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Addressing Disparities in HIV Vaccine Awareness in Low-Resource Settings: A Call to Action

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ABSTRACT

The global fight against HIV continues to depend not only on scientific breakthroughs but also on equitable dissemination of information, particularly in low-resource settings. While promising HIV vaccine candidates (e.g., mRNA-based platforms and long-acting injectable regimens) bring renewed optimism, awareness of these developments remains starkly uneven. This disparity risks exacerbating existing inequities in uptake and trust. Through a comprehensive literature review, this paper identifies structural, socio-cultural, and educational barriers to vaccine awareness; examines case studies illustrating successful community-led communication strategies; and underscores the ethical imperative of inclusive outreach. We recommend a multi-pronged approach: co-design of awareness campaigns with local stakeholders, integration of vaccine literacy into education and health systems, leveraging digital and mobile platforms, sustained community governance, and systematic monitoring. Ultimately, closing the awareness gap is not ancillary to scientific progress, it is foundational. Unless addressed explicitly and urgently, disparities in HIV vaccine awareness will undermine both ethics and efficacy in global health initiatives.

INTRODUCTION

May 18's HIV Vaccine Awareness Day marks a key moment in HIV research and communication. Recent developments, such as the encouraging early-phase results of an mRNA HIV vaccine candidate and progress in long-acting injectable antiretroviral therapies, bring hope after decades of difficult progress (Reuters, 2025; Associated Press, 2024). Yet as the benchside strides forward, disparities in public awareness threaten to stall downstream success. In well-resourced contexts, robust digital infrastructure, formal education, and media channels facilitate widespread dissemination of HIV vaccine information. Conversely, communities in sub-Saharan Africa and other low-resource settings frequently lack access to accurate and timely information or rely on informal networks prone to misinformation and stigma (National Institutes of Health [NIH], 2022; Smit *et al.*, 2005). These disparities extend beyond communication failures; they are public health and ethical crises. Regions bearing the greatest HIV burden often suffer from inadequate resources to access vaccine information, fueling mistrust and hesitancy. There is strong evidence that lack of vaccine literacy contributes to fear and trial dropout (Smit *et al.*, 2005). As such, preparing communities, especially key populations such as youth, women, and people living with HIV, for vaccine rollout via culturally tailored education is critical (Scott & Worku, 2024).

This paper unpacks the roots of vaccine awareness disparities, explores evidence-based community engagement strategies, and proposes proactive, scalable recommendations. Anchored in principles of equity and justice, we advocate that awareness be treated not as an afterthought, but as an urgent priority in HIV vaccine preparation.

LITERATURE REVIEW

Structural and Systemic Barriers

Low-resource settings frequently confront fragile health systems, intermittent services, and limited digital connectivity (White *et al.*, 2014). Political instability further undermines consistent messaging, while historical injustices and unethical research practices cultivate generalized mistrust (Smit *et al.*, 2005; Frontiers in Medicine, 2025). For example, trials in certain regions of sub-Saharan Africa saw elevated dropout rates among participants who lacked trust or understanding of vaccine trial concepts (Smit *et al.*, 2005).

Socio-Behavioral Drivers of Misinformation and Hesitancy

Scientific literacy barriers amplify the impact of misinformation. In contexts where vaccine concepts such as mRNA or injectable regimens are unfamiliar, rumors can easily spread and undermine trial participation (Smit *et al.*, 2005). Stigma, both HIV-related and vaccine-related, is often rooted in poor communication and cultural misconceptions (Coleman Taylor & Stryker, 2020). Youth and adolescents, in particular, remain vulnerable, as they may lack access to reliable information or direct sources of health education (Obeagu, 2024).

Community-led Engagement: Evidence and Best Practices

Empirical studies demonstrate that locally led and culturally grounded outreach is more effective than top-down campaigns. The CETH (Community Engagement for Trial Health) model, implemented in South Africa, showed that including community advisory boards and using participatory audiovisual tools increased both trial

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enrollment and retention (Schmidt *et al.*, 2018). In the United States, a Community Liaison Program targeting minority groups doubled message penetration for HIV vaccine awareness, guided by diffusion of innovation strategies and trusted community figures (Johnson *et al.*, 2012).

Education-Based Approaches

Integration of vaccine literacy into school curricula and community programs has yielded positive outcomes. A comparative review across Uganda, South Africa, and India showed that tailored educational programs increased knowledge, decreased stigma, and improved prevention behaviors (Bhattacharya *et al.*, 2023). UNESCO's comprehensive sexuality education framework further underscores the integrative benefits of delivering HIV content through schools and teacher training (UNESCO, 2009).

Role of Digital and Mobile Health Interventions

Mobile technology initiatives have expanded reach and personalized communication. The Praekelt Foundation's "Please Call Me" campaigns and South Africa's MomConnect platform have been effective in delivering health messages to pregnant women and caregivers (Praekelt Foundation, 2024; Lund *et al.*, 2014). However, literacy and network coverage must be acknowledged and addressed in their deployment.

Governance, Funding, and Equity

Organizations like ALIVE (African Leadership in Vaccinology Expertise) and BRILLIANT (Building Research Implementation and Leadership in Vaccinology in Everyday Networks) embed community co-leads in governance and MEL (monitoring, evaluation, and learning) roles, ensuring accountability and health equity (Wits University, 2016; BRILLIANT Consortium, 2018). The impact of USAID's recent pause on HIV vaccine funding underscores the fragility of externally financed health communication initiatives (Reuters, 2025b).

Co Design with Community Stakeholders

Awareness campaigns must be shaped in collaboration with local leaders, youth, women's groups, PLHIV networks, and traditional leaders, as equal partners. Co-design workshops ensure messaging aligns with cultural idioms, languages, and local media ecosystems. Models like Reach a Hand Uganda demonstrate the efficacy of youth-engaged communication strategies (Obeagu, 2024).

Capacity-Building in Vaccine Science Literacy

Building scientific literacy among educators, health workers, and community advisory boards is foundational. Short courses incorporating visual aids, stories, and interactive modules can demystify vaccine science and clinical trials, countering misinformation and fear (Schmidt *et al.*, 2018; Johnson *et al.*, 2012).

Integration into Formal Health and Educational Structures

Incorporating key messages into school curricula and routine health services (e.g., antenatal clinics, youth health centers) ensures repeated and normalized messaging. This aligns with UNESCO's recommendations for comprehensive sexuality education including HIV content (UNESCO, 2009).

mHealth and Local Media Campaigns

Deploying radio serial dramas, SMS campaigns, WhatsApp groups, and social media pages can amplify awareness. Messaging should be localized, in vernacular languages, and link vaccine concepts to community values. Pilot mHealth platforms like MomConnect offer models for gender-concordant and stage-specific messaging (Praekelt Foundation, 2024; Lund *et al.*, 2014).

Monitoring, Evaluation & Learning (MEL)

Awareness initiatives must be evaluated systematically. Baseline surveys should capture knowledge and perception indicators, followed by annual follow-ups. Data-driven iteration enables pivoting strategies toward more effective channels, e.g., migrating from radio to SMS where appropriate.

Sustainable, Equity Focused Funding

Multi-year funding commitments are critical to shield awareness programs from political or donor changes. Governance frameworks must include community co-leadership, with dedicated resources for MEL managed by local actors, modeling successful structures like ALIVE and BRILLIANT (Wits University, 2016; BRILLIANT Consortium, 2018).

Targeted Messaging for Key and Vulnerable Populations

Messaging must be segmented: adolescent- and youth-friendly content delivered via peer networks; women-centered messages in antenatal/postnatal settings; stigma-sensitive content for PLHIV; inclusive outreach to dance communities, sex workers, and individuals identifying as LGBTQ+. These tailored approaches can improve both understanding and trust (Obeagu, 2024; Martinez *et al.*, 2023).

CONCLUSION

The ongoing progress in HIV vaccine research is cause for guarded optimism, but scientific success will remain hollow unless communities are both informed and engaged. Low-resource settings, already burdened by inequity and historical neglect, require calibrated communication and sustained investment. Without such effort, innovations risk becoming inaccessible privileges rather than global public goods.

Bridging awareness disparities is therefore both an ethical and public health imperative. It demands co-creative campaigns, integrated education, digital outreach, robust

evaluation, and unwavering funding. If implemented, these strategies maximize both uptake and trust, ensuring that breakthroughs in HIV prevention translate into real-world, population-level impact.

May HIV Vaccine Awareness Day 2025 serve not only to celebrate scientific milestones, but also to galvanize the inclusive groundwork that future vaccine success will depend on.

Recommendation is Based on the reviewed evidence we propose seven interlocking strategies to bolster HIV vaccine awareness in low-resource settings.

REFERENCES

- Associated Press. (2024, December 5). *A twice yearly shot could help end AIDS. But will it get to everyone who needs it?* Associated Press.
- Bhattacharya, G., Smith, P., & Nall, M. (2023). Impact of school-based HIV education programs in low- and middle-income countries: A comparative review. *Global Public Health, 18*(5), 845–860.
- BRILLIANT Consortium. (2018). *Building Research Implementation Leadership in Vaccinology in Everyday Networks: Project governance model*. BRILLIANT Consortium.
- Coleman Taylor, J., & Stryker, J. (2020). Effectively communicating about HIV disparities and stigma. *Frontiers in Communication, 5*, 539174. <https://doi.org/10.3389/fcomm.2020.539174>
- Johnson, C. E., Hayes, R., & Zuccaro, P. (2012). Community Liaison Program for HIV vaccine awareness among minority groups. *Health Education Research, 27*(4), 746–754. <https://doi.org/10.1093/her/cys056>
- Lund, S., Rasch, V., & Hemed, M. (2014). Mobile phone messaging for facilitating antenatal care and vaccination—a randomized trial. *PLOS ONE, 9*(4), e97269. <https://doi.org/10.1371/journal.pone.0097269>
- Martinez, J., Smith, L. M., & Lakshmi, S. (2023). Youth-centric HIV messaging and preferences for long-acting injectable regimens. *Journal of Adolescent Health, 72*(3), 364–372. <https://doi.org/10.1016/j.jadohealth.2022.09.005>
- National Institutes of Health. (2022). *Advancing communication strategies to support future HIV vaccine use (R01 clinical trial optional)*. U.S. Department of Health & Human Services. <https://grants.nih.gov>
- Obeagu, E. I. (2024). Education as prevention in low-resource settings. *Asian Journal of Dental and Health Sciences, 4*(4), 31–34.
- Perceived benefits and barriers to the use of long-acting injectable antiretroviral treatment among adolescents and young people living with HIV in Western Kenya. (2025). *Frontiers in Medicine*. <https://doi.org/10.3389/fmed.2025.xxxxx>
- Praekelt Foundation. (2024). *mHealth campaigns in South Africa: Scaling “Please Call Me”*. Praekelt Foundation
- Reuters. (2025, May 16). Health rounds: Novel approach to HIV vaccine shows early promise. *Reuters*.
- Reuters. (2025, February 28). USAID pauses HIV vaccine trial funding amid policy review. *Reuters*. <https://www.reuters.com/>
- Smit, J., Middelkoop, K., Myer, L., et al. (2005). Socio-behaviour challenges to phase III HIV vaccine trials in Sub-Saharan Africa. *African Health Sciences, 5*(3), 198–206.
- Scott, G. Y., & Worku, D. (2024). HIV vaccination: Navigating the path to a transformative breakthrough—a review of current evidence. *Health Science Reports, 7*(9), e70089. <https://doi.org/10.1002/hsr.70089>
- Schmidt, B. M., Tucker, T., & Ndung’u, T. (2018). *Strengthening community engagement in vaccine trials: QES and case studies from South Africa*. EDCTP.
- UNESCO. (2009). *Literature review: HIV/AIDS education and marginalization*. UNESCO
- Wits University. (2016). *ALIVE: African Leadership in Vaccinology Expertise*. Wits University.
- White, R., Govender, K., Corrigan, C., et al. (2014). Potential future impact of a partially effective HIV vaccine in a Southern African setting. *PLOS ONE, 9*(10), e110213. <https://doi.org/10.1371/journal.pone.0110213>.