

## Mpox Fact Sheet and Considerations for HIV Programs

Mpox is a disease caused by the mpox virus, a member of the *Orthopoxvirus* genus in the family Poxviridae. The virus belongs to the same family as the virus that causes smallpox and shares similar characteristics, but usually presents with milder symptoms. Mpox is endemic in countries within the rainforests of West and Central Africa, related to contact with animals that serve as viral reservoirs, but has recently been identified in substantial numbers of persons outside these regions. The virus are two clades—branches on the phylogenetic tree—West African clade (WA) and Congo Basin clade (CB).

Since January 2022, 70 non-endemic countries have reported human cases of mpox. However, in the current multi-countries outbreak, the cluster of cases has been atypical and primarily found in historically non-endemic countries and locations with no direct travel link to the endemic region. Instead, most of the cases identified were from sexual health clinics in communities of gay, bisexual, and other men who have sex with men (MSM), especially those with multiple partners and extended sexual networks. As of July 21, 2022, the United States Centers for Disease Control and Prevention (CDC) reported 15,848 confirmed cases of mpox across 72 countries; 15,605 (98%) of the confirmed cases were reported in 66 countries that have not historically reported mpox. On July 23, 2022, WHO declared the current multi-country mpox outbreak a public health emergency of international concern (PHEIC)—the highest public health alert.

While information on this outbreak is changing rapidly, this fact sheet provides a general overview of the disease, its mode of transmission, those who are considered at risk, and the available preventive measures. It also highlights some specific issues related to key populations and people living with HIV (PLHIV).

### Transmission

Mpox can be transmitted from an infected animal—mostly mammals, including monkeys, anteaters, hedgehogs, prairie dogs, squirrels, and shrews—to humans (zoonotic) or from an infected human to another human.

*EpiC is a global cooperative agreement dedicated to achieving and maintaining HIV epidemic control. It is led by FHI 360 with core partners Right to Care, Palladium International, and Population Services International (PSI). For more information about EpiC, including the areas in which we offer technical assistance, click [here](#).*

Human-to-human transmission occurs primarily through:

- Direct contact with the rash, scabs, or body fluids
- Intimate skin-to-skin contact, including kissing, touching, cuddling, and oral, anal, and/or vaginal sex with an infected person. It is still unclear whether the virus is transmitted through semen or vaginal fluid. However, a recent study reported that mpox virus DNA was detected in seminal fluid in 29 of 32 samples tested.
- Prolonged face-to-face contact with an infected person through respiratory droplets. This puts health care workers and family members of infected persons at risk.
- Contact with contaminated materials such as clothing, bedding, sex toys, towels, or objects such as eating utensils or dishes
- Vertical (mother-to-child) transmission
- Animal to human transmission occurs during contact with blood, bodily fluids, or cutaneous or mucosal lesions of infected animals.

## Signs and Symptoms

Mpox has an incubation period (time from infection to onset of symptoms) of approximately three–20 days (with median of seven days); a person is not contagious during this time. Early clinical manifestations include fever, intense headache, swelling of lymph nodes, back pain, muscle aches, and lack of energy. Typically, painful skin lesions develop one to three days after onset of fever. These rashes commonly present as blisters on the face, hands, feet, eyes, mouth, or genitals. They often progress from macules (lesions with a flat base) to papules (slightly raised firm lesions) to vesicles (lesions filled with clear fluid) to pustules (lesions filled with yellowish fluid) to scabs or crusts that dry up and fall off. A person is contagious from onset of rash until crusted lesions fall off.

In the current outbreak, some atypical or uncommon manifestations have been reported. These include:

- Few lesions or only a single lesion
- Absence of skin lesions, but with anal pain and bleeding
- Lesions restricted to genital or perineal/perianal area and do not spread further
- Rash appears at different (asynchronous) stages of development
- Lesions appear before the onset of fever, malaise, and other constitutional symptoms

## People and Animals Are at Risk

Anyone who has contact with an infected person, animal, or contaminated object is at risk; however, in the current outbreak, most cases were identified from sexual health clinics in communities of gay, bisexual, and other MSM and their extended sexual networks.

## Key Populations' Risk for Mpox

While most cases reported so far during the current outbreak have been among MSM, the risk of mpox is not limited to MSM or members of key populations in general. Anyone who has close contact with someone who is infectious can acquire mpox, including children living in the same household. Mpox rashes can resemble some sexually transmitted infections (STIs), including herpes and syphilis, which may explain why these cases are being picked up at sexual health clinics, particularly those accessed by the MSM community. Due to the prevalence of concurrent STIs at time of mpox diagnosis, providers should consider looking for other STIs in patients with mpox.

## Mpox and HIV

Whether PLHIV are at greater risk of acquiring mpox or experiencing more severe cases has not been confirmed. However, PLHIV who are not virally suppressed may be at increased risk for confluent rash, secondary bacterial infection of lesions, and prolonged illness from mpox. Mpox in PLHIV may present as an atypical rash—disseminated or confluent or partially confluent—instead of discrete lesions. Additionally, PLHIV with poorly controlled HIV are more likely to have prolonged illness. What is clear is that anyone exposed to the mpox virus through direct physical contact (skin to skin, kissing, or cuddling), respiratory droplets, or contact with contaminated materials may become infected. Individuals with severe symptoms, including those newly diagnosed with HIV or those with HIV who are not yet virally suppressed, could be managed with an antiviral medicine (such as tecovirimat [TPOXX]) or vaccinia immune globulin. PLHIV who contract mpox, are viremic, and off ART should begin or re-initiate ART.

Data from a recently published study of 528 mpox infections (in North America, Mexico, Argentina, Europe, Australia, Israel) showed that 98% of people with mpox infection were gay or bisexual men; 41% were PLHIV with median CD4 680 cells per cubic millimeter of blood; 96% were on ART; and 95% had viral load less than 50 copies/mL. Importantly, three new cases of HIV were identified in people who were diagnosed with mpox, and 57% of the non-PLHIV in this study were on pre-exposure prophylaxis (PrEP). The clinical presentation was similar among PLHIV and non-PLHIV in this study, although the population had high ART uptake, high VL suppression, and high baseline CD4. There were no deaths, but 70 people (13%) were hospitalized, mostly for pain control and secondary bacterial infections. Data from the study also showed concomitant STIs

were reported in 29%, with gonorrhea, chlamydia, and syphilis found in 8%, 5%, and 9%, respectively, of those who underwent testing.

Finally, providers should consider offering HIV testing to those who present with mpox, given that a proportion of reported cases were among gay or bisexual men living with HIV. Those who test HIV negative should then be referred or linked to HIV PrEP services.

### How People Living with HIV Can Reduce Exposure

Everyone should avoid exposure to the mpox virus. Protective measures for all, irrespective of HIV status, include:

- Avoid direct contact with rashes, sores, or scabs on a person with mpox, including during sex and other intimate contact.
- Avoid contact with objects, fabrics (clothing, bedding, or towels), and surfaces used by someone with mpox.
- Avoid contact with respiratory secretions through kissing and face-to-face contact with a person with mpox.
- Continue to adhere to antiretroviral therapy.

### Mpox Treatment or Vaccine Effect on HIV Treatment

Most of the commonly used HIV medications are considered safe for people on mpox treatment. Nevertheless, clients should always inform their health care provider of any other medicines they take. There are no interactions between dolutegravir-based ART, including tenofovir, lamivudine, and dolutegravir (TLD) and TPOXX. However, TPOXX reduces serum levels of rilpivirine, doravirine, and maraviroc. Efavirenz induces uridine 5'-diphospho-glucuronosyltransferase (UGT) enzymes and could decrease TPOXX exposure.

### Mpox and Efficacy of HIV Pre-Exposure Prophylaxis

PrEP medications remain effective, and they should not be stopped even if clients are exposed and infected with mpox.

### How Mpox Is Diagnosed

When the clinical presentation suggests mpox, tissue samples (the roof or fluid from vesicles and pustules, and dry crusts) should be sent to a reference laboratory for polymerase chain reaction (PCR) testing.

## Treatments Available

Mpox is usually self-limiting but may be severe in some individuals, such as children, pregnant women, or people with immune suppression due to other health conditions. There is no definitive treatment for mpox. However, antivirals such as TPOXX may be recommended for the management of severe cases, such as in those with a weakened immune system.

## Prevention Strategies

Mpox prevention is grounded in risk communication and community engagement, and reducing exposure to the virus.

- Risk communication and community engagement:
  - Engage communities most affected by mpox in the design and implementation of a risk communication strategy. These communities include gay, bisexual, and other MSM, health care workers in public and community settings such as drop-in centers and sexual health clinics, civil society organizations, and the general public. This will help address misinformation, myths on risk factors, preventive measures, and symptoms. Implement specific measures to prevent and address stigma and discrimination against affected communities and infected persons.
- General steps to minimize exposure:
  - Avoid close, skin-to-skin contact with people with an infected rash.
    - Do not touch the rash or scabs of an infected person.
    - Do not kiss, hug, cuddle, or have sex with an infected person.
    - Avoid sharing eating utensils or cups with an infected person.
  - Do not handle or touch the bedding, towels, or clothing of an infected person.
  - Wash your hands often with soap and water or use an alcohol-based hand sanitizer.
- If you have symptoms of mpox:
  - See a health care provider.
  - Isolate at home if you have mild or uncomplicated symptoms.
  - If you have a rash or other symptoms, isolate or stay away from people or pets you live with, when possible.

## Reducing Human-to-Human Transmission

Human-to-human spread of mpox can be controlled by public health measures, including early case finding, diagnosis and care, isolation, contact tracing, and use of vaccines. Prioritize disease surveillance and prompt case finding to contain outbreaks. Close contact with an infected person constitutes a significant risk factor. Family members and health care workers, including those handling specimens from infected persons, are at substantive risk of getting infected; therefore, institute strict adherence to standard infection prevention and control measures among exposed individuals.

## Reducing Transmission Risk at Social Gatherings: Raves, Parties, Clubs, and Festivals

- Assess the chance of physical contact during any event.
- Prioritize events where attendees would be fully clothed with minimal chance of skin-to-skin contact.
- Events where attendees are minimally clothed are risky. Avoid direct contact with anyone with rashes and other skin lesions.
- Sex parties and any event with possibilities of intimate or anonymous multiple sexual contacts should be considered to have the potential to be super spreader events.

## Reducing Risk of Zoonotic Transmission

To prevent animal-to-human transmission, avoid unprotected contact with wild animals, including monkeys, anteaters, hedgehogs, prairie dogs, squirrels, and shrews; and pets, especially those who are sick or dead and could transmit the virus. This includes bedding or other materials they have touched. In addition, properly cook all meat products before eating.

## Vaccines Available

Vaccines are an effective public health tool. For example, there is evidence that the smallpox vaccine could provide up to 85% cross-protection against mpox since they both belong to the *Orthopoxvirus* genus. Some countries have maintained strategic supplies of older smallpox vaccines from the Smallpox Eradication Program (SEP) that concluded in 1980. These first-generation vaccines held in national reserves are not recommended for mpox at this time as they do not meet current safety and manufacturing standards. The U.S. Food and Drug Administration (FDA) approved JYNNEOS and ACAM2000 vaccines for the prevention of mpox. Only JYNNEOS is FDA approved for the prevention of mpox in people 18 years and older. As countries continue to report more cases of mpox, the need to expand access to vaccines will

increase. Currently, vaccine supply is extremely limited, and most countries, especially middle- and low-income countries, do not have access to these vaccines. According to the CDC, vaccination could be administered before or after recent exposure to mpox.

The following strategies are currently recommended:

- Mpox Vaccine Pre-Exposure Prophylaxis (PrEP): For individuals at high risk of exposure, such as health care workers, including laboratory workers who handle infected specimens.
- Mpox Vaccine Post-Exposure Prophylaxis (PEP): For individuals already exposed to the mpox virus.
- Outbreak Response Mpox Vaccine Post-Exposure Prophylaxis (PEP)++ [or “expanded PEP,” “PEP plus-plus”]: For people with certain risk factors who are more likely to have been recently exposed to mpox. The aim is to reach these people for post-exposure prophylaxis, even if they have not had documented exposure to someone with confirmed mpox.

Even following vaccination, individuals should continue to adhere to measures that reduce their exposure to the virus, such as avoiding close, skin-to-skin, or intimate contact with an infected person.

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