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Evidence Briefing

What methods have been effective in promoting uptake of Pre-exposure prophylaxis (PrEP) among individuals at high risk of HIV, excluding men who have sex with men (MSM), in developed cities comparable to London

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March 15th 2019
What methods have been effective in promoting uptake of PrEP among individuals at high risk of HIV

Research question
This briefing summarises the evidence on the uptake of PrEP amongst high risk groups such as women, transgender, black Africans, sex workers, drug addicts and young people, from January 1st 2017 to February 28th 2019.

Key messages
- Barriers to PrEP uptake identified across all risk groups were safety, side effects, lack of knowledge, medication regimen, socioeconomic factors, stigma, transphobia/homophobia, factors of daily life, low self-perceived HIV risk, discomfort discussing HIV, limited access to healthcare, cost and effectiveness
- Brief educational sessions integrated into routine HIV screening and partner notification services may be effective in raising PrEP uptake in STD clinics; effective programme examples include pharmacy-based PrEP care, integrating PrEP into routine primary care services, and creating programs in HIV/STD service settings
- Women
  - social networks can influence women’s engagement in PrEP
  - there should be positive messaging targeting potential female PrEP users including advertising, sharing PrEP information and training of providers
  - interventions should be directed at increasing provider knowledge and proficiency in prescribing PrEP and encouraging providers to screen for PrEP eligibility
- Heterosexuals
  - interventions promoting disclosure and PrEP partner education need to reduce stigma
  - serodiscordant couples who desire children need to learn to manage and adhere to a treatment plan, and providers must enhance knowledge and support
- Transgender
  - stigma and discrimination from healthcare providers, mistrust of the medical profession, fear of interactions with feminising hormones, adherence, exclusion of transgender women in advertising and lack of research are barriers to uptake of PrEP
  - a panel management/patient navigation program was associated with earlier PrEP initiation
  - there is a need for the development of programs that situate HIV risk as a social and psychological process for transgender women
  - transgender women would be more likely to take PrEP if it were provided at a clinic that also provided hormone replacement therapy
  - facilitators include gender-affirming healthcare initiatives like using patients’ preferred pronouns and creating safe spaces for trans clients

Evidence briefings are a summary of the best available evidence that has been selected from research using a systematic and transparent method in order to answer a specific question.

What doesn’t this briefing do?
The findings from research papers summarised here have not been quality assessed or critically appraised.

Who is this briefing for?
It is designed to inform the Health Improvement Support Officer about the evidence on increasing uptake of PrEP amongst groups at high risk of HIV.

Information about this evidence briefing
This briefing draws upon a literature search of the sources Medline, Embase, Psycinfo, Cochrane Library, NICE Evidence and TRIP from January 1st 2017 to February 28th 2019.

46 highly relevant citations were used to produce this evidence briefing.

At least 50 additional papers, including some conference abstracts, were considered to be ‘of interest’ and details can be obtained on request.

You may request any publications referred to in this briefing from libraries@phe.gov.uk.

Disclaimer
The information in this report summarises evidence from a literature search - it may not be representative of the whole body of evidence available. Although every effort is made to ensure that the information presented is accurate, articles and internet resources may contain errors or out of date information. No critical appraisal or quality assessment of individual articles has been performed. No responsibility can be accepted for any action taken on the basis of this information.
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- Black, Asian and minority ethnic (BAME)
  - younger African American women of lower socioeconomic status (SES) were more likely to use PrEP compared to older women of higher SES
  - educating and training providers in order to cultivate a trusting patient-provider relationship may serve to increase the use of PrEP in Black women
  - the use of female-specific PrEP materials, connection to female PrEP users and linkage to medical providers for PrEP prescription are key for Black women
  - concerns about PrEP safety were prominent and were linked to a mistrust of government and industry motives for promoting PrEP to Black women

- Sex workers - criminalisation of sex work hinders access to PrEP through stigma and discrimination

- People who inject drugs (PWID)
  - barriers to PrEP adherence included younger age, female gender, structural vulnerability, diverting from other prevention methods, stigmatisation, daily dosing, accessibility of PrEP services and fear of human rights violations
  - facilitators included self-efficacy, substance use treatment, high-quality patient-provider relationships, use of memory aids, no out-of-pocket cost, perceived benefit and support from social networks
  - the successful integration of PrEP within the substance abuse treatment setting has been demonstrated in the US
  - to address the multilevel barriers to PrEP uptake in PWID, interventions should target information, self-regulation and self-efficacy, social support, and environmental change

- Young people
  - young women were likely to experience stronger social influences on PrEP uptake than older women
  - there should be increased access to PrEP for adolescents and young adults (AYAs) through research and advocacy, developmentally-appropriate educational programs and screening tools, and health professionals should develop culturally sensitive and accessible PrEP delivery models
  - efforts to increase PrEP uptake among the young homeless should consider provider- and system-level interventions, decrease PrEP-associated costs, improve access to PrEP providers and provide text messaging support

- Healthcare providers
  - clinicians and pharmacists have limited familiarity with prescribing PrEP
  - barriers to primary care physician’s (PCPs) prescribing PrEP include inexperience and discomfort, and uncertainty about how to identify individuals who are most likely to benefit
  - demand for PrEP could be increased by providing information, guidance and education to healthcare providers
  - encouraging providers to initiate discussions about PrEP with their patients may help increase uptake in marginalised groups
  - interventions targeting PCPs should include aspects that will increase providers’ motivation and skills to prescribe PrEP
  - educational interventions could improve PCPs’ attitudes toward PrEP by correcting factual inaccuracies
  - attitudes might also become more positive if PCPs were exposed to PrEP “success stories”
  - training physicians with HIV care experience to be PrEP “clinical champions” may be useful
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Background

“…..literature on [PrEP use by] heterosexual men, transgender people, adolescent girls and young women, and people who inject drugs is limited, thus calling for more research…” p1329 (1)

This briefing is looking specifically at the barriers to uptake of PrEP, and the facilitators and methods for increasing uptake, for those groups at high risk of HIV, excluding MSM. Research from outside developed countries was excluded where possible. When screening the papers for inclusion, it was difficult in some cases to identify which locations or which specific risk groups were involved, especially in those papers where more than one population (e.g. papers covering MSM and transgender, or ‘sexual and gender minority adults’) or location (e.g. papers including studies from Africa, Asia, Europe and the Americas).

Reviews looking at multiple populations

A 2017 systematic review on the preferences around PrEP for heterosexual males, females, and transgender persons, and healthcare providers who may prescribe PrEP, identified 76 articles and 28 conference abstracts (1). Nine studies were located in Europe and 53 from the Americas – the rest were from Africa or Asia. The four most commonly cited barriers to PrEP identified across all risk groups were concerns about safety, side effects, cost and effectiveness. Other barriers regularly cited by most risk groups were stigma surrounding HIV, low risk perception, the perception that pills are only for sick people; and education level. Facilitators of PrEP use included partner and peer support, and the discreteness of a pill with the ability to have control over this prevention option.

A systematic review looking at adherence to PrEP by all individuals at risk of HIV identified 18 relevant studies (2). This review found that the drivers for poor adherence and uptake included concern about side-effects, lack of knowledge, medication regimen, socioeconomic factors, stigma and factors of daily life (such as being busy, forgetting to take medication etc). The authors concluded that further exploration of the reasons for poor adherence in populations such as women is required, as well as cheap and accurate methods of long term adherence. User-appropriate interventions, flexible medication delivery models and extended release PrEP formulations will also be important. There were no restrictions on geographical location, sex/gender or sexual preference in this review which makes it difficult to draw out points about specific population groups.

A synthesis of US research literature aimed to demonstrate how to confront identified barriers with interventions that might improve access, uptake, and adherence to PrEP (3). From the 47 studies identified, a summary of barriers to PrEP implementation and interventions at the patient, provider and healthcare-system levels, was produced: table 1 (3). Studies focusing on transgender women, Black
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and Latina women, adolescents, heterosexual couples and people who inject drugs point to stigma associated with PrEP, along with transphobia/homophobia – but few interventions were proposed that would directly address the effects of stigma.

Barriers specific to transgender women included non-inclusive marketing of PrEP; perceived interactions with female hormones, multiple medical appointments, transphobia in the medical system, life instabilities and substance use. Solutions include gender-affirming healthcare initiatives like using patients’ preferred names and pronouns and creating safe spaces for trans clients. Transgender women, cisgender Black women and Latinas face barriers to engaging with messages often designed for MSM – this may be helped by addressing the burden of frequent medical visits and pill-taking, the stigma associated with accessing HIV services and integrating PrEP care with provision of contraceptives and sexual health screening.

The authors concluded by stating that: “We argue for multilevel interventions that do not target providers, patients, or systems in isolation, but rather incorporate each of these levels into new models of implementation…” p3689 (3).

Another critical review analysing the current state of PrEP implementation in the US, by reviewing barriers and innovative solutions to enhanced PrEP access and uptake reviewed more than 100 papers (4). PrEP is currently provided in sexually transmitted disease (STD) clinics, community health centers (CHCs), pharmacies, and primary care providers. The largest patient-level barriers to PrEP uptake included low self-perceived HIV risk, financial challenges, concerns about side effects and limited access to healthcare. Brief educational sessions integrated into routine HIV screening and partner notification services may be effective in raising PrEP uptake in STD clinics. Studies of primary care providers (PCPs) have identified barriers to them prescribing PrEP, including inexperience and discomfort, uncertainty about how to identify individuals who are most likely to benefit, concerns about medication toxicities and concerns about insurance and other financial barriers (4). Barriers to PrEP uptake among at-risk heterosexuals include limited PrEP awareness, medical mistrust, HIV stigma, low perceived personal risk, limiting mobility and health literacy (4).

Effective programme examples included incorporating insurance navigation and health education into services offered at clinics, pharmacy-based PrEP care with relatively low service fees, integrating PrEP into routine primary care services and creating programs in HIV/STD service settings (4).

**Studies looking at specific high-risk populations**

Areas that need to be addressed for easier PrEP uptake include concerns around safety and potential side effects, effectiveness, cost, potential adherence challenges, and the role of stigma, discrimination and criminalisation in denying access to HIV services (5).
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“…..any implementation or roll out of PrEP should account for the distinct needs and experiences of KP [key population] subgroups….While potential prosecution and fear of coercion to take PrEP were major concerns among SW [sex workers], for example, PWID [people who inject drugs] were more concerned about the impact of introducing PrEP on harm reduction programmes. Additionally, unique to TGW [transgender women] were concerns about potential interactions between PrEP and feminising hormones” p20 (5)

Women

- A US study demonstrated a higher likelihood of PrEP use among women at high HIV risk with less education, with more sexual partners, and with provider and peer norms supporting PrEP (1)
- Social networks can influence women’s engagement in PrEP - in Connecticut, US, women had stronger intentions to use PrEP if network members were perceived as viewing the woman’s use of PrEP favourably, and women who have access to this form of social support may have a stronger motivation and/or less social barriers to receive PrEP in the future (6)
- In a survey at four family planning clinics in Atlanta, US, 347 women shared suggestions about how clinics should share PrEP information - clinics should advertise PrEP via brochures, posters, texts, or emails; providers should talk to patients about PrEP, PrEP information should be shared broadly in the community and there should be improved access to PrEP services (7)
- Women involved in the US criminal justice system (WICJ) experience high rates of HIV risk and associated PrEP eligibility but uptake is limited - the largest barriers to uptake are personal awareness and access (8); interventions should be directed at increasing provider knowledge and proficiency in prescribing PrEP, encouraging providers to screen for PrEP eligibility, and empowering WICJ as PrEP consumers
- Fewer women took PrEP in an urban community health centre in Philadelphia with a majority Black population - efforts to engage Blacks and women in PrEP care may include better dissemination of PrEP-related information in Black communities and to women, and training of clinicians serving Black and female populations (9)
- There is a need for positive messaging targeting potential PrEP users and their social networks to increase PrEP acceptance and uptake in heterosexual women in Connecticut (10)
- Factors that influence US women's decision-making about the use of PrEP are cost, peer perspectives, having a woman-controlled prevention strategy, physician input, and ease of accessing services and medication near to their homes - a major barrier to PrEP uptake by women is the lack of perception of risk for HIV acquisition (11)
- Medical providers can help raise awareness of PrEP for women through positive cultural messages, engaging partners when appropriate and
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integrating HIV prevention services with the delivery of other services that meet women's needs such as family planning and pregnancy care (11)

Heterosexuals

- a study of predominately heterosexual Black and Hispanic/Latino people living with HIV in Miami showed that discomfort discussing HIV and lack of awareness are barriers to partner-to-partner PrEP education; interventions promoting disclosure and PrEP partner education must employ methods to reduce stigma, such as skill building, counselling or testimonials, and psychosocial barriers must be addressed (12)
- within serodiscordant couples who desire children, important implications for implementation of PrEP for safer conception were knowledge and understanding gaps regarding HIV and PrEP among both members of the couple, learning to manage and adhere to a treatment plan, and the need for providers to enhance knowledge and offer further support - providers can play an important role in lowering these barriers through the use of multiple strategies (13)

Transgender

- stigma and discrimination from healthcare providers, fear of interactions between PrEP and feminising hormones, and adherence are barriers for transgender people (5)
- the potential contribution of social factors such as unemployment and housing, to low PrEP adherence should be addressed for successful PrEP uptake among transgender (5)
- in a real-world study of PrEP initiation in San Francisco, US that included transgender women, a panel management/patient navigation program was associated with earlier PrEP initiation (14). Panel management/patient navigation may have led to earlier PrEP initiation by addressing insurance barriers, providing automatic reminders to providers to send PrEP prescriptions and responding to patient concerns
- a study of 230 young transgender women (YTW) in Boston and Chicago found that 1 in 5 YTW reported mistrust of providers and researchers as a reason for being uninterested in taking PrEP - having providers that meet YTW's health needs is a facilitator of higher PrEP acceptability (15); researchers and providers must examine ways to optimally deliver PrEP information among YTW in a way that minimises and targets concerns for negative side effects (e.g. drug interactions between HRT and PrEP)
- 18 transgender women in New York City identified barriers to PrEP as uncomfortable side effects, difficulty taking pills, stigma, exclusion of transgender women in advertising, and lack of research on transgender women and PrEP; facilitators included: reducing pill size, increasing the types
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- Interviews with 30 transgender women from New York City suggest that to increase PrEP access, uptake and adherence there is a need for the development and design of strategies and programs that situate HIV risk as a social and psychological process for transgender women. This acknowledges that for transgender women, risk factors are associated with multiple levels of social oppression like racism, transphobia and sexism – there is a need to focus on a combination of structural, interpersonal and individual level factors contributing to HIV risk, rather than focusing just on individual behaviours (17)

- A cross-sectional survey of 126 transgender women in Detroit, US, found that 64% indicated that they were not interested in taking PrEP – about 60% of these indicated that they would be more likely to take PrEP if it were provided at a clinic that also provided hormone replacement therapy (18)

- Overcoming barriers and maximizing PrEP uptake by transgender women can be helped by displaying materials reflecting gender diversity, creating single occupancy or gender-neutral bathrooms, posting non-discrimination policies and educating front-desk staff to use an individual’s chosen name and pronoun (19)

Black, Asian and minority ethnic (BAME)

- In Connecticut, US, Black women were significantly less likely than White women to have prior PrEP knowledge, but had significantly more interest in learning about PrEP and reported greater likelihood of initiating the medication (20)

- US Black women had significantly more medical mistrust than the White women, which was associated with lower comfort discussing PrEP with a healthcare provider (20); in healthcare settings, educating providers on the principles of shared decision-making and providing communication skills training that helps to cultivate a trusting patient–provider relationship may serve to increase the use of PrEP in Black women (20)

- key components that should be involved in PrEP navigation for Black women are risk assessment and shared understanding of the identified risk; the use of female-specific PrEP materials, including flyers, posters, and videos; connection to female PrEP users; initial thoughts about disclosure or non-disclosure; linkage to medical providers for PrEP prescription; and post-prescription follow-up (21)

- Willingness to use PrEP was associated with spatial availability of clinics where providers prescribe PrEP in a sample of US black African Americans (22), and low self-perceived risk meant few high risk black African Americans...
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were willing to use PrEP (23); projects evaluating alternative strategies to increase demand and uptake of PrEP that use new approaches such as pharmacy access and online purchasing are underway (23)

- younger African American women of lower socioeconomic status (SES) were more likely to use PrEP compared to older women of higher SES (24)
- A qualitative study of US Facebook comments on a Black women’s health and lifestyle interest website found that concerns about PrEP safety were prominent and seemed to be linked to a broader mistrust of government and industry and their motives for promoting PrEP to Black women (25)

Sex workers

- Criminalisation of sex work hinders access to PrEP through stigma and discrimination (5)
- sex workers knew that PrEP should be used in conjunction with condom use in order to be effective, but believed this would be a challenge as condom use may decrease on demand of clients or employers (5)

People who inject drugs (PWID)

- a systematic review to inform PrEP intervention development looked at 20 studies on PrEP adherence among HIV-infected PWID in US and Canada - barriers to adherence included younger age, female sex and structural vulnerability; facilitators included self-efficacy, substance use treatment, and high-quality patient-provider relationships (26)
- in consultations with PWID from the Eastern European and the Asian region, adherence, side effects, diverting from other prevention methods and fear of human rights violations were barriers to PrEP use (5)
- a study involving 40 drug-users in Connecticut, US, showed the successful integration of PrEP within the substance abuse treatment setting (27) - the facilitators to PrEP adherence were use of memory aids, no out-of-pocket cost, perceived benefit, and support from social networks; the barriers to adherence included side-effects, stigmatisation, requirement of daily dosing and accessibility of PrEP service
- interviews with 33 HIV-uninfected PWID and 12 providers in Boston and Providence, US, suggested that to help address the multilevel barriers to PrEP uptake and adherence in PWID, interventions should target information, self-regulation and self-efficacy, social support, and environmental change (28)
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Young people

- US young women aged 20–29 were likely to experience stronger social influences (healthcare providers’ recommendation to take PrEP or belief peers would take PrEP) on PrEP uptake than older women (1)
- A position paper from the Society for Adolescent Health and Medicine recommends that: investigators/policy advocates should promote increased access to PrEP for AYAs through research and advocacy focused on minors’ consenting ability and confidentiality, developmentally-appropriate educational programs and screening tools should be developed to increase adherence to PrEP regimens, and health professionals should develop culturally sensitive and accessible PrEP delivery models as part of routine care to AYAs (29)
- A study of 1427 homeless 18-26 year olds in seven US cities found that access to free PrEP, HIV testing, one-on-one and text messaging support were rated as important for PrEP uptake and adherence (30); efforts to increase PrEP uptake among this population should consider provider- and system-level interventions to increase PrEP awareness, decrease PrEP-associated healthcare costs, improve access to PrEP providers and provide in-person and text messaging support

Healthcare providers

- Studies conducted in the US and Canada showed that between 9% and 19% of clinicians had prescribed PrEP, and 22% of pharmacists had dispensed it (1)
- 48% of 285 New York City providers had not offered PrEP psychoeducation and linked fewer than five patients to HIV testing and primary care per week (31)
- Pharmacist respondents in Nebraska and Iowa had limited familiarity and experience with PrEP, but most indicated willingness to provide PrEP through collaborative practice agreements after additional training (32)
- Knowledge of and demand for PrEP should be increased through providing information to healthcare providers, community education campaigns, guidance, local implementation guidelines and education for providers (1) (33)
- A survey of 342 members of the American Academy of HIV Medicine found that providers who more frequently initiated conversations about PrEP with their patients had a higher percentage of non-MSM patients in their PrEP caseload (e.g. women, PWID, transgender patients); encouraging providers to initiate discussions about PrEP with their patients may help increase uptake in marginalised groups (34)
- US Physician’s perceived benefits of prescribing PrEP included decreased rates of HIV, improved provision of sexual health services and improved patient awareness of HIV risk; barriers to PrEP were reported at the patient level
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(e.g., lack of acceptability to patients), provider (e.g., concerns about patient adherence, safety/side effects, parents as a barrier to PrEP use), and system (e.g., high cost) levels; facilitating factors included physician education about PrEP, patient educational materials, and clinical guidelines for PrEP use in youth (35)

- the information–motivation–behavioural (IMB) skills model for PrEP discussion was tested in a survey of 280 primary care physicians (PCPs) from ten U.S. cities - interventions targeting PCPs should include aspects that will increase providers’ motivation and skills to prescribe PrEP; educational interventions could improve PCPs’ attitudes toward PrEP by correcting factual inaccuracies; attitudes might also become more positive if PCPs were exposed to PrEP “success stories” (36)

- training those physicians with HIV care experience to be PrEP “clinical champions” may be useful, to provide education to assess eligibility, counselling, prescription, and monitoring, help establish PrEP clinical practice protocols to facilitate PrEP provision at local sites, and provide ongoing support to their colleagues (37)

Ongoing research

Clinical trials of relevance currently underway include:

- Interventions to Improve the HIV PrEP Cascade Among Methamphetamine Users (38)
- A Women-Focused PrEP Intervention (39)
- Linking Women to PrEP Care (40)
- Motivational Interviewing to Increase PrEP Uptake (MI-PrEP) (41)
- Improving the HIV PrEP Cascade Using an Intervention for Healthcare Providers (42)
- PC4PrEP: integrating PrEP Into Primary Care (43)
- CCTG 603: randomized Controlled Trial of iTAB Plus Motivational Interviewing for PrEP Adherence in Transgender Individuals (The iM-PrEPT Study) (44)
- Scalable Interventions to Increase PrEP Adherence: value Affirmation and Future Selves (45)
- Linkage of Transgender Individuals to PrEP (46)
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Example search strategy

Ovid Medline

1. Pre-exposure prophylaxis.tw,kw.
2. PrEP.tw,kw.
3. Pre-Exposure Prophylaxis/
4. 1 or 2 or 3
5. (BAME or BME or women* or woman* or trans* or minority or asian or "black african" or "african american" or "high risk" or (sex adj work*) or "sex industry" or (drug* adj3 user*) or young or youth*).tw,kw.
6. Transgender Persons/ or Women/ or Minority Groups/ or Asian Continental Ancestry Group/ or exp African Continental Ancestry Group/ or Sex Workers/ or Sex Work/ or Drug Users/ or Adolescent/ or Young Adult/
7. 5 or 6
8. 4 and 7

Inclusion/exclusion criteria

Inclusion criteria

- PrEP
- uptake/barriers/facilitators
- high risk individuals e.g. ethnic minorities, women, transgender, sex workers, drug users, adolescents
- developed cities/countries
- journal article, report or thesis

Exclusion criteria

- MSM
- Africa, Asia, third world countries
- conference abstract, editorial, news
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References


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What methods have been effective in promoting uptake of PrEP among individuals at high risk of HIV


dated=Any&phase=Any&?


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