**Influences affecting decision-making regarding use of pre-exposure prophylaxis among Black men who have sex with men in the United States: systematic review and meta-synthesis**

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**ABSTRACT**

**Aim:** To systematically identify, evaluate and synthesize qualitative research examining positive and negative influences affecting decision-making behaviour among Black men who have sex with men (BMSM) in the United States (US) regarding use of pre-exposure prophylaxis (PrEP).

**Background:** Used correctly, PrEP is highly efficacious in preventing HIV infection and is available via healthcare services throughout the US. BMSM are a key target population for HIV prevention services, however their engagement with these services is low. With potential barriers to access ranging from systemic to personal, a phenomenological perspective on the influences affecting individuals’ decision-making is essential, helping to better understand the needs of this target population and guide development and delivery of more effective future policy and intervention services.

**Design:** Qualitative meta-synthesis with meta-aggregation.

**Data sources:** The electronic databases Medline, CINAHL, APA PsycInfo, Embase and Ovid Emcare were comprehensively searched from inception to January 2022.

**Review methods:** Systematic identification, quality assessment and synthesis of existing qualitative research according to protocols of meta-aggregation. This included identifying salient study findings and corroborating illustrations from the data, sorting like findings into descriptive themed categories and developing transformative synthesised statements from aggregate appraisal of category findings.

**Results:** Seventeen studies met the inclusion criteria and were assessed to be of acceptable quality. Synthesis of study data yielded thirty categories grouped under five themes: Stigma, Discrimination, Mistrust, PrEP positivity and PrEP negativity. Twelve synthesised statements were produced to provide a summary of the results and suggest improvements to the delivery of future PrEP services and interventions.

**Conclusion:** A more targeted approach focussed on advocacy and ambassadorship outside of clinical settings may be more influential in positive decision-making regarding use of PrEP in BMSM populations than relying on traditional outreach methods via institutions and their representatives where stigma, mistrust and structural inequalities perpetuate.

**INTRODUCTION**

Antiretroviral pre-exposure prophylaxis (PrEP) medication is taken to reduce risk of sexually acquired HIV-1 infection in adults [1]. Granted FDA approval for use in the US in 2012 [2],

PrEP is a recommended option for HIV prevention in HIV negative men who have sex with men (MSM); a population group identified as being at elevated risk of HIV acquisition [3]. Furthermore, data in the US show that in 2019 Black / African American persons held a disproportionate burden with regards HIV infection, accounting for 41% of HIV infections whilst comprising only 13% of the US population as whole. And of these infections, 62% were attributed to male-to-male sexual contact [4], suggesting Black MSM (BMSM) to be a priority population for HIV reduction.

Safe and effective use of PrEP requires substantive engagement with healthcare services – both to access treatment and continue use thereafter [5]. Inequalities exist, however, in populations’ engagement with such services. Meta-analysis of patterns of HIV testing among BMSM in the US found inadequate or obstructed access to healthcare as a result of geographic location, low annual income, history of homelessness and lack of health insurance to be the primary reasons for non-engagement with HIV services [6]. These structural inequalities speak to the scope of racial and ethnic disparities related to PrEP and barriers to PrEP uptake and provision that operate across multiple levels including the individual, network, healthcare system, and structural levels [7]. Whilst structural barriers are an important consideration, they do not illuminate the range of individual attitudes, values and beliefs governing the acceptability of healthcare interventions.

A recent scoping review found that further research into the intersecting stigmas affecting MSM is vital in supporting implementation of HIV services and informing wider healthcare policy aimed at HIV prevention [8]. Furthermore, a recent meta-analysis looking at barriers and facilitators to PrEP use among BMSM found this target population remained underrepresented in key stages of the care continuum, chiefly regarding issues of uptake and adherence [9]. With potential barriers to PrEP access ranging from systemic to personal, this review aims to synthesise existing knowledge to gain insight into the influences affecting decision-making among BMSM regarding use of PrEP, to better understand the needs of this target population and guide development and delivery of more effective future policy and intervention services.

In selecting the Black male experience as a focus for investigation, we acknowledge that the socially assigned classification of race or gender may differ from an individual’s self-identification with these characteristics [10]. Furthermore, in using race and ethnicity terminology we recognise a widespread failure to acknowledge the heterogeneity of people of Global Majority populations, who are frequently misconceptualised as homogenous [11]. As such ‘Black’ is not intended as a catch-all to describe the multivarious racial and ethnic groupings of people of African origin included in the studies: where possible, racial and ethnic labels are used as supplied by participants themselves. Where these are not available as part of wider academic discussion, the term ‘Black’ is used in the exploration of the phenomena under review, however it is recognised that use of such terms is only appropriate until such instance as a more specific designation is supplied [12].

**METHODS**

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) was used to structure this systematic review [13].

**Eligibility criteria**

Studies reporting peer reviewed primary research conducted among BMSM populations in the US using qualitative or mixed methods approaches were included, where these focussed solely on the BMSM experience concerning PrEP or included data that could readily be extracted. The PEO framework [14] used to develop the research aim ensured that all the studies selected focussed on the population (BMSM), exposure (PrEP) and outcome (influences on decision-making) in question. See online supplemental material S1 for table showing development of related eligible search terms used along with individualised database indexes and MeSH descriptor data. Searches were conducted at Abstract field to achieve a balance between search sensitivity and specificity [14]

**Information sources and search strategy**

Medline, CINAHL, APA PsycInfo, EMBASE and Ovid Emcare databases were searched for peer reviewed primary research published up to January 21st 2022. (Example search strategy listed in online S2). Reference list searching was undertaken to ensure no studies eligible for inclusion were missed. No language restrictions were applied. For the purposes of reflexivity and transparency, we acknowledge the impact of researcher positionality and potential bias. Both the authors of this review are White, cis-gender males, this positionality affecting the research process and how a research protocol is constructed, designed and conducted [15].

**Study selection and data extraction**

277 papers were identified via database searches and three further papers via manual search of reference lists from a recent scoping review [16] and related systematic review [9]. Removal of duplicates left 158 papers to be reviewed at abstract, with exclusions made according to the predetermined eligibility criteria. See online S3 for a PRISMA Flow Diagram charting this process.

A study specific data extraction form (online S4) was used to extract data from the selected studies including author, publication date, journal of publication, location of research, research design, method of analysis, study aims and objectives, sample size, eligibility criteria, mean age of study participants, study sample characteristics and the main findings of each study.

For the purposes of meta-aggregation, individual study findings were then extracted, defined as verbatim extracts of authors’ analytic interpretations of their data. Each finding requires corroboration by an accompanying illustration, defined as a direct quotation in a participant’s voice. Online S5 lists full details of study findings and accompanying illustrations.

**Quality appraisal and risk of bias**

Critical appraisal of qualitative data is subject to differences in approach and overarching questions as to its validity [17]. The purpose of quality assessment in this review was to ensure that the studies selected present quality data that has been gathered in an ethical, transparent fashion and which might therefore be deemed acceptably representative of the populations under study. The CASP Qualitative Checklist [18] was selected to evaluate methodological quality of the studies, being the most commonly used tool for quality appraisal in healthcare-related evidence syntheses [19]. The overall quality of the studies was found to be good, with no studies excluded based on quality appraisal.

A principal issue was a lack of consideration given to the relationship between researcher and study participants, with only four papers addressing this point substantively [20]–[23]. This overall lack of self-reflexivity is notable given researcher positionality is key to a study’s framing, investigation and analysis [15] This is demonstrated in the studies varying inclusion and exclusion criteria with regards participants’ racial profile, creating a significant potential source of selection bias [13]. Risk of selection bias was further compounded by use of purposive or convenience sampling methods reported by all studies: several studies discuss recruitment of ‘homogenous’ samples of mainly healthcare-engaged, PrEP aware and outwardly-identifying LGBTQ+ individuals [23]–[25], noting failure to represent the range of individuals for whom PrEP could be valuable.

See online S6 for quality assessment overview.

**Data synthesis and analysis**

Meta-aggregation is a method for combining data from original studies that acknowledges the practicality and usability of a primary author’s findings without seeking to reinterpret them, instead offering generalizable statements in the form of recommendations to guide practitioners and policy-makers [26].

First, salient author findings are extracted verbatim from the studies, accompanied by illustrations in the form of quotations from first-order data that support the finding. Subsequent meta-synthesis entails sorting of findings into categories and creating category descriptions to provide short, explanatory statements which convey the whole, inclusive meaning of a group of similar findings. Finally, categories may be grouped under themes, and synthesised statements produced from an aggregate appraisal of the category descriptions. In this review the themes, categories and synthesised statements were developed by the lead author (F.H.) and then reviewed, corroborated and refined in conversation with the second author (N.D.).

**RESULTS**

17 reports based on 16 studies met the inclusion criteria and were included in the review (Table 1). The studies were published between 2015 and 2021. Six studies were conducted in Southern States, five in the Midwest, three in New York City and two in Los Angeles. A range of participants with diverse characteristics are represented from PrEP naïve to PrEP aware participants, sample ages from 15 years and up, samples including those who identified as Black to those adhering to specific racial selection criteria, samples including those who identified as male to those assigned male gender at birth, and samples including those who were ‘out as gay’ to those reporting sex with men.

**Table 1 – Literature Summary Table**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Author, Year, Study Location** | **Research Design** | **Method of Analysis** | **Sample Size** | **Main Findings** |
| **Brooks et al (2019)** US - Los Angeles | Qualitative  Semi-structured individual interviews | Thematic content analysis | Purposive sample 26 BMSM | **5 main types of PrEP-related stigma:** 1. Perception that PrEP users engage in elevated sexual risk behaviours 2. Conflicts in relationships attributed to PrEP 3. Discomfort / judgement from medical providers 4. Assumption that PrEP users are HIV positive 5. Gay stigma in families limiting PrEP disclosure |
| **Cahill et al (2017)** US - Jackson, Mississippi | Qualitative  Focus groups | Thematic content analysis | Purposive sample 19 BMSM | **3 themes around PrEP awareness:** 1. Medical mistrust and PrEP scepticism 2. Intense stigma against homosexuality and HIV 3. Importance of inclusive PrEP messaging to reach BMSM who identify as straight |
| **Elopre et al (2018)**  US - Southern States | Phenomenological  Semi-structured individual interviews | Framework analysisincorporatingAnderson-Newman Health Service Utilization Framework | Convenience sample  25 YBMSM | **5 major themes around perceptions of PrEP among Young BMSM:**  1. Stigma related to being black, gay and living in the South  2. Lack of discussion in the black community about HIV prevention and sexual health  3. Stigma related to PrEP  4. Medical mistrust  5. Low perceived need to be on PrEP |
| **Elopre et al (2020)** US - Birmingham, Alabama | Phenomenological  Semi-structured individual interviews | Framework analysis incorporating Anderson-Newman Health Service Utilization Framework | Convenience sample 23 YBMSM | **5 major thematic barriers to accessing PrEP**: 1. Low prioritization and interests in using PrEP 2. Low perceived HIV risk due to feelings of invincibility and trust in partners 3. Lack of information about accessing PrEP 4. Negative beliefs around PrEP 5. Suggestion to change PrEP messaging from only targeting YBMSM |
| **Elopre et al (2021)** US - Birmingham, Alabama | Phenomenological  Semi-structured individual interviews | Secondary content analysis of 2018 study data | Convenience sample 25 YBMSM | **3 major themes around self-acceptance of sexual identity in YBMSM:** 1. Homophobia (internal, perceived and experienced) 2. Social-support networks facilitating self-validation of sexual identity 3. Variance of key social support figures including Black women |
| **Garcia et al (2016)** US - NYC | Ethnographic study  Semi-structured individual interviews | Thematic content analysis | Purposive sample 31 BMSM | **3 key challenges to PrEP uptake**: 1. Internalised homophobia among gay identifying BMSM: 'sex negativity' 2. Stigmatization of HIV status among LGBT peers 3. Fear of losing social support |
| **LeMasters et al (2021)** US - North Carolina | Community-based participatory research utilising Photovoice methodology  Focus Groups | Thematic content analysis | Purposive sample 3 BMSM | **4 primary themes around PrEP use:** 1. Newness of PrEP 2. Stigma, biases and assumptions around PrEP 3. Daily life of those on PrEP 4. Need to bridge patient-provider gaps **3 challenges and opportunities with PrEP**: 1. Intersectional stigma 2. Need for improved patient-provider education 3. Role of community-based organizations in closing patient-provider gaps |
| **Mutchler et al (2015)** US - Los Angeles | Qualitative  Dyadic interviews based on friendship pairings | Framework analysis incorporating Grounded Theory | Purposive sample 24 YBMSM | **4 main themes around perceptions of PrEP:** 1. Information and misinformation about biomedical HIV prevention 2. Expectations about PrEP, sexual behaviour and stigma 3. Gossip, disclosure and 'spreading the word' about PrEP 4. The roles of PrEP and PEP in an expanded HIV prevention toolkit |
| **Philbin et al (2016)** US - NYC | Qualitative  Semi-structured individual interviews | Framework analysis incorporating Ecological Theory | Purposive sample 31 BMSM | **6 themes around attitudes, beliefs and barriers regarding PrEP use:** 1. Varying beliefs about PrEP effectiveness 2. Fears of side effects 3. Disapproval regarding risk disinhibition and increased STI risk 4. No single solution 5. Medical mistrust 6. Personal rejection of PrEP 7. Stigmas creating barriers to PrEP |
| **Quinn et al (2018) "A Gay Man and a Doctor"** US - Milwaukee, Wisconsin | Qualitative  Focus groups | Thematic content analysis | Purposive sample 44 YBMSM | **6 primary themes around racism and homonegativity in healthcare settings**: 1. Trust and passive aggressive racism 2. Emphasis on participants' HIV risk among providers 3. Structural disadvantage 4. Cultural healthcare norms 5. Patient-provider racial concordance 6. Resistance to providers' PrEP recommendations |
| **Quinn et al (2019) "The fear of being Black"** US - Milwaukee, Wisconsin | Qualitative  Focus groups | Thematic content analysis | Purposive sample 44 YBMSM | **4 primary ways that intersectional stigma can manifest as barrier to PrEP use:** 1. Mistreatment within the healthcare system 2. PrEP as a marker of sexuality 3. Societal racism and inequality 4. Othering and HIV stigma |
| **Quinn et al (2019) "The Unanticipated Benefits"** US - Midwest | Qualitative  Focus groups | Thematic content analysis | Purposive sample 36 YBMSM | **4 primary themes demonstrating the unanticipated benefits of PrEP:** 1. Improved engagement in medical care 2. Reduced sexual and HIV anxiety 3. Increased sexual comfort and freedom 4. More positive sexual relationships with people living with HIV |
| **Quinn et al (2020) "The Influence of Peers"** US - Midwest | Qualitative  Semi-structured individual interviews | Thematic content analysis | Purposive sample 49 YBMSM | **Peers and social networks serve 3 primary functions:** 1. Filling informational gaps left by healthcare providers 2. Increasing trust in PrEP 3. Reducing PrEP stigma |
| **Quinn et al (2020) "Perceptions of PrEP use"** US - Midwest | Qualitative  Focus groups | Secondary content analysis of previous study data | Purposive sample 80 YBMSM | **3 primary themes around perceptions of PrEP within primary relationships:** 1. Perceptions of PrEP as an indication of distrust and infidelity 2. Perceptions of PrEP use as necessary, even in primary relationships 3. Influence of partners' perspectives on PrEP |
| **Remy et al (2020)** US - Midwest | Qualitative  Semi-structured individual interviews | Thematic content analysis | Purposive sample 12 BMSM | **4 themes around access to PrEP as a 'long, hard road'** 1. Having insurance does not equate to PrEP success 2. High motivation alone does not result in uptake 3. Healthcare providers can be unknowledgeable, discriminatory and stigmatizing 4. Important person - community advocates an essential component to PrEP success |
| **Rogers et al (2019)** US - Jackson, Mississippi | Qualitative  Semi-structured individual interviews and Focus groups | Thematic content analysis | Purposive sample 29 YBMSM | **5 themes around PrEP intervention messaging:** 1. Overwhelming intersectional stigma based on race and sexual orientation 2. Fears around anonymity and identification 3. Lack of provider knowledge resulting in perceived lack of quality of care 4. Stigmatizing nature of PrEP messaging directly to YBMSM population 5. Need for more diverse PrEP messaging to reduce stigma and increase appeal to broader at-risk populations |
| **Thomann et al (2018)** US - NYC | Qualitative  Focus groups | Framework analysis | Purposive sample 16 BMSM | **6 themes around attitudes to PrEP:** 1. Misconceptions about PrEP and PrEP marketing 2. The commodification of HIV prevention 3. Potential side effects 4. Intersecting stigmas 5. Relationships and PrEP 6. Need for tailored interventions |

Online S7 details a complete list of illustrations used in synthesis and their accompanying category allocations, with online S8 showing incidence of categories across the papers.

In all, 30 categories were identified, groupable under five themes: Stigma, Discrimination, Mistrust, PrEP Positivity and PrEP Negativity. The ensuing Table 2 provides a summary of evidence in the form of synthesised statements.

**Stigma**

Taken in broadest terms to consider how marginalised populations are perceived [27], stigma in a multiplicity of forms was found to hold the greatest influence over individuals’ decision-making regarding use of PrEP.

Family Stigma

Family stigma loomed largest in participant responses, demonstrating the extreme difficulty many participants faced in adopting PrEP-positive behaviours close to home. Instances of family stigma ranged from silent refusal to acknowledge sex or sexuality [20] to active rejection of such behaviours, with attendant threats of ostracization [24], [28]. Families were often reported as a fulcrum for the enforcement of wider stigmatised messages, particularly where these emanated from religious or cultural community sources.

Peer Community Stigma

Surprisingly, stigma within individuals’ identified peer communities was frequently cited as a significant barrier to PrEP positivity. Whilst certain social or cultural community stigmas concerning homosexuality are well documented in the literature [29], this review found a marked reluctance even among gay-identifying peer groups to adopt PrEP-positive messages.

Stigmatised Messaging

Stigmatised and misaligned PrEP messaging was a widely reported source of frustration. Views were clear on the benefits of scaling up the conversation around PrEP use to include those outside of the highly stigmatised groups currently being targeted, whether because of sexuality or race [25]. Several participants wished to dissociate themselves from PrEP messaging, one respondent pointing out that the only time Black gay men are seen in commercials is when discussing HIV risk, worsening the perceived and experienced stigma he already faces in his community [21].

Intersectional Stigmas: Cultural Community, Religious, Internalised, Partner, Medical, Social

Intersection of multiple stigmas was evident, demonstrating how multiple social identities held by Global Majority individuals interact to affect ways in which they are perceived, and able to operate in the world [30]. The Black community was cited as a source of negative attitudes toward HIV, homosexuality and sex in general [20], [21], [24], [31]. These negative attitudes were described as being taught to children in the family home [31] and cultivated among church and wider social communities. In nearly all instances, religious and family stigmas intersected, compounding the enmeshed and deeply entrenched sense of stigma already felt by participants, and resulting in instances of internalised stigma [32]. One participant poignantly remarked:

*"...it's just difficult to live in a world that tells you you should hate yourself."* [32]

Given the difficulties individuals faced in reconciling their sense of self with the stigmas they faced, it is unsurprising that partner stigma presented a significant barrier to PrEP-positive decision-making. PrEP as a signifier of infidelity was given in two studies [32], [33], or else individuals reported a reluctance or inability to navigate partner conversations on the subject [34]. Among those who had successfully navigated barriers of intersecting stigmas and were able to report successful PrEP use or healthcare-seeking behaviour, stigma was still encountered from the medical profession itself [35]*.* Furthermore, stigmatising healthcare professionals operate in stigmatising institutions; the settings of clinic or hospital intersecting with wider social stigmas around being seen using HIV services [25].

**Discrimination**

Medical Discrimination

Understood in terms of actions (as opposed to attitudes) directed toward marginalised populations [27], discrimination recounted in medical institutions was notable in its potential for especially devastating outcomes, with one participant horrified by a discriminatory experience [34]. The distinction between attitudinal stigmas and active acts of discrimination was not always clear-cut: whilst negative attitudes displayed by peer community groups or religiously-motivated family members presented intractable stigmatised disapproval to be navigated on a daily basis, it was the words and actions of those outside participants’ peer or family circles – most notably in medical settings – that were most likely to be felt as discrimination [23], [32].

Violent and Institutional Discrimination

One participant recounted a deeply traumatic event of violence inflicted at school because of his sexuality[31]. Discrimination enacted by and experienced within institutional settings was recounted as a macro reason for PrEP-negative decision-making behaviour, with one participant citing the struggles faced by the Black community to cope with unemployment as the reason care-seeking behaviour around PrEP was not high on his agenda [36]

**Mistrust**

Medical, Cultural Community and Institutional Mistrust

Mistrust of healthcare professionals and the medical institutions they represent was a widely held perception among participants, and the category with the most iterations in this meta-synthesis. Mistrust ranged from scepticism of the motivations of individual healthcare professionals toward participants [33] to the broadest mistrust of a systemically racist healthcare system. Participants mentioned the Tuskegee experiments [37] and theories concerning intentional HIV infection with bogus PrEP products and the promotion of unregulated drugs [20], [24], [38]. Like Stigma, these conflations of Mistrust spoke to intersecting and deep-seated attitudes of mistrust toward healthcare services shared amongst participants’ cultural communities [20] as well as a generalised attitude of grievance toward a persecuting government [24] or the self-interested agendas of big pharma companies [34].

Peer Community Mistrust

One participant made emphatic mention of trusting a medical professional, framing this attitude in mistrust of a friend’s recommendation that he try PrEP [33]. This demonstrates the complexity of the sociocultural systems in which PrEP messaging plays out and how it is received by target individuals: in this instance, coming from the wrong source (a friend) was enough to confound PrEP-positive decision-making behaviour in an individual who was otherwise trusting of medical professionals and healthcare-engaged.

Partner Mistrust and Problematic Partner Trust

Whilst there were two instances of participants describing feelings of judgement or mistrust toward partners either using PrEP or considering its use [28], [36], the complexity of navigating PrEP use within relationships was further played out in a final notable instance of problematised partner trust in a presumed monogamous relationship, resulting in a missed opportunity to access PrEP and prevent HIV infection [21]. Such instances portray PrEP use within relationships as a problematic, binary choice between non-adherence and trust or adherence and mistrust.

**PrEP Positivity**

Self-Empowerment

Expressions of self-empowerment were powerful drivers of PrEP-positive decision-making behaviour. First among these was the potential for PrEP to effect self-empowerment in individuals suffering social marginalisation [39]. On an intimate level, PrEP enabled users who had internalised fearful messages around HIV to feel liberated from a pervading sense of doom [39] and, strikingly, enact self-love [22].

PrEP Ambassadorship and Peer Community Empowerment

The most emphatic PrEP-positive messages came from those individuals happy and confident enough in their choice to act as ambassadors for their behaviour. Such individuals demonstrated a palpable sense of fervour:

*“I’m just gonna shout it from the mountain to the rooftop… There is PrEP, people!”* [32]

Individuals reported ambassadorship on micro and macro levels, with one individual stating PrEP to be his favourite topic of conversation at house parties [33] whilst another recounted a sense of duty to eradicate HIV from the world [37]. As such, individuals advocating PrEP considered it a tool for greater personal and collective good; a means of combating stigma and empowering communities [38].

Peer, Co-Partner and Family Advocacy

Ranging from a single friend acting as ‘mother of the group’ to an HIV positive friend seeking to educate his peers [33], peers were potentially powerful advocates for PrEP-positive decision-making behaviour. In one striking instance, the integrity of a partner relationship was not compromised by the introduction of PrEP, rather it acted as an affirmation of the love and respect felt between individuals [28]. This joy in the acceptance of PrEP was also possible, in one instance, within the family – one of the most problematised and stigma-prone social groups mentioned by participants as a whole:

*"I told my grandma. She just hugged me. She said like 'Jesus still loves you. I still love you. Do your thing.'"* [31]

A conflation of family and religious approval, this is a powerful reminder of the potential for PrEP to be accepted in any space, even in those which are widely reported by participants as deeply problematic.

**PrEP Negativity**

Non-Candidacy

First among the negative attitudes toward PrEP was a generalised sense that, whilst PrEP may have benefits, it was nonetheless an inappropriate or unworthwhile choice for the individual in question [40]. Specific objections ranged from self-identified low-risk behaviour to, in one instance, perceived invincibility from HIV infection whereby the benefits of PrEP do not apply [21], [24]. Furthermore, stigmatising and negative messages surrounding PrEP were given as reasons for non-candidacy, with individuals resenting the implication that they were candidates for HIV infection in the first place [23], [40].

Problematic Access and Lack of Provider Knowledge

Accessing PrEP presented an economic and sociocultural labyrinth through which participants must navigate [37], [21]. This was further complicated by lack of provider knowledge, whereby healthcare professionals uninformed of its benefits failed to champion PrEP to target individuals [33].

Peer Community Disapproval and Drug Disapproval

A theme of disapproval among participants toward their peer community’s use of PrEP was also present [22] as was disapproval toward pharmaceutical drugs in general [40]. These instances are a reminder of participants’ individuality and their refusal to accord to a majority view with which they may not identify.

**Table 2 – Meta-Aggregation: Synthesised Statements**

|  |  |  |  |
| --- | --- | --- | --- |
| **ITERATIONS** | **CATEGORY** | **THEME** | **SYNTHESISED STATEMENTS** |
| 8 | Family Stigma | **Stigma** | 1. Stigmas surrounding HIV, homosexuality and subsequently PrEP are complex and deep-rooted. They may begin at home before being developed through intersection with peer, religious and wider cultural communities. These messages are reflected back at individuals who may internalise them. All the while, stigmas are perceived from medical and wider institutional sources as part of the lived experience of BMSM.  2. Interventions to encourage and increase positive PrEP decision-making are unlikely to emanate from or achieve validation by association with sources of significant stigma. In fact, such interventions are often perceived as stigmatising in themselves.  3. Whilst it is possible to overcome or even grow from the effects of stigma, overall stigmas exert a powerfully negative shaping influence on the lives and decision-making processes of BMSM, resulting in feelings of judgement, worthlessness and powerlessness. |
| 8 | Stigmatised Messaging |
| 7 | Peer Community Stigma |
| 7 | Cultural Community Stigma |
| 4 | Partner Stigma |
| 4 | Religious Stigma |
| 3 | Medical Stigma |
| 3 | Internalised Stigma |
| 3 | Social Stigma |
| 3 | Intersectional Stigma |
| 4 | Medical Discrimination | **Discrimination** | 4. Discrimination is perpetuated by homophobia within institutions including schools and healthcare environments. Coupled with an experience of broader racial discrimination, these experiences continue to exert a potentially traumatic influence on individuals’ capacity for PrEP-positive decision-making behaviour. |
| 2 | Violent Discrimination |
| 2 | Institutional Discrimination |
| 13 | Medical Mistrust | **Mistrust** | 5. Patterns of mistrust mirror patterns of stigma and are similarly complex and deep-rooted, with sociohistorical mistrust of healthcare professionals and the institutions they represent an entrenched attitude among participants and their wider cultural communities.  6. Mistrust of medical and wider institutions mean these macro agents are not well-placed to generate or support PrEP-positive interventions, however individuals’ mistrust of partners or peers can act as similarly demotivating factors in the adoption of PrEP-positive behaviour. |
| 6 | Cultural Community Mistrust |
| 3 | Institutional Mistrust |
| 2 | Partner Mistrust |
| 1 | Peer Community Mistrust |
| 1 | Problematic Partner Trust |
| 9 | Self-Empowerment | **PrEP Positivity** | 7. Self-empowerment is a powerful driver of positive decision-making in BMSM regarding PrEP use. PrEP as a means of self-empowerment becomes an effective tool for overcoming stigma, negating mistrust and elevating perceived outcomes for individuals and, through advocacy, the peer communities with which they identify.  8. In terms of others, micro level advocates are best placed to promote PrEP positivity. Partners, peers and family members can act as the gatekeepers for PrEP approval and are thus well-placed to help individuals overcome barriers and facilitate access. This is achieved in family groups (whether biological or created) through the provision of emotional support and the validation of individuals’ lived experiences, and in peer groups through the dissemination of information critical to dismantling mistrusting attitudes toward PrEP and HIV prevention.  9. There is rich potential for meso level advocacy to propagate PrEP-positive messages and influence decision-making among BMSM, with church and community-level groups exerting key influence on opinion-forming behaviour. It's time to "Preach PrEP" in community settings. |
| 6 | Peer Advocacy |
| 4 | PrEP Ambassadorship |
| 2 | Peer Community Empowerment |
| 2 | Co-Partner Advocacy |
| 2 | Family Advocacy |
| 7 | Non-Candidacy | **PrEP Negativity** | 10. PrEP avoidance because of feelings of non-candidacy arose from a sense of perceived ineligibility regarding HIV risk or the demonstration of qualifying lifestyle behaviours, with some individuals actively resentful of the implication that PrEP may be for them.  11. Lack of access and knowledgeable support from healthcare providers is a systemic issue, constituting significant barriers to the provision of accessible, affordable healthcare across populations.  12. Whilst accessing healthcare is a political narrative, it is also a personal one: in making decisions regarding their own care, individuals may express disapproval of peer behaviour or dislike of pharmacological agents. As such, PrEP will never be for everyone, but work can be done to improve its acceptability to BMSM as part of a wider toolkit in the prevention of HIV. |
| 4 | Problematic Access |
| 4 | Peer Community Disapproval |
| 4 | Drug Disapproval |
| 3 | Lack of Provider Knowledge |

**DISCUSSION**

This review found extensive agreement in the data on the existence of interpersonal and wider sociocultural factors influencing decision-making. Chief among these is stigma, extant in multiple and intersecting forms, and centred on HIV, homosexuality and race. Experienced at individual, social and wider structural levels, these stigmas present major barriers to the uptake of PrEP among BMSM. Furthermore, individuals’ experience of stigmas engendered attitudes of mistrust directed back toward these sources. These mistrusts intersected with entrenched cultural community attitudes to form negative conceptions of healthcare services in general and PrEP in particular, significantly limiting individuals’ acknowledgement of PrEP candidacy. As a result, this review found that medical and wider institutions often fail to effect positive decision-making in BMSM regarding use of PrEP, owing to the ways these institutions continue to stigmatise and discriminate against them. This supports the literature around internalised and externalised stigma acting as barriers to use of healthcare services by Global Majority ethnic groups, whereby perceptions of themselves as outsiders cause them to shun healthcare services [41].

This review presents potential advocacy in several forms, from supportive black female figures [31] to a ‘sexuality-affirming’ Black church [22]. The finding to “Preach PrEP” in community settings is echoed in literature attesting interpersonal and meso-level (i.e. community groups including schools, workplaces and churches) advocacy interventions to be most effective in improving acceptability and uptake of PrEP-positive decision-making behaviour [28], [31], [33]. Key among these is a recent mixed-methods study whereby culturally appropriate patient navigation training programs delivered to healthcare professionals working in HIV services substantially increased uptake of HIV services among BMSM; a result of equipping staff to address the unique needs and barriers to HIV care engagement among this population [42].

**Strengths and limitations**

Agreement in the literature was not complete. An ostensible lack of transferability exists between a study conducted in Birmingham, Alabama and another in New York City. This is reflected in the data whereby incidence of new HIV infection shows marked regional disparities throughout the US, with the highest prevalence being among southern Black populations than among other groups or in other regions [43]. Furthermore, availability and acceptability of PrEP as a health intervention is a global issue, and not limited solely to the US. To date however, the authors are not aware of any studies looking at decision-making behaviour among BMSM regarding use of PrEP conducted outside of the US, save for a study conducted in London in 2018 which, whilst not included as a focus for our review, nonetheless supports our findings [44], [45]. As a whole, the absence of older voices from the data is significant: middle-aged or older BMSM are more likely to have late-stage HIV infection at the time of diagnosis, indicating a lack of engagement with healthcare services and a need for timely intervention [6].

As previously mentioned, the authors’ White, cis-gender positionalities will have influenced the study’s design, execution and synthesis of the data, which is significant in terms of whose voice – or voices – are represented in the final review: given the aim of synthesised statements is to distil the essence of a group of findings in either a descriptive or transformative manner, this approach risks losing the essence of the original studies through researcher reinterpretation of others’ interpretation [46]. The GRADE CERQual tool was used to assess the extent to which findings were a reasonable representation of the phenomenon of interest, and to assess the strengths and limitations of the review as a whole [47]. An overview of this assessment is given in online S9, with an attempt made to grade confidence in the evidence in light of reviewer bias and positionality, as well as accounting for reporting bias in individual studies.

**Implications for practice and research**

This is the first comprehensive systematic review and meta-synthesis of attitudes towards PrEP among BMSM in the US known to these researchers.

This review makes clear the need for micro to meso-level, ‘ground up’ interventions to improve PrEP-positive decision-making and acceptability of wider HIV and health services among BMSM. From a policy perspective, this supports the argument for a ‘Social Public Health’ approach to health interventions [48], whereby research and implementation efforts seek to align with the complexity of social dynamics, instead of presuming biomedical interventions can bypass them [34]. In practice, this also makes good economic sense, given the systemic problem of policy-making without evaluation – potentially wasting money and even achieving negative outcomes [49].

A key focus for further research are the other equally significant priority groups requiring protection from HIV infection including transgender persons and those of Hispanic and Latino origin [3]. Work is needed among these groups to better understand their experiences and help improve acceptability and uptake of HIV intervention services. Indeed, it is clear the wealth of strategies available for ending the HIV epidemic currently outpaces the potential for implementation, with availability of PrEP to BMSM communities a prime example [50]. In conclusion, a more targeted approach focussed on intersocial advocacy and ambassadorship outside of clinical settings may be more influential in positive decision-making regarding use of PrEP in BMSM populations than relying on traditional outreach methods via institutions and their representatives where stigma, mistrust and structural inequalities perpetuate.

**Competing interests**

The authors declare no competing interests.

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