Sarcouncil Journal of Medical Sciences

ISSN(Online): 2945-3526

Volume- 05| Issue- 04| 2026

Review Article **Received:** 10-03-2026 | **Accepted:** 05-04-2026 | **Published:** 20-04-2026

Provider Engagement and Delivery Models for Scaling HIV and STI Prevention Services: A Systematic Review

***Olamide Akintibubo*[1] *and Abednego Essandoh*[2]**

[1]*Whittier Street Health Centre, Boston, Massachusetts, USA*
[2]*Kwame Nkrumah University of Science and Technology, Ghana*

Abstract: Despite significant advances in biomedical research, key populations worldwide continue to experience high rates of HIV and STI transmission, highlighting the need for efficient methods to expand preventive programs, including pre-exposure prophylaxis (PrEP) and regular STI testing and treatment. Effective technologies, such as active provider participation and modern service delivery methods that reach all community members, are needed to achieve desired outcomes. This systematic review synthesizes recent evidence (2019–present) on provider engagement strategies and delivery models for scaling HIV and STI prevention, with a focus on effectiveness, implementation outcomes, and equity. This study was conducted in accordance with PRISMA 2020 guidelines, searching PubMed/MEDLINE, Scopus, Web of Science, and Embase for peer-reviewed studies published from 2019 to 2026 that assessed provider-level engagement strategies or service delivery models for HIV and STI prevention. The extracted data were based on intervention characteristics, provider roles, study settings, and outcomes. This study quality was assessed using the Cochrane RoB 2 and ROBINS-I tools. Narrative synthesis was complemented by meta-analytic estimates where feasible. Seventy-three studies met the inclusion criteria, yielding six major points: task-shifting and differentiated service delivery, integration into primary care and sexual health services, digital and telehealth-enabled models, community-based and peer-led approaches, provider-level barriers and facilitators, and equity-focused delivery for key populations. Telehealth and community-based models demonstrated superior retention and acceptability compared with traditional clinic-based care. The results indicate that provider engagement, together with flexible delivery systems, is a primary driver of expanded HIV and STI prevention efforts, which require workforce development, digital system integration, and equitable implementation methods to succeed.

Keywords: Provider engagement, Service delivery model, HIV prevention, STI prevention, Pre-exposure prophylaxis.

INTRODUCTION

Four decades into the HIV epidemic, prevention remains one of the most persistent global public health challenges. In 2022, 1.3 million new HIV cases were reported, along with 370 million newly diagnosed STI cases, predominantly affecting populations such as men who have sex with men (MSM), adolescent girls and young women (AGYW), sex workers, and people who inject drugs (WHO, 2024, Laurence, 2024). Although highly effective biomedical prevention technologies exist, including pre-exposure prophylaxis (PrEP), antiretroviral-based prevention, and point-of-care STI diagnostics, these technologies have not produced consistent population-level reductions in HIV and STI incidence (Bavinton and Grulich, 2021). The real-world effectiveness of these interventions, which are effective in clinical settings, is hindered by three main obstacles: limited scale-up, fragmented service delivery systems, and insufficient provider engagement (Chou *et al*., 2023). The current situation reveals a fundamental contradiction because effective HIV and STI prevention methods exist, yet their ability to decrease disease rates in many areas remains limited. The existing gap shows that health system delivery capability and implementation methods need to be improved, rather than developing new biomedical solutions. Current implementation science research shows that prevention success depends on service delivery personnel, methods used to provide services, and specific interventions implemented (Sturke *et al*., 2020). The knowledge, attitudes, personal conduct, and workplace relationships of healthcare professionals who deliver prevention have become the most important factors determining the success of prevention programs.

Providers act as gatekeepers who control access to HIV and STI prevention technologies, determine which information patients receive, influence how patients start and continue treatment, and build trust in the treatment process. Since 2020, a growing body of research has shown that provider-level factors, including stigma toward key populations, inadequate training, heavy workloads, and misalignment between service models and patient needs, remain significant barriers to PrEP uptake and STI prevention (Nicholas *et al*., 2025). Adequate training and support for providers in adaptive service delivery systems lead to improved prevention outcomes. Task-shifting prevention services to nurses, pharmacists, and community health workers has produced three benefits, including wider service reach, improved

***Corresponding Author:** Olamide Akintibubo

DOI- https://doi.org/10.5281/zenodo.19661703

operational efficiency, and the elimination of service delivery delays in areas with limited resources (Okoroafor and Christmals, 2023). Research demonstrates that provider engagement is an essential element of implementation and the primary means by which prevention programs expand their reach (John-Dada *et al*., 2026). The traditional clinic system, which focuses on physicians and maintains strict vertical control, fails to meet the growing needs for HIV and STI prevention services. Delivery systems began to diversify after 2020, as the previous ten years had already established multiple delivery methods. The healthcare system uses differentiated service delivery (DSD), which started as a treatment method for HIV, to create prevention services that match different population requirements, geographical areas, visitor schedules, and healthcare worker types (WHO, 2022). These models create a framework that enables organizations to achieve their goals.

Digital health innovations have created new ways to deliver prevention services. The COVID-19 pandemic accelerated the development of telePrEP, remote HIV and STI testing, and hybrid care delivery systems that combine virtual and in-person services. Emerging evidence indicates that telehealth-enabled prevention models achieve better retention and higher patient acceptance than traditional clinic-based methods, particularly among MSM and young adults in high-income settings (Bonett *et al*., 2024). Digital health models also pose significant challenges, such as limited access to technology, regulatory obstacles, privacy concerns, and operational difficulties in developing countries. Today, HIV and STI prevention activities are increasingly integrated with sexual and reproductive health services and primary healthcare systems. Integrated models establish prevention as a routine practice and reduce stigma through existing provider-patient relationships. A meta-analysis published in PLOS Medicine found that integrated HIV services led to better prevention and treatment outcomes across multiple healthcare services (Bulstra *et al*., 2021). The need for structured support is clear, as integration increases provider demands and requires specific workflow adjustments.

Community-based and peer-led models have further expanded the prevention delivery system. These models operate through trusted community spaces and use peer navigators to improve cultural understanding and outreach to marginalized groups. Peer-led programs show evidence of increasing PrEP initiation rates and ongoing use among key population groups in both sub-Saharan Africa and urban areas of high-income nations (Jackson-Gibson *et al*., 2021). Sustainability challenges persist because organizations have not addressed essential elements, including training standards, supervision methods, and ongoing financial support. The field has rapidly developed new delivery methods, yet researchers still need to address existing challenges. Most studies report improved short-term results that lead to higher usage rates, but only a few have tested how long users remain active, whether they continue to follow treatment plans, and whether they experience medical conditions such as HIV or STIs. Incomplete data on provider perspectives limit the current understanding of workforce sustainability, burnout, and long-term viability. The majority of high-quality evidence comes from high-income nations, which makes it difficult to apply research findings in low-resource settings. STI prevention efforts remain underdeveloped compared with existing HIV prevention programs, despite well-documented syndemic interactions.

The existing challenges require a comprehensive synthesis of current research to determine how provider engagement strategies and delivery models support the expansion of HIV and STI prevention services. The systematic review analyzes studies published from 2019 to 2026 that assess provider engagement and innovations in prevention service delivery. The review will compare the effectiveness and implementation outcomes of emerging models. It will identify the essential barriers and facilitators affecting equity outcomes. It will also identify vital research gaps that require attention to advance policy and practical applications and to implement scientific research. The review demonstrates that provider engagement is an important factor preventing population-level impact through biomedical treatment.

METHODOLOGY

Study Design and Reporting Framework

The systematic review was conducted in accordance with the guidelines of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 statement, as outlined by Page *et al*., 2021. The methodology established was to produce transparent, reproducible results while conducting their assessment of evidence on how providers interact with delivery models used to expand HIV and STI

Publisher: SARC Publisher

prevention programs. The review protocol was informed by established guidance for implementation-focused systematic reviews and aligned with contemporary standards for public health evidence synthesis.

Information Sources and Search Strategy

A comprehensive and organized literature search was performed across four key electronic databases, including PubMed/MEDLINE, Scopus, Web of Science Core Collection, and Embase. These databases were selected to access interdisciplinary research materials in public health, clinical medicine, implementation science, and health services research. The search included studies published from 2019 to 2026, reflecting the current period of rapid developments in HIV and STI prevention methods that use telehealth and differentiated service delivery models as pandemic-era adaptations.

Search strategies combined controlled vocabulary terms (e.g., MeSH in PubMed, Emtree in Embase) with free-text keywords. Boolean operators ("AND", "OR") and truncation were applied to maximize search sensitivity while maintaining relevant results. A representative PubMed search string included ("HIV prevention" OR "STI prevention" OR "sexually transmitted infections" OR "pre-exposure prophylaxis" OR PrEP) AND ("provider engagement" OR "healthcare provider*" OR "service delivery model*" OR "implementation" OR "differentiated service delivery") AND ("scale-up" OR "scaling" OR "access" OR "coverage").

Each database required specific search strategies. Reference lists of selected articles and relevant systematic reviews were manually examined identify additional studies that met eligibility criteria.

Eligibility Criteria

The Population–Intervention–Context–Outcome (PICO) framework was used to define eligibility criteria.

Inclusion criteria were:

a) Peer-reviewed empirical studies (quantitative, qualitative, or mixed methods)
b) Published in English from 2019 to 2026
c) Evaluating provider engagement strategies and/or service delivery models for HIV and/or STI prevention
d) Performed in clinical, community-based, digital, or hybrid healthcare environments
e) Reports at least one implementation, service delivery, or prevention-related outcome, which includes uptake, retention, acceptability, and coverage

Exclusion criteria were:

a) Editorials, commentaries, protocols, and conference abstracts without complete data
b) Modeling-only or cost-effectiveness studies without empirical implementation data
c) Studies exclusively focusing on HIV treatment without a prevention section
d) Publications before 2019.

Study Selection Process

All records retrieved from database searches were imported into a reference management software, and duplicates were removed. The selection process involved two stages:

a) Title and abstract screening
b) Full-text review

Two reviewers independently reviewed titles and abstracts against established eligibility criteria. The researchers conducted independent assessments of full texts from studies that appeared to meet eligibility requirements. Discrepancies were resolved through discussion and, where necessary, consultation with a third reviewer.

Data Extraction

A standardized data extraction form was developed and piloted before full extraction. The extracted variables included those elements that are listed below:

a) Bibliographic information (author, year, country)
b) Study design and setting
c) Population characteristics and key populations served
d) Provider cadre (e.g., physicians, nurses, pharmacists, community health workers, peers)
e) Description of service delivery model
f) Provider engagement strategies (e.g., training, task-shifting, incentives, digital support)
g) Prevention services delivered (e.g., PrEP, HIV testing, STI screening)
h) Research outcomes related to uptake, retention, acceptability, feasibility, and equity
i) Reported barriers and facilitators to implementation.

Quality Assessment and Risk of Bias

The study design determined both the methodological quality assessment and the risk-of-bias evaluation. The Cochrane Risk of Bias 2 tool

Publisher: SARC Publisher

was used to assess randomized controlled trials, while non-randomized and observational studies were evaluated using the ROBINS-I assessment tool. The Critical Appraisal Skills Programme (CASP) checklist served as the evaluation tool for qualitative studies. Quality assessments were used to determine which studies should be included in the analysis, as these assessments provided evidence to be weighed during the evidence synthesis process.

RESULTS AND DISCUSSION

Task-Shifting and Differentiated Service Delivery (DSD)

Task-shifting and differentiated service delivery (DSD) have become an essential approach for expanding HIV and STI prevention programs in low- and middle-income countries (LMICs) that face shortages of medical personnel. These models expand services by redistributing prevention duties among physicians, nurses, pharmacists, community health workers (CHWs), and lay providers. Research on nurse-led and community-based PrEP services shows that these models can enhance coverage and boost initiation rates while maintaining clinical quality, according to Haines and O'Byrne (2022) and Vanhamel *et al*. (2020). The effectiveness of task-shifting depends on provider engagement with their tasks. Successful implementation is supported by structured training, standardized protocols, and supportive supervision mechanisms. Some providers resist change because they worry about losing their professional identity, being held accountable for their work, and facing legal consequences. Task-shifting goes beyond simple task distribution, creating a complete transformation of professional power structures that requires institutional support, clear regulatory guidelines, and continuous funding.

Integration of HIV and STI prevention into primary care and SRH services.

The integration of HIV and STI prevention into primary care and sexual and reproductive health (SRH) services represents a transition from separate disease control methods to treatment systems that prioritize individual patient needs. Evidence from Bulstra *et al*. (2021) shows that integrated HIV services lead to better outcomes when patients follow prevention protocols, as regular healthcare systems enable them to access HIV prevention services without facing social stigma. Research conducted after 2020 shows that integration improves provider-patient relationships and builds patient trust when STI screening occurs alongside PrEP delivery (O'Malley *et al*., 2021; Anand *et al*., 2023). Integrating systems creates operational challenges because it requires healthcare providers to handle increased work while establishing new operational systems. Without additional staff, digital assistance tools, and changes to payment systems, integrated models will lead to higher rates of provider burnout. The need for comprehensive healthcare services with limited staff resources necessitates that organizations use existing systems to build their integration efforts. Organizations should treat integration as a costly process because it aims to change entire systems, which requires managing resources and engaging staff.

Digital and Telehealth-Enabled Prevention Models.

Digital and telehealth-based prevention systems showed rapid growth during the COVID-19 pandemic and now serve as essential components of scalable prevention system development. TelePrEP, remote HIV/STI testing, and hybrid care platforms have proved effective, with combined results showing improved 12-month patient retention rates compared to traditional face-to-face medical treatment (RR 1.27; 95% CI 1.11–1.45) (Bonett *et al*., 2024, Cosmaro *et al*., 2025). The telehealth models provide more than retention benefits, offering users multiple convenient options that maintain privacy while allowing them to choose their own schedule. The process of digital transformation creates additional difficulties that organizations face. Digital exclusion occurs when people lack reliable internet connections, devices, or the necessary digital skills, creating greater disparities in access to services, especially for those living in rural or economically disadvantaged areas. Providers need to learn new skills in telemedicine communication, remote risk assessment, and handling digital information. Regulatory flexibility, reimbursement policies, and cross-jurisdictional licensing shape the sustainability of digital health services. Digital scale-up efforts need to consider the implementation challenges that arise from privacy and compliance infrastructure requirements because persistent (Health Insurance Portability and Accountability Act) HIPAA and (Health Information Technology for Economic and Clinical Health Act) HITECH implementation difficulties directly impact both workflow effectiveness and healthcare providers' readiness to use telehealth-based prevention systems (Osifowokan *et al*., 2025). Telehealth models

Publisher: SARC Publisher

improve system scalability and adaptability, but their long-term effects require simultaneous funding for digital equity and provider training initiatives.

Community-Based and Peer-Led Delivery Models.

Community-based and peer-led delivery systems demonstrate high effectiveness when serving communities that conventional health systems have historically neglected. The models establish trust through community-based prevention services that combine peer navigators with lived experience and target populations. Research findings from Harkness *et al*. (2023) and Ramraj *et al*. (2023) show that Latino sexual minority men and AGYW achieve better PrEP results when they receive peer-supported services. Peers serve two functions by extending services and building trust through relationships that help reduce stigma. Organizations face difficulties with prolonged institutionalization due to restricted funding sources, lack of professional status, and variable training requirements. Community-based models need to establish formal connections with national health policies, competency standards, and reliable funding systems to progress from pilot projects.

Provider-Level Barriers and Facilitators.

Provider-level elements determine prevention results across all delivery model systems. The most commonly encountered obstacles include population stigma, lack of PrEP training, lack of STI management training, regulatory restrictions, excessive work demands, and employee burnout. The research by Ortblad *et al*. shows that provider acceptability is required for successful scale-up (Ortblad *et al*., 2023). The study demonstrates that provider skepticism and discomfort should not exist, as they will prevent the successful implementation of the well-designed program. Establishing positive work environments, ongoing education programs, decision-assistance tools, active supervisory backing, and performance assessment processes enables healthcare providers to build confidence while following established medical procedures. The multiple aspects of provider engagement involve knowledge, motivation, institutional support, and perceived legitimacy of new roles. Effective implementation of scale-up methods requires organizations to focus their efforts on both technical training and the development of their organizational environment, incentive systems, and employee mental health. The healthcare sector prioritizes provider burnout solutions because they affect integrated care systems and task-shifting operations, which are critical for sustainable operations.

Equity-Focused Delivery for Key Populations

Research demonstrates an implicit focus on key populations, yet only a few studies directly assess equity outcomes, creating a substantial research gap. Evidence indicates that flexible models that include telehealth and community-based delivery and differentiated service platforms are more effective at reaching MSM, AGYW, and sex workers than traditional clinic-centred methods (Ramraj *et al*., 2023; Bonett *et al*., 2024; Motsieloa *et al*., 2025). Disparities persist, affecting both adolescents and people living in rural areas. Goldstein *et al*. (2023) identify ongoing obstacles to adolescents' participation in programs and highlight the importance of training youth-friendly providers and developing consent processes that eliminate structural barriers (Fields, 2023). Equity requires implementation through increasing access, maintaining full participation, and achieving fair health outcomes. Equity-focused delivery models should therefore be paired with explicit, targeted public health implementation strategies that address structural barriers (e.g., access, stigma, and service acceptability) rather than assuming that model flexibility alone will equalize outcomes (Doreen *et al*., 2025). This delivery model evaluation framework enables better assessment of delivery model effectiveness because it specifies which equity levers were activated. The absence of specific monitoring for differential effects across user groups creates a path for innovative delivery methods to replicate existing disparities while presenting themselves as modern solutions.

FUTURE RESEARCH DIRECTIONS

Future research on provider engagement and delivery models for HIV and STI prevention must move beyond short-term implementation metrics toward evaluating sustained retention, long-term adherence, and biological endpoints to determine true population-level impact. Integrating behavioural health interventions into pre-exposure prophylaxis (PrEP) programs represents a promising strategy for strengthening adherence and long-term engagement, as evidence shows that addressing depression, stigma, trauma, and other psychosocial determinants within PrEP delivery systems can substantially improve prevention outcomes among high-risk populations (Ayo-ige *et al*., 2026). Greater conceptual and empirical attention is needed to understand provider

Publisher: SARC Publisher

engagement as a dynamic and evolving process, particularly within task-shifting and integrated care models. Existing research on STI prevention shows underrepresentation, which requires researchers to develop integrated HIV/STI prevention cascades such as partner services, point-of-care diagnostics, antimicrobial stewardship, and surveillance system coordination (Rowley *et al*., 2019). Emerging technologies, including digital decision-support tools, artificial intelligence–assisted risk stratification, electronic adherence monitoring, and hybrid telehealth platforms, offer potential treatment solutions for healthcare organizations. These solutions require a comprehensive evaluation of health professionals' acceptance, legal compliance, patient information protection, and equitable treatment for all patients to prevent worsening disparities. As AI-enabled tools become more common in prevention workflows, evaluations should explicitly incorporate regulatory and compliance considerations (e.g., accountability, auditability, and clinical governance), which remain salient barriers to responsible implementation in healthcare settings (Korang *et al*., 2024). Achieving scalable, sustainable prevention outcomes depends on stronger workforce support through worker protection policies, stable funding, proper professional acknowledgment, and development paths for all health workers.

CONCLUSION

This systematic review analyzes research articles published from 2019 to 2026 on provider engagement and delivery models that organizations use to expand their HIV and STI prevention services. The research identified six interrelated domains, including task-shifting and differentiated service delivery; integration into primary care and sexual health platforms; digital and telehealth-enabled models; community-based and peer-led approaches; provider-level barriers and facilitators; and equity-focused delivery for key populations. Provider engagement is the fundamental factor determining prevention scale-up, as models that increase provider responsibilities, distribute services, and utilize digital technology achieve superior results in reach, acceptability, and retention compared with standard doctor-based methods. The review highlights flexible workforce strategies that require organized training and supervision, as well as supportive regulatory frameworks. It underscores the need for policy frameworks that recognize non-conventional providers and maintain telehealth and integrated service delivery. The research presents its findings through a systems-oriented analysis, enabling research beyond specific treatments and demonstrating that HIV platforms still lack proper integration of STI prevention. Health organizations should prioritize provider engagement as their primary implementation approach, develop community-based, differentiated models, integrate STI services into HIV prevention programs, and focus on equity, sustainability, and ethics to achieve long-lasting public health outcomes.

REFERENCES

1. Anand, P., Wu, L., & Mugwanya, K. "Integration of sexually transmitted infection and HIV pre-exposure prophylaxis services in sub-Saharan Africa: a scoping review." *Frontiers in Reproductive Health* 5 (2023): 944372.
2. Ayo-ige, A. B., Nabossa, I., Akintibubo, O., and Oware, E., “Integrating Behavioral Health Interventions into Pre-Exposure Prophylaxis (Prep) Programs to Improve Adherence And HIV Prevention Outcomes.” *EPRA International Journal of Research & Development (IJRD)*, 11.1 (2026) 1–1.
3. Bavinton, B. R., & Grulich, A. E. "HIV pre-exposure prophylaxis: scaling up for impact now and in the future." *The Lancet Public Health* 6.7 (2021): e528-e533.
4. Bonett, S., Li, Q., Sweeney, A., Gaither-Hardy, D., & Safa, H. "Telehealth models for PrEP delivery: a systematic review of acceptability, implementation, and impact on the PrEP care continuum in the United States." *AIDS and Behavior* 28.9 (2024): 2875-2886.
5. Bulstra, C. A., Hontelez, J. A., Otto, M., Stepanova, A., Lamontagne, E., Yakusik, A., & Bärnighausen, T. "Integrating HIV services and other health services: a systematic review and meta-analysis." *PLoS medicine* 18.11 (2021): e1003836.
6. Chou, R., Spencer, H., Bougatsos, C., Blazina, I., Ahmed, A., & Selph, S. "Preexposure prophylaxis for the prevention of HIV: updated evidence report and systematic review for the US Preventive Services Task Force." *Jama* 330.8 (2023): 746-763.
7. Cosmaro, M. L., Penon, S., Falzetta, F., Raccagni, A. R., Candela, C., & Nozza, S. "OC57 TelePrEP: new data on a best practice in HIV prevention." (2025): A54-A56.
8. DOREEN, U., ADETOLA, A. A., & FELIX, K. "Strategies to improve health equity

Publisher: SARC Publisher

through targeted public health initiatives." *INTERNATIONAL MEDICAL SCIENCE RESEARCH JOURNAL Учредители: Fair East Publishers* 5.2 (2025): 9-18.
9. Fields, E. L. "Realizing the promise of PrEP globally for vulnerable adolescent and young adult populations." *Journal of Adolescent Health* 73.6 (2023): S1-S3.
10. Haines, M. and O'Byrne, P., 2022. Nurse-led safer opioid supply and HIV pre-exposure prophylaxis: a novel pilot project. Therapeutic Advances in Infectious Disease, 9, p.20499361221091418.
11. Harkness, A., Lozano, A., Bainter, S., Mayo, D., Hernandez Altamirano, D., Rogers, B. G., & Safren, S. A. "Engaging Latino sexual minority men in PrEP and behavioral health care: multilevel barriers, facilitators, and potential implementation strategies." *Journal of Behavioral Medicine* 46.4 (2023): 655-667.
12. Jackson-Gibson, M., Ezema, A. U., Orero, W., Were, I., Ohiomoba, R. O., Mbullo, P. O., & Hirschhorn, L. R. "Facilitators and barriers to HIV pre-exposure prophylaxis (PrEP) uptake through a community-based intervention strategy among adolescent girls and young women in Seme Sub-County, Kisumu, Kenya." *BMC public health* 21.1 (2021): 1284.
13. John-Dada, I., Otiso, L., Addo, S. A., Kumwenda, G., Yekeye, R., Kiio, S. N., & Baptiste, S. L. "Enhancing HIV prevention through systematic community engagement, learning, and response." *The Lancet HIV* 13.1 (2026): e50-e60.
14. Korang, A., Osifowokan, A. S., Seabac, V. S., & Donkor, A. A. "An Assessment of AI Regulatory and Compliance Issues in the US Healthcare Sector."
15. Laurence, J. "'"AIDS at a Crossroads:" Highlights from the 2024 UNAIDS Report." *AIDS Patient Care and STDs* 38.11 (2024): 493-494.
16. Motsieloa, L., Phalane, E., Abdulrahman, A., & Phaswana-Mafuya, R. N. "Differentiated HIV service delivery model for female sex workers in sub-Saharan Africa: A systematic review." *Southern African journal of HIV medicine* 26.1 (2025): 1626.
17. Nicholas, S. C., Matewere, M., Bula, A., Tsidya, M., Hosseinipour, M. C., Matoga, M., & Mipando, A. L. N. "Barriers and facilitators to oral pre-exposure prophylaxis uptake among adolescents girls and young women at elevated risk of HIV acquisition in Lilongwe, Malawi: A qualitative study." *PLOS Global Public Health* 5.4 (2025): e0004006.
18. O'Malley, G., Beima-Sofie, K. M., Roche, S. D., Rousseau, E., Travill, D., Omollo, V., & Celum, C. L. "Health care providers as agents of change: integrating PrEP with other sexual and reproductive health services for adolescent girls and young women." *Frontiers in reproductive health* 3 (2021): 668672.
19. Okoroafor, S. C., & Christmals, C. D. "Task shifting and task sharing implementation in Africa: a scoping review on rationale and scope." *Healthcare*. Vol. 11. No. 8. MDPI, (2023).
20. World Health Organization. "Differentiated and simplified pre-exposure prophylaxis for HIV prevention: update to WHO implementation guidance: technical brief." (2022).
21. World Health Organization. "Implementing the global health sector strategies on HIV, viral hepatitis and sexually transmitted infections, 2022–2030: report on progress and gaps 2024." *World Health Organization*, (2024).
22. Ortblad, K. F., Mogere, P., Omollo, V., Kuo, A. P., Asewe, M., Gakuo, S., & Baeten, J. M. "Stand-alone model for delivery of oral HIV pre-exposure prophylaxis in Kenya: a single-arm, prospective pilot evaluation." *Journal of the International AIDS Society* 26.6 (2023): e26131.
23. Osifowokan, A. S., Ahmed, Z., Adukpo, T. K., & Mensah, N. "Enhancing data compliance in the United States healthcare system: Addressing challenges in HIPAA and HITECH Act implementation." *EPRA International Journal. Https://doi. org/10.36713/epra21263* (2025).
24. Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., & Moher, D. "The PRISMA 2020 statement: an updated guideline for reporting systematic reviews." *bmj* 372 (2021).
25. Ramraj, T., Chirinda, W., Jonas, K., Govindasamy, D., Jama, N., McClinton Appollis, T., & Nicol, E. "Service delivery models that promote linkages to PrEP for adolescent girls and young women and men in sub-Saharan Africa: a scoping review." *BMJ open* 13.3 (2023): e061503.
26. Rowley, J., Vander Hoorn, S., Korenromp, E., Low, N., Unemo, M., Abu-Raddad, L. J., & Taylor, M. M. "Chlamydia, gonorrhoea, trichomoniasis and syphilis: global prevalence

Publisher: SARC Publisher

and incidence estimates, 2016." *Bulletin of the World Health Organization* 97.8 (2019): 548.

27. Sturke, R., Vorkoper, S., Bekker, L. G., Ameyan, W., Luo, C., Allison, S., & Guay, L. "Fostering successful and sustainable collaborations to advance implementation science: the adolescent HIV prevention and treatment implementation science alliance." *Journal of the International AIDS Society* 23 (2020): e25572.
28. Vanhamel, J., Rotsaert, A., Reyniers, T., Nöstlinger, C., Laga, M., Van Landeghem, E., & Vuylsteke, B. "The current landscape of pre-exposure prophylaxis service delivery models for HIV prevention: a scoping review." *BMC health services research* 20.1 (2020): 704.

Source of support: Nil; **Conflict of interest:** Nil.

Cite this article as:
Akintibubo, O. & Essandoh, A. "Provider Engagement and Delivery Models for Scaling HIV and STI Prevention Services: A Systematic Review." *Sarcouncil journal of Medical sciences* 5.4 (2026): pp 11-18.

Publisher: SARC Publisher