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Models and Implementation Approaches for Integrating Mental Health Services into HIV Care in Sub-Saharan Africa: A Scoping Review

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Abstract

Mental-health conditions are common among people living with HIV and can complicate adherence, retention, quality of life and engagement with care. In sub-Saharan Africa, however, specialist mental-health capacity remains limited while HIV programmes have developed extensive chronic-care platforms. Integrating mental-health support into HIV services therefore offers a pragmatic route to reduce the treatment gap. Following PRISMA-ScR guidelines, this study review mapped recent models for integrating mental-health services into HIV care in sub-Saharan Africa, examined their delivery architecture and outcome patterns, and identified implementation priorities for scale-up. A structured evidence-mapping approach was applied to peer-reviewed literature published from 2020 to 2026. Recent scoping/systematic reviews were used as anchor sources, followed by a focused update search of PubMed and publisher-indexed scholarly sources and citation chaining. Evidence was charted by country, population, care setting, delivery cadre, clinical target, model of integration, mental-health outcomes, HIV outcomes and implementation findings. Results: The recent evidence clustered around five service models: task-shared brief psychological care; collaborative stepped care; peer-led or youth-differentiated care; integrated screening with tiered referral; and group/community-based psychotherapy. Zimbabwe, South Africa and Uganda accounted for much of the evaluative literature, with emerging implementation evidence from Malawi, Cameroon, Nigeria and Kenya. Mental-health outcomes generally improved when interventions contained an active therapeutic component and adequate supervision, but effects on ART adherence and viral suppression were inconsistent. Malawi's routine programme demonstrated that high screening coverage can be achieved inside ART clinics, whereas studies in Cameroon and Nigeria highlighted workforce, privacy, referral and leadership constraints. Conclusion: The strongest model is not simple co-location. Effective integration combines routine identification, low-intensity task-shared treatment, measurement-based follow-up, clear escalation pathways, adherence-specific support and sustained supervision. Future research should test implementation at scale, cost, equity, severe mental illness and long-term HIV endpoints across underrepresented sub-Saharan African settings.

1. Introduction

Sub-Saharan Africa has achieved substantial gains in HIV diagnosis, antiretroviral therapy (ART) coverage and viral suppression, yet the clinical agenda for people living with HIV has broadened. As HIV has become a long-term condition for many patients, depression, anxiety, alcohol and other substance-use problems, trauma-related symptoms and psychosocial distress increasingly shape day-to-day treatment experience. The relationship is not merely a matter of comorbidity. Mental-health symptoms can affect motivation, memory, problem solving, disclosure, clinic attendance and medication routines, while HIV-related stigma, economic insecurity and chronic illness can intensify psychological distress. Recent African and global syntheses consequently frame mental health as part of HIV treatment quality rather than an optional adjunct (Greene et al., 2021; Meffert et al., 2021; Remien et al., 2021).

The service challenge is particularly important in settings where specialist mental-health personnel are scarce and concentrated in large urban facilities. A conventional referral model can require a patient to

recognize symptoms, accept a mental-health label, travel to another clinic, pay additional transport costs and negotiate a fragmented referral system. In contrast, HIV programmes already possess appointment systems, trained counsellors, lay cadres, laboratory monitoring, adherence services and long-term provider relationships. These assets make HIV care an attractive platform through which common mental-health conditions can be identified and managed at lower levels of the health system (Ezeanolue et al., 2020; Meffert et al., 2021).

The literature has moved beyond the question of whether integration is desirable. Recent trials and implementation studies ask how it should be organised, who should deliver care, how specialist input should be rationed, and which outcomes should define success. Project Khanya in South Africa tested peer-delivered behavioural treatment addressing substance use and ART adherence; Zimbabwean studies have examined nurse-delivered motivational interviewing and cognitive behavioural therapy as well as Friendship Bench problem-solving therapy; Malawi has embedded depression and alcohol screening in routine ART clinics; and Uganda has advanced collaborative stepped-care models for depression (Madhombiro et al., 2020; Magidson et al., 2021a; Chikuse et al., 2024; Kinyanda et al., 2026).

These developments also expose a recurring tension. Improvement in depression or common-mental-disorder symptoms does not guarantee improvement in viral suppression. The Friendship Bench trial in rural Zimbabwe improved common-mental-disorder symptoms at several follow-up points but did not significantly improve ART adherence or viral suppression; a pragmatic South African collaborative-care trial likewise found no clear effect on depression or viral-load suppression, while the Ugandan HIV + D model reported stronger depression effects (Haas et al., 2023; Zani et al., 2025; Kinyanda et al., 2026). This heterogeneity makes a model-of-care review timely because clinical content, delivery cadre and health-system architecture must be considered together.

1.1 Problem Statement

Despite growing recognition of HIV–mental-health comorbidity, integration in sub-Saharan Africa remains uneven. Recent surveys of HIV treatment sites show that screening and treatment capacity for depression, anxiety and post-traumatic stress disorder is far from universal, and implementation work in Cameroon documents the practical barriers behind those gaps: high clinic volume, limited private space, lack of standardised screening, weak referral coordination, stigma and insufficient staff confidence (Parcesepe et al., 2023; Grimes et al., 2024). At the same time, the research literature is geographically concentrated, which creates a risk that models tested in well-supported research sites are treated as universally transferable. A useful synthesis therefore has to distinguish intervention efficacy from service integration, clarify the mechanisms through which different models operate, and identify what is required for sustained routine delivery.

1.2 Aim and Objectives of the study

The aim of this article was to map and critically synthesise models used to integrate mental-health services into HIV care in sub-Saharan Africa. Specifically, the review sought to:

(1) identify the principal integration models reported since 2020;

(2) compare their clinical content, delivery cadres and referral architecture;

(3) examine patterns in mental-health and HIV outcomes;

(4) identify implementation barriers and enabling conditions; and

(5) propose an evidence-informed framework for scalable, context-sensitive integration.

2. Literature Review

2.1 Conceptual Review

2.1.1 Mental Health Within the HIV Care Continuum

Mental health in HIV care encompasses diagnosable psychiatric conditions and clinically important symptoms that influence functioning, risk and treatment behaviour. Depression has received the largest share of research attention, but alcohol and substance-use disorders, anxiety, trauma-related symptoms and suicidality also matter. Among females living with HIV in sub-Saharan Africa, a recent systematic review found wide ranges of depression and anxiety across studies and emphasised the influence of stigma, violence, socioeconomic strain and gendered vulnerability (Boakye et al., 2024). Among adolescents, mental-health symptoms intersect with disclosure, family support, school participation, sexual and reproductive health, and the developmental tasks of becoming independent in HIV self-management (Cluver et al., 2022; Musindo et al., 2023).

The conceptual link between mental health and HIV outcomes should not be treated as deterministic. Cross-sectional evidence from Zimbabwe and South Africa shows associations between common mental disorders, substance use and adherence or viral suppression, but these associations are mediated by social and treatment factors (Haas et al., 2020, 2021). For that reason, a mental-health intervention may substantially improve psychological symptoms without moving a biological HIV endpoint if the intervention does not also address medication routines, structural barriers, treatment interruption or clinic access. This distinction is central to interpreting integrated-care trials.

2.1.2 Meaning of Service Integration

Service integration refers to the deliberate organisation of mental-health identification, treatment, follow-up and referral within or tightly linked to the HIV care pathway. It is broader than placing a mental-health provider in the same building. Conteh et al. (2023) distinguish facility-level and system-level forms of integration, while recent African interventions show that integration can occur through shared staff, shared records, common appointment pathways, co-designed referral algorithms, peer delivery or collaborative supervision. The defining feature is reduced fragmentation from the patient's perspective.

A useful conceptual distinction is between clinical intervention and integration architecture. Problem-solving therapy, behavioural activation, cognitive behavioural therapy and motivational interviewing are therapeutic technologies. Task sharing, stepped care, peer delivery, group delivery and screening-plus-referral are service architectures. A programme becomes integrated when the therapeutic technology is embedded in a reproducible workflow that specifies who identifies need, who provides first-line support, how progress is measured, when care is escalated and how HIV outcomes remain visible.

2.1.3 Principal Models of Care

Five recurring models are visible in the recent evidence. First, task-shared brief psychological care trains nurses, lay counsellors or peers to provide structured treatment inside HIV services. Madhombiro et al. (2020) demonstrated that general nurses could deliver a motivational interviewing–brief cognitive behavioural package for alcohol-use disorders in Zimbabwe. Second, collaborative stepped care uses symptom severity and treatment response to determine when patients remain with a non-specialist and when they move to a clinician or mental-health specialist. The Ugandan HIV + D trial represents a recent mature example of this architecture (Kinyanda et al., 2026).

Third, peer-led and youth-differentiated models use lived experience or age-concordant delivery to improve acceptability and address social barriers. Project Khanya integrated behavioural activation, adherence problem solving and relapse-prevention elements through peer delivery in South African HIV care, while the Zvandiri-linked trial in Zimbabwe added problem discussion therapy to an established peer programme for adolescents (Magidson et al., 2020, 2021a; Simms et al., 2022). Fourth, screening-and-tiered-referral models make brief symptom assessment routine at ART visits and reserve specialist care for higher-acuity cases. Malawi's national-guideline implementation is a clear recent example (Chikuse et al., 2024). Fifth, group and community models use group support or community platforms to extend reach, reduce isolation and use scarce staff efficiently, as illustrated by the Ugandan group support psychotherapy literature (Nakimuli-Mpungu et al., 2020, 2021).

Table 2.1
Conceptual Definitions Used in the Review

Concept	Working definition	Recent evidence base
Integrated HIV–mental-health care	Organisation of identification, treatment, follow-up and referral so mental-health support is delivered within or tightly linked to the HIV pathway.	Conteh et al. (2023); Remien et al. (2021)
Task sharing	Delegation of defined mental-health functions to trained nurses, lay counsellors, peers or community cadres under appropriate supervision.	Madhombiro et al. (2020); Nakimuli-Mpungu et al. (2021)
Stepped care	Care intensity increases according to severity, risk or inadequate response, conserving specialist input for higher-acuity needs.	Zani et al. (2025); Kinyanda et al. (2026)
Peer-led care	Structured psychosocial or behavioural support delivered by trained peers with relevant lived or community experience.	Magidson et al. (2021a); Simms et al. (2022)
Measurement-based care	Repeated symptom and HIV outcome monitoring used to guide continuation, adaptation or escalation of treatment.	Chikuse et al. (2024); Kinyanda et al. (2026)

2.2 Theoretical Framework: Integrated Stepped-Care and Task-Sharing Framework

The review adopts an integrated stepped-care and task-sharing framework as its analytic lens. Rather than relying on a single classical theory, the framework synthesises recurring mechanisms in recent African implementation evidence. It assumes that scarce specialist resources should be reserved for complexity and risk, while common and lower-acuity problems can be detected and treated within routine HIV care by appropriately trained non-specialists. It also assumes that treatment intensity should be adjusted according to measured response rather than fixed at entry (Nakimuli-Mpungu et al., 2021; Remien et al., 2021; Kinyanda et al., 2026).

The framework has six linked components: entry through routine HIV care; systematic identification of mental-health need; low-intensity task-shared care; collaborative clinical management for persistent or more severe symptoms; specialist referral for high acuity; and measurement-based follow-up that tracks both mental-health and HIV outcomes. Supervision, referral coordination, culturally appropriate language, privacy, stigma reduction, information systems, leadership and financing operate across all steps. This arrangement is consistent with implementation lessons from Nigeria, Cameroon, Malawi and South Africa, where training alone was insufficient unless supported by reliable workflows and organisational commitment (Ezeanolue et al., 2020; Grimes et al., 2024; Chikuse et al., 2024; Zani et al., 2025).

2.3 Empirical Review

Recent evidence combines randomised trials, implementation studies, qualitative analyses and evidence syntheses. The empirical pattern is not one of uniform effectiveness; rather, it shows that integration is feasible across several cadres and that mental-health outcomes are more consistently responsive than HIV biomarkers. Table 2.2 summarises the focal studies used in the model comparison.

Table 2.2
Empirical Review of Recent Integrated HIV–Mental-Health Evidence in Sub-Saharan Africa

Author/year	Country	Design	Primary model	Main finding relevant to integration
Ezeanolue et al. (2020)	Nigeria	Implementation-science/nominal group exercise	System integration and stakeholder preparation	Opportunities included existing HIV platforms; barriers included workforce, training, stigma, financing and system readiness.
Nakimuli-Mpungu et al. (2020)	Uganda	Cluster randomised trial	Lay-worker group support psychotherapy	Demonstrated scalable group psychotherapy for depression within HIV-related service platforms; supports task sharing.
Madhombiro et al. (2020)	Zimbabwe	Cluster randomised trial	General nurse-delivered MI + brief CBT for alcohol use	Nurses delivered structured alcohol treatment in HIV clinics; supports feasibility of task-shared psychological care.
Magidson et al. (2020)	South Africa	Hybrid effectiveness-implementation protocol	Peer-delivered behavioural treatment integrated with ART care	Defined a peer model combining adherence problem solving, behavioural activation and relapse-prevention skills.
Magidson et al. (2021a)	South Africa	Pilot randomised hybrid trial	Peer-delivered Khanya intervention	High feasibility/acceptability with a favourable adherence signal; substance-use reductions occurred in both groups.
Ouansafi et al. (2021)	Zimbabwe	Qualitative study	Friendship Bench problem-solving therapy linked to HIV care	Participants described pathways through which problem solving could support coping and ART adherence among young people.
Simms et al. (2022)	Zimbabwe	Cluster randomised trial, adolescents	Peer counselling + problem discussion therapy within Zvandiri	Mental-health outcomes improved, but viral suppression did not significantly differ between arms.
Haas et al. (2023)	Zimbabwe	Cluster randomised trial, rural adults	Village-health-worker Friendship Bench within ART services	Improved common-mental-disorder symptoms at several follow-ups; no significant

Author/year	Country	Design	Primary model	Main finding relevant to integration
				adherence or viral-suppression effect.
Chikuse et al. (2024)	Malawi	Routine programme implementation	PHQ-9/AUDIT screening + tiered counselling/referral	85% screening coverage among priority ART clients; specialist referrals were needed for a small proportion.
Grimes et al. (2024)	Cameroon	Qualitative provider study	Screening/treatment integration assessment	Barriers: workload, space, stigma, lack of standard tools and referral coordination; facilitators: training, leadership and supervision.
Zani et al. (2025)	South Africa	Pragmatic cluster randomised trial	Task-sharing collaborative depression care	No clear effect on depression symptoms or viral-load suppression; highlights implementation and exposure challenges.
Mwangwa et al. (2025)	Kenya & Uganda	Cluster trial, youth	Life-stage/multilevel SEARCH-Youth model	A developmentally tailored HIV-service model addressed depression alongside broader youth needs.
Kinyanda et al. (2026)	Uganda	Cluster randomised trial, 40 HIV centres	Collaborative stepped depression care (HIV + D)	Structured stepped care coordinated by lay counsellors produced sustained depression improvement versus enhanced usual care.

2.4 Gap in Literature

Although recent studies have strengthened the evidence for integrated HIV–mental-health care, four gaps remain. First, the evidence is geographically concentrated in Zimbabwe, South Africa and Uganda, while high-burden settings such as Nigeria and many West and Central African countries have far less outcome research (Nwogwugwu et al., 2025). Second, depression dominates the intervention literature even though alcohol use, anxiety, trauma, suicidality and multimorbidity are clinically important (Nakimuli-Mpungu et al., 2021; Boakye et al., 2024). Third, trials frequently measure mental-health symptoms and HIV endpoints over relatively short follow-up periods; cost, workforce retention, fidelity and sustainability after research support ends are less consistently reported (Conteh et al., 2023; Grimes et al., 2024). Finally, mixed HIV outcomes in Friendship Bench, Zvandiri-linked and collaborative-care trials indicate that symptom improvement alone may not alter adherence or viral suppression unless

interventions explicitly target adherence barriers and treatment continuity (Simms et al., 2022; Haas et al., 2023; Zani et al., 2025).

3. Methods

3.1 Review Design

A scoping-review approach was used because the purpose was to map heterogeneous models, populations, delivery cadres and outcomes rather than estimate a single pooled treatment effect. Methodological decisions were informed by updated guidance for scoping reviews, particularly the emphasis on an explicit question, transparent eligibility criteria, structured charting and narrative mapping of evidence (Peters et al., 2020). The review was organised using the Population–Concept–Context logic: people living with HIV; integration of mental-health screening, treatment, psychosocial care or referral; and sub-Saharan African HIV-care settings.

3.2 Search and Evidence Identification

Evidence identification was conducted in two stages. First, recent systematic and scoping reviews published from 2020 onward were used to establish the main intervention families and older studies still shaping contemporary models. Key anchor syntheses included Nakimuli-Mpungu et al. (2021), Conteh et al. (2023), Musindo et al. (2023) and Nwogwugwu et al. (2025). Second, a focused update search covered January 2023 to 14 August 2026 using PubMed and publisher-indexed scholarly sources. Search concepts combined HIV/ART with mental health, depression, anxiety, alcohol/substance use, integrated care, collaborative care, task sharing, stepped care, peer support, screening, referral, and individual sub-Saharan African country names. Reference chaining was used to verify trial reports and implementation papers.

The review deliberately avoids inventing database-retrieval or deduplication counts that were not retained as an auditable export. Instead, Fig. 3.1 presents the evidence-mapping workflow and the empirical table identifies the focal studies used in the model comparison. This approach preserves transparency and is preferable to presenting false numerical precision. For a formal journal submission requiring a registered protocol and reproducible PRISMA flow, the same strategy should be rerun in bibliographic databases with exported records and duplicate management.

3.3 Eligibility Criteria

Eligible evidence, involved people living with HIV in sub-Saharan Africa, and described or evaluated integration of mental-health or substance-use support into HIV services. Primary studies, implementation research, qualitative studies linked to integrated programmes, and recent reviews were considered. Studies focused solely on HIV prevention in HIV-negative populations, mental-health interventions with no connection to HIV care, editorials without substantive model information, and

evidence outside sub-Saharan Africa were excluded from the focal empirical mapping. English-language publications were used because they could be verified directly during the review.

3.4 Data Charting and Synthesis

For each focal study, data were charted on country, population, design, target condition, delivery cadre, care setting, therapeutic content, integration architecture, mental-health outcomes, HIV outcomes and implementation findings. Primary models were assigned according to the dominant service architecture rather than the name of the therapy. Narrative synthesis then compared: reach and detection; symptom response; adherence and virologic outcomes; feasibility and acceptability; referral performance; workforce implications; and sustainability. Because designs and measures were heterogeneous, no meta-analysis was attempted.

3.5 Ethical Considerations

The review analysed published literature and did not involve recruitment of human participants or access to identifiable patient data. Ethical approval was therefore not required for the synthesis itself. Accuracy was prioritised by using verifiable peer-reviewed sources and by distinguishing evidence from inference.

4. Results

4.1 Geographical and Study Characteristics

The focal post primary evidence remains concentrated in a small number of countries. Zimbabwe contributes trials of nurse-delivered alcohol treatment, peer/youth problem-solving approaches and Friendship Bench integration. South Africa contributes peer-delivered behavioural care and a large pragmatic collaborative-care trial. Uganda contributes group psychotherapy evidence and, most recently, a multi-clinic stepped-care depression trial. Malawi contributes routine implementation data on screening and tiered referral, while Cameroon and Nigeria provide particularly useful health-system and provider perspectives (Ezeanolue et al., 2020; Madhombiro et al., 2020; Magidson et al., 2021a; Simms et al., 2022; Haas et al., 2023; Chikuse et al., 2024; Grimes et al., 2024; Zani et al., 2025; Kinyanda et al., 2026).

This concentration mirrors recent reviews. Nwogwugwu et al. (2025) found that Zimbabwe and South Africa accounted for the largest share of African intervention studies in their review, while Conteh et al. (2023) similarly noted a limited LMIC African evidence base relative to the size of the need. The geographical pattern limits certainty about transportability to health systems with different languages, community structures, financing arrangements and specialist availability.

Table 4.1
Comparative Typology of Integrated Models of Care

Model	Service architecture	Typical targets	Strengths	Implementation risks
Task-shared brief psychotherapy	Nurse/lay/peer delivery of structured treatment in HIV care	Depression, alcohol/substance use, coping	Reach; efficient use of specialists; treatment can occur at routine visit	Requires supervision, protected time and fidelity monitoring
Collaborative stepped care	Non-specialist first line with clinician/specialist escalation by severity/response	Depression and complex common disorders	Matches scarce expertise to need; supports medication + psychotherapy	Can be diluted by weak uptake, referral delays or unclear decision support
Peer/youth differentiated care	Peer delivery embedded in ART, adolescent or re-engagement services	Adherence, substance use, depression, psychosocial distress	Acceptability, shared experience, lower social distance	Boundaries, confidentiality, competency and referral of severe cases
Screening + tiered referral	Routine PHQ/AUDIT or brief tools with pre-defined response pathway	Depression, alcohol use, suicide risk	High reach and measurable detection cascade	Screening without treatment capacity can create unmet identified need
Group/community psychotherapy	Group sessions or community-delivered structured support	Depression, isolation, coping	Efficient staff use and social support	Scheduling, privacy and group acceptability vary by context

4.2 Task-Shared Brief Psychological Care

Task sharing is the most consistent operational principle across models. In Zimbabwe, Madhombiro et al. (2020) showed that general nurses could deliver an eight-to-ten-session motivational interviewing and brief cognitive behavioural intervention for alcohol-use disorders among people living with HIV. The importance of the study lies not only in the therapeutic package but in demonstrating that an existing clinic cadre could deliver structured mental-health care with training and supervision. In South Africa, behavioural activation was adapted for a resource-limited HIV setting and later incorporated into the Khanya peer-delivered intervention, illustrating the need to simplify, culturally adapt and link psychological content to HIV treatment routines (Magidson et al., 2020; Magidson et al., 2021b).

Task sharing is not synonymous with minimal training. Evidence syntheses indicate that effective programmes often contain several active ingredients, explicit supervision and attention to fidelity (Nakimuli-Mpungu et al., 2021). Cameroon providers likewise reported that one-off training without an

ongoing system of support would not create durable integration (Grimes et al., 2024). Thus, the scalable unit is a supported delivery system, not simply a trained individual.

4.3 Peer-Led and Youth-Differentiated Care

Peers can reduce social distance between the service and the patient, particularly for substance use and adolescent care. The Project Khanya pilot in Cape Town reported high feasibility and acceptability and a favourable adherence signal in a small sample, although both intervention and comparison groups reduced alcohol use (Magidson et al., 2021a). Qualitative and adaptation work around Khanya further emphasised the value of non-judgemental delivery, local language and practical problem solving (Magidson et al., 2020; Magidson et al., 2021b).

For adolescents, Simms et al. (2022) tested peer-led counselling with problem discussion therapy added to the Zvandiri programme across 30 Zimbabwean clinics. The trial demonstrated mental-health benefit but did not show a significant improvement in viral suppression. This is clinically informative: adolescent psychosocial distress can improve while adherence-related or structural determinants of virologic response remain. Cluver et al. (2022) consequently argue for models that connect HIV clinics with family and community systems rather than treating adolescent mental health as an isolated clinic problem. The SEARCH-Youth intervention in Kenya and Uganda extends this logic through a life-stage, multilevel approach that addresses youth development as part of HIV care (Mwangwa et al., 2025).

4.4 Integrated Screening and Tiered Referral

Routine screening is often the entry point to integration, but screening only has value when a care pathway follows. Malawi provides one of the clearest recent programme examples. Chikuse et al. (2024) reported that ART staff in 15 facilities were trained to use PHQ-9 and AUDIT, mental-health registers were created, referral units were engaged and treatment intensity was tiered. Among 11,553 priority clients eligible for screening, 9,826 were screened, corresponding to 85% coverage. Only 1.1% screened positive for moderate/severe depression and 2.3% for high-risk harmful alcohol use, and those patients were referred to specialist units. The model demonstrates how a large HIV platform can identify need without overwhelming specialists when thresholds and low-intensity responses are clearly defined.

The Cameroon evidence shows the opposite side of the same architecture. Providers described no standardised screening process, inadequate private space, heavy patient flow, limited confidence and poor referral coordination, even though they were motivated to offer integrated care (Grimes et al., 2024). These findings show why screening metrics should not be treated as the whole intervention. An effective model also requires privacy, workflow redesign, documentation, escalation rules and feedback on whether referrals are completed.

4.5 Collaborative Stepped Care

Collaborative stepped care is attractive because it matches service intensity to clinical need and uses specialist time selectively. The 2025 South African pragmatic trial evaluated a task-sharing collaborative-care model for depression among adults receiving ART in primary-care facilities. It did not demonstrate

the expected improvement in depression symptoms or viral-load suppression, reminding implementers that theoretically sound architecture can fail if reach, treatment exposure, implementation fidelity or contextual fit is inadequate (Zani et al., 2025).

The 2026 HIV + D trial in Uganda provides a more encouraging signal. Conducted across 40 primary HIV-care centres, the intervention coordinated stepped depression care through trained lay counsellors and included psychoeducation, behavioural activation, antidepressant treatment when appropriate and referral for more complex cases. The trial reported sustained improvement in depression relative to enhanced usual care (Kinyanda et al., 2026). Taken together, the South African and Ugandan experiences suggest that collaborative care should be assessed as an implementation package: staffing, supervision, decision support and actual treatment uptake may be as important as the nominal model.

4.6 Mental-Health Outcomes Versus HIV Outcomes

Across the mapped literature, mental-health symptom outcomes are generally more responsive than HIV biomarkers. Haas et al. (2023) found that the Friendship Bench model in rural Zimbabwe reduced common-mental-disorder symptoms at several follow-up points but did not significantly improve ART adherence or viral suppression. Simms et al. (2022) similarly found no significant viral-suppression effect in the adolescent Zvandiri-linked trial despite mental-health gains. The South African collaborative-care trial also did not improve viral-load suppression (Zani et al., 2025).

This pattern does not imply that mental-health integration is unsuccessful. Psychological wellbeing, functioning and reduced harmful alcohol use are important outcomes in their own right. It does, however, challenge a simplistic causal assumption that treating depression will automatically improve HIV biomarkers. Where viral suppression is a stated programme objective, the care model may need explicit adherence components, differentiated support for treatment interruption, medication problem solving and rapid response to detectable viral load. Khanya is instructive because its behavioural package directly incorporated ART adherence skills rather than treating adherence as a downstream consequence of improved mood (Magidson et al., 2021a).

4.7 Implementation Barriers and Enablers

The implementation literature converges on a small set of system requirements. Workforce capacity is the first: integration is more feasible when nurses, lay counsellors and peers have defined roles rather than vague expectations to 'add mental health' to already busy clinics. Second, supervision must be continuous and clinically meaningful. Third, referral pathways need named destinations, urgency criteria and a feedback loop. Fourth, privacy and stigma influence whether screening produces truthful disclosure. Fifth, data systems should record screening, treatment, follow-up and both mental-health and HIV outcomes. Finally, leadership and financing determine whether integration survives beyond project funding (Ezeanolue et al., 2020; Meffert et al., 2021; Grimes et al., 2024).

Cultural adaptation is another enabling condition. Depression and distress are not necessarily expressed in biomedical language, and explanatory models may include social, spiritual and interpersonal

meanings. Mayston et al. (2020) show that explanatory models of depression in sub-Saharan Africa vary across settings, reinforcing the need for locally understandable symptom language and care narratives. Peer and community models can help bridge this gap, but they also require safeguards for confidentiality, boundaries and referral of severe illness.

4.8 Cross-Study Quantitative Outcome Signals

Selected quantitative findings make the contrast between reach, mental-health response and HIV endpoints especially clear. They are presented as descriptive signals rather than pooled effects because the studies differ substantially in population, intervention content, outcome definition and follow-up. In Zimbabwe, the adolescent cluster trial by Simms et al. (2022) enrolled 842 participants across 60 clinics. At 48 weeks, virological non-suppression was 14.7% in the Zvandiri-plus-problem-discussion-therapy group and 11.9% in Zvandiri alone (adjusted odds ratio [AOR] = 1.29, 95% CI [0.68, 2.48], p = .44), while clinically important mental-health symptoms were lower in the intervention arm: SSQ threshold positivity was 2.4% versus 10.3% (AOR = 0.19, p < .001) and PHQ-9 threshold positivity was 2.9% versus 8.8% (AOR = 0.32, p = .01). The separation between psychological and virological outcomes is therefore observable within the same trial.

Routine-care data provide a different type of signal. Chikuse et al. (2024) screened 9,826 of 11,553 priority ART clients in Malawi, achieving 85% coverage after embedding PHQ-9 and AUDIT procedures in 15 facilities. Moderate-to-severe depression was identified in 1.1% and higher-risk harmful alcohol use in 2.3% of those screened, with referral built into the pathway. By contrast, the 516-participant rural Zimbabwe Friendship Bench trial found improvements in common-mental-disorder symptoms at several assessments but no significant effect on adherence or viral suppression (Haas et al., 2023). These studies show that integration performance must be judged at multiple points in the cascade—coverage, detection, treatment initiation, symptom response and HIV outcomes—rather than by one endpoint alone.

Table 4.2
Selected Quantitative Signals From Recent Integrated HIV–Mental-Health Studies

Study	Setting/sample	Mental-health or service signal	HIV/programme signal
Simms et al. (2022)	Zimbabwe; 842 adolescents, 60 clinics	Mental health improved: SSQ threshold 2.4% vs 10.3%; PHQ-9 threshold 2.9% vs 8.8%	No significant virological benefit: non-suppression 14.7% vs 11.9%; AOR 1.29, p = .44
Haas et al. (2023)	Zimbabwe; 516 adults, 16 rural facilities	CMD symptoms improved at several follow-ups; effect not sustained at every time point	No significant effect on ART adherence or viral suppression
Chikuse et al. (2024)	Malawi; 15 ART facilities	9,826/11,553 priority clients screened (85%); depression 1.1%, higher-risk harmful alcohol use 2.3%	Programme outcome was detection/referral rather than a controlled virological effect
Zani et al. (2025)	South Africa; pragmatic cluster trial	No clear depression benefit from the collaborative-care package	No significant improvement in viral-load suppression
Kinyanda et al. (2026)	Uganda; 40 HIV-care centres	Stepped depression care produced sustained improvement versus enhanced usual care	Supports mental-health effectiveness; HIV endpoints should be interpreted separately from depression response

5. Discussion

5.1 Principal Findings

This scoping review indicates that mental-health integration into HIV care in sub-Saharan Africa is best understood as a family of service architectures rather than a single intervention. The most recurrent elements are task sharing, stepped intensity, peer involvement, routine screening, brief structured psychological treatment, and selective specialist referral. Recent evidence supports feasibility across these models, but effectiveness depends on what is actually delivered after identification and whether the model is supported by supervision, referral and information systems. These conclusions align with earlier recent syntheses that found task sharing and non-pharmacological interventions to be prominent in African HIV–mental-health integration (Nakimuli-Mpungu et al., 2021; Conteh et al., 2023; Nwogwugwu et al., 2025).

The review also highlights an outcome hierarchy. Mental-health symptoms are the most proximal targets and therefore show the most consistent response when a therapeutic component is delivered with reasonable exposure. ART adherence, retention and viral suppression are more distal outcomes influenced by regimen complexity, treatment access, stigma, poverty, transport, disclosure, substance use, clinic experience and drug resistance. This helps explain why symptom improvement did not reliably

produce virologic improvement in Zimbabwe and South Africa (Simms et al., 2022; Haas et al., 2023; Zani et al., 2025).

5.2 Interpreting Differences Between Models

Task-shared psychological care has a strong practical rationale because it expands reach without waiting for a large specialist workforce. The Zimbabwe alcohol trial and the South African Khanya programme illustrate two different task-sharing routes: nurses as generalist clinicians and peers as behavioural support providers (Madhombiro et al., 2020; Magidson et al., 2021a). The choice between them should depend on the clinical target. Medication decisions, suicidality and severe disorder require stronger clinical governance, whereas behavioural activation, problem solving, adherence coaching and peer support may be well suited to supervised non-specialists.

Collaborative stepped care is especially promising for depression because it avoids sending every positive screen to a psychiatrist. Yet the contrast between Zani et al. (2025) and Kinyanda et al. (2026) shows that a stepped-care label does not guarantee an effect. The Ugandan model had a clearly structured treatment ladder and coordinated lay-counsellor role, while pragmatic implementation in routine primary care can be diluted by competing workload and uneven treatment uptake. Therefore, future evaluations should report the proportion screened, diagnosed, starting treatment, receiving an adequate dose, reassessed, stepped up and referred. Without this cascade, a negative trial cannot distinguish model failure from implementation failure.

5.3 Screening Should Be Connected to Treatment Capacity

Screening is attractive because it is brief, measurable and easy to standardise, but widespread screening can create ethical and operational problems if treatment is unavailable. Malawi's experience is important because screening was embedded in a tiered treatment pathway with lay counselling and specialist referral, and the proportion requiring specialist care was relatively small (Chikuse et al., 2024). This supports an approach in which HIV clinics manage mild-to-moderate problems while higher-acuity cases move upward.

The Cameroon findings provide a warning against screening-first implementation. Providers wanted training, but also identified privacy, physical space, workload, stigma and referral coordination as determinants of whether screening would work (Grimes et al., 2024). A rigorous research agenda should therefore move beyond reporting 'number screened' and evaluate completion of the entire mental-health care cascade: screened, assessed, treated, retained in mental-health care, symptom response and escalation when needed. Parcesepe et al. (2023) similarly demonstrate that availability of screening and treatment varies substantially across HIV clinic settings, making treatment capacity a necessary companion indicator.

5.4 Adolescents, Women and Other Priority Populations

Integrated care should not assume that one workflow serves all patients equally. Adolescents may prefer confidential, age-concordant or peer-delivered services and may experience mental distress through

family conflict, disclosure concerns, schooling, relationships and transition to adult care. The Zimbabwe adolescent trial, the SEARCH-Youth model and the broader adolescent synthesis by Musindo et al. (2023) support developmentally responsive approaches (Simms et al., 2022; Mwangwa et al., 2025). Cluver et al. (2022) go further by positioning family and community systems as part of the mental-health response for adolescents living with HIV.

Gender is also important. Boakye et al. (2024) identified substantial mental-health burden among females living with HIV and described intersecting vulnerabilities including violence and socioeconomic stress. Secondary Project Khanya analyses found that intervention effects can vary by gender, underscoring the danger of assuming average trial effects apply uniformly (Belus et al., 2022). Future integration models should therefore monitor reach and outcomes by age, gender, pregnancy/postpartum status, disability, rurality and other relevant equity dimensions.

5.5 Implications for Policy and Practice

The evidence supports a practical minimum package for integrated HIV–mental-health care. Every participating HIV clinic should have a defined method for identifying common mental-health and substance-use problems; a low-intensity response that can be delivered by the existing team or trained lay staff; a supervisor who can review difficult cases; a clear pathway for medication, suicidality and severe disorders; and a follow-up system that measures symptom response alongside ART adherence, retention and viral load. The package should be adapted to clinic volume and workforce rather than copied wholesale from a research trial.

At district and national levels, mental-health integration should be treated as a health-system function. Training should be linked to job descriptions, protected time, supervision standards, referral agreements, data indicators and financing. Malawi's experience shows the value of incorporating screening into national HIV guidance and creating dedicated registers and referral relationships (Chikuse et al., 2024). Nigeria's implementation-science work similarly points to stakeholder engagement and system preparation rather than isolated clinician education (Ezeanolue et al., 2020).

A second policy implication is that mental-health programmes should be judged on both mental-health and HIV outcomes without requiring every intervention to improve viral suppression to be considered worthwhile. Depression remission, reduced harmful alcohol use, improved functioning, lower distress and better quality of life are legitimate health outcomes. Where funders expect HIV cascade improvements, the intervention should include a direct mechanism for those outcomes, such as adherence problem solving, re-engagement support or differentiated follow-up after viraemia.

Table 5.1
Minimum Implementation Package for Routine HIV–Mental-Health Integration

Component	Recommended operational approach	Illustrative monitoring indicators
Detection	Use brief validated tools at defined HIV touchpoints rather than indiscriminate repetitive screening.	Screening coverage; positive rate; suicide-risk detection
First-line care	Train lay counsellors, nurses or peers to deliver a limited set of structured, culturally adapted interventions.	Treatment initiation; adequate session dose; fidelity
Escalation	Specify severity thresholds, medication authority, suicide/crisis protocol and named referral destinations.	Referral completion; time to specialist review
HIV linkage	Include adherence/problem-solving or re-engagement content when HIV outcomes are programme goals.	ART adherence; retention; viral suppression
Supervision	Provide continuing case review, competency checks and supportive supervision.	Supervision frequency; competency; staff retention
Data and equity	Track mental-health and HIV outcomes together and disaggregate by priority population.	Symptom response; viral load; age/gender/rurality equity gaps

5.6 Research Priorities

Future studies should expand beyond the countries that currently dominate the evidence. West and Central Africa require more implementation trials, particularly in large HIV programmes where integration could have substantial population reach. Research should also include anxiety, trauma, severe mental illness, suicidality and substance-use disorders rather than continuing to treat depression as a proxy for all mental health. Cost and cost-effectiveness are essential because task sharing shifts rather than eliminates resource requirements; supervision time, staff turnover, space, referral transport and medicines all carry costs.

Longer follow-up is needed to determine whether mental-health gains persist after intervention contact declines. Implementation outcomes should include adoption, fidelity, acceptability, reach, staff burden and sustainment. Hybrid effectiveness-implementation designs are particularly suitable because they can assess clinical effects while identifying why a model succeeds or fails in routine conditions. Project Khanya established the value of this approach in a resource-limited HIV setting (Magidson et al., 2020). Finally, research should test digital decision support and remote supervision cautiously, with explicit attention to privacy and unequal connectivity rather than assuming technology is inherently scalable.

5.7 Proposed Implementation Sequence for Scale-Up

Scale-up is more likely to succeed when integration is treated as a staged service redesign rather than as the addition of a screening form. The first phase is readiness assessment. HIV programmes should map the burden they intend to address, identify existing counselling and psychiatric resources, determine

what front-line cadres can realistically absorb, and document referral destinations. Nigerian stakeholders have emphasised the value of using established HIV infrastructure and community structures while addressing workforce, policy and stigma barriers before implementation (Ezeanolue et al., 2020). Cameroon providers similarly identified staff preparation, physical space, leadership and referral coordination as preconditions for routine integration (Grimes et al., 2024).

The second phase is pathway construction. Programmes should select a small number of validated tools, define positive-screen thresholds, establish suicide and crisis procedures, specify who provides first-line treatment, and create rules for stepped escalation. The pathway should include mental-health treatment at the point of HIV care wherever feasible; otherwise screening can expand identification without expanding care. This risk is visible in multi-country HIV-site data showing that screening and treatment capacity remain uneven even where depression screening has become more common (Parcesepe et al., 2023).

The third phase is phased deployment with protected supervision. A limited number of facilities can begin with competency-based training, case review, fidelity checks and workload monitoring before expansion. Malawi's experience demonstrates the practical value of training ART staff, introducing dedicated registers, engaging referral units and monitoring the screening cascade during routine service delivery (Chikuse et al., 2024). The fourth phase is learning and sustainment: programmes should review symptom outcomes alongside retention, viral load, referral completion, equity and staff burden; adapt the model where treatment exposure is weak; and incorporate recurring supervision and essential medicines into routine budgets. The Ugandan HIV + D trial reinforces the importance of a functioning stepped system in which lay counsellors, clinicians and referral services operate as connected parts rather than parallel projects (Kinyanda et al., 2026).

5.8 Strengths and Limitations

A strength of this review is its focus on service architecture rather than listing therapies. This makes it possible to compare a nurse-delivered alcohol intervention, a peer behavioural programme, routine screening and collaborative stepped care within a common framework. The review also incorporates evidence published through August 2026, including the HIV + D trial, and separates mental-health outcomes from HIV outcomes to avoid overclaiming.

The review has limitations. It was designed as a structured scoping evidence map rather than a registered systematic review with a retained database export; therefore, it does not report fabricated identification and deduplication counts. The focal empirical set is not a meta-analytic sample, and the descriptive graphs should be interpreted as characteristics of mapped studies rather than estimates of continental research output. English-language verification may have missed relevant Francophone or Lusophone publications. Finally, heterogeneous designs, measures and follow-up periods prevent direct ranking of models on a single effectiveness scale.

6. Conclusion

The recent sub-Saharan African evidence supports integration of mental-health services into HIV care, but it does not support a one-size-fits-all model. The most credible architecture is a stepped, task-shared system in which mental-health need is identified during routine HIV care, lower-acuity problems receive structured support from trained non-specialists, progress is measured, and persistent, severe or high-risk presentations are escalated to clinicians or specialists. Peer and youth-differentiated models can strengthen acceptability, while group approaches can extend reach. Screening programmes are most defensible when treatment and referral capacity are built at the same time.

The central lesson from recent trials is that mental-health benefit and HIV biomarker benefit are related but not interchangeable. Programmes aiming to improve viral suppression should include direct adherence and re-engagement mechanisms in addition to psychological treatment. Scale-up will depend less on choosing a branded therapy than on creating reliable workflows, supervision, privacy, referral, data systems and financing. Broader geographic evaluation and longer-term implementation research are now required if integrated HIV–mental-health care is to move from promising projects to routine, equitable health-system practice across sub-Saharan Africa.

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Figures

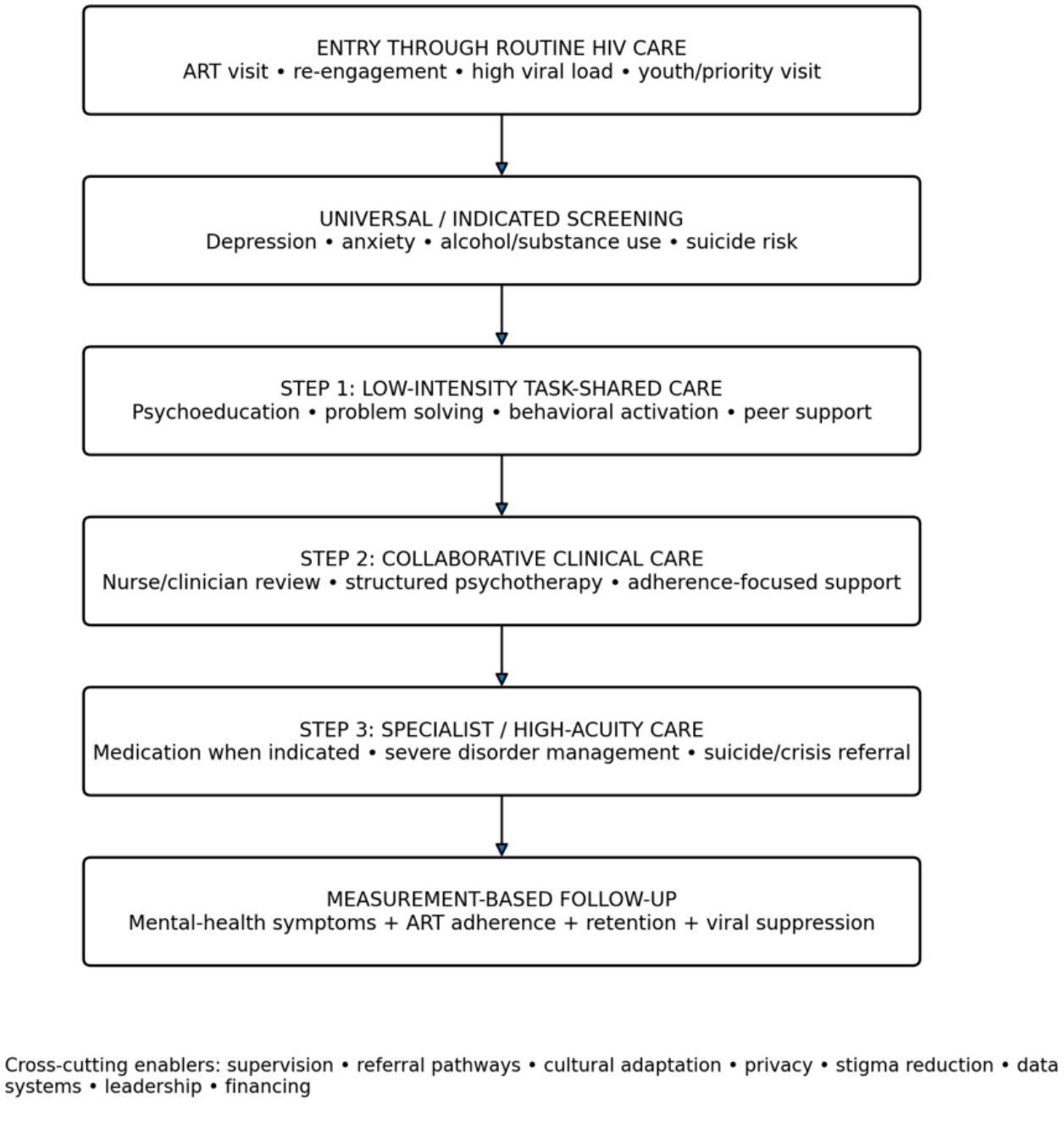


Figure 1

Figure 2.1. Integrated stepped-care and task-sharing framework for mental-health integration within HIV services.

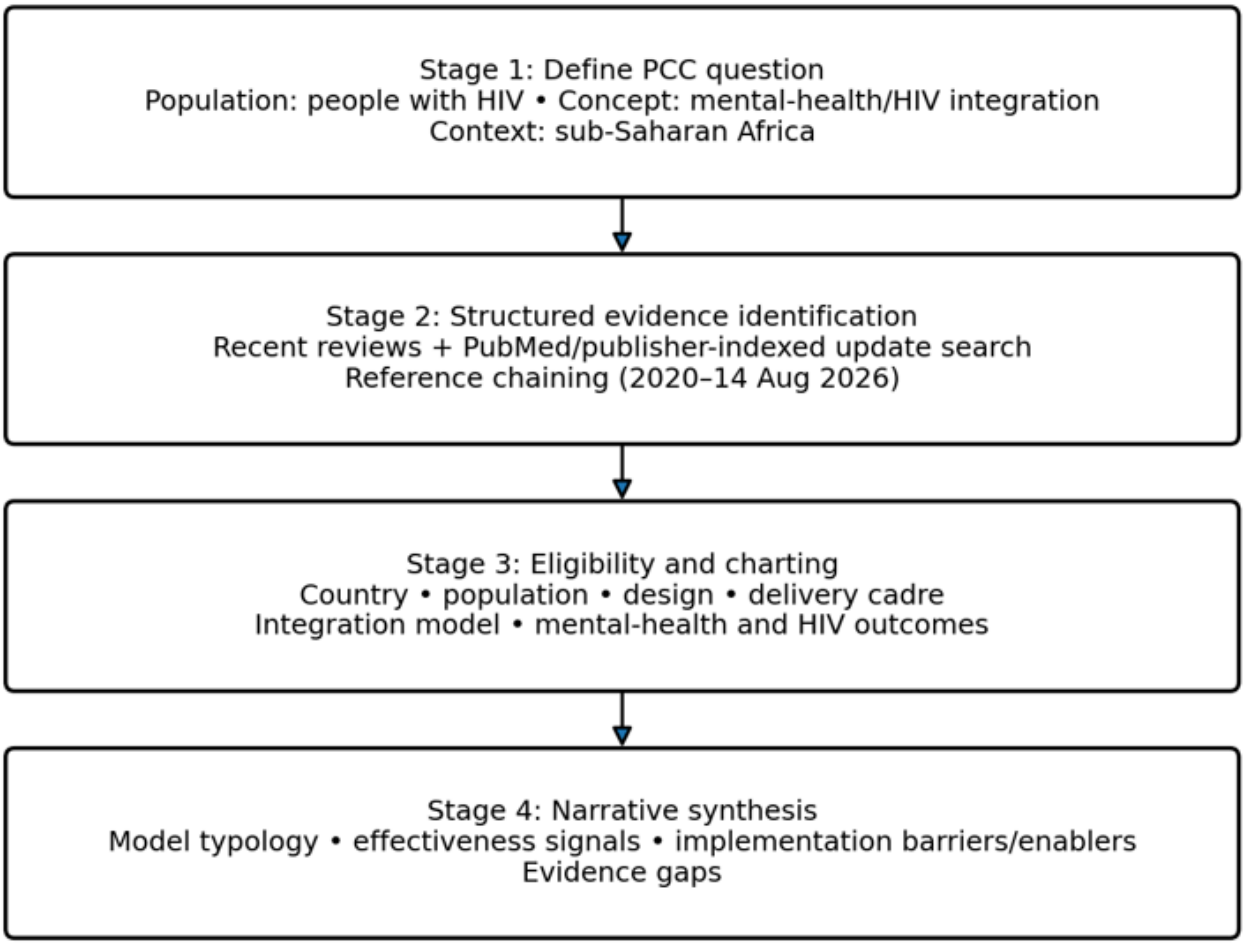


Figure 2

Figure 3.1. Evidence-identification and synthesis workflow used for the scoping evidence map.

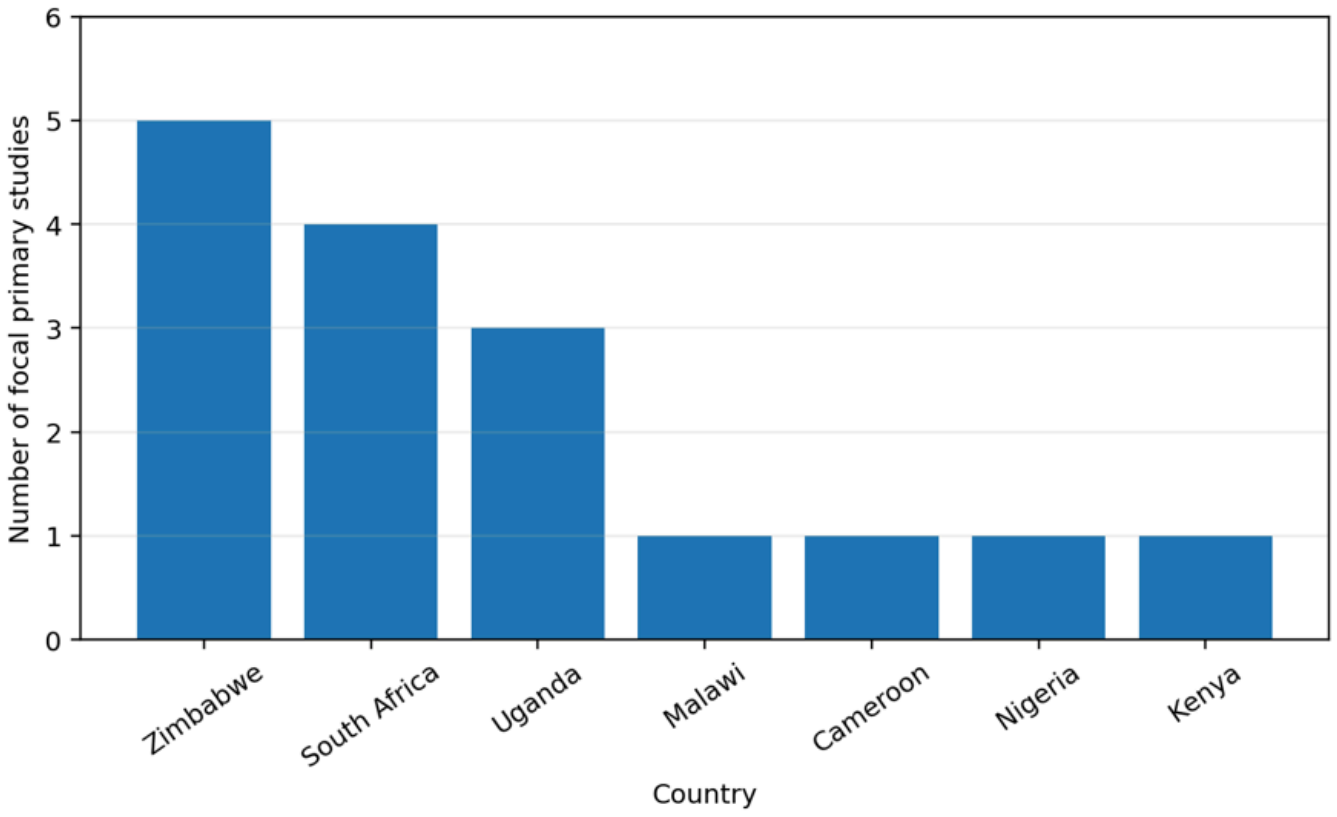


Figure 3

Figure 4.1. Distribution of focal post-2020 primary studies by country. The Kenya–Uganda multi-country study is counted in both countries; counts describe the mapped set, not total continental publication output.

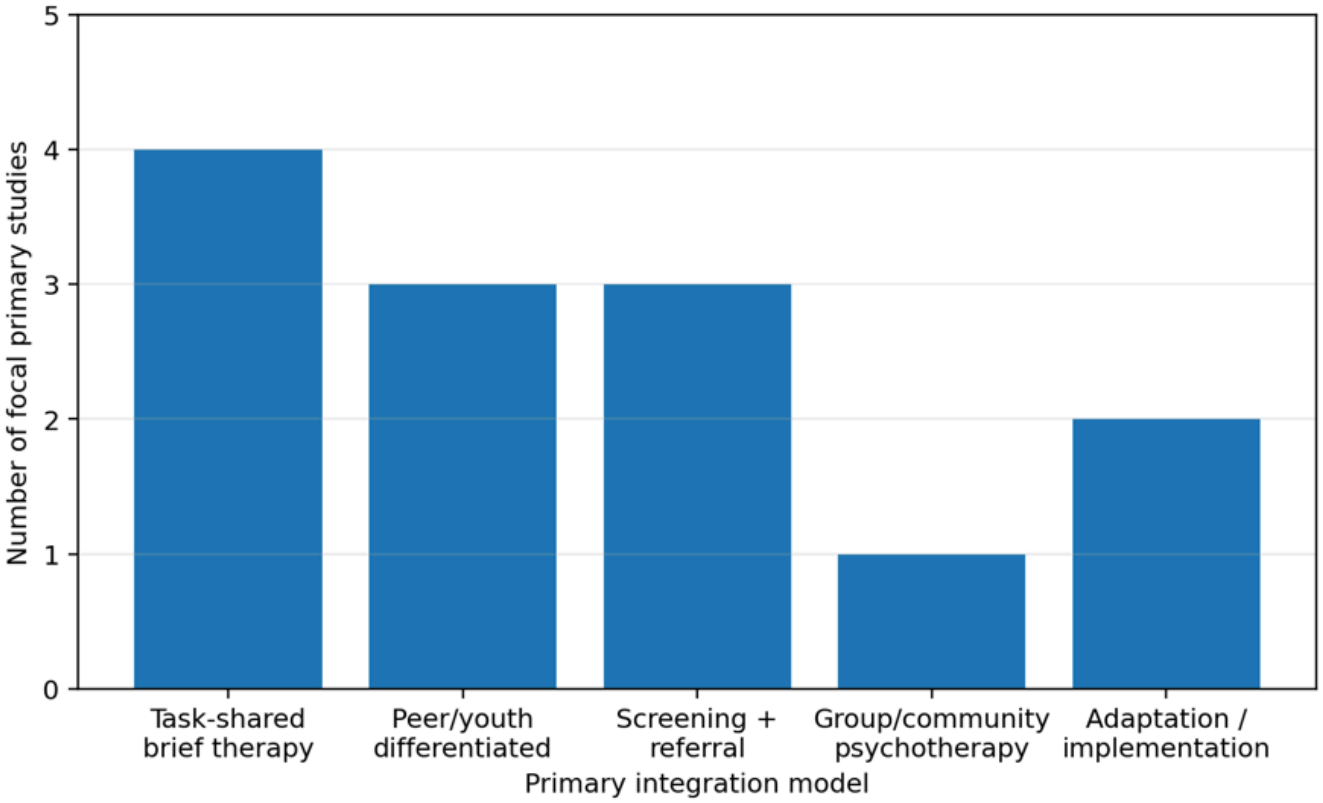


Figure 4

Figure 4.2. Primary integration-model classification among focal studies in the mapped evidence set.