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## High uptake of vaccination against mpox in men who have sex with men (MSM) on HIV pre-exposure prophylaxis (PrEP) in Paris, France

Romain Palich, Thibaut Jedrzejewski, Luminita Schneider, Naoual Qatib, Thibault Orrière, Daniel Gosset, Thomas Grunemwald, Dominique Pataut, Michel Ohayon, Christine Katlama

### ► To cite this version:

Romain Palich, Thibaut Jedrzejewski, Luminita Schneider, Naoual Qatib, Thibault Orrière, et al.. High uptake of vaccination against mpox in men who have sex with men (MSM) on HIV pre-exposure prophylaxis (PrEP) in Paris, France. *Sexually Transmitted Infections*, 2023, pp.sextrans-2023-055885. 10.1136/sextrans-2023-055885 . hal-04191441

**HAL Id: hal-04191441**

**<https://hal.sorbonne-universite.fr/hal-04191441>**

Submitted on 30 Aug 2023

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1 **ARTICLE TYPE**

2 Letter

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4 **Title**

5 High uptake of vaccination against mpox in men who have sex with men (MSM) on HIV  
6 preexposure prophylaxis (PrEP) in Paris, France

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8 **AUTHORS**

9 Romain Palich<sup>1</sup>, Thibaut Jedrzejewski<sup>2</sup>, Luminita Schneider<sup>1</sup>, Naoual Qatib<sup>1</sup>, Thibault Orrière<sup>1,2</sup>,  
10 Daniel Gosset<sup>2</sup>, Thomas Grunemwald<sup>2</sup>, Dominique Pataut<sup>2</sup>, Michel Ohayon<sup>2</sup>, Christine  
11 Katlama<sup>1</sup>

12

13 **AFFILIATIONS**

14 1. Sorbonne University, Infectious Diseases department, Pitié-Salpêtrière hospital, AP-HP,  
15 Pierre Louis Epidemiology and Public Health institute (iPLESP), INSERM 1136, Paris, France

16 2. "Le 190" Sexual Health Center, Paris, France

17

18 **CORRESPONDING AUTHOR**

19 Romain Palich, MD, PhD

20 Service de Maladies Infectieuses et Tropicales, hôpital Pitié-Salpêtrière, 47-83 boulevard de  
21 l'hôpital, 75013 Paris, France

22 Tel: +33.1.42.16.01.71, fax: +33.1.42.16.04.45

23 Email: romain.palich@aphp.fr

24

25 **WORDS COUNT**

26 574

27

28 **KEY WORDS**

29 Mpox; vaccination; PrEP; MSM

30 **BODY TEXT**

31

32 In July 2022, the French health authorities recommended smallpox vaccination (IMVANEX® and  
33 JYNNEOS®) to prevent mpox in population at high risk of exposure. HIV and PrEP physicians  
34 were informed and involved in the deployment of this vaccination, but there has been no  
35 communication to the general public. The current mpox epidemic in France, the rest of Europe  
36 and the USA is concentrated among men who have sex with men (MSM), particularly in case  
37 of multiple physical and sexual contacts [1,2]. Several case series have reported high  
38 proportions of people living with HIV and of users of HIV preexposure prophylaxis (PrEP) [3,4].

39

40 To assess the uptake of vaccination among PrEP users, we conducted an observational study in  
41 two centres in Paris, France (Infectious Diseases department of the Pitié-Salpêtrière hospital  
42 and “Le 190” sexual health clinic). We systematically asked PrEP users who attended a routine  
43 check-up for PrEP at both centres between November 2022 and January 2023 whether they  
44 had received at least one vaccine dose since July 2022. We used a structured questionnaire for  
45 that, administrated by the physician. If not vaccinated, we collected the reasons: prior mpox  
46 disease, not feeling at risk, waiting for medical advice during their routine check-up for PrEP,  
47 being against vaccination in general, or declining to answer. All information was reported in  
48 medical records, and later extracted and aggregated after de-identification. According to the  
49 French law (Act 78–17 of Jan 6, 1978, on Computers, Files and Liberties) this study was  
50 conducted in compliance with the CNIL (French National Agency Regulating Data Protection,  
51 ref. 2085881 for Pitié-Salpêtrière, and ref. 2221945 for “Le 190”), and with the reference  
52 methodology 004 ([www.cnil.fr](http://www.cnil.fr)).

53

54 A total of 424 MSM with a median age of 36 years (IQR 29-46) participated (Figure 1); 22 (5.2%)  
55 had been previously diagnosed with mpox, and 329 (77.6%) had received at least one vaccine  
56 dose. Of the remaining 73 PrEP users not yet immunised against mpox, 40 (54.8%) agreed to  
57 be vaccinated. Among the 33 (45.2%) who refused, reasons given were: did not feel at risk of  
58 mpox (20, 60.6%), was against vaccines in general (8, 24.2%), or preferred not to give a reason  
59 (4, 12.1%). One had a formal contraindication to the vaccine (allergy). No individual who  
60 received the vaccination reported severe adverse reactions.

61

62 Overall, of the 402 PrEP users who had not had a diagnosis of mpox, 369 (87.0%) have been  
63 vaccinated against mpox. Interestingly, most had sought vaccination spontaneously during the  
64 summer of 2022. Nearly half of PrEP users who refused vaccination did not feel at risk. This is  
65 consistent with a French survey reporting that MSM on PrEP who were reluctant to be  
66 vaccinated against mpox had few sex partners, and had refused other vaccinations in their  
67 lifetime [5].

68

69 Our study has some limitations. We did not collect the number of vaccine doses received by  
70 participants. Although it has been shown that one dose of vaccine can provide rapid protection

71 against the disease [6,7], a two-dose schedule may be required for long-term protection [8].  
72 Thus, we cannot exclude that some participants may not be fully protected.

73

74 The uptake of vaccination in our study is very similar to the 89.2% reported by Canadian  
75 colleagues in a recent study which included 331 transgender people and MSM [9]. Both studies  
76 highlight the role that physicians can play in vaccine campaigns for the prevention of sexually  
77 transmitted diseases, particularly in epidemic circumstances, by proactively offering and  
78 facilitating access to vaccination.

79

#### 80 **Acknowledgments**

81 We thank the patients, the nurses, and all the clinical staff of “Le 190” Sexual Health Center,  
82 and of the Infectious Diseases department of the Pitié-Salpêtrière hospital.

83

#### 84 **Competing interest statement**

85 No competing interest.

86

#### 87 **Funding**

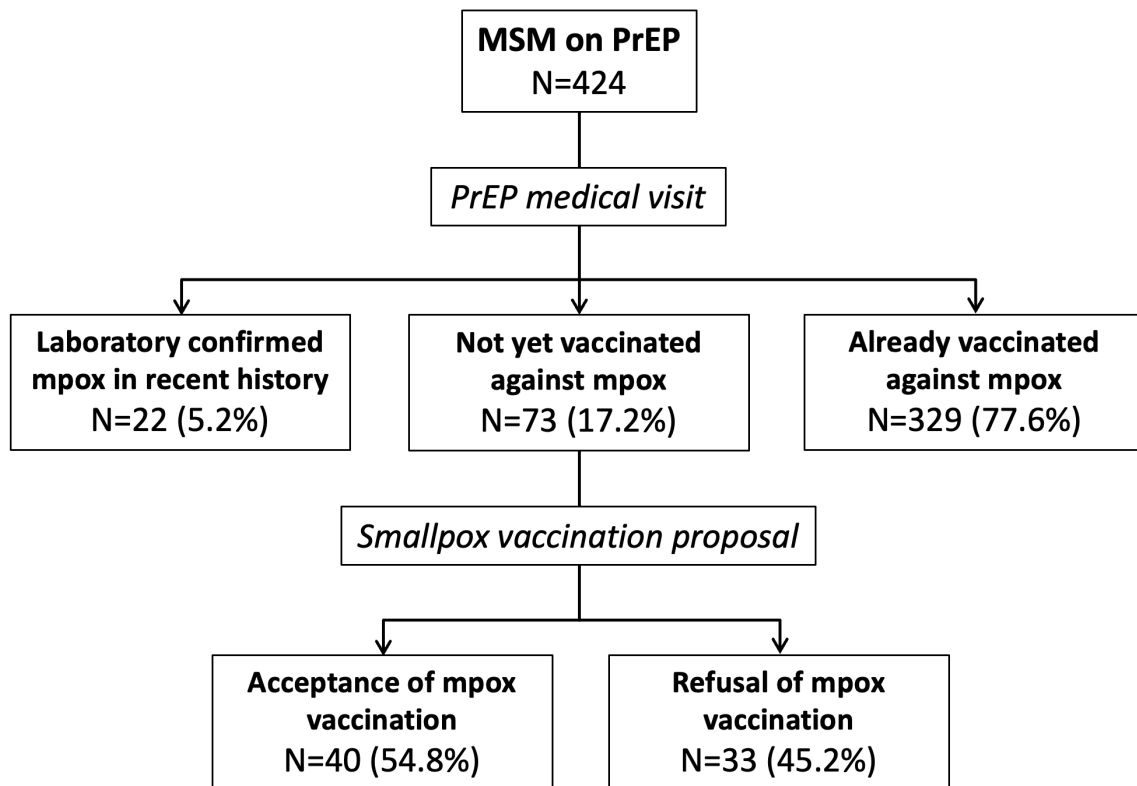
88 This study was supported by internal funding.

89

#### 90 **Contributorship statement**

91 CK, MO and DG designed the study; RP, TJ, LS, NQ, TO, DG, TG, DP, MO and CK participated in  
92 data collection, were responsible for data quality in the centers, and provided useful advice in  
93 the discussion; RP wrote the first draft; all authors approved the final manuscript.

94 Figure 1. Proportions of PrEP users who were already vaccinated against mpox at the time of  
95 their routine check-up for PrEP and uptake following medical recommendation to receive the  
96 vaccine  
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