Investigating barriers and enablers to the routine provision of HIV PrEP in community pharmacies in London.

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Investigating barriers and enablers to the routine provision of HIV PrEP in community pharmacies in London

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Abstract

Background

The UK's integration of Pre-exposure Prophylaxis (PrEP) into community pharmacies presents a promising avenue for enhancing HIV prevention. Despite its effectiveness, PrEP's accessibility remains hindered by various barriers within community settings. In this study, we aimed to explore the perspectives of pharmacy team members regarding the barriers and facilitators to the routine provision of HIV PrEP in UK community pharmacies, as well as their recommendations to mitigating these challenges.

Methods

A mixed-method study utilising an online survey and semi-structured interviews with community pharmacists and non-pharmacist team members across the UK.

A convenience sample of 110 pharmacy team members participated in the study, including both pharmacists and non-pharmacist. Two pharmacy technicians and eight pharmacists took part in semi-structured interviews.

Data collection involved a cross-sectional online survey and semi-structured interviews. The survey assessed demographic characteristics, knowledge and attitudes towards PrEP provision, while interviews explored in-depth perceptions, experiences and recommendations.

Results

A significant proportion of respondents expressed a lack of confidence and knowledge regarding PrEP, with training identified as a critical need for facilitating PrEP provision. Additionally, the study highlighted the potential of community pharmacies to increase PrEP accessibility due to their geographical reach and the trust placed in pharmacists.

Conclusion

The study highlights the necessity for targeted training programs and public health campaigns to equip community pharmacies for effective PrEP provision. Enhancing pharmacists' competencies and public awareness could significantly impact HIV prevention strategies in the UK.

Background

Pre-exposure prophylaxis, or PrEP, is the use of an antiretroviral drug to stop people who are not infected from becoming HIV positive. PrEP may either be taken orally, using an antiretroviral drug available for the treatment of HIV infection (e.g, tenofovir plus emtricitabine), by long-acting injectable (Cabotegravir) or vaginal ring (Dapivirine) [1]. Oral PrEP based on tenofovir disoproxil fumarate (TDF) is advised by the World Health Organisation (WHO) for people at substantial risk of acquiring HIV infection as an

additional preventive option, as part of comprehensive prevention [1]. PrEP is highly effective when taken as prescribed [2]. Its effectiveness in preventing infection with HIV in high-risk patients such as men who have sex with men (MSM) [3], heterosexual couples with one HIV-positive partner [4] and injecting drug users (PWID) [5] has been validated by numerous trials. Globally, countries are at varying stages of PrEP uptake.

In 2018 there was an estimated 300,000 PrEP users with most of them being in the USA [6]. As of April 2020, 75 countries had some form of PrEP registered for use, from which 44 countries offered funding for high-risk populations [7]. Researchers estimate that fewer than 20% of people who would benefit from PrEP are using the medication [8]. In the UK, the use of antiretroviral therapy by people who are HIV positive to both prevent and treat HIV infection (treatment as prevention [TasP]) was approved by NHS England in 2015 [9]. In 2017, NHS England announced funding for the 3-year PrEP Impact implementation trial to address outstanding questions including the need for, uptake of and duration of PrEP. In March 2020, UK Health Secretary Matt Hancock announced that PrEP would be made available free on the National Health Service (NHS) to those at high risk of HIV infection. Local authorities were to receive £16 million in 2020–21 from the UK Department of Health and Social Care to deliver preventive HIV treatment through local sexual health clinics [10]. In December 2020, there were an estimated 18,000 PrEP users in the UK [11].

Because NHS-funded PrEP is available via a limited number of designated sexual health clinics, clients may have to travel long distances to obtain the prophylaxis which could be impractical and costly. However, community pharmacies are typically within a 15–20-minute walk for most urban populations, and their longer opening hours offer greater accessibility than other sexual healthcare providers. While online alternatives offer another solution, postage may be unreliable and indiscreet. In addition, a consultation with a Community Pharmacist (CP) could also include discussion about concurrent medicines, self-care lifestyle advice, going beyond the provision of PrEP and sexual health advice.

When considering the potential advantage of CP-led clinics, numerous studies have shown that HIV Clinical Pharmacist interventions and clinical care activities significantly improve medication adherence and virologic outcomes in HIV-positive individuals [12]. It has been reported that in a variety of healthcare settings, pharmacists' direct patient care significantly improves patient's knowledge, medication adherence and quality of life [13]. Other reported advantages include the possible ease of integrating PrEP services into locations where HIV testing and linkage to care is already extant (15, 16), evening and weekend hours of pharmacy operation, pharmacists' ability to prospectively review medication refill gaps to detect non-adherence and to provide adherence counselling (16), and partnerships with other entities (e.g. health departments or community organisations) to optimise reach to at-risk populations [14–16]. By educating patients on the safety, efficacy, precautions and correct use of PrEP, as well as developing personalised methods of reducing missed doses, clinical pharmacists appear to be in an ideal position to promote the use of PrEP and could help abate PrEP non-adherence. Clinical pharmacists who have experience and expertise in adherence counselling are likely to be essential members of the multidisciplinary care team for the long-term success of PrEP. The same can

be said of Community Pharmacists who are now conducting a range of clinical consultations in the community setting.

Despite these indications, there is scant research on the barriers and drivers for the routine provision of PrEP in the community pharmacy landscape in England. The aim of this study was to investigate the perspectives of community pharmacy team members regarding extant barriers and enablers for the routine provision of HIV PrEP in community pharmacies in the UK. We also sought to identify key recommendations from the 'front line' pharmacy team members that could be considered to mitigate barriers to the streamlined provision of PrEP in this setting.

Methods

Study design

The study adopted a mixed-method approach using a cross-sectional online survey and semi-structured interviews from a convenience sample of pharmacy staff, including Community Pharmacists and non-pharmacist team members in London.

Electronic survey

The voluntary survey could be accessed via a smartphone or personal computer and included a total of 25 questions spread over many screens (**Supplementary File 1)**. The survey can be accessed using this link: https://imperial.eu.qualtrics.com/jfe/form/SV_5jOgKj4szkJV1fo

Respondents were asked questions about their gender, age, race, job title and field, and the first part of the pharmacy postal code they are affiliated to, among other demographic characteristics. Participants had the option to review their responses before submitting the survey. All information gathered via the eSurvey was unidentifiable and pseudo-anonymized. Before it was released, the online survey's technological operation was examined. Participants were asked to affirm that they were consenting to take part in the eSurvey in the first question. The knowledge and attitudes of the pharmacy team towards the routine provision of PrEP in the community pharmacy setting were appraised through a number of questions. The survey included questions on sexual health services at their pharmacy, their personal knowledge of HIV and PrEP, their attitude towards providing PrEP in their pharmacy, and the perceived barriers towards PrEP in community pharmacy. Respondents had the option to choose "no opinion" to withhold their response. These responses were considered missing in all analyses (listwise exclusion); however, as the percentage of missing data was so low (< 1.5%), the data were not imputed [17, 18].

The link to the electronic survey was published and made available on the Imperial College Qualtrics platform between 28 October 2022 and 3 August 2023 (10 months). The survey was open and could be accessed by pharmacy team members with a link.

The study team sent out invitation emails to those who could be eligible. The link to the survey and the Participant Information Sheet (PIS) were distributed via LPCs together with other study materials. The

PIS contained details on the objectives of the study, the safeguarding of participants' personal information, their freedom to discontinue participation at any moment, the types of data recorded, where they were kept, and how long they were kept there, the identity of the investigator, the study's purpose, and the duration of the survey. The participants were given the opportunity to receive a £15 Amazon voucher for their time, if an email address was provided. Participants were also asked to give their contact details if they wished to participate in a follow up interview Only the research team had access to the eSurvey results, which were kept on the secure database of Imperial College London.

Personal interviews

The author’s personal networks of pharmacists as well as respondents to the online survey who consented to be contacted for an interview were approached with ethically approved study information including the participant information sheet and an online consent form.

Potentially eligible participants who consented to be interviewed were provided with study information including participant information sheet describing the study's aim, the identity of the interviewers, the duration and location of the interview and the duration of data storage. Interviewees were advised not to answer any questions they felt uncomfortable answering, and that they were free to leave the interview at any time without providing an explanation. All participants provided consent to the publication of their anonymised responses. Ten one-to-one interviews were carried out face-to-face by MA and SL during July and August 2023. The interviewers (MA and SL) knew four of the participants prior to the interview.

Participants were made aware that any quotes taken verbatim might be used to highlight important concepts would remain anonymous. The open-ended, semi-structured interview questions were intended to delve further into the experiences, attitudes, and viewpoints of the participants. There were probing questions posed, and people were invited to give further thoughts and remarks. Specifically, our objectives were to further explore the respondents’ views on the barriers and drivers to the introduction of PrEP in community pharmacy, with a specific focus on the professional competencies needed, as well as recommendations regarding ways to raise awareness of PrEP, especially among minority groups (see **Supplementary file 2** for semi-structured interview guide).

Interviews were conducted with just the participant and the interviewer present. Without pausing or ending the interview, every interviewee finished it and responded to every question. When no more information was forthcoming and data saturation was achieved, the interview Contextual problems that were pertinent were documented using field notes. procedure was ended. The interviews ranged in length from ten to 20 minutes.

The research team discussed the questions (face validity) before developing an interview guide that was tested and improved. The purpose of the guide was to offer organisation and direction.

Data analysis

Survey responses were summarised using frequencies and percentages. Descriptive analysis was performed using SPSS (Statistical Package for Social Sciences) version 28.0.1. The Checklist for Reporting Results of Internet eSurveys (CHERRIES) was used to guide reporting [19].

Contextual data from personal interviews were analysed according to the principles of interpretive thematic analysis. The emergent themes were checked against the interview guide, the study objectives and quantitative findings, resulting in the development of a set of major themes identified either as barriers, drivers or recommendations. The study team did not discuss findings with participants but was keen to share publications with anyone who expressed interest. The Consolidated Criteria for Reporting Qualitative Research (COREQ) were used to guide reporting [20].

Ethics

The study received a favourable opinion from Imperial College Research Ethics Committee (ICREC #21IC6934). Participants consented to take part in the study.

Patient and Public Involvement

No patient was involved.

Results

We collected quantitative data from 110 participants between October 2022 to March 2023. We also collected contextual data from personal interviews with 10 respondents between July and August 2023. The results are presented in the same order.

eSurvey

Respondent characteristics

The electronic survey captured full responses from 110 respondents who were either qualified pharmacists or other members of the pharmacy team from across England **(**Table 1**).** All respondents completed the survey, and all responses were analysed. Nearly two thirds (60.9%) of respondents were male, and the majority (68.2%), were Asian/ Asian British, or worked in the independent community pharmacy sector (82.7%). Less than a quarter (21.8%) worked in a pharmacy multiple or retail group of pharmacies. Only 7.3% of respondents reported being independent prescribers. The detailed characteristics of the respondents of the survey are shown in Table 1.

Table 1
Respondent characteristics (n = 110)

	N	(%)
Age (n = 109)		
20–29	17	(15.6)
30–39	42	(38.5)
40–49	21	(19.3)
50–59	14	(12.8)
60–69	13	(11.9)
70–79	2	(1.8)
Gender (n = 110)		
Male	67	(60.9)
Female	43	(39.1)
Ethnicity (n = 107)		
Asian/Asian British	73	(68.2)
Black/African/Caribbean/Black British	5	(4.7)
Mixed/multiple ethnic groups	3	(2.8)
White	19	(17.8)
Other	7	(6.5)
Pharmacists (n = 110)		
Pharmacists	88	(80.0)
Non-pharmacist team member	22	(20.0)
Role (n = 134) *		
Community pharmacist (independent)	91	(82.7)
Community pharmacy (multiple)	24	(21.8)
GP practice-based pharmacist	4	(3.6)
Hospital pharmacist	1	(0.9)
Independent prescriber	8	(7.3)

*=multiple choice question (any unit of interest is number of answers and not the number of respondents)

	N	(%)
Age (n = 109)		
PCN pharmacist	1	(0.9)
Other	5	(4.5)
*=multiple choice question (any unit of interest is number of answers and not the number of respondents)		

Provision of sexual health services in the community pharmacy setting

The results of the full survey are shown in Table 2. Only 30 respondents (27.8%) reported that their pharmacy offered sexual health services including emergency hormonal contraception (26.8%), signposting (23.7%), free condom distribution (17.5%), chlamydia screening/treatment (11.3%), STI testing (11.3%), and HIV testing (9.3%). From the 30 pharmacies that offered sexual health services, 30.0% provided the basic (level 1) services, 10.0% provided level 2, and 23.3% provided the fuller (level 3) sexual health services.

When asked about the usual course of action taken when a service user requested PrEP in the local pharmacy, 96.4% of respondents said they would signpost the patient to an STI clinic, 20.0% would suggest an HIV test kit, and 6.5% would suggest they purchase PrEP from safe online websites.

Pharmacy team knowledge of HIV and PrEP

When asked about which individuals would be deemed at higher risk of contracting HIV, 88.9% of our respondents thought injecting drug users were at a high risk of contracting HIV, compared to 82.4% for MSM, 80.6% for sex workers, 52.4% for young people (aged 20–24) and 45.4% for ethnic minorities; Table 2 The majority (92.4%) of respondents stated that they knew where to signpost individuals when they needed a sexual health clinic, whereas 7.3% did not know where to signpost. Remarkably, only 66.4% of respondents had heard of PrEP to prevent HIV, with the remaining 33.6% lacking this awareness.

Pharmacy team competencies to provide a sexual health, HIV and PrEP service

Over half (53.2%) of respondents felt confident in providing private/commissioned sexual health services in their pharmacy (Table 2). Over two-thirds (67.9%) felt confident to discuss issues regarding patient's sexual health, whereas only .56.9% agreed they felt confident to discuss HIV health issues/services with a patient. Over three-quarters (76.4%) felt comfortable signposting patients to HIV and sexual health services, although only 46.3% routinely signposted patients/clients to STI clinics.

Views, knowledge and awareness of pharmacy team members on HIV and PrEP

The majority respondents (78.9%) agreed that it would be appropriate if individuals could access PrEP in the community pharmacy setting and 88.9% felt that making PrEP available in the community pharmacy setting would raise awareness and demand for PrEP in the community. (Table 2). Three quarters (75.5%) stated that they would consider offering a commissioned service to supply PrEP in the community pharmacy setting. The majority (79.6%) of respondents who were independent prescribers, or working towards an IP qualification, reported they would consider prescribing PrEP.

Barriers to the provision of PrEP in the community pharmacy setting

When asked about barriers to the provision of PrEP in their clinic, 35.5% reported that they needed more training, 19.4% stated that it was not necessary in their place of work, 29.0% were unsure or were not the decision-makers and 1.1% stated it was for ethical reasons. Most respondents (86.2%) agreed that they would feel more comfortable/confident providing sexual health services if they had more training or support (Table 2).

When asked about what would prevent them from offering PrEP in the community pharmacy setting, perceived barriers included the current lack of training (73.6%), reported the additional time needed to counsel individuals (44.5%), the perceived need for additional staff to administer PrEP as part of a specially designed service (39.1%), Only discomfort in discussing sexual matters (4.5%).

Table 2
Results of electronic survey (n = 110)

	N	(%)
Does your pharmacy provide sexual health services? (n = 108)		
Yes	30	(27.8)
No	78	(72.2)
Which level of sexual health services does your pharmacy provide? (n = 30)		
Level 1	9	(30.0)
Level 2	3	(10.0)
Level 3	7	(23.3)
Unsure	11	(36.7)
What sexual health services does your pharmacy provide? (n = 97)		
Chlamydia screening / treatment	11	(11.3)
Emergency hormonal contraception	26	(26.8)
Free condom distribution	17	(17.5)
HIV testing	9	(9.3)
Signposting	23	(23.7)
STI testing	11	(11.3)
***Which of the following groups are at an elevated risk of HIV? (n = 380)**		
Ethnic minorities	49	(45.4)
Injecting drug users	96	(88.9)
Men who have sex with men	89	(82.4)
Sex workers	87	(80.6)
Young people (aged 20–24)	57	(52.8)
Other	2	(1.9)
***What would you likely do if a patient requested PrEP in your pharmacy? (n = 135)**		
Signpost to an STI clinic	106	(96.4)
Suggest they proceed with a HIV test	22	(20.0)

*=multiple choice question (any unit of interest is number of answers and not the number of respondents)

	N	(%)
Does your pharmacy provide sexual health services? (n = 108)		
Suggest they purchase PrEP from safe online websites	7	(6.4)
Would you know where to signpost individuals? (n = 109)		
Yes	101	(92.7)
No	8	(7.3)
If you do not provide any sexual health services, what is the reason? (n = 93)		
Need more training	33	(35.5)
Not needed where I work	18	(19.4)
Ethical / religious reasons	1	(1.1)
Unsure/ I am not the decision maker	27	(29.0)
Other	14	(15.1)
Have you ever heard of PrEP to prevent HIV? (n = 110)		
Yes	73	(66.4)
No	37	(33.6)
If you are an independent prescriber, or are working towards an IP qualification, would you consider prescribing PrEP? (n = 26)		
Yes	20	(76.9)
No	6	(23.1)
It would be appropriate if individuals can access PrEP from the community pharmacy setting (n = 109)		
Disagree	6	(5.5)
Neither agree nor disagree	17	(15.6)
Agree	86	(78.9)
I feel confident to provide private/commissioned sexual health services in my pharmacy (n = 109)		
Disagree	14	(12.8)
Neither agree nor disagree	37	(33.9)
Agree	58	(53.2)
*=multiple choice question (any unit of interest is number of answers and not the number of respondents)		

	N	(%)
Does your pharmacy provide sexual health services? (n = 108)		
I feel confident to discuss issues regarding patients' sexual health (n = 109)		
Disagree	9	(8.3)
Neither agree nor disagree	26	(23.9)
Agree	74	(67.9)
I feel confident to discuss HIV health issues/services with a patient (n = 109)		
Disagree	17	(15.6)
Neither agree nor disagree	30	(27.5)
Agree	62	(56.9)
I would feel more comfortable/confident providing services if I had more training or support (n = 109)		
Disagree	5	(4.6)
Neither agree nor disagree	10	(9.2)
Agree	94	(86.2)
Individuals will be comfortable to receive health information from their local community pharmacy regarding PrEP (n = 108)		
Disagree	3	(2.8)
Neither agree nor disagree	21	(19.4)
Agree	84	(77.8)
Making PrEP available in the community pharmacy setting will raise awareness & demand towards PrEP in the community (n = 109)		
Disagree	2	(1.8)
Neither agree nor disagree	11	(10.1)
Agree	96	(88.9)
I routinely signpost to STI clinics (n = 108)		
Disagree	25	(23.1)
Neither agree nor disagree	33	(30.6)
Agree	50	(46.3)
*=multiple choice question (any unit of interest is number of answers and not the number of respondents)		

	N	(%)
Does your pharmacy provide sexual health services? (n = 108)		
I feel comfortable signposting patients to HIV & sexual health services (n = 110)		
Disagree	9	(8.2)
Neither agree nor disagree	17	(15.5)
Agree	84	(76.4)
Would you consider offering a commissioned service to supply (n = 110)		
Yes	83	(75.5)
No	2	(1.8)
Unsure/ not the decision maker	25	(22.7)
***What would prevent you from offering PrEP in pharmacy? (n = 186)**		
Insufficient staff levels	43	(39.1)
Require more training	81	(73.6)
Time needed to counsel individuals	49	(44.5)
Uncomfortable discussing sexual matters	5	(4.5)
Other	8	(7.3)
*=multiple choice question (any unit of interest is number of answers and not the number of respondents)		

Personal interviews

Participant characteristics

Two pharmacy technicians and eight pharmacists (six female and four male) consented to take part in personal semi-structured interviews, lasting between 10 and 20 minutes. Key themes are presented in Table 3 below.

Table 3
Perceived barriers, drivers and recommendations identified by respondents

Category	Level	Theme
Barriers	Pharmacy	Lack of familiarity & specific training on HIV & PrEP
		Limited human resources
		Expected increased workflow
		Lack of confidence regarding this specific health topic
	General public	Lack of awareness regarding HIV and PrEP
		Stigma
		Cultural sensitivities
Drivers	Pharmacy	Positive attitude of staff regarding provision of PrEP
		Approachability/accessibility of pharmacy staff
		Ability to provide personalised advice to client based on lifestyle & the current medications they are on
	Pharmacy / Public	Geographical accessibility of pharmacies
Recommendations	Pharmacy	Accredited training focused on provision of PrEP
	General public	Educational campaigns for all
		Targeted campaigns for disadvantaged & minority groups

Barriers

Respondents identified several barriers to the provision of PrEP in community pharmacies, stemming from both the pharmacy team and the end-users' perspectives. In the former, the main barrier identified by all interviewees was a lack of familiarity and current lack of specific training regarding HIV and PrEP. This resulted in a lack of confidence in pharmacy team members to be involved in the supply of PrEP. Respondents expressed that this could be addressed by the provision of specific training about HIV, and PrEP including dosage and modes of use. Limited staffing capacities and expected increased workflow associated with the provision of PrEP as an additional service were also raised as possible barriers, as were concerns about how a commissioned PrEP service would be funded and the need for a reliable and confidential record-keeping system.

Other perceived barriers centred around the lack of public awareness and cultural sensitivities regarding the use of HIV preventative medicine. In addition, pharmacists acknowledged that this is a sensitive topic which might require additional privacy to be adequately, comfortably and safely discussed.

People in different communities may have issues sharing experiences and not wanting people to know. Privacy would be needed at the Pharmacy.

This is a taboo subject for some cultures and families

Finally, one respondent was concerned that increasing access to PrEP could promote promiscuity, "*may possibly aid in reducing new incidence of HIV infection, but I'm concerned that this potentially may increase promiscuity!"*

Drivers

When prompted, all interviewees spoke positively about the potential benefits of a Community Pharmacy PrEP Service to help reduce preventable HIV infection. Respondents agreed that improved accessibility of PrEP from pharmacies is likely to reduce the incidence of new HIV cases. Since community pharmacies are usually situated within 15–20 minutes walking distance for most residents in urban areas, providing PrEP in Community Pharmacy was perceived as a way to make preventative HIV treatment more readily accessible compared with current availability.

"There is a big gap in the service. Community pharmacy is confidential and if a client has trust with the Community Pharmacy team, they are more likely to pop in".

In addition, most respondents considered that despite the current lack of specific training about PrEP, most pharmacy teams already have the most important competencies required to provide such a service, which include good consultation skills, empathy and confidence to have difficult confidential conversations. Thus, even without specific training, the majority of respondents felt confident to have a conversation with a patient about sexual health and HIV and were not concerned about the HIV status of patients using their services

Several respondents also emphasised that pharmacists are knowledgeable about drug interactions and could therefore, discuss concurrent medications with clients interested in using PrEP. One respondent also highlighted that community pharmacies have IT infrastructure to maintain accurate confidential records.

Recommendations

In response to the barriers identified, and building on current strengths, respondents provided several recommendations to support the provision of PrEP in the community pharmacy setting. The availability of appropriate levels of training was considered important for the whole pharmacy team. In addition to specific information on PrEP, PrEP, its dosage and mode of use, respondents suggested that the training should also include "*customer service skills training*" because:

"These can be very personal and sensitive issues to discuss, and experiences may put off reattending".

Along with professional training, respondents noted that public health campaigns for the general public must accompany the provision of such a service.

"*HIV education and sexual health awareness campaigns are necessary to overcome knowledge gaps and barriers around stigma, and such education should accompany a Community Pharmacy PrEP service".*

Targeted campaigns need to be carefully planned to impart the messages whilst reducing the stigma associated with HIV and the use of PrEP in many communities.

Campaigns should explain what HIV is, how it is contracted, prevented and treated and where preventative treatment can be accessed.

Respondents also highlighted the need for targeted campaigns for disadvantaged and minority groups in places where these groups are likely to socialise or work, with an effort to educate and remove the stigma attached to conversations about HIV infection. These locations may include community centres, religious centres, sports centres, and clubs, using leaflets, posters and media adverts. These campaigns should also not be limited to English but should be made available in different languages.

Discussion

Summary of main findings

The findings from our study provide valuable insights into the perspectives of pharmacy professionals, their attitudes toward PrEP and their recommendations for its successful implementation in community pharmacy settings.

We found that only a minority of community pharmacies offer sexual health services, with varying levels of provision, including chlamydia screening, emergency contraception and HIV testing. Community pharmacies can engage with both NHSE and Local Authority commissioned services or provide elements of sexual health services privately. The majority of survey respondents and interviewees were affiliated to pharmacies in NWL where they report there is little commissioning of sexual health services. In the UK, women aged over 16 years have been able to purchase progestogen-only emergency hormonal contraception from pharmacists without prescription since 2001. However, this may not have been considered by pharmacy teams as providing a sexual health service, hence, according to the survey results, only a minority of pharmacies stated providing sexual health services.

According to the survey, with appropriate training, community pharmacy teams expressed confidence in developing the competencies required to engage in a commissioned Community Pharmacy PrEP service. A new NHSE-commissioned advanced Community Pharmacy Contraceptive Service was launched in November 2023, enabling community pharmacists to initiate and maintain supply of oral contraceptive medication. This provides further confirmation that community pharmacists have the

experience and skills required for new commissioned activities such as a PrEP service. Further, as of September 2026 newly qualified pharmacists will enter the General Pharmaceutical Council register as independent prescribers and will have the ability to prescribe within their competencies. Although currently Community Pharmacy Independent Prescribers do not have the facility to prescribe within the NHS, the majority of survey respondents who are already or progressing towards becoming an independent prescriber said that they would consider prescribing PrEP in the future if this facility (NHS prescription pad) was available.

Without a Community Pharmacy PrEP service, study participants would refer patients requesting PrEP to STI clinics or suggest online purchase of HIV test kits. While there is moderate knowledge about HIV and PrEP among pharmacists, confidence in providing sexual health services and discussing HIV-related issues varies. The interviewees elaborated that a lack of confidence can be allayed by an accredited training programme to accompany a PrEP service. Although the need for more training was considered a barrier to providing a PrEP service, community pharmacists are familiar with continuing professional development as part of the annual re-registration process, therefore training requirements could be considered a driver for providing a PrEP service. Time constraints, and staffing issues, were also raised as barriers, but the study has shown that these should not be considered prohibitive and could be overcome by an appropriately funded service.Further, at the time of the survey, only 4.6% of respondents felt uncomfortable having a discussion about sexual health and PrEP and only 1.9% of respondents did not consider offering PrEP as a commissioned service. So, community pharmacy teams' views and awareness of PrEP should not be perceived as a barrier to providing a Community Pharmacy PrEP service. In fact, within an accredited framework, such a service, is likely to be welcomed. Few respondents expressed reluctance to provide a PrEP service on the grounds of stigma, religious beliefs or fear of infection, and therefore would be unlikely barriers to the provision of a Community Pharmacy PrEP service. The main perceived drivers were found to be self-expressed competence, confidence, and readiness of community pharmacy teams to engage with a commissioned Community Pharmacy PrEP service.

Many community pharmacies already provide a suite of clinical services, and beyond NWL, this may include a range of sexual health services, building the background experience and skills required for new commissioned activities.

Both survey and interview responses indicated that community pharmacy teams are highly motivated to upscale and engage in clinical services. Addressing perceived barriers such as funding and training would enable pharmacy teams to confidently begin conversations regarding HIV and the availability of community pharmacy provision of PrEP. Just as important is the need for public health awareness campaigns to educate the public about HIV, its prevention and how to access PrEP. Targeted campaigns may help to reduce stigma and cultural sensitivities, encouraging people to come forward for advice. The community pharmacy offer of a more accessible, accredited, commissioned PrEP service would provide improved availability of an important and potentially lifesaving HIV preventative treatment and could help to reduce healthcare inequalities in England.

Comparison to existing literature

The study's findings align with existing literature on PrEP implementation and HIV prevention. The identified barriers, such as funding and the need for training, are consistent with challenges reported in previous research [21–23]. The knowledge gap among pharmacists regarding PrEP is also in line with concerns raised in the literature about healthcare providers' awareness and knowledge of this preventive measure [21].

The emphasis on public awareness campaigns and targeted outreach to disadvantaged and minority populations reflects the broader literature on HIV prevention. Many studies have highlighted the importance of community education and awareness programs to promote HIV prevention methods effectively [21, 24].

Recent endorsements by key stakeholders, as highlighted in a September 2023 article by 'The Pharmacist' advocate for the availability of PrEP through community pharmacies, suggesting a unified call for expanded access to this crucial preventive tool [25]. This endorsement by the HIV and AIDS All-Party Parliamentary Group and the Royal Pharmaceutical Society, which emphasises pharmacists' integral role in reducing health inequalities and enhancing patient access to treatment, validates our study's conclusions and recommendations. Our research aligns with the existing body of literature and adds a nuanced understanding of the specific challenges and opportunities within the UK context, particularly in community pharmacy settings. By addressing these identified gaps, our study contributes valuable insights into optimising PrEP provision and HIV prevention strategies.

Study implications

The implications of this research are significant for both policy and practice. The study highlights the importance of policy initiatives to support the integration of PrEP services in community pharmacy, whereas policymakers should consider funding mechanisms and training programs to overcome identified barriers. Additionally, public health policies should prioritise awareness campaigns, especially in areas where at-risk populations are concentrated. Pharmacy professionals play a crucial role in HIV prevention, and this research highlights the need for ongoing training and education. Accredited training programs are needed to equip community pharmacists and support staff with the necessary competencies to provide PrEP services. Additionally, community pharmacies should actively engage in public awareness efforts and collaborate with local organisations to reach at-risk populations.

Study strengths and limitations

To our knowledge, this is the first study that investigated the perspectives of community pharmacy staff regarding the extant barriers and enablers for the routine provision of HIV PrEP in community pharmacies in the UK, aiming to surface recommendations from community pharmacy staff on how to mitigate these barriers. The research was strengthened by the participation of a diverse sample of pharmacists and pharmacy technicians, providing a well-rounded perspective on PrEP implementation,

whereas the use of semi-structured interviews also allowed for in-depth exploration of participants' attitudes and assumptions, providing rich qualitative data.

The principal limitation in the study was that the majority of participants indicated working in pharmacies in North-Central and North-West London. The results may therefore reflect the specific needs of a multiculturally diverse population, which may differ from other areas in England. Further, 68% of eSurvey respondents were Asian, which likely resulted in their over-representation compared to national data. That said, it has been reported that a large proportion (41% in 2014) of pharmacists registered in Great Britain are from a Black, Asian and minority ethnic BAME background and that BAME pharmacists, particularly those from Asian backgrounds, are more likely to work in the community sector [26]. This observation was supported as recently as March 2022 by data estimating that 43.3% of pharmacists and 19.2% of pharmacy technicians in NHS trusts in England were from a BAME background compared to 18% of the general population of England [27].

The relatively small sample size of our study may also limit the generalisability of the findings, and a larger sample could provide more robust insights. Further, the study relies solely on self-reported data which may be subject to bias, and we acknowledge that participants may provide responses they believe are socially desirable to a topic that may still be associated with some stigma. Finally, the findings may be specific to the UK and may not be directly applicable to other healthcare settings or countries with different healthcare systems.

Conclusion

Provision of PrEP from selected community pharmacies across the country could begin to address inequality and inadequacy of PrEP provision and generally improve healthcare for certain underserved communities.

This study has found that community pharmacists and their supporting healthcare teams agree that the supply of PrEP from a community pharmacy would improve access to treatment, address inequalities, help to reduce infection with HIV and generally improve healthcare for certain underserved communities. This supports a report by Public Health England in 2019, The Pharmacy Offer for Sexual Health, Reproductive Health, and HIV - A resource for commissioners and providers, stating “their convenient location and informal environment offer opportunities to improve local access and help reduce health inequalities”.

Staff involved with the service should undertake accredited training and adequate funding is needed to ensure an effective service is offered within a specified framework. The fact that, at the very least, most community pharmacies provide contraceptive services, and very often more advanced services such as injections and immunisations, indicates the capability of the profession as a whole and the motivation to “step up services” as needed (for example during the Covid-19 epidemic).

A Community Pharmacy PrEP supply service should be supported by general and targeted sexual health public awareness campaigns with educational content to include disease prevention and how to access PrEP.

Declarations

Ethics approval and consent to participate: Ethics approval and consent from all participants to participate were gained for this study.

Consent for publication: The authors consent to publication.

Availability of data and materials: The data that support the findings of this study are available from the corresponding author upon reasonable request.

Competing Interests: The authors declare that they have no competing interests.

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Supplementary Files

Supplementary File 2 is not available with this version.