Mpox Vaccination Uptake Among MSM During the 2022 Epidemic: a Single-Center Retrospective Study

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BACKGROUND

During the 2022-2023 mpox epidemic, more than 90 000 cases were reported worldwide, mostly in men who have sex with men (MSM). A campaign of prophylactic vaccination aiming at-risk individuals, including MSM, was conducted in France starting on July 7th, 2022.

We sought to assess the vaccination uptake rate and its determinants in different MSM risk-groups: people living with HIV (PWH), people who use pre-exposure HIV prophylaxis (PrEP) and other individuals (NPU, non-PrEP users).

METHODS

We conducted a retrospective observational study in our center (Lyon University Hospital, France). All adult MSM presenting at the sexual health clinic and/or HIV clinic between January 2022 and February 2023 were considered for inclusion. Individuals with a history of mpox infection or vaccination before the campaign were excluded.

We collected data from electronic medical records, including age, sex, HIV infection status, PrEP use, mpox infection or vaccination and practice of sexual acts associated with the use of chemical drugs (chemsex). The primary outcome was the uptake rate of mpox vaccination (at least one dose received). Statistical analysis includes univariate and multivariate tests, and cumulative incidence analysis.

The prophylactic mpox vaccination uptake rate was high, especially in PrEP users. **Younger MSM (<25yo) were less likely to receive vaccination** across all groups and should be priority targets for future prevention strategies.

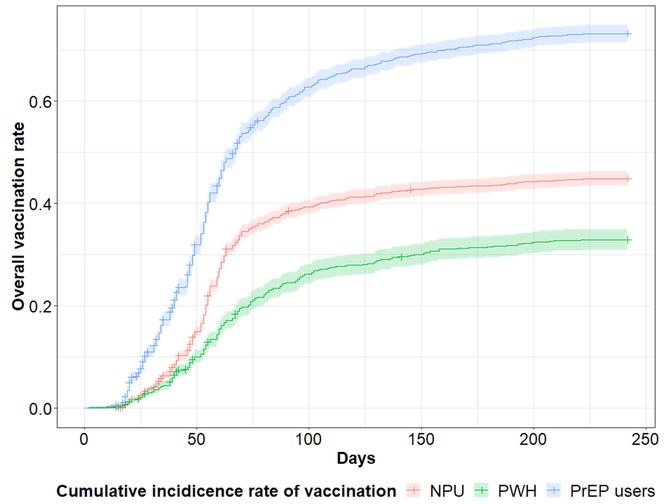
RESULTS

We included 9 256 individuals: 1 946 PWH, 2 528 PrEP users and 4 782 NPU. Median age was 51 yo (interquartile range 39-59). **The overall vaccination uptake rate was 49.6%**.

Group	Vaccinated individuals n (%)	Odds ratio (95%CI)	p-value
NPU (n=4,782)	2 129 (44.5)	1.00 (ref.)	
PWH (n=1,946)	636 (32.7)	0.73 (0.68-0.79)	< 0.0001
PrEP (n=2,528)	1 825 (72.2)	1.62 (1.56-1.69)	< 0.0001

Multivariate analysis showed **MSM under 25yo** or over 60yo were significantly less likely to receive vaccination (**HR 0.35** and 0.83, respectively). HIV infection (HR 0.41), PrEP use (HR 1.67) and chemsex (HR 1.45) were also independently correlated with vaccination uptake.

Cumulative incidence analysis showed significant difference in time to vaccination between NPU, PrEP users and PWH (p<0.001).



CONCLUSIONS

In this large cohort, the prophylactic **mpox vaccination uptake rate was high, especially in PrEP users**. This could be explained by riskier sexual behavior, and thus, higher risk awareness driving vaccination uptake. Also, PrEP users may engage more with STI prevention strategies as part of the PrEP follow-up.

PWH were less likely to be vaccinated, possibly because their sexual behavior patterns are more diverse in our sample.

Younger MSM (<25yo) were less likely to receive vaccination across all groups and should be priority targets for future prevention strategies.

ADDITIONAL KEY INFORMATION

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