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# Prior sexually transmitted infections and HIV in mpox patients, Chicago, Illinois — (June 2022–March 2023

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## Abstract

HIV is associated with severe mpox. Sexually transmitted infections (STIs) could facilitate mpox transmission. We estimated HIV and STI frequency among patients with mpox, and compared characteristics associated with mpox severity. Mpox cases during June 1, 2022–March 31, 2023, were matched to Illinois HIV/AIDS surveillance data. Among 1,124 mpox patients, 489 (44%) had HIV and 786 (70%) had prior or concurrent STI; 307 (39%) had ≥3 STI episodes. More mpox patients living with HIV were hospitalized than without HIV (10.3% vs 4.1%, $P$ <0.001). STI screening visits are opportunities to vaccinate against mpox and provide HIV prophylaxis or treatment.

### Keywords

monkeypox virus; sexually transmitted infections; HIV

Since May 2022, mpox cases have been reported in a global outbreak affecting nonendemic countries, most often affecting gay, bisexual, and other men who have sex with men (MSM) and their partners. During June 2022–March 2023, 1,124 persons in Chicago, Illinois,



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***Acquisition, analysis, or interpretation of data:*** All authors

***Drafting of the manuscript:*** Faherty

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***Statistical analysis:*** Faherty

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developed mpox, and despite concerted prevention and control efforts, cases continue to be detected in Chicago.

MSM and their partners are currently most affected by mpox and disproportionately affected by HIV and other sexually transmitted infections (STIs) [1, 2]. Advanced HIV (CD4 <350 cells/$mm^3$) is associated with severe mpox outcomes, including hospitalization and death, and persons with compromised immune systems are hypothesized to transmit the virus to others [3, 4]. Coinfection with other STIs (e.g., chlamydia, gonorrhea, or syphilis) has been reported disproportionately among mpox patients [2], but patterns in disease severity after STIs are less clear. We use a syndemic approach, examining clustering of ≥2 diseases that are associated with social and structural determinants of health, to describe the potential role of STI history and HIV status in monkeypox virus (MPXV) transmission and severity to guide prevention of mpox and its severe sequelae in Chicago.

This analysis seeks to determine the extent and frequency of chlamydia, gonorrhea, and HIV among persons who received an mpox diagnosis. We compare mpox patient demographic and clinical characteristics by HIV status and by number of prior or concurrent gonorrhea or chlamydia episodes. Examination of associations between HIV, other STIs, and mpox provides a rationale for a syndemic approach to disease control addressing underlying social determinants of health.

## METHODS

### Study cohort

Our study cohort was composed of confirmed and probable mpox cases detected during June 1, 2022–March 31, 2023 [5]. Confirmed cases had a laboratory-confirmed mpox diagnosis, whereas probable cases had a laboratory-confirmed orthopoxvirus diagnosis and no other non-mpox orthopoxvirus exposures. Patients with mpox were followed up and interviewed by case investigators to identify demographic characteristics, clinical presentation, potential exposures, and to elicit contacts.

The Chicago Department of Public Health (CDPH) matched mpox surveillance and case management data from this period to gonorrhea and chlamydia cases in the Illinois National Electronic Disease Surveillance System since January 1, 2017, and to the enhanced HIV and AIDS Reporting System for HIV status (most recent viral load and CD4 count) at time of their mpox diagnoses. Matches were conducted using a 13-step algorithm described elsewhere [6]. Mpox vaccination status in 2022–2023 was confirmed in the Illinois Comprehensive Automated Immunization Registry Exchange and linked to mpox surveillance data. We classified chlamydia and gonorrhea diagnoses that occurred <1 month after a prior diagnosis as treatment failures instead of reinfections, and these diagnoses were counted once [7, 8].

To examine differences in potential for mpox transmission, we compared demographic characteristics and numbers of sexual partners. To examine mpox severity, we evaluated the number of different mpox symptoms reported by each patient, reviewed hospitalization and death records for deceased patients, and examined tecovirimat receipt through the expanded

access Investigational New Drug protocol and tecovirimat indications as proxy severity measures.

### Statistical analysis

Descriptive statistics were calculated for patient characteristics by HIV status and prior gonorrhea or chlamydia diagnoses during the 5 years before mpox diagnosis or at mpox diagnosis. Bivariate analyses of STI coinfection status were conducted using Chi-squared ($\chi^2$) tests. *P* values less than 0.05 were considered statistically significant. All analyses were conducted using SAS® 9.4 version (SAS Institute, Inc., Cary, North Carolina). This report was produced as public health surveillance (45 CFR 46.102(l)) and is determined to be a non-research activity by CDPH.

## RESULTS

Among 1,124 mpox cases, 848 (75%) were confirmed and 276 (25%) were probable cases; median age was 34 years (interquartile range [IQR] = 29–42 years) (Table 1). Almost all patients identified as cisgender men (n = 1,033, 92%), and among 806 persons who reported partner sex, 667 (83%) had a male sexual partner. In terms of race, 409 patients (36%) were White, non-Hispanic or Latino, 335 (30%) were Hispanic or Latino, and 328 (29%) were Black, non-Hispanic or Latino. Thirty percent (n = 335) of patients with mpox had been vaccinated against mpox. Of 335 vaccinated patients with mpox, 185 (55%) had received one dose and 150 (45%) had received two doses of JYNNEOS [9]. A total of 198 patients (17.6%) had been vaccinated prior to mpox illness, and 23 patients (2%) received two doses prior to mpox illness. Seventy-six (7%) mpox patients were hospitalized. Twenty percent (127) of mpox patients not living with HIV were taking HIV pre-exposure prophylaxis (PrEP). Of 3 patients who died during the analysis period, all had advanced HIV (CD4 count = 24–26 cells/$mm^3$).

In total, 487 (43%) mpox cases were among persons living with HIV (PLH) (median CD4 count = 628 cells/$mm^3$, range: 24–1289 cells/$mm^3$; median viral load = <20 copies/mL, range = <20–938,000 copies/mL). About 70% of mpox patients (n = 786) had a chlamydia or gonorrhea diagnosis during the last 5 years. This includes 618 (55%) patients with prior chlamydia infection, 648 (58%) patients with prior gonorrhea infection, and 408 (36%) patients with prior chlamydia and gonorrhea infections. Among the 786 patients with prior chlamydia or gonorrhea, 515 (66%) had genital, 478 (61%) had rectal, and 299 (38%) had pharyngeal involvement. Among mpox patients who had rectal pain or bleeding (n = 307, 27%), 172 (56%) had prior chlamydia or gonorrhea infection with rectal involvement. Approximately 38% (n = 432) of patients with mpox had ≥3 chlamydia or gonorrhea episodes during the 5 years preceding mpox diagnosis (Table 2), including 229 PLH and 203 persons without HIV (PWoH). Mpox patients who were PLH experienced more prior chlamydia or gonorrhea episodes 5 years before mpox diagnosis (median chlamydia or gonorrhea episodes = 2, IQR = 1–5) more frequently than mpox patients who were PWoH (median chlamydia or gonorrhea episodes = 1, IQR = 0–3). In 5 years before mpox diagnosis, 43 (9%) PLH experienced HIV seroconversion after prior chlamydia or gonorrhea and then acquired mpox. These persons experienced HIV seroconversion a median of 24

months (IQR = 11–39 months) after the first chlamydia or gonorrhea episode. Thirteen patients had 1 chlamydia or gonorrhea infection before HIV seroconversion, 7 patients had 2 chlamydia or gonorrhea infections, 8 had 3 chlamydia or gonorrhea infections, and 15 patients had ≥4 chlamydia or gonorrhea infections before seroconversion.

### Comparisons by HIV Status

A greater proportion of mpox patients who were PLH were Black, non-Hispanic or Latino (44%) than mpox patients who were Black, non-Hispanic or Latino and PWoH (18%) ($\chi^2$ $P$<0.01). A greater proportion of mpox patients who were PWoH reported prior sex with a male partner during the 3 weeks before mpox symptom onset (63%), compared with mpox patients who were PLH (54%). However, slightly more mpox patients who were PLH did not report sexual partner gender (32% vs 26%, $\chi^2$ $P$<0.01). Mpox patients who were PLH reported greater numbers of lesions with 19 (4%) reporting ≥50 mpox lesions, whereas 11 (2%) mpox patients who were PWoH reported ≥50 mpox lesions ($\chi^2$ $P$ = 0.02). A slightly higher proportion of PWoH reported genital lesions (40%), compared to PLH (29%) ($\chi^2$ $P$ = <0.01), but a greater proportion of PLH (31%) reported rectal involvement, including rectal pain or bleeding compared to PWoH (25%) ($\chi^2$ $P$=0.02). Differences in indications for tecovirimat treatment were not statistically significant by HIV status.

### Severe outcomes among patients

While PLH made up 43% of all mpox patients, they represented 66% of hospitalized patients. A greater proportion of hospitalized mpox patients were unvaccinated for mpox (79%), compared with mpox patients not needing hospitalization (69%), but these differences were not statistically significant ($\chi^2$ $P$-value = 0.48). Three deaths attributed to mpox were among PLH with advanced HIV upon seeking care, and antiretroviral therapy and tecovirimat treatment were initiated after mpox diagnosis. Only 1 patient reached viral suppression for HIV (<200 copies/ml) before death.

### Comparisons by STI Episodes

We also compared patients with mpox and no chlamydia or gonorrhea episodes during the 5 years before mpox diagnosis with those with 1–2 repeat chlamydia or gonorrhea episodes and those with ≥3 repeat chlamydia or gonorrhea episodes (Table 2). Those patients with mpox who experienced ≥3 chlamydia or gonorrhea episodes were slightly younger (median age = 33 [IQR = 29–38]) than those patients with 1–2 episodes of chlamydia or gonorrhea (median age = 35 [IQR = 30–43]) or no episodes (median age = 36 ([IQR = 30–44]). Those who experienced ≥3 chlamydia or gonorrhea episodes were more likely to report having a male sex partner (n = 278; 64.4%), compared with those with 1–2 episodes (n = 212, 59.9%) or no episodes (n=177, 52.4%, $\chi^2$ $P$ value = 0.002). Slightly more patients with ≥3 chlamydia or gonorrhea episodes received 2 doses of JYNNEOS (15%) compared with patients with 1–2 episodes (13%) or no episodes (12%); these differences were not statistically significant ($\chi^2$ $P$ value=0.07). A higher proportion of patients who had experienced STI episodes reported perianal lesions (25% of patient reporting 1–2 STI episodes and 27% of patients reporting ≥3 STI episodes) compared to patients with no episodes (14%) ($\chi^2$ $P$ value = <0.01).

## DISCUSSION

Our analysis of 1,124 mpox cases in Chicago revealed that ~70% of patients with mpox had previously diagnosed chlamydia or gonorrhea infections, and 43% of mpox patients had received an HIV diagnosis. Mpox patients who were PLH had a greater number of chlamydia or gonorrhea infections during the 5 years before their mpox diagnosis than mpox patients who were PWoH. Coinfection with advanced HIV puts persons at greater risk for severe mpox in terms of hospitalization and death [4]. Persons with a history of prior chlamydia or gonorrhea infections are predisposed to HIV acquisition. These diseases are transmitted similarly and circulate in the same networks; there is increased risk for HIV acquisition if a sore or lesion from another STI is present [10]. In a syndemic approach, comprehensive STI assessment is recommended for persons at risk for mpox. STI/HIV screening might identify persons who would benefit from mpox vaccination and STI/HIV prevention and treatment.

Many patients experienced ≥3 chlamydia or gonorrhea episodes, which demonstrates potential risk behaviors common to STI and mpox transmission. Extragenital screening for chlamydia and gonorrhea among MSM in pharyngeal and rectal sites is recommended because rectal gonorrhea is often asymptomatic [11, 12]. Given that 70% of mpox patients experienced chlamydia or gonorrhea infections in the past 5 years, STI and HIV screening and treatment encounters are crucial opportunities for mpox prevention and vaccination promotion. High rates of mpox and HIV coinfection among Black, non-Hispanic or Latino patients highlight a need for promoting interventions (e.g., mpox vaccination) in this population. However, a greater proportion of patients with prior STIs reported vaccination, compared to those with no prior STIs, a potential indicator of successful public health interventions. As 14% of mpox patients analyzed had gonorrhea or chlamydia and later developed HIV, improving uptake of HIV preexposure prophylaxis (PrEP) among HIV-negative persons diagnosed with STI bundled with mpox vaccination and STI treatment might both improve HIV prevention and prevent new or severe mpox. Future research should examine predictors of mpox infection among those with STIs, including other STIs, such as syphilis, HIV risk at STI screening or anatomical site of infection.

The findings in this report are subject to multiple limitations. First, analysis was limited to those patients who were screened and received a diagnosis of mpox, STIs, and HIV. This might result in ascertainment bias because those patients who are tested and treated might be different than those who do not seek medical attention. One strength of this study is that STI data are nationally notifiable and available through state disease registries, even when data regarding behaviors is not available for chlamydia and gonorrhea infectious. Repeat chlamydia or gonorrhea might be an indicator of behavioral risk factors — a useful proxy in the absence of behavioral risk factor data. A second limitation is that self-reported data about sexual histories in STI and mpox case investigations might be subject to social desirability or recall bias. We observe this in higher levels of missing data for certain questions that are more sensitive or personal in nature. Although case investigators often elicit detail by establishing rapport with patients, that is not always possible. Slightly more mpox patients who were PLH did not report their sexual activity, potentially due to compounded stigma of HIV and mpox coinfection status. Finally, several proxy measures

of severity used in this analysis might be subject to recall bias (number of mpox symptoms) or may be a result of differences in health-seeking behavior and provider policies regarding tecovirimat administration.

In conclusion, prior gonorrhea or chlamydia infections were common among mpox patients. PLH had prior chlamydia or gonorrhea more often than PWoH. This report highlights the importance of STI screening visits as opportunities to intervene with vaccination against mpox, to prevent HIV through initiation of HIV PrEP, and to decrease risk for severe mpox infection with HIV antiretrovirals.

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## Data Sharing Statement:

Summary data are available in Table 1. Questions or additional requests should be directed to the communicating author.

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**TABLE 1:**

Characteristics of mpox cases by HIV status, June 1, 2022–March 31, 2023 Chicago, IL

| Characteristic | Mpox/ HIV(+)[a] N = 487 No. (%)[b] | Mpox/HIV(−) N = 637 No. (%) | Total N=1,124 No. (%) | Pearson $\chi^2$ / T-test *P* value |
|---|---|---|---|---|
| **Median age, years (IQR)** | 36, IQR: 30–44 | 33, IQR: 29–41 | 34, IQR: 29–42 | <0.001 |
| **Sex at birth** | | | | |
| Male | 485 (99.6) | 621 (97.5) | 1106 (98.4) | 0.02 |
| Female | 2 (0.4) | 15 (2.4) | 17 (1.5) | |
| Not reported | - | 1 (0.2) | 1 (0.1) | |
| **Gender** | | | | |
| Cisgender man | 449 (92.2) | 584 (91.7) | 1033 (91.9) | 0.08 |
| Cisgender woman | 2 (0.4) | 10 (1.6) | 12 (1.1) | |
| Transgender woman | 5 (1.0) | 2 (0.3) | 7 (0.6) | |
| Transgender man | - | 3 (0.5) | 3 (0.3) | |
| Other | 2 (0.4) | 6 (0.9) | 8 (0.7) | |
| Not reported | 29 (6.0) | 32 (5.0) | 61 (5.4) | |
| **Race and Ethnicity** | | | | |
| Asian, non-Hispanic or Latino | 13 (2.7) | 19 (3.0) | 32 (2.9) | <0.001 |
| Black, non-Hispanic or Latino | 215 (44.1) | 113 (17.7) | 328 (29.2) | |
| White, non-Hispanic or Latino | 112 (23.0) | 297 (46.6) | 409 (36.4) | |
| Hispanic or Latino | 141 (29.0) | 194 (30.5) | 335 (29.8) | |
| Other, non-Hispanic or Latino | 4 (0.8) | 7 (1.1) | 11 (1.0) | |
| Unknown | 2 (0.4) | 7 (1.1) | 9 (0.8) | |
| **Men who reported sex with male partners (MSM)** | | | | |
| Yes | 265 (54.4) | 402 (63.1) | 667 (59.3) | <0.001 |
| No | 66 (13.6) | 56 (8.8) | 112 (10.9) | |
| Unknown | 154 (31.6) | 164 (25.7) | 318 (28.3) | |
| Not applicable | 2 (0.4) | 15 (2.4) | 17 (1.5) | |
| **Mpox vaccination** | | | | |
| No vaccination record | 353 (72.5) | 436 (68.4) | 789 (70.2) | 0.23 |
| One vaccine dose received | 78 (16.0) | 107 (16.8) | 185 (16.5) | |
| Two vaccine doses received | 56 (11.5) | 94 (14.8) | 150 (13.4) | |
| **Median # of days from first vaccination to mpox infection (IQR)** | 9, IQR:4–18 | 10, IQR: 5–26 | 10, IQR: 5–26 | 0.05 |
| **Prior history of chlamydia or gonorrhea** | 378 (64.1) | 408 (77.6) | 786 (69.9) | <0.001 |
| **Median # of gonorrhea infections in five years before mpox diagnosis (IQR)** | 1, IQR: 0–3 | 1, IQR: 0–2 | 1, IQR: 0–2 | <0.001 |
| **Median # of chlamydia infections in five years before mpox diagnosis (IQR)** | 1, IQR: 0–3 | 0, IQR: 0–2 | 1, IQR:0–2 | <0.001 |
| **Median # of chlamydia/gonorrhea infections in five years before mpox diagnosis (IQR)** | 2, IQR: 1–5 | 1, IQR:0–3 | 2, IQR:0–4 | <0.001 |

| Characteristic | Mpox/ HIV(+)[a] N = 487 No. (%)[b] | Mpox/HIV(−) N = 637 No. (%) | Total N=1,124 No. (%) | Pearson $\chi^2$ / T-test *P* value |
|---|---|---|---|---|
| **Median # of mpox symptoms (IQR)** | 4, IQR: 2–7 | 4, IQR: 2–7 | 4, IQR: 2–7 | 0.44 |
| **# of mpox lesions reported** | | | | 0.02 |
| 1–9 lesions | 141 (29.0) | 233 (36.6) | 374 (33.3) | |
| 10–49 lesions | 151 (31.0) | 190 (29.8) | 341 (30.3) | |
| 50–99 lesions | 15 (3.1) | 10 (1.6) | 25 (2.2) | |
| >100 lesions | 4 (0.8) | 1 (0.2) | 5 (0.4) | |
| Unknown | 176 (36.1) | 203 (31.9) | 379 (33.7) | |
| **Reported perianal lesions** | 120 (24.6) | 133 (20.9) | 253 (22.5) | 0.13 |
| **Reported genital lesions** | 142 (29.2) | 256 (40.2) | 398 (35.4) | <0.001 |
| **Experienced rectal involvement (rectal pain or bleeding)** | 151 (31) | 156 (24.5) | 307 (27.3) | 0.02 |
| **Was hospitalized for mpox** | 50 (10.3) | 26 (4.1) | 76 (6.8) | <0.001 |
| **Median # of days hospitalized (IQR)** [c] | 3, IQR: 2–5 | 3, IQR: 1–4 | 3, IQR: 2–5 | 0.31 |
| **Death attributed to mpox** | 3 (<0) | 0 (<0) | 3 (<0) | 0.047 |
| **Received tecovirimat** [d] | 134 (27.5) | 92 (14.4) | 226 (20.1) | <0.001 |
| **Indication for tecovirimat** [e] | | | | |
| Site of lesions (i.e., genital, oral, eye) | 44 (32.8) | 29 (31.5) | 73 (32.3) | 0.84 |
| Inflammation (i.e., proctitis, urethritis) | 23 (17.2) | 24 (26.1) | 47 (20.8) | 0.10 |
| No indication noted | 60 (44.8) | 43 (46.7) | 103 (45.6) | 0.77 |
| Pain | 32 (23.9) | 21 (22.8) | 53 (23.5) | 0.85 |

[a]**Abbreviations:** Mpox/HIV(+): mpox patients living with HIV; mpox/HIV(−): mpox patients not living with HIV; IQR: interquartile range; STI: sexually transmitted infection (includes gonorrhea and chlamydia); and PrEP: preexposure prophylaxis for HIV.

[b]Some column percentages may not sum to 100% because of rounding.

[c]Data regarding the median number of days hospitalized was available for 63/79 (79%) of all hospitalized patients, including 44 (88%) among patients living with HIV and 19 (74%) among patients not living with HIV who were hospitalized.

[d]Tecovirimat treatment was administered under the IND protocol for patients with mpox who met eligibility criteria (e.g., have severe disease or involvement of anatomic areas that might result in serious sequelae or are at high risk for severe disease), or who were ineligible for or decline STOMP participation.

[e]Denominator is the total number of patients who received tecovirimat. Percentages may not sum to 100 because more than 1 indication may be listed for each patient. Twenty-eight patients were reported to have received tecovirimat because of their HIV status and 3 patients had another immunocompromising condition in addition to HIV.

**TABLE 2 –**

Characteristics of mpox cases by gonorrhea and chlamydia episodes five years prior to diagnosis

| Characteristic | No GC/CT[a] N = 338 No. (%)[b] | 1–2 GC/CT N = 354 No. (%) | ≥3 GC/CT N = 432 No. (%) | Pearson $\chi^2$ / ANOVA F-test *P* value |
|---|---|---|---|---|
| **Median age, years (IQR)** | 36, IQR: 30–44 | 35, IQR: 30–43 | 33, IQR: 29–38 | <0.001 |
| **Sex at birth** [c] | | | | 0.01 |
| Male | 328 (97.0) | 348 (98.3) | 430 (99.5) | |
| Female | 10 (3.0) | 6 (1.7) | 1 (0.2) | |
| Not reported | - | - | 1 (0.2) | |
| **Gender** [c] | | | | 0.02 |
| Cisgender man | 302 (89.4) | 328 (92.7) | 403 (93.3) | |
| Cisgender woman | 7 (2.1) | 5 (1.4) | - | |
| Transgender woman | 2 (0.6) | 4 (1.1) | 1 (0.2) | |
| Transgender man | 1 (0.3) | 1 (0.3) | 1 (0.2) | |
| Other | 1 (0.3) | 2 (0.6) | 5 (1.2) | |
| Not reported | 25 (7.4) | 14 (4.0%) | 22 (5.1) | |
| **Race and Ethnicity** [c] | | | | 0.73 |
| Asian, non-Hispanic or Latino | 7 (2.1) | 12 (3.4) | 13 (3.0) | |
| Black, non-Hispanic or Latino | 102 (30.2) | 98 (27.7) | 128 (29.6) | |
| White, non-Hispanic or Latino | 123 (36.4) | 126 (35.6) | 160 (37.0) | |
| Hispanic or Latino | 96 (28.4) | 112 (31.6) | 127 (29.4) | |
| Other, non-Hispanic or Latino | 5 (1.5) | 4 (1.1) | 2 (0.5) | |
| Unknown | 5 (1.5) | 2 (0.6) | 2 (0.5) | |
| **Reported sex with male partners** | | | | 0.002 |
| Yes | 177 (52.4) | 212 (59.9) | 278 (64.4) | |
| No | 46 (13.6) | 40 (11.3) | 36 (8.3) | |
| Unknown | 105 (31.1) | 96 (27.1) | 117 (27.1) | |
| Not applicable | 10 (3.0) | 6 (1.7) | 1 (0.2) | |
| **Reported receiving HIV PrEP** [d] | 39 (17.0) | 37 (18.1) | 51 (25.1) | 0.08 |
| **Mpox vaccination** | | | | 0.07 |
| No vaccination record | 253 (74.9) | 253 (71.5) | 283 (65.5) | |
| One vaccine dose received | 45 (13.3) | 55 (15.5) | 85 (19.7) | |
| Two vaccine doses received | 40 (11.8) | 46 (13.0) | 64 (14.8) | |
| **Median # of days from first vaccination to mpox infection (IQR)** | 8, IQR: 4–15 | 10, IQR: 6–22 | 12, IQR: 6–29 | 0.34 |
| **Living with HIV** | 109 (32.3) | 149 (42.1) | 229 (53.0) | <0.001 |
| **Median # mpox symptoms (IQR)** | 4, IQR: 1–6 | 4, IQR: 2–7 | 5, IQR: 2–7 | 0.005 |
| **# of mpox lesions reported** | | | | 0.17 |
| 1–9 lesions | 91 (26.9) | 124 (36.0) | 159 (36.8) | |

| Characteristic | No GC/CT[a] N = 338 No. (%)[b] | 1–2 GC/CT N = 354 No. (%) | ≥3 GC/CT N = 432 No. (%) | Pearson $\chi^2$ / ANOVA F-test *P* value |
|---|---|---|---|---|
| 10–49 lesions | 109 (32.3) | 109 (30.8) | 123 (28.5) | |
| 50–99 lesions | 7 (2.1) | 6 (1.7) | 12 (2.8) | |
| >100 lesions | 1 (0.3) | 2 (0.6) | 2 (0.5) | |
| Unknown | 130 (38.5) | 113 (31.9) | 136 (31.5) | |
| **Reported perianal lesions** | 46 (13.6) | 89 (25.1) | 118 (27.3) | <0.001 |
| **Reported genital lesions** | 124 (36.7) | 130 (36.7) | 144 (33.3) | 0.51 |
| **Experienced rectal involvement (rectal pain or bleeding)** | 135 (31.3) | 105 (29.7) | 67 (19.8) | <0.001 |
| **Was hospitalized for mpox** | 22 (6.5) | 27 (7.6) | 27 (6.3) | 0.92 |
| **Median # of days hospitalized (IQR)** [e] | 3, IQR: 1–5 | 4, IQR: 2–6 | 3, IQR: 1.5–4 | 0.75 |
| **Death attributed to mpox** | 2 (<0) | 0 (0) | 1 (<0) | 0.23 |
| **Received tecovirimat** [f] | 71 (21.0) | 77 (21.8) | 78 (18.1) | 0.39 |
| **Indication for tecovirimat** [g] | | | | |
| Lesion location (genital, oral, eye) | 24 (33.8) | 26 (33.8) | 23 (29.5) | 0.81 |
| Inflammation (proctitis, urethritis) | 11 (15.5) | 20 (26.0) | 16 (20.5) | 0.29 |
| Pain | 18 (25.4) | 14 (18.2) | 21 (26.9) | 0.40 |

[a]**Abbreviations:** No GC/CT: mpox patients who had no gonorrhea or chlamydia diagnosed five years before their mpox diagnosis; 1–2 GC/CT: mpox patients who had 1 or 2 episodes of chlamydia or gonorrhea during the 5 years before their mpox diagnosis; ≥3 GC/CT: mpox patients who had ≥3 episodes of chlamydia or gonorrhea during the five years before their mpox diagnosis; IQR-interquartile range; VL: viral load; and PrEP: preexposure prophylaxis for HIV.

[b]Some column percentages may not sum to 100% because of rounding.

[c]An approximation of the Fisher's exact test was used to calculate the difference between groups with limited cell counts.

[d]Denominator is total number of patients who were not PLH (n=637).

[e]Data regarding median number of days hospitalized was available for 63/79 (79%) of all hospitalized patients, including 21 (95%) among patients with no GC/CT episodes, 18 (67%) among patients with 1 or 2 GC/CT episodes, and 24 (89%) among patients with ≥3 GC/CT episodes.

[f]Tecovirimat treatment was administered under the IND protocol for patients with mpox who met eligibility criteria (e.g., have severe disease or involvement of anatomic areas that might result in serious sequelae or are at high risk for severe disease) or who were ineligible for or decline STOMP participation.

[g]Denominator is the total number of patients who received tecovirimat. Percentages may not sum to 100 because more than one indication may be listed for each person. Twenty-eight patients were reported to have received tecovirimat because of their HIV status and 3 patients had another immunocompromising condition in addition to HIV.