HIV and Mpox

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June 6, 2023

Information is up to date as of today and is subject to change

HPTN Annual Meeting

Objectives

At the end of this presentation, participants will be able to:

- Describe the epidemiology of the 2022 mpox outbreak
- Promote vaccination for those at risk of mpox
- Understand clinical presentation and management considerations for mpox
- Recognize the risk factors and spectrum of severe manifestations of mpox disease

Background and Epidemiology

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Background and Epidemiology

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Mpox (formerly known as monkeypox) is a previously uncommon zoonotic disease caused by virus from the Orthopoxvirus family

- Since May of 2022, sustained person-to-person transmission in multiple countries including the U.S.
- Current cases primarily spreading through sex and intimate contact among social networks of men who have sex with men; transgender people; gender-nonconforming people; and nonbinary people

Global Impact of Mpox

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87,858	143	111
Confirmed cases	Deaths	Countries reporting cases

Globally, this continues to be considered a public health emergency of international concern, though cases and reporting have declined significantly since the peak of the 2022 outbreak.

Source: World Health Organization. https://worldhealthorg.shinyapps.io/mpx_global/ *(as of 06/01/2023)*

Global Impact of Mpox

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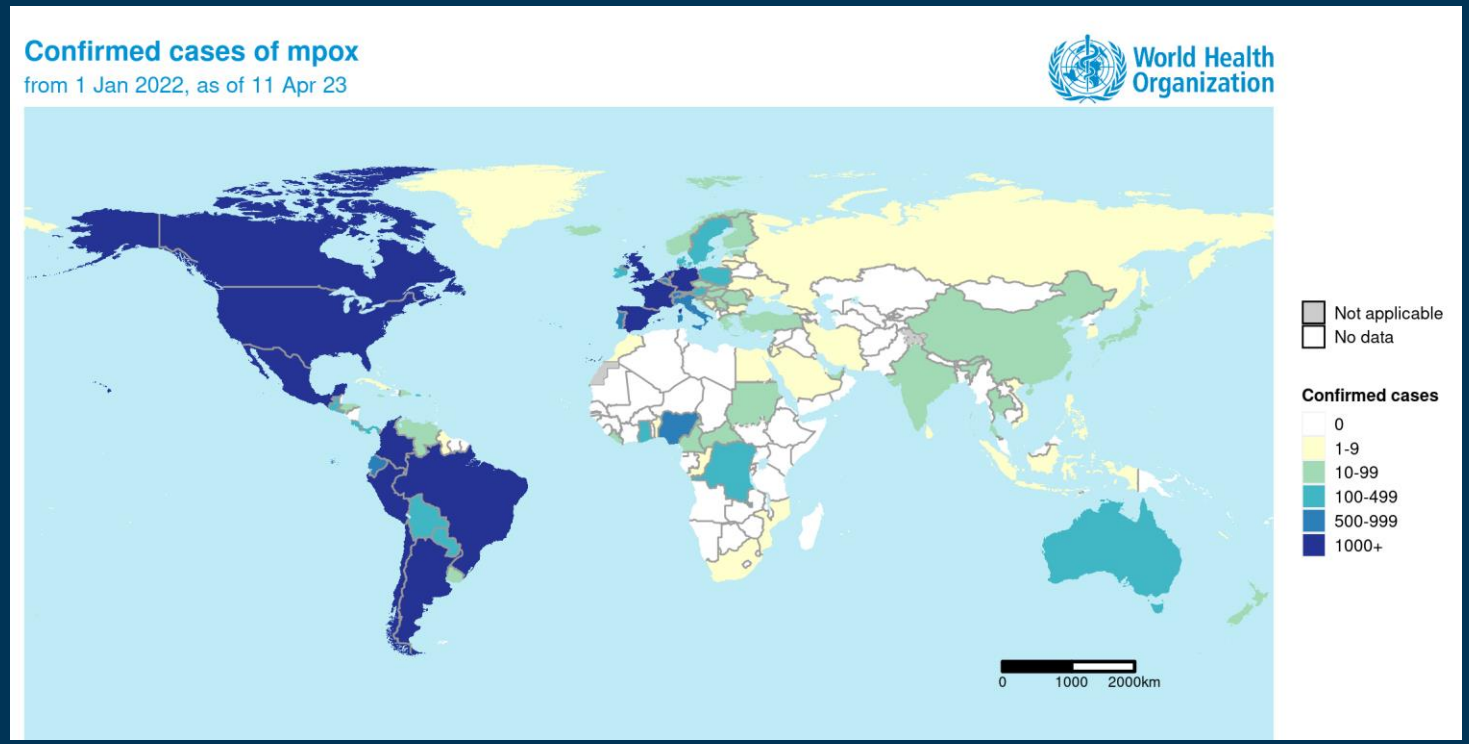
Top 10 Countries Most Affected by 2022-2023 Mpox Outbreak:

1. **United States of America (n = 30,225)**
2. **Brazil (n = 10,941)**
3. Spain (n = 7,555)
4. France (n = 4,146)
5. Colombia (n = 4,090)
6. Mexico (n = 4,017)
7. **Peru (n = 3,800)**
8. United Kingdom (n = 3,752)
9. Germany (n = 3,691)
10. Canada (n = 1,496)



Source: World Health Organization. https://worldhealthorg.shinyapps.io/mpx_global/ *(as of 06/01/2023)*

MPOX: **Situation Report in the U.S. As of June 1, 2023**

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U.S. Cases

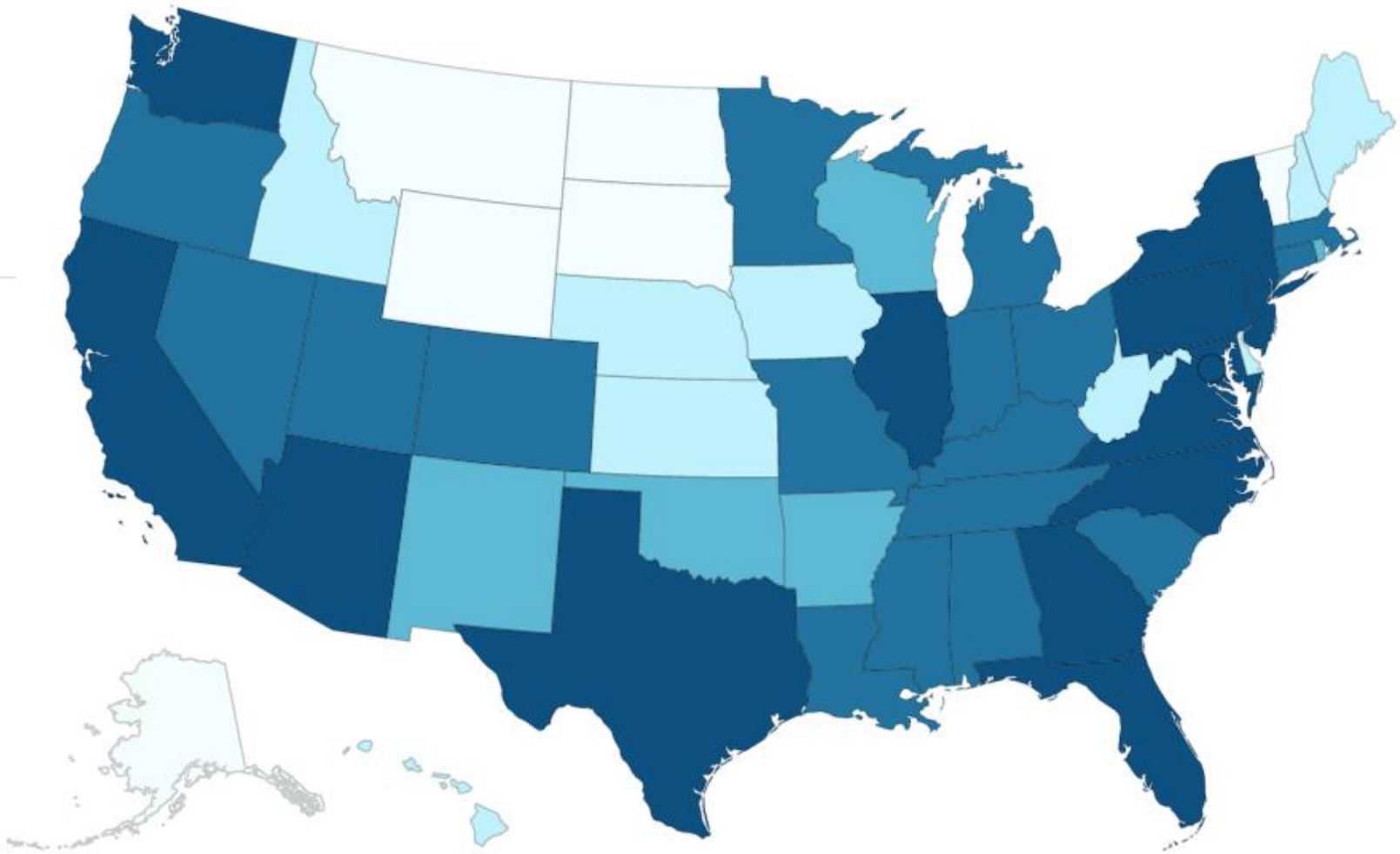
Total Cases

30,450

U.S. Deaths

Total Deaths

42



Source: https://www.cdc.gov/poxvirus/mpox/response/2022/us-map.html *(as of 06/01/2023)*

Mpox among People Living with HIV (PLWH) and People Using PrEP

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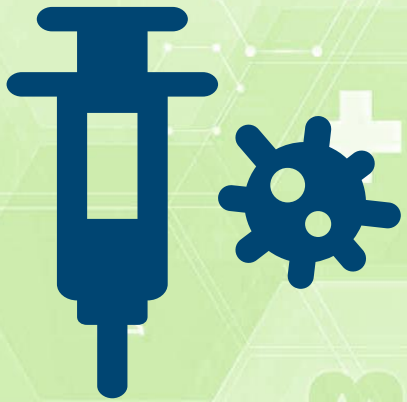
Sexual Health and HIV All East Research (SHARE) Collaborative, 16 countries, HIV and Sexual Health Clinics

- Among those diagnosed with mpox
- 41% PLWH
- 33% using HIV Pre-exposure Prophylaxis (PrEP)

Public HIV and Sexual Health Clinic, Brazil

- Among those diagnosed with mpox
- 55% PLWH
- 32% using PrEP

Source: Thornhill JP, *N Engl J Med 2022;* Costa A, *CROI 2023.*



Mpox Vaccination

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Authorizations for Use of JYNNEOS

JYNNEOS is FDA approved as a 2-dose vaccine for persons 18 years and older

- Minimum of 28 days between doses
- Second dose can be given regardless of time elapsed, no need to repeat first dose

Vaccination of individuals younger than age 18 authorized under FDA emergency use authorization

The JYNNEOS vaccine can be administered at the same time as other vaccines

JYNNEOS Vaccination Coverage in the U.S.

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Estimating persons at risk of mpox

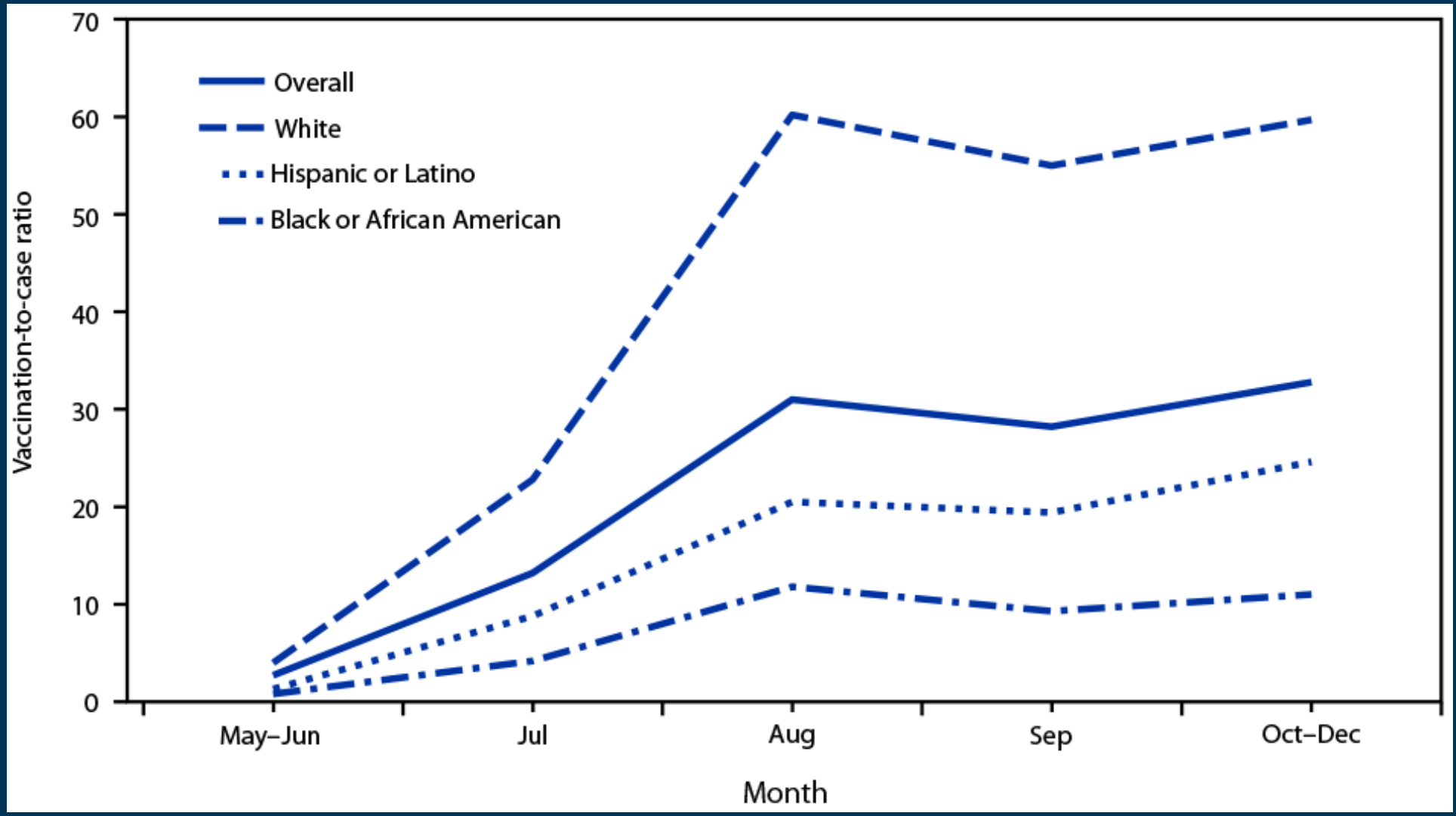
- Number of men who have sex with men on HIV pre-exposure prophylaxis (PrEP)
- Number of men who have sex with men living with HIV
- Increase by 25% to account for additional persons not in the first two categories

Vaccination Coverage among persons at risk of mpox

- > 1 million doses administered
- First dose coverage: 37%
- Second dose coverage: 23%

Source: Owens LE, *MMWR 2023.*

Vaccination to Case Ratios



Source: Kota KK, *MMWR 2023.*

JYNNEOS Vaccine Effectiveness

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Study	n	1 Dose VE	2 Dose VE
Epic national data	2193 cases 8319 controls	36%	66%
Multi-jurisdictional	309 cases 608 controls	75%	86%
New York State	252 cases 255 controls	68%	76%

VE = Vaccine Effectiveness

Sources: Deputy NP, *N Engl J Med 2023*. Dalton AF, *MMWR 2023*. Rosenberg ES, *MMWR 2023*.
Adapted from: https://emergency.cdc.gov/coca/ppt/2023/051823_slides.pdf

Indications for Mpox Vaccination

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Any gay, bisexual, or other man who has sex with men, or are transgender, nonbinary, or gender-diverse person

- Diagnosed with a sexually transmitted infection (STI) in the last six months
- More than one sex partner

People who in the last six months:

- Has multiple or anonymous sex partners, participates in group sex, or has sex at a commercial venue or group event

Has a partner that identifies with any of the above

People with HIV infection or other causes of immunosuppression who have had recent or anticipate potential mpox exposure.

Key Populations for Mpox Vaccination

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People living with HIV or eligible for PrEP

JYNNEOS as post-exposure prophylaxis

Initiate as soon as possible after mpox exposure

Ideally within 4 days but up to 14 days

Providers should administer mpox vaccine as part of routine sexual health services

Clinical Presentation

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Clinical Presentation in 2022

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Cases had atypical features

Rash was characteristic; but often start in *genital* and *perianal* areas or *orally*

- Lesions might not have appeared characteristic, especially in the early stages
- Sometimes didn't disseminate to other parts of body
- Location was likely reflective of points of contact

Systemic symptoms

- Not present, mild, or appeared after rash
- Fever, headache, myalgia, lymphadenopathy, night sweats, chills

Clinical Presentation in 2022

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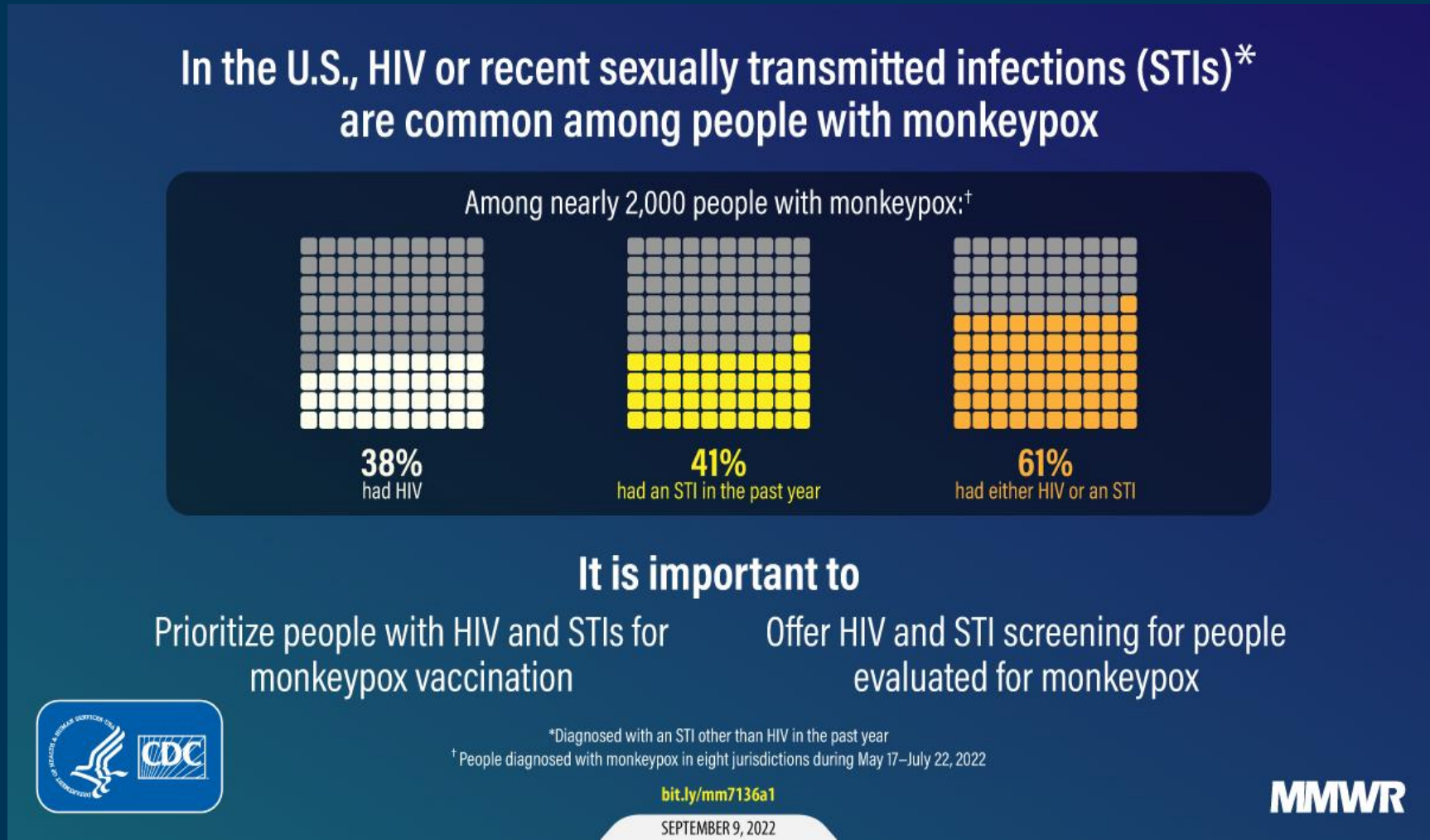
Severe presentations could be debilitating with potential for long-term complications

- Oral
- Penile
- Anal
- Bacterial Superinfection

STIs were common



Source: Curran KG, *MMWR 2022*.

Evolution of Cutaneous Lesions

Source: Thornhill JP, *N Engl J Med 2022.*

Lesions

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Penile

Oral, Perioral

Perianal, Anal, Rectal

Source: Thornhill JP, *N Engl J Med 2022.*

Management and Treatment

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Supportive Care

Most individuals have a disease course that will self-resolve and can be managed with supportive care

Some lesions can be extremely painful and can evolve quickly

- Recommend systemic pain control
- Some patients may need opioids and/or hospitalization for pain control
- Keep lesions clean and dry
- Topical benzocaine/lidocaine gels for pain
- Secondary bacterial infections are common

Treatment

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Proctitis

- Can be severe and debilitating
- Stool softeners, sitz baths

Lesions close to the eye

- Hand hygiene, avoid touching eyes
- Stop using contacts lenses
- Trifluridine eye drops

Sources: Clinical Considerations for Pain Management of Mpox | CDC
Interim Clinical Considerations for Management of Ocular Mpox Virus Infection | CDC

Tecovirimat for Treatment

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Tecovirimat (TPOXX) is an antiviral medication approved by the FDA to treat smallpox disease

- Oral capsule and IV formulations
- Can be given on outpatient basis
- Must be taken with a fatty meal

Sources: https://emergency.cdc.gov/coca/ppt/2022/052422_slides.pdf
https://www.accessdata.fda.gov/drugsatfda_docs/label/2018/208627s000lbl.pdf

Tecovirimat for Treatment – When to Treat

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Patients with severe disease

Patients with involvement of anatomic areas which might result in serious sequelae that include scarring or strictures

Patients at high risk for severe disease

- Severe immunocompromising conditions
  - People living with HIV with CD4<350 or not virally suppressed
- < 8 years old
- Pregnant or chest/breastfeeding patients
- Patients with a condition affecting skin integrity

Source: Guidance for Tecovirimat Use | CDC
Clinical Considerations for Treatment and Prophylaxis of Mpox Infection in People Who are Immunocompromised | CDC

Obtaining Tecovirimat

Inform patients about the Study of Tecovirimat for Human Mpox Virus (STOMP)

- https://www.stomptpoxx.org/
- Participation is voluntary
- Telemedicine option (for U.S.)
- Clinical research sites soon to include Brazil and Peru

Tecovirimat can also be accessed through CDC Expanded Access Investigational New Drug Process:
https://www.cdc.gov/poxvirus/mpox/clinicians/Tecovirimat.html

Clinical Considerations for Mpox in PLWH

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Mpox clinical outcomes in PLWH whose HIV is well-controlled have not been different from people without HIV

- Countries where most PLWH are on antiretroviral treatment (ART) and have high CD4s have noted no deaths or excess hospitalizations among people co-infected with mpox and HIV

- In people treated with tecovirimat for severe mpox, HIV status did not seem to affect treatment outcomes

Source: McLean J. *Ann Intern Med 2023*. Mpox and HIV https://www.cdc.gov/poxvirus/mpox/prevention/hiv.html

Severe Manifestations of Mpox Disease

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Mpox in persons with advanced HIV

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Global case series of 382 cases in PLWH with CD4<350

	Total (n=382)	CD4<100 (n=85)	CD4 100-200 (n=94)
Hospitalization – general ward	73 (19%)	26 (30%)	19 (20%)
Hospitalization – ICU	34 (9%)	27 (32%)	6 (6%)
Death	27 (7%)	23 (27%)	4 (4%)

Greatest disease severity, hospitalization and death in those with low CD4 (<100) and high viral load

Sources: Mitjà O, *Lancet 2023; Corma-Gómez A,* Poster 904: *CROI 2023*; Silva MST, Poster 905: *CROI 2023;* Miller MJ, *MMWR 2022;* Riser AP, *MMWR 2023.*

Severe Disease – NYC Experience

Mpox cases among PLWH requiring prolonged tecovirimat: provider phone calls for clinical consult (n=11)

- Mostly Black non-Hispanic young men
- Many in unstable housing in the previous year

Clinical Features

- All had high viral loads
- Most with CD4<50
- Prolonged courses of tecovirimat
- Required combination therapy
- All hospitalized, some for months
- 54% died (6/11)

Source: Garcia EA, Poster 735: *CROI 2023*.

Necrotic Facial Lesions

“Burn-like" lesions

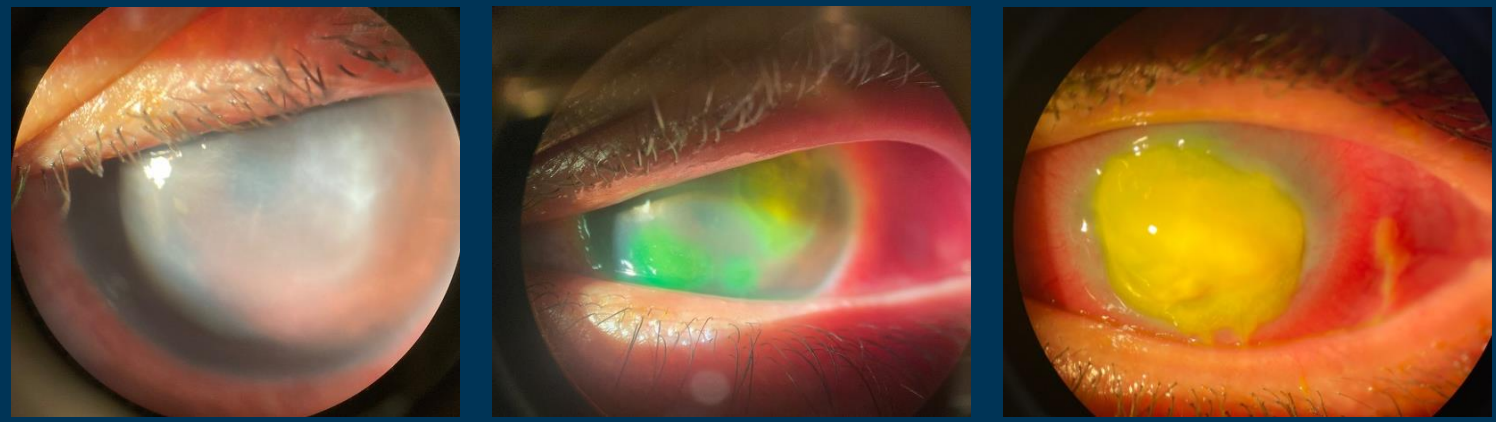
- Obliteration of recognizable facial features

Sources: Carrubba S, *Lancet Infect Dis. 2023*; Govind A, *CID* 2023.

Ophthalmologic Complications

- Eyelid eschar
- Orbital Globe Collapse
- Corneal Melt

Confluent/restrictive eyelid eschar, CT scan orbital globe collapse (published)



Progressive keratouveitis with corneal melt (Unpublished)

Sources: *Photos courtesy of Ann Ostrovsky, MD and Steven Carrubba, MD; NYU Langone Medical Center, NYCHHC-Bellevue;* Carrubba S, *Lancet Infect Dis. 2023.*

Lesion progression

(A) Left Foot, Dorsal surface and Heel after debridement (left);
Left foot after intralesional/topical cidofovir (right)
(B) Dorsum Left Hand (left); Left hand after intralesional/topical cidofovir (right)

Photographs courtesy of John Winters, MD, NYCHHC (unpublished)

Severe Disease – Management

Immediately start tecovirimat and ART

- Clearance of mpox requires having an immune system
- Extend treatment until lesions have healed and patient has had immune reconstitution
- This may take months

The most important treatment for mpox is ART

Source: Interim Clinical Treatment Considerations for Severe Manifestations of Mpox | CDC

Chicago Health Alert

Chicago Department of Public Health

Health Alert

CDPH
Chicago Department of Public Health

City of Chicago
Lori E. Lightfoot, Mayor

www.chicagohan.org

Chicago Department of Public Health
Allison Arwady MD MPH, Commissioner

RESURGENCE OF MPOX

Provider Update

May 9, 2023

Summary and Action Items

- Chicago Department of Public Health (CDPH) has identified a resurgence of cases of mpox (formerly monkeypox).
- From April 17th-May 5th 2023, 12 confirmed and one probable case of mpox were reported to CDPH. All cases were among symptomatic men. **Nine (69%) of 13 cases were among men who were fully vaccinated for mpox.**

Source: https://www.chicagohan.org/alert-detail/-/alert-details/46678186

In Conclusion

Integration of sexual health care

- Take a sexual history and test for all other STIs and HIV
- Offer vaccine to all eligible people

Treat symptoms and consider tecovirimat

- Refer patients to the STOMP Trial

Severe manifestations have been seen, primarily among people who are immunocompromised due to HIV

- Start mpox treatment and ART immediately
- Call CDC Clinical Consult: 770-488-7100 or email eocevent482@cdc.gov

Acknowledgments

I want to acknowledge the inspiring care, compassion, and strength of our provider community, who confronted a multitude of challenges; and the patients and their families who even in the face of incredible suffering still sought to contribute to our knowledge amidst the uncertainty of a re-emerging disease.

Special Thanks:

Mary Foote

Tristan McPherson

Bindy Crouch

NYC Health Department Mpox Treatment Team and Community of Providers

CDC Clinical Consult Team

Thank you

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