


SHORT COMMUNICATION

Characteristics of HIV post-exposure prophylaxis recipients at six English sexual health clinics during COVID-19

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Abstract

Objectives: Disruption to sexual health services during the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2; coronavirus disease 2019 [COVID-19]) pandemic may have adversely affected the provision of HIV post-exposure prophylaxis (PEP), possibly leading to increased HIV transmission. Globally, services have reported a reduction in the number of PEP prescriptions dispensed during lockdowns, although it is unclear why. Our primary objective was to describe the temporal change in weekly HIV PEP dispensed at six English sexual health clinics in 2020.

Methods: We performed a cross-sectional review of PEP prescriptions from six English centres during 2020.

Results: During 2020, 2884 PEP prescriptions were dispensed across the six centres studied, a fall of 34.5% from the 4403 PEP prescriptions in 2019. Before the COVID-related lockdown in 2020, the PEP dispensed was stable at 82.5 per week. Following the first lockdown, this fell to a nadir of 13 in week 14 (Figure 1). Prescriptions rose to a peak of 79 in week 37 and then declined to 32 prescriptions in the last week of 2020. There was no difference in the following characteristics of PEP recipients before and during the first lockdown: age, ethnicity, country of birth or the service the recipient attended.

Conclusion: Whatever the reason for the fall in PEP seen in England over 2020, it is essential that HIV testing and access to HIV prevention is maintained for those in need.

KEYWORDS

COVID-19, HIV, HIV post-exposure prophylaxis, HIV prevention

BACKGROUND

HIV post-exposure prophylaxis (PEP), a 28-day course of antiretroviral therapy given within 72 h of a risk exposure, is part of combination HIV prevention, along with condom use, frequent testing, early HIV treatment and

pre-exposure prophylaxis [1,2]. In the UK, PEP is given free of charge in sexual health clinics and emergency departments (EDs).

Disruption to sexual health services during the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2; coronavirus disease 2019 [COVID-19]) pandemic may

have adversely affected all facets of combination HIV prevention, including PEP, possibly leading to increased HIV transmission. Globally, services have reported a reduction in the number of PEP prescriptions dispensed during lockdowns, although it is unclear why [3]. The most obvious explanation is that individuals may have engaged in less condomless sex during lockdowns. However, it may also reflect people's reluctance to travel during these periods, through fear of COVID-19, meaning that individuals were not accessing the PEP they required. Or, perhaps individuals were accessing PEP elsewhere such as EDs or services nearer to where they lived.

In 2020, England underwent a series of lockdowns because of the COVID-19 pandemic [4]. From 23 March to 13 May 2020 (week 12–19), following a fortnight of instructions to avoid unnecessary travel and non-essential contact with others, measures were introduced to reduce the transmission of SARS-CoV-2, including home isolation and social distancing, although individuals could travel for medical care. Restrictions were re-introduced regionally on 14 October 2020 (week 41) following a rise in COVID-19 cases, with Liverpool entering the highest level, tier 3, on 17 October 2020 (week 41), which stipulated no indoor gatherings. This was extended into a second nationwide lockdown from 5 November to 2 December 2020 (week 44–48). Tiered restrictions were re-introduced, with London and the south-east of England entering tier 3 on 19 December 2020 (week 50) and the whole of England entering a new tier 4 on 6 January 2021, widely described as a third national lockdown.

We describe the change in weekly PEP prescriptions at English sexual health clinics during 2020. We wished to examine whether the change in PEP prescriptions over COVID-19 lockdowns was similar across clinics in different geographical areas.

METHODS

The primary objective was to describe the temporal change in weekly PEP dispensed at six English sexual health clinics in 2020. The secondary objective was to describe the characteristics of PEP recipients, comparing those of recipients before the first national lockdown (20 January–16 February 2020) with those of recipients during the lockdown (23 March–19 April 2020).

We performed a case note review of PEP from four London centres (56 Dean Street [56DS], Barts NHS Foundation Trust [Barts], Central and North West London NHS Foundation Trust [CNWL], Guy's and St Thomas' NHS Foundation Trust [GSTT]) and two outside London (Brighton and Sussex University Hospitals NHS Foundation Trust [Brighton] and Asex Sexual Health

[Liverpool]). These centres were chosen as they dispense a large proportion of the PEP given nationally; in 2019, these services dispensed 4403 (37.0%) of England's 11,911 PEP (56DS, 2548; GSTT, 637; CNWL, 363; Barts, 361; Brighton, 295; Liverpool, 199) [5].

Routine clinical data were obtained for individuals prescribed PEP during 2020, including age, gender, sex, country of birth, ethnicity, date of consultation and details of the HIV exposure for which PEP was given (number of sexual contacts, HIV status of sexual contact/s, chemsex); the highest risk was noted for multiple exposures. Chemsex was defined as the use of any of the following drugs in the context of the HIV risk exposure (crystal methamphetamine, mephedrone, gamma-hydroxybutyrate/gamma-butyrolactone, ketamine and cocaine); slamsex includes the injection of any of those substances. We also noted whether the PEP was initiated at the centre of the consultation or elsewhere.

Anonymised data were entered into a Microsoft Excel spreadsheet, cleaned and analysed. Analyses of differences between the two groups (before and during first lockdown) were performed using the Mann–Whitney *U* test (for continuous data) and the chi-squared test (for categorical data) except for the category slamsex, where Fisher's exact test was used.

The project was reviewed and approved by the NHS Health Research Authority (project ID 20/HRA/5958).

RESULTS

During 2020, 2884 PEP prescriptions were dispensed: 1526 (52.9%) at 56DS, 449 (15.6%) at CNWL, 324 (11.2%) at GSTT, 309 (10.7%) at Barts, 152 (5.3%) at Brighton and 124 (4.3%) at Liverpool. Compared with the 4403 PEP prescriptions in 2019, this is a fall of 34.5%.

Across the six services, over the first 10 weeks of 2020 before the COVID lockdown, the number of PEP dispensed was stable at 82.5 per week (Figure 1). Following the first lockdown, this fell to a nadir of 13 (week 14). Prescriptions rose to peak at 79 in week 37 and then declined with 32 prescriptions in the last week of 2020. This trend was seen in all six services, with prescriptions lower in the second quarter than the first, and in the last quarter compared with the third; although these falls were less pronounced in the smaller centres (Appendix 1).

Compared with a 4-week period before lockdown (20 January–16 February 2021), the 4-week period during the first lockdown (23 March–19 April 2021) saw less PEP dispensed (59 vs. 306; drop of 81%) (Table 1). There was no difference in the following characteristics of PEP recipients between the two periods: age, ethnicity, country of birth or which service the recipient attended. For PEP risk exposure,

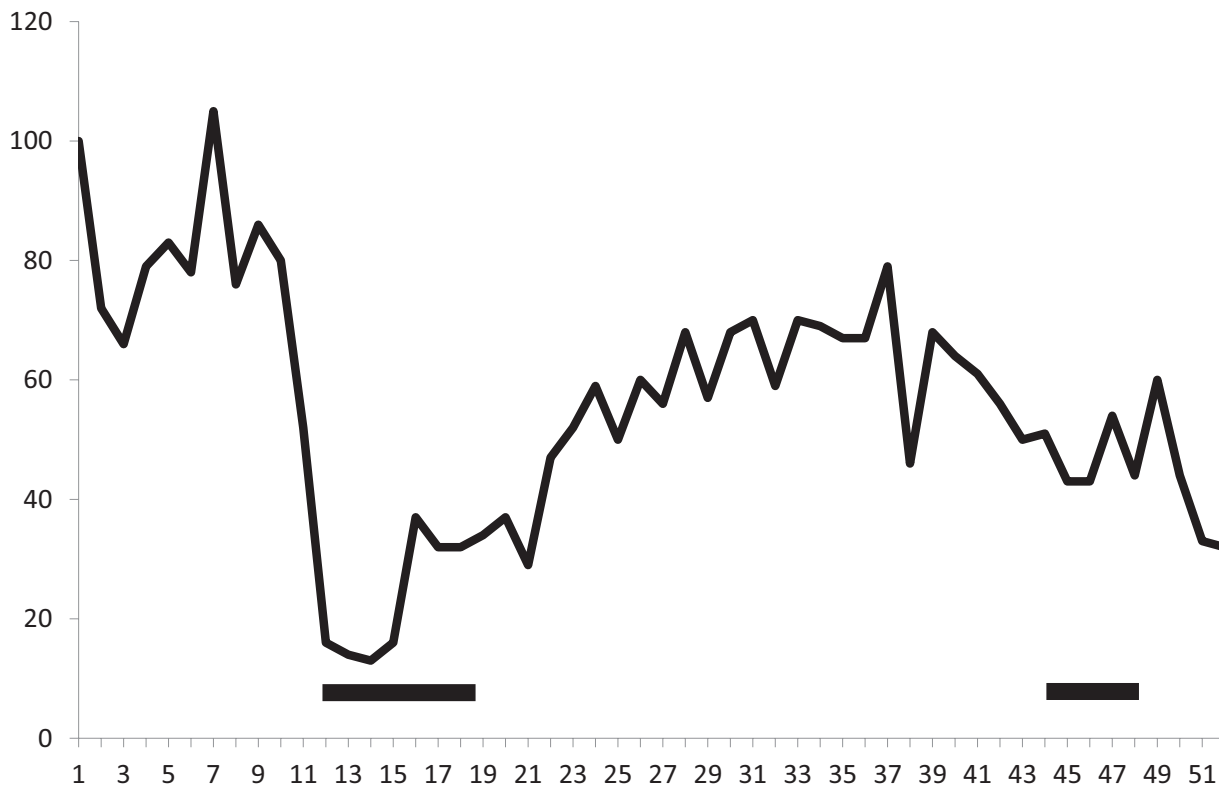


FIGURE 1 The weekly number of HIV post-exposure prophylaxis prescriptions prescribed at six English services in 2020 (week 1 to week 52 inclusive). Horizontal bars represent national lockdown 1 (week 12–19) and national lockdown 2 (week 44–48)

there was no difference in the highest risk for PEP or whether it involved group sex or sexual assault. During lockdown, PEP was more likely to have been initiated elsewhere than at one of the six services the PEP recipient attended during lockdown (75% vs. 87%, $p = 0.019$), and recipients were significantly more likely to report that the HIV status of the risk was HIV positive than before lockdown (24% vs. 8.5%, $p = 0.0006$). PEP exposures were also significantly more likely to include slamsex during lockdown (3.4% vs. 0%, $p = 0.023$). Although chemsex was more likely to be reported during lockdown than before (19% vs. 14%), this was not significantly different ($p = 0.19$).

DISCUSSION

PEP prescriptions were affected by the COVID-19 pandemic in 2020, with decreases during two periods of nationwide lockdown and fewer prescriptions than in the previous year. In England, testing for sexually transmitted infections, including HIV, fell in a similar way to our PEP prescriptions [6]. Nationally, ED attendances also showed a similar pattern of decline, irrespective of the severity of the emergency [7,8]. This suggests that the public's healthcare-seeking behaviour responded similarly to all emergencies, including the need for PEP.

At the start of 2020, all six services provided PEP assessment as an unbooked 'walk-in' service. Three services changed their pathway in response to the pandemic: Barts introduced online booking for April–May 2020 then reverted to walk-in; Liverpool introduced phone triage from March 2020, which continued for the rest of the year, and Brighton introduced phone triage from March to June 2020 and triage at the service's reception from June 2020. As the changes in PEP prescriptions were similar across all six clinics, it seems unlikely that the pathway changes at individual clinics prevented access to PEP when it was required.

The characteristics of PEP recipients were similar during lockdown and previously, demonstrating that those who did access PEP continued to have a high HIV risk.

Although some of the associations of PEP recipients, such as slamsex, were statistically significant, caution should be used in their interpretation because of the small numbers. This project looked at only six English sexual health centres, and patterns of PEP use may have differed in services not studied here (e.g. other sexual health services and EDs).

It is unclear whether the need for PEP decreased over the pandemic. A potential reason for this decrease is that sexual activity declined. However, the picture is complex, with survey data suggesting that a minority of the population reported significant changes [9]. It is therefore

TABLE 1 Characteristics of individuals who received post-exposure prophylaxis for sexual exposure at six English sexual health services in the 4-week periods 20 January–16 February 2020 and 23 March–19 April 2020

	20 Jan–16 Feb 2021	23 Mar–19 Apr 2021	<i>p</i> value**
Total	306	59	-
Gender			
Male	272 (89%)	51 (86%)	0.17
Female	27 (8.8%)	4 (13%)	
Trans/Other	7 (2.3%)	4 (13%)	
Age (median, IQR)	30 (25–36)	30 (25–38)	0.41
Ethnicity			
White	183 (60%)	39 (66%)	0.68 ^b
Non-white	82 (27%)	15 (25%)	
Unknown	41 (13%)	5 (8.5%)	
Country of birth			
UK	145 (47%)	31 (53%)	0.59 ^b
Non-UK	142 (46%)	26 (44%)	
Unknown	19 (6.2%)	2 (3.4%)	
Service attended			
56DS	161 (53%)	28 (47%)	0.40
CNWL	48 (16%)	8 (14%)	
GSTT	35 (11%)	12 (20%)	
Barts	35 (11%)	4 (6.8%)	
Brighton	17 (5.6%)	5 (8.5%)	
Liverpool	10 (3.3%)	2 (3.4%)	
Started at service attended			
Yes	265 (87%)	44 (75%)	0.019
No	41 (13%)	15 (25%)	
Highest PEP risk			
Receptive anal intercourse	226 (74%)	40 (68%)	0.58 ^b
Insertive anal intercourse	38 (12%)	11 (19%)	
Receptive vaginal intercourse	32 (10%)	5 (8.5%)	
Other	8 (2.6%)	2 (3.4%)	
Unknown	2 (0.7%)	1 (1.7%)	
Source HIV status			
HIV positive	26 (8.5%)	14 (24%)	0.0006
Unknown	280 (92%)	45 (76%)	
Group sex?			
Yes	59 (19%)	7 (12%)	0.17 ^b
No	246 (80%)	52 (88%)	
Unknown	1 (0.3%)	0 (0%)	

TABLE 1 (Continued)

	20 Jan–16 Feb 2021	23 Mar–19 Apr 2021	<i>p</i> value**
Sexual assault?			
Yes	30 (9.8%)	2 (3.4%)	0.11 ^b
No	274 (90%)	57 (97%)	
Unknown	2 (0.7%)	0 (0%)	
Chemsex ^a			
Yes	42 (14%)	11 (19%)	0.19 ^b
No	255 (83%)	41 (69%)	
Unknown	9 (2.9%)	7 (12%)	
Slamsex ^a			
Yes	0 (0%)	2 (3.4%)	0.023 ^b
No	286 (93%)	49 (83%)	
Unknown	20 (6.5%)	8 (14%)	

Abbreviations: 56DS, 56 Dean Street; Barts, Barts Health NHS Trust; CNWL, Central and North West London NHS Foundation Trust; GSTT, Guy's and St Thomas' NHS Foundation Trust; IQR, interquartile range; NHS, UK national health service; PEP, post-exposure prophylaxis.

^aIncludes crystal methamphetamine, mephedrone, ketamine, and cocaine.

^bExcludes the category 'unknown'.

***p*-values generated using the Mann–Whitney *U* test (age), Fisher's exact test (slamsex); χ^2 test for all other characteristics.

difficult to know whether HIV risk (and transmission) decreased nationally.

Ultimately, any unmet PEP need, together with disruption in other parts of HIV combination prevention such as pre-exposure prophylaxis use, is relevant if it resulted in increased HIV transmission. Early evidence indicates that this is not the case as HIV diagnoses continued to fall nationally in 2020 [10]. However, it may still be too early to see an impact, so monitoring what happens next regarding new HIV diagnoses will be informative. Whatever the reason for the fall in PEP seen in England over 2020, it is essential that HIV testing and access to HIV prevention is maintained for those in need.

CONFLICT OF INTEREST

GW has received personal fees from Gilead, MSD and ViiV outside the submitted work. JT has received travel grants from ViiV Healthcare, a research fellowship to his institution from Gilead Science and research grants from the Medical Research Council and the British HIV Association. Nadia Ahmed, Achyuta Nori, Daniel Richardson, Emily Clarke, Rita Browne, Jessica Doctor, Andy Williams, Andrew Parkhouse and Olivia Clouser have no conflicts of interest that are directly relevant to the content of this article.

AUTHOR CONTRIBUTION

GW, NA and JT conceived the project. All authors contributed to data collection and the writing of the draft for publication.

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APPENDIX 1

The number of HIV post-exposure prophylaxis prescriptions prescribed at six English services in each quarter of 2020

Centre	Quarter 1	Quarter 2	Quarter 3	Quarter 4
56DS	467	245	438	376
CNWL	151	80	128	90
GSTT	109	64	102	49
Barts	94	58	84	73
Brighton	55	23	55	19
Liverpool	31	28	37	28
Total	907	498	844	635

Abbreviations: 56DS, 56 Dean Street; Barts, Barts Health NHS Trust; CNWL, Central and North West London NHS Foundation Trust; GSTT, Guy's and St Thomas' NHS Foundation Trust.