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Characteristics of Patients Hospitalized with Mpox during the 2022 U.S. Outbreak

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Disclaimer: The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

BACKGROUND

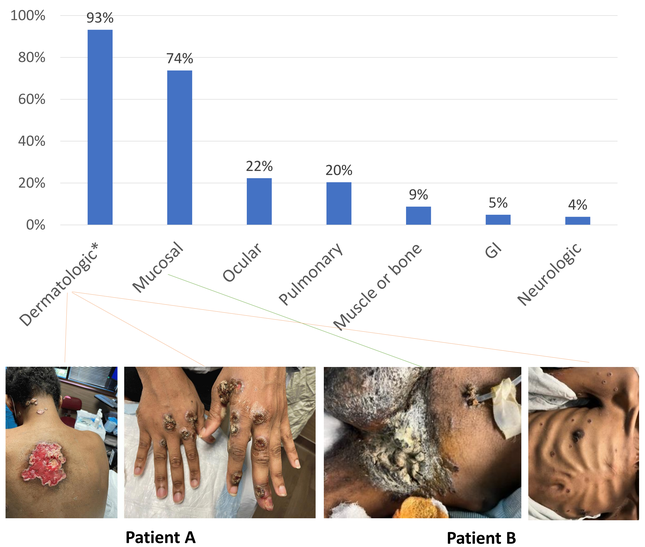
- What are the demographics, clinical trajectories, and HIV-related care considerations for patients hospitalized with mpox during the 2022 mpox outbreak?

In prior mpox outbreaks, severe manifestations of disease and poor outcomes have been reported among people with HIV, particularly those with AIDS. During the 2022 international mpox outbreak, CDC staff provided clinical consultations to providers caring for patients with mpox regarding clinical management and therapeutics.

METHODS

- Descriptive analysis of hospitalized U.S. patients aged ≥18 years with confirmed mpox for whom CDC was consulted (between 8-10-22 to 11-22-22)
- Data obtained from provider reports during consultation with health departments or clinicians

Figure 1: Categories of mpox manifestations in hospitalized patients during the 2022 U.S. outbreak



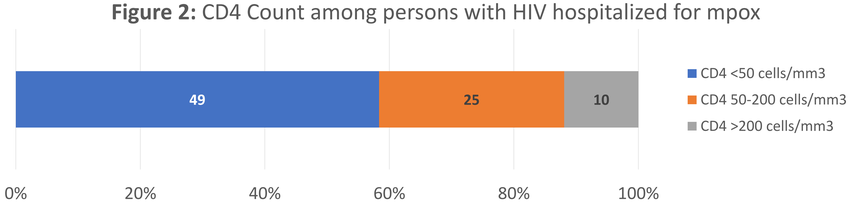
**Note: the remaining 7% of patient consult data lacked information on presence or absence of dermatologic manifestations*

Inadequately treated HIV infection was the **risk factor most commonly associated** with **severe to fatal mpox** in this study population. **More than one fifth** of patients hospitalized with mpox died—**of whom 91% had AIDS**. All **patients with symptoms suggestive of mpox** should be **tested for HIV**. Engaging all people with HIV in care to ensure ART initiation and adherence remains a critical public health priority.

RESULTS

- Of the patients for whom CDC was consulted over the study period (n=103), 97% (100) were male, 60% (62) were Black, and 21% (22) were experiencing homelessness.
- A range of systemic manifestations was reported for patients hospitalized with mpox **(Figure 1)**.
- Nearly all patients (95%; 98) had immunocompromising conditions:
  - HIV: 87% (90) (84 with available CD4 counts; 77 with ART data)
    - CD4 ≤ 200 cells/mm^3 : 88% (74/84) **(Figure 2)**
    - ART at time of mpox diagnosis: 18% (14/77)
  - Other: history of solid organ or stem cell transplant, cancer on chemotherapy, autoimmune conditions requiring steroids, and pregnancy (all 3 women)
- ICU-level care was required by 22% (23) of patients, and 21% (22) died. All but two who died had HIV.
  - All patients with HIV who died had CD4 ≤ 200 cells/mm^3
  - No patients with HIV who died (and had ART data) had been on ART at the time of mpox diagnosis
- Median times from symptom onset to initiation of tecovirimat, ART, and any second mpox therapeutic (vaccinia immunoglobulin, cidofovir, and/or brincidofovir) (**Figure 3)** were 10, 34, and 45 days.

Figure 2: CD4 Count among persons with HIV hospitalized for mpox



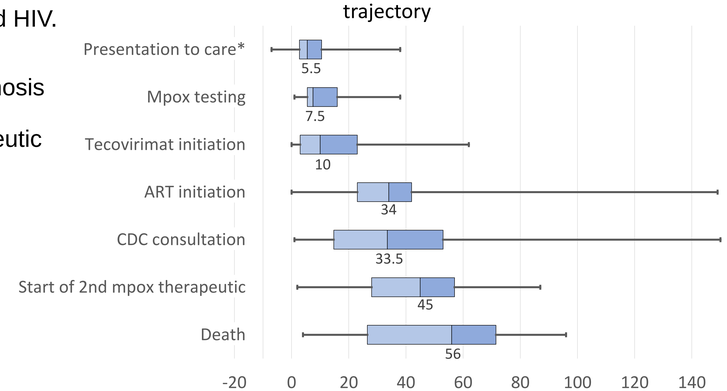
CONCLUSIONS

- In immunocompromised persons, mpox can be a severe and systemic illness with a high mortality.
- Black and unstably housed populations were especially affected—echoing inequities in the HIV care continuum.
- There were notable delays from symptom onset to initiation of ART and mpox therapies beyond tecovirimat.
- All patients with suspected mpox should be tested for HIV and promptly initiated on ART if indicated.
- Identifying and engaging all people with HIV in care remains a critical public health priority to reduce mpox-associated morbidity and mortality.

ADDITIONAL KEY INFORMATION

- Limitations: all data was based on provider reporting. No confirmatory medical record review was performed.
- Acronyms: ART (antiretroviral therapy)
- Photos used with permission from patients or next of kin.
- Photo reference (Patient A): Miller MJ et al. MMWR Morb Mortal Wkly Rep 2022;71:1412–1417.
- Author contact: Preetam Cholli (pcholli@cdc.gov)
- We thank our health department and clinical colleagues, and the patients and families who consented to sharing photographs to help others affected by this disease.

Figure 3: Days from mpox symptom onset to key events in illness trajectory



**Note: two patients developed mpox rash while hospitalized, after presenting for other symptoms (pneumonia, small bowel obstruction)*