



Mpox

Risk of Resurgent Mpox Outbreaks Warrants Increased Prevention Effort

Updated May 17, 2023

Summary

CDC continues to assess that the risk of resurgent mpox outbreaks is substantial in the United States. Although the daily number of reported mpox cases has fallen dramatically since August 2022, the diagnosis of several unlinked cases each week and intermittent wastewater detections across jurisdictions are consistent with ongoing undetected transmission. The risk of outbreaks could further increase as people gather this spring and summer for festivals and other events with high potential for skin-to-skin contact or increased sexual activity. Healthcare providers, public health agencies, and partner organizations should help ensure disproportionately affected populations—currently gay, bisexual, other men who have sex with men (MSM), and transgender people—have access to vaccines, testing, and treatment. People at risk for mpox exposure should 1) be vigilant of the possibility of community transmission, 2) take steps to reduce risk of infection, and 3) seek vaccination.

Resurgence risks likely substantial

A recent uptick in mpox cases in Chicago that began in mid-April ^[1] underscores the risk of renewed mpox outbreaks, which we judge is substantial across the United States. We have moderate confidence ^[2] in this judgment, based on the following factors:

- **The virus continues to circulate in the United States**, judging from continued low-level reporting of cases across multiple jurisdictions, the recent cluster in Chicago, and intermittent wastewater detections in jurisdictions without known clusters ^[3,4]. Furthermore, some transmission is likely happening undetected, raising the risk of onward spread. We have observed several recent cases without known links to other reported cases and wastewater detections in areas without recently diagnosed cases ^[5]. We also know that wastewater surveillance does not detect all cases; in some instances, counties have had negative wastewater samples within the same week as reported cases.
- **Skin-to-skin contact or sexual activity may increase around large spring and summer gatherings**. Increased numbers of sexual contacts during upcoming large events could further raise the risk of mpox spread. Large gatherings were a significant source of exposure and geographic spread of mpox in 2022 ^[6,7].
- **Mpox vaccination coverage is probably too low to prevent outbreaks in most jurisdictions**. At this time less than half of people placed most at risk for mpox—including gay, bisexual, other MSM, and transgender people—have received even a single JYNNEOS vaccine dose in the United States; two doses of JYNNEOS vaccine provides optimal protection ^[8,9]. Simulation modeling that accounts for variable vaccination coverage across jurisdictions suggests mpox outbreak risk is substantial in many U.S. jurisdictions ^[10]. Even jurisdictions with relatively high vaccination coverage have some risk of resurgent outbreaks.
- **The mpox vaccine protects against disease and reduces the risk of severe outcomes in those who get infected, but it is not 100% effective**.
 - Our latest research indicates that the JYNNEOS vaccine is highly effective at preventing disease and reduces the severity of disease for those infected, but it is not 100% effective ^[9]. We expect that cases after vaccination will have less severe illness compared to unvaccinated individuals based on U.S. surveillance data indicating vaccinated individuals are much less likely to be hospitalized with mpox ^[11,12].
 - We have observed an increasing proportion of fully vaccinated individuals among cases over the last several months, including the majority of cases in two recent small clusters in Chicago and France ^[1,13,14]. Given the vaccine does not fully protect against mpox, ^[9] it is possible that a large proportion of cases could occur among vaccinated

persons where vaccination coverage—but also sexual activity—is high among affected populations. There are other possible explanations for a large proportion of cases occurring among vaccinated persons and investigations continue. For example, we do not know the longer-term durability of protection, but studies investigating vaccine effectiveness over time are ongoing.

Recommendations

Currently gay, bisexual, and other MSM make up the majority of mpox cases in the United States. However, anyone who has been in close, personal contact with someone who has mpox is at risk. MSM and transgender people who have sex with men should stay up to date on the latest mpox news. They should also:

- Get vaccinated if they are at risk of mpox exposure, which includes BOTH doses of the mpox vaccine.
- If a person has a new or unexplained rash or other symptoms, follow [safer sex and social gathering practices](#) and seek testing, regardless of vaccination status. While vaccines are effective at protecting people against mpox, they are not 100% effective. It may also be possible for people who already had mpox to be infected again.
- Follow other [prevention steps](#) to protect themselves from getting mpox including avoiding close, skin-to-skin contact with people who have a new or unexplained [rash](#).

Healthcare [providers](#) should be aware of the potential for new mpox outbreaks and the latest testing and treatment guidelines. They should also:

- Test patients if they have symptoms of mpox, regardless of vaccination status.
- Rapidly report all cases to local public health officials, an important tool for preventing onward spread since even one case of mpox could suggest ongoing transmission in the community.

[Event organizers](#) should take steps to reduce the spread of mpox associated with their events and work with local health authorities to coordinate vaccination at their events, if possible, as well as establishing communication and outreach plans.

Resources

[How to Protect Yourself](#)

[Information For Healthcare Professionals](#)

[Safer Sex, Social Gatherings and Mpox](#)

[Prepare for Spring and Summer Events](#)

[CDC's Mpox Toolkit for Event Organizers](#)

Reference and Notes


[1] [Alert Detail – HAN \(chicagohan.org\)](#) [↗](#)

[2] We use the following definitions for confidence levels: High confidence judgments are based on high-quality information from multiple sources, although such judgments are not a certainty. Moderate confidence judgments are based on credibly sourced and plausible information, but the information is not of sufficient quality or corroboration to warrant a high level of confidence. Low confidence judgments are based on information that is fragmented, poorly corroborated, or based upon data sources for which there are significant concerns or problems.

[3] [2022 Outbreak Cases and Data | Mpox | Poxvirus | CDC](#)

[4] [U.S. Wastewater Data | Mpox | Poxvirus | CDC](#)

[5] According to internal analysis of mpox cases reported to CDC's Data Collection and Integration for Public Health Event Response (DCIPHER) platform from across U.S. jurisdictions, as well as wastewater surveillance data.

[6] Iñigo Martínez et al. Monkeypox outbreak predominantly affecting men who have sex with men, Madrid, Spain, 26 April to 16 June 2022. *Euro Surveill.* 2022 Jul;27(27):2200471 <https://pubmed.ncbi.nlm.nih.gov/35801519/> 


[7] Thornhill, et al. Monkeypox Virus Infection in Humans across 16 Countries — April–June 2022. *N Engl J Med* 2022; 387:679-691

[8] JYNNEOS Vaccination Coverage Among Persons at Risk for Mpox — United States, May 22, 2022–January 31, 2023 | *MMWR* (cdc.gov)

[9] Chard, A. JYNNEOS vaccine effectiveness. Presentation to: ACIP meeting Mpox Vaccine Work Group, United States, 2023. Accessed April 28, 2023. <https://stacks.cdc.gov/view/cdc/124951> =16

[10] [Risk of Mpox Resurgence and Continued Vaccination Efforts | Mpox | Poxvirus | CDC](#)

[11] According to internal analysis of mpox cases with known vaccination status reported to CDC's Data Collection and Integration for Public Health Event Response (DCIPHER) platform from across U.S. jurisdictions.

[12] [Demographic and Clinical Characteristics of Mpox in Persons Who Had Previously Received 1 Dose of JYNNEOS Vaccine and in Unvaccinated Persons — 29 U.S. Jurisdictions, May 22–September 3, 2022 – PMC \(nih.gov\)](#) 

[13] According to internal analysis of mpox cases with known vaccination status reported to CDC's Data Collection and Integration for Public Health Event Response (DCIPHER) platform from across U.S. jurisdictions.

[14] Jamard S, Handala L, Faussat C, Vincent N, Stefic K, Gaudy-Graffin C, Maakaroun-Vermesse Z, Lemaigen A. Resurgence of symptomatic Mpox among vaccinated patients: First clues from a new-onset local cluster. *Infect Dis Now.* 2023 Apr 28;53(4):104714. <https://doi.org/10.1016/j.idnow.2023.104714> 