- **Scenario 2 – Autumn Surge:** Clade IIB cases surge in the US, vaccination rates remain at current rate, with only [23-37% of at-risk populations fully vaccinated](#).
- **Scenario 3 – Autumn case drop off:** Clade II cases in the US fall to pre-2024 levels, due to either reduced transmission or increased levels of vaccination among key population groups.

Please note: We are evaluating the risks to human health should each scenario occur, **not the relative risk of any one scenario occurring. This risk assessment will be updated regularly.*

Currently, CORI judges that the ongoing sustained mpx infections in humans in the United States is in scenario 1, meaning the virus currently circulating in the United States is the same clade (clade IIB) that expanded globally in 2022 and case reports are growing steadily, as the new cases of clade IIB emerging in Central and West Africa are indicative of the risk of further global spread



This judgment is based on [available data](#) from ongoing mpox case reporting to CDC and [wastewater surveillance](#). As of August 17, 2024, the [CDC has reported](#) steady growth in mpox case counts nationally and the reported cases continue to be predominately among individuals within the MSM community and who are unvaccinated or under vaccinated, indicating that the [outbreak epidemiology has remained consistent](#). [CDC also reports](#) that, to date, all patients with confirmed mpox who undergo clade testing have tested positive for [clade I1b](#). In late 2023, CDC enhanced wastewater surveillance for clade I1b, increasing testing locations to a total of 186 sites across 32 jurisdictions. As of May 25, 2024, all mpox virus detected through [wastewater sampling](#) has been clade I1b.

Notably, increases in cases or clusters of cases during the summer and autumn may increase the health risk posed to certain populations, as described in the scenario-based risk assessments below.

Mpox Human Health Risk Assessment Scenario Table for the US Population

Table 1. Clade I1b

	Risk to MSM community	Risk to sex workers	Risk to healthcare workers	Risk to general public
Scenario 1 – Baseline	Low-Moderate	Low-Moderate	Low	Low
Scenario 2 –Autumn surge	Moderate	Moderate	Low	Low
Scenario 3- Autumn decline	Moderate	Moderate	Low	Low

Methods: The purpose of this document is to consider possible future developments in this outbreak and describe corresponding risks to human populations should a given scenario occur. In each scenario, we consider the risk to 4 distinct populations: the community of men who have sex with men (MSM), sex workers, healthcare workers, and the general public.

In determining the risks to the health of each population, we considered several factors such as primary transmission pathways, current morbidity and mortality, and the primary demographics and geographies currently affected. We also assessed the extent of the current outbreak to determine if cases are sporadic, in clusters, or if there is low or high ongoing community transmission. Other factors considered include events that could increase human-to-human transmission (eg, mass gatherings, seasonal trends, school terms, etc.); the availability and effectiveness of treatments and vaccines; nonpharmaceutical measures to lower the risk of human-to-human transmission, such as personal protective equipment (PPE) for healthcare workers; the potential impact of animal reservoirs; and ongoing public health preparedness and response operations to address outbreaks. We use a five-tiered system to identify risk levels including: low; low-moderate; moderate; moderate-high; and high.



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