

Technical Brief

Global Fund Support to Prevent, Detect and Respond to Monkeypox

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Introduction

Discovered in 1958, the first human case of “monkeypox” was recorded in 1970. Despite its name, the source of the disease remains unknown. Non-human primates (like monkeys) might harbor the virus and infect people. Historically, monkeypox has been a viral zoonosis with symptoms similar to those seen in smallpox patients, although it is clinically less severe. With the eradication of smallpox in 1980 and subsequent cessation of smallpox vaccination, monkeypox has emerged as the most important orthopoxvirus for public health.

There have been two multicountry monkeypox outbreaks in 2022 which, while likely epidemiologically linked, are currently quite distinct. The outbreaks reflect zoonotic transmission of an endemic disease which has led to limited human-to-human transmission. This has important implications for determining which interventions to implement to prevent, detect and respond to current and future outbreaks.

The monkeypox outbreaks in West and Central Africa date to early 2020 and include over 170 confirmed cases and three deaths in eight countries. In 2022, WHO is reporting more than 77,000 laboratory-confirmed cases and 36 deaths in 109 countries, territories and areas in all six regions between 1 January and 30 October.¹

In July 2022, during the second meeting of the International Health Regulations (2005) (IHR) Emergency Committee, the [WHO Director-General declared](#) that the multicountry outbreak of monkeypox constitutes a Public Health Emergency of International Concern (PHEIC).²

¹ Multi-country outbreak of monkeypox, External Situation Report 9, WHO, 2 November 2022, <https://www.who.int/publications/m/item/multi-country-outbreak-of-monkeypox-external-situation-report-9---2-november-2022>

² WHO Director-General's statement at the press conference following IHR Emergency Committee regarding the multi-country outbreak of monkeypox, July 23, 2022, <https://www.who.int/director-general/speeches/detail/who-director-general-s-statement-on-the-press-conference-following-IHR-emergency-committee-regarding-the-multi-country-outbreak-of-monkeypox--23-july-2022>.

The Challenge

Prior to the 2022 outbreaks, monkeypox had been reported in people in several West and Central African countries and almost all human cases outside of Africa were linked to international travel or to imported animals, in multiple continents.

However, the second outbreak is occurring in previously non-endemic high-income countries (HIC) and upper middle-income countries (UMIC) and is notable for occurring as a result of sustained human-to-human transmission.^{3,4} In these settings, gay, bisexual and other men who have sex with men (MSM) have been predominant among those affected. Sexual transmission may also have been an important factor in the recent re-emergence of monkeypox in Nigeria, linked to the broader epidemiologic patterns seen in non-endemic HIC and UMIC.⁵

Emerging evidence indicates that people living with HIV - particularly those without viral suppression, and who are thus potentially immunocompromised - may be at greater risk for a severe reaction to infection with monkeypox.⁶ These findings also suggest that monkeypox may be a co-infection of HIV. In addition, WHO states that young children, pregnant women and people who are immunosuppressed are also at risk for more severe reactions.⁷

Similar to the initial response to COVID-19, limited support has been provided to countries to prevent, detect and respond to monkeypox in West and Central Africa, when early intervention might have prevented further morbidity and mortality in that region and transmission to previously non-endemic countries.

Additionally, low-income countries and lower middle-income country (LMIC) which are eligible for Global Fund financing have reported new monkeypox outbreaks across multiple regions, not just West and Central Africa. The possibility that incidence of monkeypox will rise among gay and MSM communities in some of these contexts may exacerbate stigmatization and discrimination, and negatively impact HIV prevention and treatment efforts among those communities.

The evolution of modes of transmission and the spread of outbreaks to previously non-endemic countries have important implications for global health security. Although it is difficult to predict how this virus will evolve, it is critical for the global community to work together to control monkeypox outbreaks in these distinct epidemiologic settings.

³ Multi-country outbreak of monkeypox, External situation report #5, WHO, September 7, 2022, <https://www.who.int/publications/m/item/multi-country-outbreak-of-monkeypox--external-situation-report-5---7-september-2022>; Daniele Lapa et al., "Monkeypox virus isolation from a semen sample collected in the early phase of infection in a patient with prolonged seminal viral shedding," *The Lancet Infectious Disease* 22, no. 9 (September 2022): 1267-1269, [https://doi.org/10.1016/S1473-3099\(22\)00513-8](https://doi.org/10.1016/S1473-3099(22)00513-8); Eloy José Tarín-Vicente, MD et al., "Clinical presentation and virological assessment of confirmed human monkeypox virus cases in Spain: a prospective observational cohort study," *The Lancet* 400, no. 10353 (August 2022): 635-706, [https://doi.org/10.1016/S0140-6736\(22\)01436-2](https://doi.org/10.1016/S0140-6736(22)01436-2).

⁴ In particular, direct contact with lesions, including sexual contact.

⁵ Dr Adesola Yinka-Ogunleye et al., "Monkeypox Risk and Mortality Associated with HIV Infection: A National Case Control Study in Nigeria," pre-print not peer-reviewed article, undated, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4172063.

⁶ Ibid.

⁷ Clinical Management and Infection Prevention and Control for Monkeypox: Interim rapid response guidance," WHO, June 10, 2022, 29, <https://www.who.int/publications/item/WHO-MPX-Clinical-and-IPC-2022.1>.

WHO Guidelines

New guidelines on the [Clinical Management and Infection Prevention and Control for Monkeypox](#) were released on 10 June 2022. They add to and complement the earlier [interim guidance on laboratory testing for monkeypox](#) and the [monkeypox Outbreak Toolbox](#).⁸

The documents outline components of a comprehensive package to prevent, detect and respond to monkeypox outbreaks, including via:

- Event-based and indicator-based (primarily syndromic) surveillance.
- Event verification and investigation (case finding and contact tracing).
- Laboratory diagnostics, including confirmatory testing and sequencing.
- Laboratory systems strengthening including strengthening sample referral and reporting systems.
- Infection prevention and control (IPC) (including personal protective equipment (PPE)).
- Clinical management and isolation with supportive care.
- Preventive vaccination of high-risk groups and post-exposure vaccination of contacts.

Additional guidance on risk communication and community engagement, surveillance and vaccination is also available.⁹

Global Fund Support through C19RM and HIV, TB and Malaria Investments

Global Fund financing can be used to fund activities and interventions that help prevent, detect and/or respond to monkeypox outbreaks in Global Fund-eligible countries and include:

- **Systems strengthening of core prevention, detection and response functions**, such as disease surveillance, laboratory capacity, surge workforce, case management and other capacities essential for early detection and response to outbreaks.
- **Targeted programming**, such as monkeypox prevention communication and information, and community engagement activities.
- **Maximizing health equity, gender equality and human rights** interventions to address or minimize stigma and discrimination, community led/peer outreach and access to justice.

⁸ "Monkeypox outbreak toolbox," WHO, accessed October 28, 2022, <https://www.who.int/emergencies/outbreak-toolkit/disease-outbreak-toolboxes/monkeypox-outbreak-toolbox>; "Laboratory testing for the monkeypox virus: Interim guidance," WHO, May 23, 2022, <https://www.who.int/publications/i/item/WHO-MPX-laboratory-2022.1>.

⁹ "Surveillance, case investigation and contact tracing for monkeypox: interim guidance," WHO, August 25, 2022, <https://www.who.int/publications/i/item/WHO-MPX-Surveillance-2022.3>; "Risk communication and community engagement (RCCE) for monkeypox outbreaks: Interim guidance," WHO, June 24, 2022, <https://www.who.int/publications/i/item/WHO-MPX-RCCE-2022.1>; "Vaccines and immunization for monkeypox: Interim guidance," WHO, August 24, 2022, <https://www.who.int/publications/i/item/WHO-MPX-Immunization-2022.2-eng>.

- **IPC** including screening/triage, system strengthening, training and **PPE**.
- **Multi-use diagnostics**, if meeting QA requirements.¹⁰
- **Multi-use therapeutics**, if meeting QA requirements.

Funding for these activities / interventions can be applied from either the HIV, TB or malaria allocation and/or the COVID-19 Response Mechanism (C19RM). To be eligible for funding, the interventions selected are required to overlap with or contribute positively to HIV, TB, malaria or C19RM objectives (including health and community systems) and be aligned with Global Fund Board policies on C19RM and/or the [Global Fund Strategy](#) (as applicable). Additionally, the procurement of all pharmaceutical products and diagnostics must be compliant with the Global Fund's relevant Quality Assurance (QA) policies.

A list of activities and interventions which currently meet these criteria can be found in [Annex 1](#), based on the Global Fund Modular Framework Handbook. The list may be updated from time to time as additional products, activities and/or interventions are determined by the Global Fund Secretariat to meet these criteria and will be communicated to Principal Recipients, accordingly.

Systems Strengthening

Support can be requested for systems strengthening of core prevention, detection and response functions, such as disease surveillance, laboratory capacity, a surge workforce and others functions for early detection and response to outbreaks. This can include policy development, regulation and strategies for prevention, detection and response.

Disease Surveillance

Disease surveillance capacities can be improved by strengthening event and indicator-based surveillance systems that can enable early detection of cases and allow mitigation efforts to be more effective. Enhancing clinicians' awareness on case definitions and events and how to report to public health authorities should be considered. Appropriate response to ensure efficient and timely action for reported events will also be critical along with enhancing routine health management information systems and health facility data. Strengthening national planning and response management systems may also be needed.

Laboratory System Strengthening

Support to specimen transport networks, quality management systems, laboratory information systems, equipment management systems and biosafety practices (including

¹⁰ Importantly, however, the PCR primers required for diagnosing monkeypox on these multiplex/multi-pathogen instruments are not eligible under C19RM/HIV, TB and malaria allocation, as these are specific to monkeypox. The primers would be eligible for funding under the HIV allocation if: (i) monkeypox is considered a co-infection of HIV; (ii) the primers comply with the [Global Fund's Quality Assurance \(QA\) policies](#); and (iii) the criteria of the Framework for Financing Co-infections and Co-Morbidities of HIV/AIDS, Tuberculosis and Malaria (COIM Framework) as set out in the [COIM policy](#), are satisfied. There are no monkeypox-specific PCR primers that are currently eligible under the Global Fund's QA policies. Countries may wish to procure these through other sources of funding. Use of the multi-pathogen and multiplex diagnostic instruments for monkeypox diagnosis would also need to meet the [Global Fund's QA Policy on Diagnostic Products](#).

biohazardous waste management) help strengthen laboratory systems. Biosafety practices are especially important for monkeypox sample transport and diagnostic systems, and test validation may also be needed.

Shortening the turnaround time for results is a key consideration to improve patient management and public health measures, therefore the procurement of diagnostic products and equipment should be coupled with innovative approaches such as integrated sample transportation systems, referral and laboratory information systems to facilitate delivery of test results. MOUs between member states for sample referrals can also be useful.

Human Resources for Health

The health workforce is critical for early detection and response to outbreaks, including monkeypox. Global Fund financing can be used to support health care workers, community health workers, and support staff that may be involved in surveillance, contact tracing, referrals, IPC, case management, vaccination and other functions. Support can include a temporary (surge) increase in the workforce to meet detection and response needs in quickly evolving situations, such as rapid response teams and field epidemiology training.

Safeguarding of front-line health workers is critically important through IPC measures including availability of IPC guidelines, training, PPE, IPC programs, amongst other interventions.

Targeted Programming

Monkeypox Community-based Prevention

Evidence-based information on monkeypox modes of transmission, prevention strategies, and symptoms, delivered by health care providers in community settings or peer outreach workers, can help increase awareness and knowledge of monkeypox, drive demand for monkeypox prevention, diagnosis and treatment services and empower community members to make decisions about their own health.

Community-led and community-based organizations can play a key role in delivering monkeypox prevention messages to their communities, facilitate linkage to diagnosis and treatment and address human rights-, gender- and other service delivery barriers to access. Where possible, monkeypox prevention messages should be integrated into existing prevention work, for instance in community outreach interventions targeting gay men and other MSM.

Community Engagement

Timely and proactively involving communities in decision making processes related to the provision of monkeypox services is critical. Based on context, community engagement

activities such as community consultations, rapid assessments and identification of needs can help inform design of service delivery modalities and build trust between communities and other actors in the health response.

Community System Strengthening

An effective response to monkeypox (particularly when impacting marginalized and stigmatized populations) should be delivered also in community-based settings. Since some key population communities and organizations lack the resources and capacities needed to deliver and manage monkeypox prevention service, it is key to focus on strengthening community organizations and systems to be effective partners in national monkeypox responses.

Interventions that are part of CSS include community-led monitoring, community-led research and advocacy, institutional capacity and leadership development and community engagement, linkages and coordination.

Health Equity, Gender Equality and Human Rights

The integration of human rights norms and principles into the provision of monkeypox services supports the removal of structural barriers that prevent and discourage community members from accessing health care. Programs must recognize and appropriately address inequities in risk, vulnerability and access to services for the communities most impacted by monkeypox. Some of these are age, social and economic marginalization, cultural and gender norms, stigma, discrimination, violence and criminalization (particularly in those contexts where communities of gay, bisexual men and other MSM are impacted by the disease).

Gender is a critical factor in risk for disease and people's ability to access and receive services. Monkeypox services must be designed, implemented and monitored in a way that recognizes and responds to gender-specific needs, gendered barriers to services and gender inequalities in health outcomes.

Supported interventions in this program area include stigma, discrimination and violence reduction activities (in health care and community settings), community empowerment initiatives such as legal literacy, access to justice and advocacy initiatives to reform harmful laws, policies and practices, and work to tackle harmful gender norms that negatively affect risk, service access and health outcomes.

Infection Prevention and Control including Personal Protective Equipment

Rapid identification of suspect cases should be emphasized including screening/triage at health facilities followed by appropriate IPC. Contact and droplet precautions such as gowns, gloves and face masks are warranted for health care workers and others, including those supporting epidemiologic investigations of suspect cases and contacts, when in proximity to suspect or known cases. In addition, respirators are recommended for health care workers. Additional airborne precautions are also recommended for aerosol-generating procedures where applicable.

Supporting IPC, including screening/triage, and oversight and strengthening of IPC programs can greatly help to reduce the likelihood of unnecessary or unprotected health worker exposure. PPE is also effective but less effective than a systems-based approach to safety. A systems-based approach to IPC for monkeypox includes elimination controls (i.e., screening, triage and isolation to prevent exposure); and administrative controls (i.e., ensuring all health workers are trained to recognize and protect themselves from monkeypox exposure through training, supportive supervision and quality assurance/improvement). PPE products supported by the Global Fund include gowns, gloves, eye protection (i.e., goggles or a face shield that covers the front and sides of the face), particulate respirator equipped with N95 filters or higher, surgical masks (for patients) and biosafety cabinets.

Multy-use Diagnostics and Therapeutics

In general, swab samples taken directly from a lesion (rash or growth) are sent to a laboratory with established PCR capacity for endemic pathogens of public health importance where a PCR test is run to screen for Orthopoxvirus (OPXV) and/or confirm monkeypox (MPX) with all results reported to WHO.

Clinical care for monkeypox should be fully optimized to alleviate symptoms, manage complications and prevent long-term sequelae. Patients should be offered fluids and food to maintain adequate nutritional status. Pain management should be optimal. Secondary bacterial infections should be treated as indicated. Specific treatments are under study but not validated yet.

Global Fund financing can be used for the procurement of multi-use diagnostic tools and therapeutics, which meet the Global Fund's QA policies.

Limited Vaccine Service Delivery

The Global Fund does not support vaccination programs. However, Global Fund financing can be used for selected cross-cutting aspects of service delivery, such as non-health products. Mass vaccination for the general population (even in areas reporting outbreaks) is not recommended at this time. However, WHO now recommends preventive vaccination for high-risk groups as well as post-exposure preventive vaccination for contacts.

Public health authorities are encouraged to put in place a robust surveillance and containment strategy to ensure detailed case investigation, contact tracing, monitoring, care, and isolation protocols. This will help identify those populations at highest risk of infection¹¹ and who are top priority for vaccination.

Annex 1: List of interventions and activities that can already be funded under C19RM or HIV, TB and malaria (resilient and sustainable systems for health)

Monkeypox supported interventions	Can be funded under HIV, TB and malaria (RSSH) (refs to HIV, TB and Malaria Modular Framework (2019))	Can be funded under C19RM (refs to C19RM Modular Framework)
Addressing national planning and response management.	RSSH: Policy and planning for national disease control programs (page 19).	Country-level coordination and planning (page 2).
Monkeypox community engagement activities that support involvement of communities in decision-making processes: <ul style="list-style-type: none"> • rapid assessments; • community consultations; • identification of needs; and • community mobilization. 	RSSH: Community Systems strengthening (pages 19 to 21).	Pillar 2: Risk communication and community engagement (page 3).
Surveillance, including early warning, rapid investigation of cases and contact tracing to contain outbreaks.	RSSH: Health Management Information Systems and M&E (pages 10 to 12).	Pillar 3: Surveillance-epidemiological investigation and contact tracing (page 4).
National reference laboratories testing capacity	RSSH: Laboratory systems (pages 21 to 22).	Pillar 5: COVID-19 diagnostics and testing (page 6).

¹¹ WHO recommends the use of primary preventive (pre-exposure) vaccination for individuals at risk of exposure. The group at the highest risk of exposure in the current multi-country outbreak is gay, bisexual or other MSM with multiple sexual partners. Others at risk may include individuals with multiple casual sexual partners, sex workers, health workers at risk of repeated exposure, laboratory personnel working with orthopoxviruses, clinical laboratory and health care personnel performing diagnostic testing for monkeypox and outbreak response team members. Post-exposure preventive vaccination is recommended for close contacts of cases, ideally within four days of first exposure (and up to 14 days in the absence of symptoms).

Monkeypox supported interventions	Can be funded under HIV, TB and malaria (RSSH) (refs to HIV, TB and Malaria Modular Framework (2019))	Can be funded under C19RM (refs to C19RM Modular Framework)
strengthening. For example, training, biosafety (as sample handling will require use of class II biosafety cabinets) and waste management.		
Surge workforce, including field epidemiology training programs and rapid response teams.	RSSH: Human resources for health (pages 14 to 16).	Pillar 3: Surveillance systems (page 5).
Policy development and regulation, strategies, algorithms and test validation.	RSSH: Policy and planning for national disease control programs (page 19).	Pillar 1: National planning and coordination.
MOUs between member states for sample referrals.	RSSH: Laboratory systems (pages 21 to 22).	Pillar 3: Surveillance systems (page 5) and Pillar 5: National laboratories (page 7).
Strengthening sample handling, referral and reporting systems (sample transport and laboratory information systems).	RSSH: Laboratory systems (pages 21 to 22).	Pillar 5: National laboratories (page 7).
Advocacy for development and availability of new IVDs, e.g., rapid antigen and molecular tests.		Pillar 5, 7: Case management, clinical operations and therapeutics.
Select cross-cutting aspects of vaccine service delivery (e.g. vaccine deployment activities but <i>not</i> procurement of vaccines).	N/A	Pillar 10: Systems support contributing to vaccine delivery services.
IPC/PPE: Establishment of screening/triage sites; Strengthening of IPC programs to enable improved systems-based approach to IPC; Gowns, gloves, eye protection (i.e., goggles or a face shield that covers the front and sides of the face), particulate respirator equipped with N95 filters or higher, surgical	Human resources for health policy and governance (page 15).	Pillar 6: infection prevention and control and protection of the health workforce.

Monkeypox supported interventions	Can be funded under HIV, TB and malaria (RSSH) (refs to HIV, TB and Malaria Modular Framework (2019))	Can be funded under C19RM (refs to C19RM Modular Framework)
masks (for patients) and biosafety cabinets.		
<p>Monkeypox stigma and discrimination <i>prevention</i> and <i>reduction</i> activities in the following settings:</p> <ul style="list-style-type: none"> Healthcare settings Individual (including internalized stigma), household and community settings. Communication and information sector (journalists and other media professionals). 	Reducing human rights-related barriers to HIV/TB services/Stigma and discrimination reduction (page 71 to 73).	Respond to human rights and gender related barriers to services /Health and community systems (page 15).
Community-led and monitoring of episodes of stigma, discrimination and other rights violations related to monkeypox.	Reducing human rights-related barriers to HIV/TB services/Stigma and discrimination reduction (page 71 to 73).	COVID-19 CSS: Community-led monitoring/Health and community systems (page 16).
Community-led advocacy and research to support the development/improvement of and sustain access to monkeypox community-based interventions, particularly those targeting key populations.		COVID-19 CSS: Community-led advocacy and research / health and community systems (page 17).
<p>Communication for prevention:</p> <ul style="list-style-type: none"> Targeted information, education and communication activities including social media/web-based communication. Peer-led one-on-one and group communication for prevention section. 	Prevention (page 29 to 49).	Pillar 2: Risk communication and community engagement (page 3).