



Summary

Since the 2022 clade IIb [mpox epidemic began](#), there have been more than 98,000 reported cases and 183 deaths. According to the US Centers for Disease Control and Prevention (US CDC), the US has reported 33,235 mpox cases and 59 [deaths](#) as of June 30, 2024, accounting for approximately one-third of all reported cases and deaths worldwide. Although the most recent US CDC reports indicate that [ongoing clade IIb mpox cases have remained stable](#) in the US over the last 6 months, experts are concerned that changes in the national and global landscape have the potential to increase the health risk to specific US populations.

Key Updates

- Increased observation of mpox clade IIb clusters in the US for the next 6 months are a concern due to approaching summer festivals, celebrations, and other events that bring people together from across the country and around the world.
- The Democratic Republic of the Congo (DRC) mpox outbreak that began in 2022 is the largest surge in clade I mpox cases ever recorded in the country. As of May 30, 2024, US [CDC reports that](#) DRC has recorded more than 20,000 confirmed and suspected cases and more than 1,000 deaths in the current outbreak.
- [While experts believe that the clade I outbreak is currently contained to the DRC](#), health authorities are concerned because 4.3%–5.7% of all suspected and confirmed cases there have been fatal from January 1, 2023 to April 14, 2024. Additionally, 67% of all cases and 78% of deaths have occurred among children aged 15 years and younger.
- Although clade I mpox gaining a foothold in the US is considered unlikely, introduction of this clade could increase the health risk posed to men who have sex with men, sex workers, healthcare workers, and children.
- South Africa is now reporting an outbreak of clade IIb mpox. As of July 12, 2024, [the Government of South Africa reports](#) 22 cases [confirmed to be clade IIb](#) and 3 deaths, a case fatality ratio (CFR) of 13.64%. Most of these cases have been reported in men with HIV.

For more information about the specific scenarios and health risks to vulnerable populations for mpox clades I and IIb, see the [CORI Mpox Resource Page](#)



Key Recommendations

To minimize the health impact of mpox in the US, US CDC and WHO recommend the following:

- All [individuals at an elevated risk of infection](#) should [receive 2 doses of JYNNEOS](#) vaccine.
- US clinicians and public health [practitioners should be alert for possible cases](#), including in travelers from the DRC, and request clade-specific testing.
- Mass and large gathering [event planning and preparedness activities](#) should foster community-based actions aimed at spreading precise and practical public health advice with a nondiscriminatory approach, utilizing different media and incorporate educational and awareness-raising initiatives related to mpox and other diseases of concern.

Background

In 2022, the epidemiology of mpox (formerly known as monkeypox) in the US shifted dramatically. The virus, previously endemic in south-central Africa, found a foothold in the sexual networks of gay, bisexual, and other men who have sex with men (MSM community), including the United States, and Europe. [The initial epidemic in the US grew](#) to more than 30,000 reported cases and 58 deaths, with ongoing sporadic cases and clusters.

The change in epidemiology and rapid spread of the virus in 2022 required urgent public health action. Public health officials and community-based [organizations mounted a response](#) that included health education, awareness raising, testing, treatment, and vaccination with a vaccine that was originally designed to protect against smallpox but is also effective against mpox. By mid-summer, the public health response began to slow transmission. Vaccination campaigns and targeted interventions significantly reduced the number of new weekly cases. However, [cases continue to occur among individuals at increased risk of infection](#), particularly those who have not been vaccinated or have received only 1 dose of vaccine.



Current Outbreak Profiles

United States (Clade IIb Outbreak)

The mpox virus responsible for the 2022 epidemic is the subtype clade IIb. Although the clade IIb virus is capable of transmission via respiratory droplets, short-range aerosols, or contact with contaminated objects (fomite transmission), the [majority of cases from the global epidemic were acquired through close, extended physical contact](#), particularly intimate or sexual contact. The recorded number of mpox cases was relatively stable in the US from July 2023 to January 2024, with some clusters of ongoing transmission. To date, [all mpox cases reported within the US are of the clade IIb subtype](#). In 2024, clustered outbreaks of clade IIb mpox remain a concern in the US, especially as summer festivals, celebrations, and other events that bring people together from around the world occur. High levels of immunity from prior infections and vaccination help mitigate the risk of large outbreaks. Individuals at highest risk for clade IIb infection are gay, bisexual, and other men who have sex with men; people with multiple sexual partners; sex workers; and healthcare workers caring for infected patients.

Democratic Republic of the Congo (Clade I Outbreak; Clade IIb Endemic)

In addition to the clade IIb global epidemic, there is increased concern regarding changes in the clade I outbreak that is ongoing in the DRC. The [DRC government declared a national epidemic](#) in December 2022 for what is the largest surge in mpox cases ever recorded in the country. Since January 1, 2023, [DRC has reported](#) more than 20,000 suspected cases and more than 1,000 deaths. The current DRC outbreak is widespread, affecting 25 of the country's 26 provinces, including the capital city of Kinshasa. [The highest transmission rates](#) have been in Equateur and Sud-Kivu. The province of Equateur remains the epicenter, contributing more than [half of the country's suspected cases](#) and three-quarters of deaths in 2024 alone. [New reports](#) suggest at least 25 cases of a new dangerous strain of mpox being called "clade 1b" have been identified in Goma, the largest eastern city in the DRC. An article by Vakaniaki, et al uploaded to [Nature Medicine](#) in June 2024, describes clade 1b as an outbreak with pandemic potential that warrants urgent public health and case management support and targeted vaccination.

[Infections with clade I mpox are more severe](#) and more deadly than clade IIb infections. The [case fatality ratio](#) (CFR) for clade I mpox ranges from 1.4% [to more than 10%](#), whereas the CFR for clade II is between 0.1% and 3.6%. Notably, the clade I epidemic in the DRC has [mostly affected children](#), with 67% of cases and 78% of deaths among individuals ages 15 and younger. Epidemiologists have also [documented heterosexual transmission in the DRC](#), particularly among sex workers and their contacts.



This epidemiological pattern differs from that seen in the clade IIb epidemic in the US and globally, which primarily impacted the MSM community, and suggests that pathways other than sexual contact predominate. Based on the extent of the DRC outbreak, in combination with the demographic characteristics and the genetic diversity of cases, [experts suspect that multiple transmission factors](#) are driving the outbreak, including zoonotic, household, and sexual.

South Africa (Clade IIb Outbreak)

The clade IIb epidemic has continued to spread across the globe, with new cases detected in South Africa. On May 13, 2024, the [Government of South Africa announced](#) its first confirmed case, and has since reported [22 total confirmed cases and 3 deaths](#) on July 12.

Most confirmed cases [displayed severe clinical presentation](#), were chronically ill (HIV+), and were hospitalized for mpox. None of the confirmed cases reported travel history to countries with ongoing mpox outbreaks. Of the 5 cases with available viral sequence data, all were [confirmed to be clade IIb](#).

Available Medical Countermeasures

While clades I and IIb mpox virus are genetically similar enough that [vaccines and treatments are expected to be effective](#), it is [not well understood](#) how prior infection with clade IIb (responsible for the US outbreak) or vaccination might protect from infection with or complications from clade I. [US CDC recommends](#) that all individuals with an elevated risk of infection should receive 2 doses of JYNNEOS vaccine for the best protection against both clades I and IIb.

The DRC National Regulatory Authority has [recently authorized](#) two vaccines for emergency use, MVA-BN and LC16. As part of its standing recommendations, [WHO advises](#) countries to make vaccines available to nations in need, which includes DRC.

On July 5, 2024, FDA authorized emergency use in response to an outbreak of an [in vitro diagnostic device](#) and [MPXV PCR test home collection kit](#).



Key Public Health Recommendations

To minimize the health impact of mpox in the US, US CDC and WHO recommend the following:

- All [individuals with an increased risk](#) of infection should [receive 2 doses of JYNNEOS vaccine](#).
- US clinicians and public health practitioners should be [alert for possible cases](#), including in travelers from the DRC, and request clade-specific testing. 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.
- Mass and large gathering [event planning and preparedness activities](#) should foster community-based actions aimed at spreading precise and practical public health advice with a nondiscrimination approach across different media and incorporate educational and awareness raising initiatives related to mpox and other diseases of concern.

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Mpox Virus: Clade I and Clade II



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