Mpox Training for Peer Outreach Workers

June 2023
Acknowledgments

This training package has been developed through the

• USAID-funded EpiC project led by FHI 360.

This training event is being sponsored by:

• XXX

This resource is made possible by the generous support of the American people through the United States Agency for International Development (USAID). The contents are the responsibility of the EpiC project and do not necessarily reflect the views of USAID or the United States Government. EpiC is a global cooperative agreement (7200AA19CA00002) led by FHI 360 with core partners Right to Care, Palladium International, and Population Services International (PSI).
Technical resources

The training materials are based on the following resources:

- **Mpxox: Introductory course for African outbreak contexts. OpenWHO, 2020.**
- **Mpxox: Epidemiology, preparedness and response for African outbreak contexts. OpenWHO, 2021.**
- **Laboratory testing for the monkeypox virus: Interim guidance, 23 May 2022, WHO.**
- **Surveillance, case investigation and contact tracing for mpox (monkeypox): Interim guidance, 22 December 2022, WHO.**
Goal of this curriculum

- Enhance capacity of lay workers to support monkeypox (mpox) education, prevention, and screening services, including navigation to testing and clinical services, and contact tracing.
Objectives of this curriculum

By the end of this training, it is expected that participants will be able to:

Describe the evolution, epidemiology, modes of transmission of mpox, as well as testing, treatment, and prevention.
Intended audience

- Peer outreach workers
- Peer navigators
- Any other lay workers involved in the provision of mpox services described in the goal of this curriculum
Training etiquette

• Come prepared to engage in the learning process.
• Be on time.
• Keep an open mind.
• If you bring a laptop or tablet, don’t cause a distraction to others by keyboarding or checking email.
• Leave your cell phone on vibrate or off and in your pocket or handbag.
• Participate; ask questions, speak so everyone in the room can hear you.
• Take notes.
• Return to your workplace prepared to discuss and implement what you learned.
• Provide evaluation feedback about the training experience and how it can be improved.
• During virtual training sessions, keep yourself muted and your video off to reduce background noises and improve internet connectivity. Use the chat box and icons; mute/unmute yourself and use video features as appropriate when interacting with the facilitator(s) and other participants.
Introductions

• Share name, position/role, organization
<table>
<thead>
<tr>
<th>Module</th>
<th>Time</th>
</tr>
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<tbody>
<tr>
<td>OPENING</td>
<td>15 min</td>
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<tr>
<td>1 Background</td>
<td>15 min</td>
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<tr>
<td>2 Epidemiology</td>
<td>15 min</td>
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<td>3 Mode of transmission</td>
<td>15 min</td>
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<td>4 Signs and symptoms</td>
<td>45 min</td>
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<td>5 Diagnosis</td>
<td>30 min</td>
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<td>6 Exposure</td>
<td>30 min</td>
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<td>7 Treatment</td>
<td>20 min</td>
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<td>8 Prevention</td>
<td>20 min</td>
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<td>9 Special considerations</td>
<td>30 min</td>
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<td>10 Infection prevention and control</td>
<td>15 min</td>
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<td>11 Communication and literacy</td>
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<td>12 Surveillance, monitoring, and evaluation</td>
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<td>13 EpiC response (optional)</td>
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<td>CLOSING</td>
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Module 1: Background
Learning objectives

At the end of this module participants will be able to:

• Describe the background and history of mpox

• Define disease classifications

• Explain when, why, and who declared mpox a public health emergency
**Mpox: Background and history**

- Mpox is a virus.
- It can be transmitted between animals and humans (zoonosis) and between humans.
- It is in the same virus family as smallpox, which was fortunately eradicated.

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1958</td>
<td>Identified in laboratory monkeys in Denmark</td>
</tr>
<tr>
<td>1970</td>
<td>Identified in humans in Democratic Republic of Congo</td>
</tr>
<tr>
<td></td>
<td>Endemic in mammals in central and west Africa; cases occurring in humans with varying outbreaks</td>
</tr>
<tr>
<td>1996</td>
<td>Outbreak in DRC related to human-to-human transmission</td>
</tr>
<tr>
<td>2003</td>
<td>Outbreak in United States linked to prairie dogs and a rat from Ghana</td>
</tr>
<tr>
<td>2017-19</td>
<td>Outbreak in Nigeria</td>
</tr>
</tbody>
</table>
What do you know about mpox?

- Group brainstorm
Mpox is endemic in central and west Africa

<table>
<thead>
<tr>
<th>Country</th>
<th>Cumulative confirmed cases, 01Jan22–05Jun23</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benin</td>
<td>3</td>
</tr>
<tr>
<td>Cameroon</td>
<td>29</td>
</tr>
<tr>
<td>Central African Republic</td>
<td>30</td>
</tr>
<tr>
<td>Congo</td>
<td>5</td>
</tr>
<tr>
<td>Democratic Republic of Congo</td>
<td>739</td>
</tr>
<tr>
<td>Ghana</td>
<td>127</td>
</tr>
<tr>
<td>Liberia</td>
<td>13</td>
</tr>
<tr>
<td>Nigeria</td>
<td>842</td>
</tr>
<tr>
<td>Sudan</td>
<td>19</td>
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Mpox outbreak

• Beginning May 13, 2022, a high proportion of mpox cases were reported from countries without previously documented mpox transmission. This was the first time that cases and sustained chains of transmission were reported in countries without direct or immediate epidemiological links to areas of west or central Africa.

• Rapid expansion (especially in countries where cases were never previously reported) was noted in several European countries and North and South America.

• The outbreak was declared a Public Health Emergency of International Concern (PHEIC) by WHO on July 23, 2022.
Module 2: Epidemiology
Learning objectives

At the end of this module participants will be able to:

• Summarize country and global mpox data
• Describe mpox in their country context
The report focuses on laboratory-confirmed cases as defined by WHO working case definition.

Confirmed cases of mpox from 1 Jan 2022, as of 05 Jun 23

Source: 2022-23 Mpx (Monkeypox) Outbreak: Global Trends (shinyapps.io).
**Case profile as of June 2023**

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>96.2%</td>
<td>Of cases with available data are male, the median age is 34 years</td>
</tr>
<tr>
<td>51.9%</td>
<td>Of those with known HIV status were HIV positive*</td>
</tr>
<tr>
<td>82.0%</td>
<td>Of all types of transmission were through sexual encounter</td>
</tr>
<tr>
<td>84.1%</td>
<td>Identified as men who have sex with men (MSM)</td>
</tr>
<tr>
<td>7.8%</td>
<td>Of MSM identified as bisexual men</td>
</tr>
<tr>
<td>1,234</td>
<td>Of all settings in which cases were likely exposed, the most common was in party setting with sexual contacts</td>
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</table>

*Note that information on HIV status is not available for most cases, and for those for which it is available, it is likely to be skewed towards those reporting positive HIV results.*

Country context

- Describe what is known about mpox in your country, including the response from the government and other relevant agencies.
Knowledge check

1. Which regions have the highest and lowest number of confirmed cases per the latest data presented?

2. What is the sex at birth and median age of most of the reported cases of mpox?

3. Are most of the mpox cases from a specific key population category? If so, which one?

4. How can you reduce stigma associated with mpox and key populations?

5. What proportion of individuals with mpox are HIV positive?

6. What is the mode of transmission among most of the mpox cases?
Q&A
Module 3: Modes of transmission
Learning objectives

At the end of this module participants will be able to:

• List the animals associated with mpox
• Describe how mpox infection is transmitted from animals to humans and from humans to humans
• Describe the main environmental and social factors for mpox emergence
• Refer to the modes of transmission when screening for mpox infection
Animals associated with mpox

- Mpox is a zoonotic disease because it can be transmitted from animals to humans.
- Mpox is named due to its initial detection in monkeys.
- Most recently, mpox is primarily found in rodents.
- WHO recommends avoiding rodents in endemic countries (western and central Africa).

Primary and secondary infection

Primary infection
Animal → human
- Contact with infected animals
- Contact with contaminated animal products

Secondary infection
human → human
- Contact with infected people
- Mother to fetus

Environmental and social factors

Deforestation  Civil unrest and poverty  Climate change  Cessation of smallpox vaccination

Transmission

Unprotected contact with:
• Respiratory droplets
• Lesion material
• Body fluids
• Contaminated materials and surfaces

The virus can enter through:
• Respiratory tract
• Mucous membranes (eyes and mouth)
• Broken skin (e.g., animal bites)
Transmission via intimate contact

- Oral, anal, and vaginal sex or touching the genitals (penis, testicles, labia, and vagina) or anus (butthole) of a person with mpox
- Hugging, massage, and kissing
- Prolonged face-to-face contact
- Touching fabrics and objects during sex that were used by a person with mpox and that have not been disinfected, such as bedding, towels, fetish gear, and sex toys
- From an infected pregnant mother to the fetus through the placenta
- From infected animals, either by being scratched or bitten by the animal or by preparing or eating meat or using products from an infected animal
Can mpox be transmitted through sexual activity?

- Mpox can be spread through oral, anal, and vaginal sex.
- In the past, mpox outbreaks have been linked to direct exposure to infected animals and animal products, with limited person-to-person spread.
- In the current mpox outbreak, the virus is spreading primarily through close personal contact from human to human.
- This may include contact with infectious lesions or respiratory secretions via close, sustained skin-to-skin contact that occurs during sex.
- However, any close, sustained skin-to-skin contact with someone who has mpox can spread the virus. The contact does not have to be exclusively intimate or sexual.

Can mpox spread through water in pools, hot tubs, or splash pads?

- No studies have found a clear link between mpox and water in pools, bathtubs, hot tubs, or splash pads; so, sharing waters carries low to no risk.

- The mpox virus is killed in water at the specific chlorine levels recommended for disinfection in recreational water, but not all public water sites may adhere to this recommended level.

- However, it is possible to spread mpox to others through close, skin-to-skin contact. It can also be spread by sharing objects that a person with mpox used, such as towels, kickboards, pool toys, or clothing.

Could my pet get mpox?

• Mpox is zoonotic, meaning it can spread between animals and people.

• However, Centers for Disease Control and Prevention (CDC) does not currently believe that mpox poses a high risk to pets.

• We are continuing to monitor the situation closely.

Knowledge check

1. In which animals is mpox found?

2. How can mpox be spread from animals to humans? …and between humans?

3. Can mpox be transmitted through sexual activity?
Module 4: Signs and Symptoms
Learning objectives

At the end of this module participants will be able to:

• Describe the incubation period of mpox infection
• Describe the factors influencing the course of mpox
• Recognize the signs and symptoms of mpox infection and clinical progression
• Account for the atypical or uncommon manifestations
• Name other infections that mpox resembles
• Offer skin care recommendations to clients with mpox infection
Incubation period is 5–21 days. During this time, a person does not have symptoms and may feel fine. The illness typically lasts 2–4 weeks.

Duration of the infectious period is until the skin lesions dry up, become crusts, and fall off; or lesions have disappeared.

**Incubation period**

- No symptoms

**Febrile stage**

- Fever, lymphadenopathy, headache, chills, sore throat, malaise, fatigue.

**Rash stage**

- Rash on the skin

**Recovery**

- No symptoms

Factors influencing the course of mpox

• Severity depends upon health of individuals and route of exposure

• Infection without symptoms can occur

• Risk factors for severe illness
  – Children
  – Immunodeficiency (e.g., HIV)
  – Congo basin variant

• Protective factors: prior smallpox vaccination
Symptomatology

• West African variant/clade 1 is associated with milder disease and fewer deaths, compared to variant/clade 2.

• Most cases in current outbreaks presented with mild disease symptoms.

• Mpox virus may cause severe disease in certain population groups; diagnosis of severe mpox virus should prompt clinicians to perform HIV testing.

• Most common symptom is rash: an eruption on the body.
Signs and symptoms

• Most cases in current outbreaks presented with mild signs or symptoms
• Most common sign is a rash that evolves into lesions
• Other symptoms:
  – Fever, chills, enlarged lymph nodes, exhaustion, muscle aches and backache, headache
  – Respiratory symptoms
• An individual may experience all or only a few symptoms.
• Sometimes, people have flu-like symptoms before the rash, others get a rash first and then other symptoms.
• If someone displays these symptoms, or has contact with an mpox case, they should be referred for a mpox test.

Rash and lesion progression

Skin and soft tissue lesions
Skin rash of the torso, back, and buttocks

- 36-year-old man
- HIV positive
- Undetectable viral load
- On antiretroviral therapy (ART)
- CD4 count >400 cells/μL
- Rapidly progressive rash soon after developing perianal blisters

• Syphilis positive
• HIV negative
• Panels A and B show widely spaced pimples and blisters of the skin on the chest that were present 2 days before going to the hospital.
• The lesions measure 2 mm in diameter, are filled with clear fluid, and have surrounding redness.
• Panel C shows a lesion on the right palm that was present at the time of admission.
• Panel D shows a pimple and blisters of the skin on the left second finger, which was one of the last skin lesions to develop, about 2 weeks after the start of symptoms.

Oral lesions
Oral and perioral lesions

- **a:** Perioral lesions
- **b:** Perioral blisters on day 8
- **c:** Ulcer on the left corner of the mouth on day 7
- **d:** Tongue ulcer
- **e:** Tongue lesion on day 5
- **f, g, h:** Pharyngeal lesions on day 0, 3, and 21, respectively

Lesions in HIV infection
Lesions in people living with HIV:

A. Small pimple (chest)
B. Large pimple (leg)
C. Swelling pimple (white center, hand)
D. Swelling pimple (black center, neck)
E. Ulcer (anus)
F. Scar (forehead)

Distribution of lesions in PLHIV

(F) Abdomen, genital area, and thighs

(G) Abdomen, genital area, and thighs

Penile lesions
Progression of penile lesions

- 40-year-old man
- HIV positive
- Undetectable viral load
- On ART
- CD4 count >500 cells/μL

Multiple lesions progressed to merge into a large ulcer

Perianal, anal, and rectal lesions
Perianal raised spots evolving into large ulcerative lesion (8 days)

- All individuals screened for mpox virus were symptomatic and presented with typical skin lesions, either pimples or swellings of the skin with a central depression, fluid-filled blisters, ulcerations, or scars.
- However, clinical presentation varied greatly according to the stages of mpox infection at the time of testing.

Penile lesions merging into large ulceration (8 days)

Lesions in children
Skin lesion in infants

- Skin lesions on the hands and feet of an infant
- Visible lesions range from blisters to pimples; and lesions that were beginning to form scabs
- Photographs were obtained on day 5 after the onset of rash


Rash resolved

• Pitted scars and/or areas of lighter or darker skin may remain after scabs have fallen off.

• After all scabs have fallen off and a fresh layer of skin has formed, a person is no longer contagious.
Skin care: What do you think should be done?

Wash skin with a mild soap and water. To avoid potential transmission, ask patients not to share towels, bath linens, or clothing with others.

Monkeypox lesions are considered infectious until they have healed; scabs have fallen off, and a fresh layer of intact skin has formed. Therefore, all rashes should be covered to the extent possible (for example, by wearing long sleeves and long pants).

Keep affected sites and individual lesions covered. In general, all lesions of monkeypox are considered infectious (capable of transmitting infection) through contact, and it is advisable to keep affected sites and individual lesions covered.

Antiseptics or antibacterial agents are only required if there is concern for bacterial infection.

If the lesion becomes infected, patients should contact the health care provider immediately.

Skin care: What do you think should be done?

**After lesions have healed**
If there is concern for scarring, silicone-based gels or sheeting may be used.

**Sun protection**
(broad spectrum SPF 30 or higher)
should also be emphasized for several months after lesion resolution to avoid hyper- or hypopigmentation of lesions or scars.

**No scratching**
Individuals with monkeypox lesions should be instructed not to scratch or unroof lesions or scabs, which may lead to secondary infection. Dermatologists should suggest keeping fingernails short to avoid unintentional scratching.

**To help soothe skin, baths may be taken.**
Alternatively, sitz baths and warm or cool compresses may help in soothing lesions in the anogenital region.

Knowledge check
1. How long is the incubation period of mpox infection?
2. How long does the illness typically last?
3. What are the stages of the mpox infection?
4. What are the signs and symptoms of mpox infection?
5. What are the stages of the rash progression?
6. Can mpox infection present through oral, genital, anorectal lesions?
7. Can mpox infection present in newborn, infants, and children?
8. What are the atypical or uncommon manifestations of mpox infection?
9. When is a person considered no longer contagious?
10. What are the key differences between mpox, chickenpox, and smallpox?
Q&A
Module 5: Diagnosis
Learning objectives

At the end of this module participants will be able to:

• Identify the correct test for the diagnosis of mpox infection
• Describe how to collect the specimen for mpox test
Diagnostic test

• Any individual suspected for mpox should be offered testing

• Confirmation of mpox virus infection is done by measuring the presence of mpox virus
Diagnostic test overview

- **Incubation period (5-21 days)**: No testing
- **Febrile stage (1-4 days)**: Tonsillar and nasopharyngeal swabs:
  - PCR
- **Rash stage (2-4 weeks)**: Lesion samples:
  - PCR
  - Antigen detection methods
- **Recovery (Days to weeks)**: Serum:
  - Antibody detection methods

Source: Mpox: Epidemiology, preparedness and response for African outbreak contexts. OpenWHO, 2021
How are specimens collected

- Skin lesions
  - Sanitize lesions
  - Remove lesion roof
  - Brush lesion base
  - Put swab in container
  - Put roof in container

- Crusts
  - Sanitize lesions
  - Remove crusts
  - Put crust in container

Source: Mpx: Epidemiology, preparedness and response for African outbreak contexts. OpenWHO, 2021
How are specimens collected?

- Serum
- Oral – nasopharyngeal

Source: Mpx: Epidemiology, preparedness and response for African outbreak contexts. OpenWHO, 2021
Let’s practice!
Role play

• Setting: hot spot in the community

• Participant: peer outreach worker/community worker

• Client: reports sexual contact with mpox case, but does not want to test due to fears about the testing procedures

• How will the peer outreach worker/community worker explain the testing procedures?
Knowledge check

1. What type of test is used to confirm mpox infection?
2. What type of specimens are collected?
3. How are specimens collected?
Module 6: Exposure
Module 6.1: Occupational exposure/Exposure through work
Learning objectives

At the end of this module participants will be able to:

• Define occupational exposure
• Describe who is defined as occupationally exposed
• Summarize how to manage occupational exposure
How is occupational exposure defined?

- Exposure while performing a job (occupation)
- **Needlestick injuries** with a suspected or confirmed case of mpox
- **Not wearing appropriate personal protective equipment** when in contact with a suspected or confirmed case of mpox
Who could be occupationally exposed?

- Health care providers
- Case managers, personal care workers, healers and practitioners of traditional medicine
- Health management and support workers
- Social workers, peer outreach workers, community workers
- Other occupational groups who work in acute care facilities and long-term care or community-based care
What to do if you are exposed

- Monitor your symptoms (rash)
- Isolate if you have symptoms
- Seek testing and clinical care
Knowledge check

1. How is occupational exposure defined?
2. Who could be occupationally exposed?
3. What should you do if you are exposed?
Q&A
Module 6.2: Contact tracing
Learning objectives

At the end of this module participants will be able to:

• Present contact tracing key principles
• Recognize and categorize contacts by level of risk
• Elicit all contacts and fill in contact elicitation form
• Anticipate contact tracing challenges and implement solutions
• Work with the contact tracing team to reach and manage contacts
Contact tracing: Key principles

- Contact tracing is a key public health measure to control many diseases, including mpox.
- Helps interrupt transmission and identify new cases.
- Cases should be interviewed to elicit contacts and venues.
- Contact tracing should be initiated ASAP.
- Contacts should be notified within 24 hours of identification.
- If case is discarded/not an mpox case, contact tracing may be stopped.
Contact definition

- A contact is defined as a person who has been exposed to an infected person.
- Contact is defined as:
  - Direct skin-to-skin physical contact (such as touching, hugging, kissing, intimate or sexual contact)
  - Contact with contaminated materials such as clothing or bedding, including material dislodged from bedding or surfaces during handling of laundry or cleaning of contaminated rooms
  - Prolonged face-to-face respiratory exposure in close proximity
  - Respiratory exposure (i.e., possible inhalation of) or eye mucosal exposure to lesion material (e.g., scabs/crusts) from an infected person
Contact tracing

List all contacts, recording:

- **Demographic** information
- **Date of contact** with a suspected or confirmed case
- **Type of exposure**
- **Date of onset** of fever or other early warning signs or rash

Monitor closely for **21 days**.

Source: Mpox: Epidemiology, preparedness and response for African outbreak contexts. OpenWHO, 2021
Brainstorming

• How would you obtain a history of sexual contacts (sexual history) in a culturally appropriate manner?

• How might contact tracing for mpox be different than for HIV?
What are the contexts in which contact might have taken place?

- Cases can be prompted to identify contacts across several contexts, including:
  - Household
  - Workplace
  - School/nursery
  - Sexual contacts
  - Health care (including laboratory exposure)
  - Houses of worship
  - Transportation
  - Sports
  - Bars/restaurants
  - Social gatherings
  - Festivals
  - Other recalled interactions

- Attendance lists, passenger manifests, etc. can be used to identify contacts.
Contact tracing within the community

- Organizers of events or managers of venues or community settings from which mpox cases have been identified may also be involved in contact notification.

- If a confirmed mpox case reports having attended an event or a venue where close physical contact took place during the infectious period but is unable to identify all possible contacts, public health authorities can liaise with the event organizers to send a general notification to all participants about the potential risk of exposure.

- In this case, all relevant information about mpox, including referral to health care, needs to be provided together with the notification.

- Party
- Festival
- Club
- Saunas
- Bathhouses
- Personal service settings such as tattoo parlors, where physical contact, including sex, among participants occurs
Travel-related contact tracing

- Public health officials should work with transportation authorities, travel operators, and public health counterparts to assess potential risk of exposure and to identify contacts (passengers and others) who may have had exposure to a case while travelling.

- If a probable or confirmed case is reported in a long-distance travel conveyance (e.g., 6-plus hours), travelers seated in the same row, two rows in front, and two rows behind the sick traveler, as well as the cabin crew who served the case, can be considered contacts.

- Any passenger or crew team member who did not report physical contact with a symptomatic case and was wearing PPE such as face mask for COVID-19 should not be considered an mpox contact.

- More specific evaluations for each scenario need to be assessed on a case-by-case basis by national and local health authorities.
Brainstorming: Challenges and solutions

• In your setting, how feasible is tracing contacts within the community (e.g., transports, churches, bars, restaurants, festivals)? What solutions would you consider?

• What will be the bottlenecks/jams in reaching sexual contacts? What solutions would you consider?
Contact tracing challenges

- Multiple anonymous sexual contacts
- Limited human resources for contact tracing
- Lack of experienced personnel in contact tracing
- Timeliness of contact tracing
- Stigma associated with mpox and MSM and sex practices (sex between men, group sex, sexualized drug use, sex in commercial venues)
- Varying level of trust in public health authorities
Solutions menu (1)

- Trace as many contacts as possible within 3 weeks for the strategy of isolation and tracing of contacts to contribute to reducing transmission.
- Conduct case and contact interviews to identify risk factors and settings for targeted public health interventions.
- Train workforce in contact tracing.
- Collaborate with STI staff, who have experience on sexual health issues and have been trained on partner notification, to carry out contact tracing activities.
- Prioritize sexual contacts; contacts at higher risk of severe disease, household contacts, and providers who have experienced high risk occupational exposure.
Solutions menu (2)

- Engage community-based organizations to help design solutions that integrate community perspectives to build understanding and acceptance of the strategy.
- Conduct risk communication activities targeting those groups with anonymous sexual contacts.
- Collaborate with civil society organizations and trusted community-based organizations to mitigate stigma.
- Use respectful and inclusive language that does not link disease transmission to sexual orientation or sexual practices.
Contact tracing procedures: Reaching contacts

Explain to person with mpox that the contacts can be reached through different modalities:

- **Directly by the case**, who can decide to inform or not to inform the contact about their clinical condition and refer the contact to the screening site *(patient referral)*.

- **Directly by the provider**, who based on the case’s consent, can inform *(provider referral)* or not the contact *(anonymous notification)* about the case’s clinical condition and offer screening to the contact.
Contact tracing procedures: Tools

- **Patient referral**: The person with mpox can be given a referral letter and/or written information or videos or internet links about mpox contact tracing to share with contacts.

- **Provider referral**: The provider can use written information or videos or internet links about mpox contact tracing to share with the contacts.

- **Anonymous notification**: Contacts can be reached through App, anonymous SMS and/or email, and/or social media-based messages.
Contact tracing procedures: Screening venues

• Health facility

• Community
  – Community center or drop-in center
  – Community venue, e.g., school, local government authorities’ office
  – Home
  – Any other community venue that meets safety and privacy standards
Contact tracing procedures: Infection prevention and control (IPC)

• Screening should be conducted maintaining a distance of at least 1 meter from patients and using a “no touch” approach.

• Where these measures cannot be implemented or maintained, the provider should conduct a risk assessment to determine the level of PPE required according to the IPC recommendations in the context of mpox.

• Providers performing screening should follow the WHO Your 5 Moments for Hand Hygiene.
Contact tracing procedures: Screening

• Clinical examination
• Questioning about possible exposure, even when the case has disclosed to the contact
• Questioning about the presence of similar illnesses in the contact’s community
• Safe collection and dispatch of specimens for mpox laboratory examination
Contacts clinical monitoring

- Monitoring **daily for a period of 21 days from last contact** for signs and symptoms of concern → headache, fever, chills, sore throat, malaise, fatigue, rash, and lymphadenopathy.
- Contacts should monitor their **temperature twice daily**.
Assess risk of other infections

- History of STI within last 12 months
- Number of sexual partners within last 3 months
- Type of sexual contacts, e.g., new, occasional, established
- HIV status, ART/pre-exposure prophylaxis (PrEP) use
- Use of App to meet new partners
- Attending sex venues
- Having sex with men only or both men and women
**Contact tracing management**

- **Peer outreach team** and health care providers, case managers create awareness within the community and health facilities respectively.
- Health care providers and case managers develop the list of suspect, probable, and confirmed cases and facilitate contacts’ elicitation; document contacts into the contacts listing form.
- Case manager distributes the list of contacts and the list of venue managers to be reached directly by the contact tracing team.
- Contact tracing team reaches out to the contacts.
- Contact tracing team collects swabs from the contacts, preferably at the contact’s home.
- Contact tracing team transports the samples to the laboratory.
- Contact tracing team daily monitors the contacts through virtual and/or in-person channels.
- Contact manager follows up on the laboratory test results and distributes to the contact tracing team.
- Contact tracing team informs the contacts about the laboratory test result and continues monitoring; documenting contact follow-up in the contact monitoring form.
- Contact tracing team informs the case manager about contact’s outcome, upon end of the contact’s monitoring.

**Contact Tracing Team** includes:
- Peer outreach worker
- Health care provider (e.g., nurse)
Knowledge check

1. Why is contact tracing a public health measure to control spreading of mpox?
2. What is the contact definition?
3. What are the contact tracing challenges and solutions?
4. How can contacts be reached?
5. What are the screening venues?
6. How are contacts clinically monitored?
Module 7: Treatment
Module 7.1: Treatment categories for mpox
Learning objectives

At the end of this module participants will be able to:

• Describe the key treatment categories for mpox
• Describe when the key treatment categories for mpox are used
• Identify clients that need to be navigated to health care service for additional treatment
Treatment categories

- Symptomatic care
- Antimicrobial therapy
- Antivirals
What symptomatic care can you support?

- Paracetamol for fever and pain
- Emotional and psychosocial support for anxiety
- If the client has very high fever, severe pain, nausea, vomiting, difficulty swallowing, diarrhea → navigate to health care service
Antimicrobial therapy

• This is for treatment of superinfection of an mpox virus lesion.
Antivirals

- No treatment approved specifically for mpox.
- Most people recover fully within 2 to 4 weeks without the need for medical treatment.
- Antivirals are mostly reserved for SEVERE cases.

Knowledge check

1. What are the main medications used for symptomatic care and for what symptoms?

2. When is antimicrobial therapy indicated?

3. For what type of cases are antivirals used?
Q&A
Module 7.2: Complications and severe mpox
Learning objectives

At the end of this module participants will be able to:

• Recognize the danger signs and complications of mpox
• Differentiate between less and more common complications
Complications of mpox

The course of the illness depends on overall health status.

- Bacterial infections of eye or skin
- Diarrhea and vomiting leading to dehydration
- Swollen area containing pus with airways obstructions
- Inflammation/infection of the lungs
- Inflammation of the brain
- Harmful microorganisms in the blood
Danger signs

• Loss of vision
• Delirium, loss of consciousness, convulsions (sudden, violent, irregular movement of the body)
• Increase in the number of breaths per minute; trouble breathing
• Bleeding, inability to urinate
• Signs of sepsis: fever, chills, fast breathing and heart rate, mental confusion, difficulty breathing

IMMEDIATE REFERRAL TO EMERGENCY CARE
More common complications

- Painful rash (eruption on the body)
- Proctitis/tenesmus (inflammation of the rectum/persistent need to evacuate bowels)
- Secondary skin infections
- Pharyngitis (inflammation of the throat)
Less common complications

- Inflammation of the brain
- Inflammation of the lungs
- Inflammation of the eyes
- Inflammation of the heart
- Bacterial infections
- Pregnancy loss
- Death
Knowledge check

1. What are the more common complications?
2. What are the less common complications?
3. What are the danger signs and what is supposed to be done in such situations?
Q&A
Module 8: Prevention
Learning objectives

At the end of this module participants will be able to:

• Explain the ways to prevent mpox

• Describe how to offer primary preventive vaccination to the eligible clients

• Describe how to offer post-exposure preventive vaccination to the eligible clients

• Describe how to offer the correct vaccination to special population groups
Vaccination strategy

• Mass vaccination is not required nor recommended for mpox at this time.

• Public health measures: use of personal protective equipment (PPE) for caregivers, good hand hygiene, and isolation and supportive care of case patients for the duration of the infectious period.

• Primary preventive vaccines and post-exposure preventive vaccines are recommended for selected groups.

• Broader use of vaccines for persons at risk may be warranted if justified by the evidence.
Primary preventive (pre-exposure) vaccination (PPV)

For individuals at high-risk of exposure:

- Individuals (but not limited to those) who self-identify as gay or bisexual, or other men who have sex with men (MSM), or other individuals with multiple sexual partners

- Health workers at high risk of exposure, laboratory personnel working with orthopoxviruses, clinical laboratory personnel performing diagnostic testing for mpox, outbreak response team members (as designated by national public health authorities)
Post-exposure preventive vaccination (PEPV)

- For **close contacts** of cases, PEPV with an appropriate second- or third-generation vaccine is recommended prior to onset of any symptoms, ideally **within four days** of first exposure (and up to 14 days in the absence of symptoms), to prevent onset of disease or mitigate disease severity.
Can PPV be followed by PEPV…?

• Persons who have completed PPV who become exposed (contacts) are not recommended to receive PEPV but should monitor for any symptoms up to 21 days after the last exposure.
Knowledge check

1. What are the ways to prevent mpox?
2. Is mass vaccination recommended?
3. For whom are primary preventive vaccines recommended?
4. For whom are post-exposure preventive vaccines recommended?
Module 9: Special Considerations
Learning objectives

At the end of this module participants will be able to:

• Describe how care is managed for people living with HIV who are infected with mpox

• Describe how care is managed for pregnant women who are infected with mpox

• Describe how care is managed for children who are infected with mpox
Mpxox and key populations

- Anyone can get and spread mpxox (regardless of sexual orientation or gender identity).
- However, current outbreak is primarily among men who identify as gay, bisexual, and other men who have sex with men.
- Current cases have atypical features.
- May be confused with STIs or other conditions (e.g., herpes and syphilis); however, diagnosis of an STI does not exclude mpxox as a concurrent infection may be present, particularly anogenital lesions.
- The key population community must not be stigmatized and must be well educated about how to protect themselves, including ensuring rapid access to vaccination.
Monkeypox and HIV: True or false?

• About half of the people with mpox whose status is known are HIV positive.  **TRUE**

• HIV status is linked with mpox severity.  **FALSE**

• Among HIV-negative men with mpox, a majority were on PrEP.  **TRUE**

• It has been confirmed that PLHIV are at greater risk of acquiring mpox or experiencing more severe cases.  **FALSE**

• Non-virally suppressed PLHIV may be at increased risk.  **TRUE**
<table>
<thead>
<tr>
<th>Statement</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mpox in PLHIV may present as an atypical rash.</td>
<td>TRUE</td>
</tr>
<tr>
<td>PLHIV who contract mpox should not begin or re-initiate ART.</td>
<td>FALSE</td>
</tr>
<tr>
<td>If a person is diagnosed with both mpox and HIV at the same time, address the most urgent issues and provide treatment for mpox.</td>
<td>TRUE</td>
</tr>
<tr>
<td>Most of the commonly used HIV medications are considered safe for people on mpox treatment.</td>
<td>TRUE</td>
</tr>
<tr>
<td>To protect themselves from mpox, persons without HIV infection should not follow the same guidance as those with HIV.</td>
<td>FALSE</td>
</tr>
</tbody>
</table>
Monkeypox and HIV: True or false?

• HIV and STI testing should be offered when mpox is suspected or diagnosed.  **TRUE**

• People taking PrEP for HIV prevention should not continue PrEP if diagnosed with mpox.  **FALSE**
Monkeypox in women during and after pregnancy

- Pregnant or recently pregnant women with mild or uncomplicated monkeypox may not require acute care in hospital.

- Those with severe or complicated disease should be admitted to improve maternal and fetal survival.

- Pregnant and recently pregnant women who recovered from monkeypox should receive routine antenatal, postpartum, or abortion care, as appropriate.

- For a mother with monkeypox inducing labor, providing a C-section or stopping breastfeeding should take into consideration the general physical status of the mother and the severity of disease.
Monkeppox in young children

• Newborn infants of mothers with mpox should be monitored closely for evidence of potential congenital or perinatal exposure or infection.

• Mothers and infants or young children can also be exposed through close contact.

• Children exposed to mpox should be fully vaccinated for age according to the routine national immunization schedule and have their vaccinations up to date, when possible.
Knowledge check

1. Are non-virally suppressed PLHIV at increased risk?
2. Can mpox in PLHIV present as an atypical rash?
3. Should PLHIV who contract mpox begin or re-initiate ART?
4. Are most of the HIV medications safe for people on mpox treatment?
5. Should people taking PrEP continue it?
6. Is inducing labor, providing a caesarean section, or stopping breastfeeding recommended for pregnant women with mpox infection?
7. Could newborn infants of mothers with mpox have congenital or perinatal exposure or infection?
8. What should mpox-exposed children receive?
Module 10: Infection Prevention and Control (IPC)
Learning objectives

At the end of this module participants will be able to describe how to:

• Comply with infection risk hygiene and cough etiquette
• Describe the steps for injection and medication safety
• Implement cleaning and disinfection measures
• Explain appropriate waste management
• Correctly isolate mpox cases
• Counsel cases and contacts on infection control and prevention measures and home isolation
Standard precautions

• Conduct risk assessment
• Practice hand hygiene
• Practice respiratory hygiene and cough etiquette
• Use personal protective equipment (PPE)
• Follow cleaning and disinfection procedures
• Ensure proper waste management
Respiratory hygiene and cough etiquette

- Ask patients to cover mouth and nose with a mask, tissue, or elbow when coughing or sneezing.
- Dispose of used tissues and masks in waste container.
- Clean hands after contact with respiratory secretions.
- Wear a medical mask.
- Stay at least 1 meter from the patient.
Personal protective equipment (PPE)

- Disposable gown
- Face shield or goggles
- Disposable mask
- Disposable gloves
- Closed footwear
Waste management
Isolation of patients

Why?

To minimize risk of transmission

How?

With the use of physical barriers + keeping a distance of at least 1 m at all times

How long?

until new layer of healthy skin has formed
Home isolation

Limit contact with other household members; sleep in separate room.

Do not touch the rash or scabs of a person with mpox.

Avoid kissing, hugging, cuddling, intimate or sexual contacts.

Wash your hands often with soap and water or use an alcohol-based hand sanitizer, especially before eating or touching your face and after using bathroom.

Avoid close contacts with newborns, infants, young children, pregnant women, those with impaired immune system.

Avoid contact with objects and materials that a person with mpox has used.

Do not share bedding, towels, wash cloths, toothbrushes, razors.

Do not share food, drinks, cups, utensils, dishes.

Avoid visitors at home.

Leave the house only if emergency; postpone non-essential medical or dental care.
Knowledge check

1. What is the respiratory hygiene and cough etiquette?
2. What PPE is required?
3. How should a patient be isolated?
4. Why is hand hygiene important?
5. What are the key recommendations for mpox cases and contacts?
6. What are the measures for home isolation?
Q&A
Module 11: Communication and Literacy
Learning objectives

At the end of this module participants will be able to:

• Describe the general communication considerations and challenges when offering education and counseling about mpox infection

• Use the appropriate informational material when offering education and counseling about mpox infection
General communication considerations

- Awareness raising among the general population is needed.
- Focus on routes of transmission (close contact, e.g., sex) without emphasizing who is most affected.
- Risk communication must be non-stigmatizing (toward affected populations and mpox) and actionable.
- Trusted communicators and channels will be key to acceptance of preventive measures.
- Media engagement is critical to combating myths and misconceptions and avoiding stigmatization.
Risk communication challenges

• Most media coverage is focused on who is affected by mpox not how it is transmitted

• Myths and misinformation are spreading (e.g., mpox is linked to COVID-19 vaccination)

• New disease (for most) that is being defined by early media reports and myths and misinformation

• Stigmatization has slowed risk communication response in many countries
Group activity: Myths and messaging

• In one large group or several small groups, brainstorm the common myths and misinformation about mpox.

• In response to each myth, prepare an accurate and appropriate message in response.
Guidelines for reducing stigma and discrimination

Source: WHO. Risk communication and community engagement public health advice on understanding, preventing and addressing stigma and discrimination related to monkeypox. Geneva: WHO; 2022
Communication to general population

• Emphasize mpox is not a disease linked to sexual orientation.

• Repeat accurate information (over and over) to combat emerging rumors; stay “top of mind” for audiences, especially in social media feeds.

• Stress vaccination is not the only preventive measure – diagnostic testing for contact tracing and other behavioral changes (e.g., infection prevention and control, limit sexual partners) are also important.

• Train media to provide accurate information and address stigmatizing language.
Key approaches for affected populations

- Work with community representatives to design and adapt messaging and activities with specific audiences.
- Use community-led interventions deployed through trusted networks and platforms.
- Integrate mpox prevention and social behavior change into familiar sexual health programs (e.g., HIV prevention, HIV/STI testing, etc.).
- Consider “place-based” interventions (e.g., bars, clubs, saunas, etc.).
- Train providers, contact tracers, and others to help them identify stigmatizing behavior (and avoid it).
Considerations for stakeholders

- Guidance on messaging for men who have sex with men and other vulnerable populations, and health care providers
- Training and capacity building for health care providers
- Adapt QuickRes (ORA) for tracking results of demand-creation activities and linkage to services for clients
- Support countries to build teams to conduct case and contact investigations
Considerations for program managers

- Transmissions
- Signs and symptoms
- Key populations’ risk
- Mpox and HIV
- Treatment and vaccine
- Prevention
Considerations for community-based organizations

- What is mpox
- Who can get it
- How does it spread
- What are the symptoms
- How to protect yourself and others
Considerations for providers

- What is mpox
- How is it spread
- What are the symptoms
- Complications
- Differential diagnosis
- When to suspect a case
- How to educate the community
- What to do when encountering a suspect case
What community members need to know

**MONKEYPOX: WHAT YOU NEED TO KNOW**

**An outbreak of monkeypox is occurring in many countries:**
- WHO has declared a public health emergency of international concern.
- Monkeypox is prevalent. Most people recover fully, but some people can get seriously ill.
- Symptoms can be uncomfortable and painful.
- While monkeypox can affect anyone, most cases in this outbreak are among men who have sex with men.
- What we know about the outbreak is changing fast – we are learning more every day.

**Symptoms of monkeypox often include:**
- Rash on face, hands, feet, body, peranal area or genitals
- Rash in mouth, throat, eyes, anus and anus
- Fever
- Swollen lymph nodes
- Headaches
- Muscle and back aches
- Low energy
- Painful swelling inside your rectum (proctitis)
- Pain or difficulty when urinating

**You can catch monkeypox through close contact with someone who has symptoms including:**
- Skin-to-skin (e.g., touching, anal and vaginal sex)
- Face-to-face (e.g., talking, singing, breathing)
- Mouth-to-mouth (e.g., oral sex)
- Mouth-to-mouth (e.g., kissing)
- From contaminated bedding, towels, clothing, surfaces or objects

**Protect yourself from monkeypox:**
- If someone you know is diagnosed with or has suspected monkeypox, avoid close contact with them.
- Know the symptoms and check yourself regularly.
- If you have symptoms, seek health advice and self-isolate while you wait to get tested.
- Get vaccinated if it is available to you.
- Follow advice to reduce the risk of infection.

**If you think you have monkeypox:**
- Get advice from a health worker.
- Get tested.
- Isolate at home if your health worker recommends you do so.
- Take care of your rash, physical, and mental health.
- Protect others by avoiding close contact with them.
- If you are sharing a household with others who will be isolating, stay in separate rooms, frequently clean hands, clean and disinfect objects and surfaces often and open windows.
- Avoid contact with your pets.

**Monkeypox can spread through sex:**
- People who have sex with multiple or new partners are at risk.
- Check yourself regularly for symptoms and ask partners to do the same.
- If monkeypox is impacting your community you can reduce your risk by reducing your number of sexual partners, waiting for a while before having sex with any new partners or taking a break from sex.
- Have open, non-judgmental conversations, base contact details with sexual partners and agree to let each other know if you develop symptoms.
- Condoms will prevent some STIs. They may also reduce your risk of exposure to monkeypox, but they will not prevent you becoming infected through close physical contact.

What sex workers need to know

• Know the symptoms and check yourself regularly; ask sexual partners to do the same.

• Reduce your risk by reducing your number of sexual partners, waiting for a while before having sex with any new partners, or taking a break from sex.

• Have open, nonjudgmental conversations. Swap contact details with new sexual partners and agree to let each other know if you develop symptoms.

• Condoms will prevent some STIs. They may also reduce your risk of exposure to mpox, and could help reduce painful symptoms should you become infected, but they will not prevent you becoming infected through close physical contact.

• If someone you know is diagnosed with or has suspected mpox, avoid close contact with them, including sexual contact.

• If you develop symptoms seek health advice. You will be offered testing. Self-isolate while you wait for a test.

• If someone you know is diagnosed with or has suspected mpox, avoid close contact with them. Clean and disinfect environments that could have been contaminated with the virus from someone who is infectious.

• Stay informed about mpox in your area.

• Get vaccinated if it is available to you. If you've had a vaccine, be aware that full protection can take some weeks – avoiding sex during this period is a good idea.

• Combat misinformation by sharing only reliable, evidence-based and nonstigmatizing information from trustworthy sources.

Source: WHO [Internet]. Public health advice on protecting yourself and others from mpox (monkeypox); AND Public advice for men who have sex with men on preventing mpox (monkeypox). Geneva: WHO [updated 2022 Sep 2; cited 2023 Apr 27].
What infected individuals need to know
Knowledge check

1. What are the communication considerations?
2. What are the risk communication challenges?
3. What are the key principles about communicating with the general population?
4. What are the key communication approaches for affected populations?
Module 12: Surveillance, Monitoring, and Evaluation
Learning objectives

At the end of this module participants will be able to:

• Explain your role in mpox surveillance
• List and define the WHO and PEPFAR indicators for mpox
• Use the monitoring and evaluation (M&E) tools, as needed
WHO indicators

- Proportion of cases with identified contacts
- Number of contacts reported per case
- Proportion of identified contacts with complete follow-up information
- Proportion of cases coming from a contact tracing list
- Proportion of contacts who received post-exposure prophylaxis
PEPFAR-USAID indicators

- **MPX_RISK_REDUCTION**: Number of risk reduction interventions implemented to minimize the spread of mpox virus
- **MPX_LAB_SUPPORT**: Number of USAID-supported laboratories able to test for mpox virus
- **MPX_CASE**: Number of mpox cases detected through USAID-supported activities
- **MPX_FAC_SUPPORT**: Number of facilities receiving USAID support to strengthen infection prevention and control (IPC) practices
- **MPX_TRAINED**: Number of people trained to prevent, detect, and respond to the mpox virus outbreak
- **MPX_RISK_COMM**: Number of individuals reached with risk communications messaging about mpox virus
Data collection

• Lay workers’ role in data collection depends on the national guidelines

• National or project tools should be used
Knowledge check

1. What are the objectives of surveillance?

2. What are the key indicators?
Q&A
Module 13: EpiC Response
Learning objectives

At the end of this module participants will be able to:

• Describe the EpiC project scope and response to mpox
Scope of the response under EpiC

• Risk communication and community engagement for men who have sex with men and other vulnerable populations and health care providers

• Training and capacity building for health care providers, including community-based teams

• Support for the adaptation of QuickRes for tracking results of demand-creation activities and linkage to services for clients

• Support to build teams to conduct case and contact investigations

• Support for diagnostics and laboratory biosafety
How EpiC is responding to mpox outbreak

- Engaged by USAID to lead efforts across six countries: Benin, Dominican Republic, Ghana, Guatemala, Jamaica, Morocco—Middle East/North Africa (MENA)
- Engagement of key population community across several countries
- Development of fact sheet on mpox (English, French, Portuguese, Spanish)
- Webinars and technical meetings (internal and global)
- Engagement and collaboration with USAID Missions, ministries of health, implementing partners, etc.
Rapid and sustained community mobilization

- Developing prevention messages
- Sharing and amplifying scientifically correct information in a timely fashion
- Collaborating with all actors from public health to the private sector
- Promoting the vaccine and where and how to receive it
Stay updated on evolving WHO recommendations

- Third meeting of the International Health Regulations (2005) (IHR) Emergency Committee regarding the multi-country outbreak of monkeypox (who.int)
Resources

• Mpox (monkeypox) outbreak 2022 - Global (who.int)
• Clinical management and infection prevention and control for monkeypox: Interim rapid response guidance, 10 June 2022 (who.int)
• Mpox Content Collection (thelancet.com)
• Mpox | CDC
• Monkeypox | Johns Hopkins Medicine
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, and Population Services International (PSI).