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## ADOPTION AND EXPANSION OF PRE-EXPOSURE PROPHYLAXIS (PREP) IN BRAZIL

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**Abstract:** **INTRODUCTION** Pre-Exposure Prophylaxis (PrEP) has emerged as a key tool in HIV prevention strategies in Brazil, demonstrating significant potential to reduce HIV incidence among high-risk populations. The introduction of PrEP within the Unified Health System (SUS) has facilitated free access to eligible individuals, particularly in urban centers. However, disparities in access and utilization persist, influenced by geographic, economic, and sociocultural factors, including stigma and misinformation. **OBJETIVE** To critically evaluate the adoption and expansion of Pre-Exposure Prophylaxis (PrEP) in Brazil, focusing on its public health impact, accessibility, and sociocultural barriers. **ME-TETHODS** This is a narrative review which included studies in the MEDLINE – PubMed (National Library of Medicine, National Institutes of Health), COCHRANE, EMBASE and Google Scholar databases, using as descriptors: “Pre-Exposure Prophylaxis” AND “HIV prevention in Brazil” AND “Public health policy” AND “Sociocultural barriers” AND “Healthcare accessibility” in the last 5 years. **RESULTS AND DISCUSSION** The results highlight the effectiveness of PrEP in reducing HIV incidence, particularly among men who have sex with men and transgender populations, while emphasizing challenges in adherence and awareness. Geographic disparities in access were noted, with rural regions facing significant barriers compared to urban areas. Sociocultural dynamics, including stigma and misinformation, were significant determinants of PrEP utilization. Healthcare providers’ roles in advocacy and patient education were also identified as critical components for the success of PrEP implementation. **CONCLUSION** In conclusion, PrEP holds transformative potential for HIV prevention in Brazil but requires a multifaceted approach to overcome barriers in accessibility, equity, and awareness. Strengthening healthcare

infrastructure, integrating community-based initiatives, and addressing stigma are essential to optimize the impact and sustainability of PrEP programs nationwide.

**Keywords:** Pre-Exposure Prophylaxis; HIV prevention in Brazil; Public health policy; Sociocultural barriers; Healthcare accessibility.

## INTRODUCTION

The HIV/AIDS epidemic in Brazil remains a significant public health concern, characterized by a dynamic interplay of epidemiological trends and social determinants of health<sup>1</sup>. Despite substantial progress in antiretroviral therapies and prevention strategies, HIV incidence persists in certain high-risk populations, reflecting ongoing challenges in disease control<sup>1</sup>. These trends underscore the critical need for innovative and accessible interventions, such as Pre-Exposure Prophylaxis (PrEP), which has demonstrated robust efficacy in preventing HIV transmission<sup>1</sup>. As Brazil continues to navigate the complexities of its HIV epidemic, the adoption and expansion of PrEP represent a pivotal opportunity to address gaps in prevention efforts and reduce the burden of this disease<sup>2</sup>.

The evolution of HIV prevention strategies in Brazil mirrors global advancements, with the integration of biomedical interventions marking a paradigm shift in public health approaches<sup>2</sup>. From early emphasis on condom distribution and behavioral interventions, the country has progressively embraced evidence-based practices such as PrEP<sup>2</sup>. This intervention, which leverages antiretroviral medications to preemptively block HIV acquisition, offers a powerful tool to mitigate risk, particularly among key populations<sup>2</sup>. Lessons from countries with established PrEP programs highlight the importance of tailored implementation strategies and sustained community engagement to maximize impact<sup>3</sup>.

Government policies have played a central role in shaping the trajectory of PrEP adoption in Brazil, reflecting the country's commitment to universal healthcare<sup>3</sup>. The inclusion of PrEP within the Unified Health System (SUS) marked a critical milestone, enabling free access to this intervention for eligible individuals<sup>3</sup>. However, the translation of policy into practice has encountered barriers, including limited awareness, logistical challenges, and regional disparities in healthcare delivery<sup>3</sup>. Addressing these obstacles is essential to ensure equitable access and optimize the benefits of PrEP across diverse populations<sup>4</sup>.

Accessibility and availability remain cornerstones of successful PrEP programs, yet disparities persist within Brazil's complex healthcare landscape<sup>4</sup>. Urban centers have witnessed higher uptake of PrEP due to concentrated resources and services, while rural areas continue to face challenges in distribution and healthcare infrastructure<sup>4</sup>. Moreover, economic factors compound these disparities, with marginalized populations disproportionately affected<sup>4</sup>. Efforts to bridge these gaps must prioritize decentralization of services and integration of PrEP into primary care settings<sup>5</sup>.

The sociocultural landscape of Brazil adds further complexity to PrEP implementation, with stigma and misconceptions influencing both awareness and uptake<sup>5</sup>. Public perceptions of PrEP, often shaped by misinformation, highlight the need for targeted education campaigns that address cultural sensitivities<sup>5</sup>. NGOs and civil society organizations have been instrumental in driving these efforts, fostering trust and engagement within communities<sup>5</sup>. Strengthening these partnerships is pivotal to dismantling barriers and normalizing PrEP use<sup>6</sup>.

PrEP awareness campaigns in Brazil have achieved variable success, reflecting differences in messaging strategies and audience engagement<sup>6</sup>. Digital platforms have emerged

as powerful tools for dissemination, particularly among younger populations<sup>6</sup>. However, traditional outreach methods remain crucial for reaching older individuals and those in remote areas<sup>6</sup>. Evaluating the impact of these campaigns is essential to refine approaches and enhance their effectiveness<sup>7</sup>.

Healthcare providers occupy a critical role in advocating for PrEP, serving as the interface between policy and patient care<sup>7</sup>. Training and sensitization programs are necessary to equip providers with the knowledge and confidence to counsel patients on PrEP<sup>7</sup>. Furthermore, fostering open and nonjudgmental communication is essential to build trust and address patient concerns<sup>8</sup>. The integration of PrEP counseling into routine HIV prevention services represents a practical step toward sustainable implementation<sup>8</sup>.

The cost-effectiveness of PrEP has emerged as a compelling argument for its widespread adoption in Brazil, with economic analyses demonstrating substantial long-term savings<sup>8</sup>. By averting new HIV infections, PrEP reduces the need for costly treatments and mitigates the broader societal impact of the epidemic<sup>8</sup>. Nonetheless, securing sustainable funding for PrEP programs remains a challenge, necessitating collaboration between public and private sectors<sup>9</sup>. Innovative financing mechanisms, such as international partnerships and philanthropic contributions, could play a pivotal role in addressing this issue<sup>9</sup>.

As Brazil looks toward the future, the expansion of PrEP must be guided by a comprehensive and adaptive strategy that addresses both biomedical and structural determinants of health<sup>9</sup>. Leveraging technological innovations, such as mobile health platforms, could enhance adherence monitoring and patient engagement<sup>9</sup>. Additionally, ongoing research into alternative formulations, including long-acting injectables, holds promise for diversifying options and improving outco-

mes<sup>9</sup>. The successful adoption and expansion of PrEP in Brazil represent not only a public health imperative but also a testament to the potential of equitable and evidence-based interventions<sup>10</sup>.

## **OBJETIVES**

To critically evaluate the adoption and expansion of Pre-Exposure Prophylaxis (PrEP) in Brazil, focusing on its public health impact, accessibility, and sociocultural barriers.

## **SECONDARY OBJETIVES**

1. To analyze the effectiveness of PrEP in reducing HIV incidence among high-risk populations in Brazil.
2. To assess regional disparities in PrEP access and identify strategies to address these inequities.
3. To evaluate the role of government policies and the Unified Health System (SUS) in facilitating PrEP distribution.
4. To investigate sociocultural and economic factors influencing PrEP awareness and adoption.
5. To explore future directions for innovation and sustainability in PrEP programs.

## **METHODS**

This is a narrative review, in which the main aspects of evaluate the adoption and expansion of Pre-Exposure Prophylaxis (PrEP) in Brazil, focusing on its public health impact, accessibility, and sociocultural barriers in recent years were analyzed. The beginning of the study was carried out with theoretical training using the following databases: PubMed, sciELO and Medline, using as descriptors: “Pre-Exposure Prophylaxis” AND “HIV prevention in Brazil” AND “Public health policy” AND “Sociocultural barriers” AND “Healthcare accessibility” in the last 5 years. As it is a narrative review, this study does not have any risks.

**Databases:** This review included studies in the MEDLINE – PubMed (National Library of Medicine, National Institutes of Health), COCHRANE, EMBASE and Google Scholar databases.

The inclusion criteria applied in the analytical review were human intervention studies, experimental studies, cohort studies, case-control studies, cross-sectional studies and literature reviews, editorials, case reports, and poster presentations. Also, only studies writing in English and Portuguese were included.

## **RESULTS AND DISCUSSION**

The adoption of Pre-Exposure Prophylaxis (PrEP) in Brazil has significantly influenced HIV incidence, with notable reductions observed in regions with high program coverage. Studies indicate a marked decline in new HIV diagnoses among key populations, including men who have sex with men (MSM), transgender women, and serodiscordant couples<sup>11</sup>. These reductions align with global findings that underscore PrEP’s efficacy in mitigating HIV transmission risk<sup>11</sup>. However, disparities persist, particularly in regions with limited healthcare infrastructure, highlighting an uneven public health impact that requires targeted interventions<sup>12</sup>.

High-risk populations have benefited most from PrEP, demonstrating its transformative potential in HIV prevention. Data from urban centers reveal that consistent PrEP use correlates with significant reductions in HIV acquisition rates among MSM and other vulnerable groups<sup>12</sup>. However, adherence remains a critical challenge, influenced by social, economic, and behavioral factors<sup>12</sup>. Addressing these barriers through tailored support programs could enhance PrEP’s effectiveness and ensure its sustainability as a preventive measure<sup>13</sup>.

Trends in HIV prevention strategies post-PrEP implementation in Brazil reflect a shift toward biomedical approaches, with a growing

emphasis on integrating PrEP into comprehensive care models. This transition has underscored the need for robust healthcare systems capable of supporting PrEP delivery alongside other HIV prevention and treatment services<sup>13</sup>. Regional disparities, however, continue to impede progress, with rural areas experiencing lower access and utilization rates compared to urban centers<sup>13</sup>. These gaps point to the necessity of scalable solutions that prioritize equitable distribution of resources<sup>14</sup>.

The Unified Health System (SUS) has played a pivotal role in facilitating PrEP distribution across Brazil, offering free access to eligible individuals. Despite this achievement, systemic challenges such as resource allocation, workforce training, and logistical constraints have limited the program's reach in certain regions<sup>14</sup>. Efforts to decentralize PrEP distribution and integrate it into primary healthcare settings are underway but require sustained investment and coordination<sup>15</sup>. Addressing economic barriers through subsidies and partnerships with private entities could further enhance accessibility<sup>15</sup>. Geographic disparities in PrEP availability remain a pressing concern, with urban centers significantly outpacing rural areas in program coverage and uptake<sup>15</sup>. The concentration of resources in metropolitan regions has created inequities that undermine national prevention goals<sup>15</sup>. Expanding outreach efforts and leveraging technology to support remote service delivery are potential strategies to address these challenges<sup>16</sup>.

Sociocultural factors, including stigma and misinformation, continue to influence PrEP awareness and adoption among diverse demographic groups<sup>16</sup>. Negative perceptions of PrEP as a marker of high-risk behavior have hindered its acceptance, particularly in conservative or religious communities<sup>16</sup>. Public education campaigns that address these misconceptions and emphasize PrEP's preventive benefits are crucial to overcoming these barriers<sup>17</sup>. The role of NGOs and civil society in

promoting PrEP awareness cannot be overstated. These organizations have been instrumental in reaching marginalized populations and fostering trust through community-based interventions<sup>17</sup>. Collaborative efforts between NGOs, healthcare providers, and policymakers are essential to sustain these initiatives and expand their impact<sup>17</sup>. Digital platforms have also emerged as effective tools for disseminating information and supporting adherence, particularly among younger populations<sup>18</sup>.

Healthcare providers remain central to PrEP's success, yet gaps in provider knowledge and training have impeded its integration into routine care<sup>18</sup>. Sensitization programs aimed at equipping clinicians with the necessary skills to counsel and prescribe PrEP are essential for addressing this issue<sup>18</sup>. Furthermore, fostering open communication between providers and patients can build trust and enhance adherence to preventive regimens<sup>19</sup>. Policy and program implementation efforts in Brazil have demonstrated mixed success, with significant achievements in PrEP accessibility tempered by persistent challenges in scalability and sustainability<sup>19</sup>. The effectiveness of Brazil's national PrEP program hinges on its ability to adapt to emerging needs and incorporate innovative approaches, such as long-acting injectables<sup>19</sup>. Funding mechanisms, including international aid and public-private partnerships, will play a critical role in ensuring the program's longevity<sup>20</sup>.

As PrEP adoption expands, ongoing research into alternative delivery methods, adherence monitoring technologies, and population-specific interventions will be vital for optimizing outcomes<sup>20</sup>. Identifying and addressing gaps in access, particularly among vulnerable populations, is a key priority for future initiatives<sup>20</sup>. Reducing stigma and promoting equitable access will require sustained collaboration across all levels of healthcare and society<sup>21</sup>.



## CONCLUSION

The adoption of Pre-Exposure Prophylaxis (PrEP) in Brazil has demonstrated significant promise in reducing HIV incidence, particularly among high-risk populations such as men who have sex with men and transgender individuals. The integration of PrEP into the Unified Health System (SUS) has facilitated access for many, yet substantial disparities in availability and utilization persist, especially in rural and underserved regions. Addressing these inequities is essential to fully realize the public health benefits of PrEP.

Despite its proven efficacy, challenges such as adherence, awareness, and stigma continue to hinder the widespread adoption of PrEP. Sociocultural factors, including misinformation and negative perceptions, have limited its acceptance, particularly in conservative communities. Overcoming these barriers requires sustained investment in education

campaigns, healthcare provider training, and community engagement to normalize PrEP as a preventive tool.

Healthcare providers play a pivotal role in ensuring the success of PrEP programs by offering counseling, building trust, and integrating PrEP into routine HIV prevention services. Additionally, innovative approaches such as the development of long-acting injectable PrEP and the use of digital platforms for adherence monitoring have the potential to enhance access and effectiveness, particularly in hard-to-reach populations.

Moving forward, a multifaceted strategy is needed to optimize PrEP's impact in Brazil. This includes strengthening healthcare infrastructure, addressing regional disparities, and fostering partnerships between public and private sectors. With these measures, PrEP can fulfill its potential as a transformative tool in HIV prevention, contributing to a significant reduction in the national burden of HIV/AIDS.

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