The current mpox (monkeypox) outbreak began in May 2022 primarily among the population of men who have sex with men (MSM), with especially high incidence among people living with HIV and people who use HIV Pre-Exposure Prophylaxis (PrEP). The role of asymptomatic carriers in spreading mpox remains an ongoing controversy.

The aim of this study was to prospectively determine the prevalence of asymptomatic mpox infections in MSM enrolled in an HIV PrEP programme (SwissPrEPared) in Zurich and Geneva, Switzerland. The SwissPrEPared programme is a large, ongoing nation-wide Swiss cohort of PrEP users. Within the program, three-monthly screenings for chlamydia and gonorrhea are recommended among all participants. All participants who attended the sexual health clinics of Zurich or Geneva for their routine three-monthly PrEP appointments between 23 August and 4 October 2022, reported having sex with occasional partners in the past three weeks, did not show symptoms consistent with mpox infection, and agreed to a pharyngeal and rectal swab for mpox polymerase chain reaction (PCR) testing were eligible for participation. It is of note that the mpox vaccination was not available in this setting before November 2022. The SwissPrEPared study was approved by the lead ethical committee (EC) in Zurich on 14 May 2019 (BASEC Nr. 2018-02015), followed by the approval of all ECs from the other cantons. All participants signed a written informed consent. Demographic and clinical data were collected from all participants digitally via the SwissPrEPared web application.

202 participants enrolled in the study and submitted samples for testing. One participant did not submit a baseline questionnaire and was excluded from the study, resulting in 201 participants total. All participants were assigned male at birth (one identifies as female and another two as non-binary). Participants were young (median age 36·0 years (IQR: 31·0, 45·0)) and highly educated (n=156 (78%) had a bachelor or professional degree or higher). 90% (n=180) had previously been diagnosed with a sexually transmitted infection (STI), and 14% of those tested (n=27/197) were diagnosed with an STI other than mpox during their appointment.

194 (97%) of study participants filled out the questionnaire on risk behaviors before their appointment. Participants reported a median of 8 sexual partners (IQR: 4·0, 12·0) since their last visit, and 91% reported having sex with occasional partners in the last three months.

Two participants (1%, 2/201) tested positive for mpox in the absence of symptoms during their routine appointments. Both reported steady relationships, but with multiple sexual partners in the last three months (respectively 7 and 15 partners). One individual, aged 25, was pre-symptomatic. The other individual, aged 40, remained asymptomatic. Neither were vaccinated.

Our findings support reports that prevalence of asymptomatic mpox infection is low. However, the number of asymptomatic cases may have been higher had the study been conducted at the peak of the epidemic. It is clear that virus is detectable in asymptomatic and pre-symptomatic individuals. This is particularly concerning given the recent breakthrough infection clusters in vaccinated individuals, raising the possibility that pauci- or asymptomatic transmission may play a larger role in future outbreaks.