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Transitioning a large-scale HIV/AIDS treatment program from an international partner to a local Nigerian implementing partner: a before-after early outcomes assessment study

David Ochedomi Ekele[1], Inichinbia Boniface[1], Bonaventure Michael Ukoaka[1*] , Otoyo Toyo[1], Uduak Akpan[1], Esther Nwanja[1], Kolawole Olatunbosun[2], Augustine Idemudia[2], Pius Nwaokoro[3], Onwah Ogheneuzauzo[1], Nkemjika Uwakwe[1], Hope Udokor[1], Dolapo Ogundehin[2], Ezekiel James[2], Abutu Inedu[1], Adeoye Adegboye[1], Okezie Onyedinachi[1] and Andy Eyo[1]

Abstract

Background HIV prevention, treatment, and care across the globe have been heavily dependent on donor funding and international aid, particularly across the Global South, with the highest contribution from the United States Government (USG) through PEPFAR. PEPFAR's shift towards HIV care sustainability involves transitioning HIV/AIDS treatment programs from international to local partners. Despite the increasing focus on these transitions, there is limited evidence of effective models and the outcome of such transitions, particularly in low- and middle-income countries like Nigeria. This study evaluates the transition of a large-scale HIV/AIDS program from an international implementing partner (FHI 360) to a local partner, Excellence Community Education Welfare Scheme (ECEWS) in Nigeria, highlighting the processes and early outcomes.

Methods The study used a before–after design to analyse programme data from Akwa Ibom and Cross River States, comparing indicators before, during and after the transition of HIV services from FHI 360 to the local partner ECEWS. A transition model was developed with stakeholder engagement. De-identified client data were abstracted from the Electronic Medical Records and District Health Information System (DHIS2) database for the pre-transition period (January–June 2022) and post-transition period (July–December 2022) and compared. Outcomes compared included HIV testing services, on-schedule refill appointments, and viral load testing uptake. Statistical analyses were performed using STATA version 14, with significance at $p < 0.05$.

Results A total of 405,702 individuals were tested for HIV between January 2022 and December 2022, with 116,138 (29%) tested before and 289,564 (71%) tested after the transition period. The average number of monthly tests

*Correspondence:
Bonaventure Michael Ukoaka
bonaventureukoaka@gmail.com

Full list of author information is available at the end of the article

increased by 149%, from 19,356 to 48,260 ($p = 0.001$), between the two periods. Additionally, on-schedule refill appointments improved significantly post-transition, increasing from 97.8 to 98.2% ($p < 0.001$), while viral load testing uptake improved from 96 to 99%. Success was attributed to comprehensive planning, strong stakeholder engagement, flexible communication strategies, and a robust monitoring and evaluation (M&E) system, which were outcomes of the transition model.

Conclusion HIV/AIDS treatment program transitions to indigenous partners can be successfully achieved without compromising service accessibility, care quality, or treatment outcomes. Our study findings highlight the importance of collaborative planning in sustaining program outcomes during transitions with the aim of sustaining service delivery during this period. A systematic approach, utilising a well-structured transition model, facilitates a seamless transfer and provides a strategic framework for Nigerian programs.

Keywords Program transition, HIV/AIDS, Donor-funded, International partners, Implementing partners, PEPFAR

Background

HIV care delivery across regions has been largely reliant on international donor funding, with sub-Saharan Africa experiencing the greatest dependency due to its disproportionately high HIV burden [1]. The U.S. President's Emergency Plan for AIDS Relief (PEPFAR) remains one of the most significant global commitments to combat HIV/AIDS [2–6]. Since its inception in 2003, PEPFAR has invested over $100 billion in the global response to HIV/AIDS, directly saving more than 25 million lives [2, 7, 8]. With most beneficiaries from Sub-Saharan Africa (SSA), this intervention has rapidly scaled up antiretroviral therapy (ART), allowing over 30.7 million persons living with HIV (PLHIV) free access to life-saving treatment in the region as of December 2023 [9]. Similarly, AIDS-related mortality has declined significantly, with a 69% reduction since its peak in 2004 and an additional 51% decline recorded since 2010 [9].

Beyond its impact on care and treatment outcomes, PEPFAR represents a dynamic health transition model, evolving from an emergency response framework to a sustainable approach that prioritizes national and regional ownership of HIV programs [10–12]. The current phase, known as PEPFAR III, focuses on maximising impact through evidence-based interventions in high-incidence areas and populations, aiming to sustain the gains achieved thus far [13–15]. Central to PEPFAR III's strategy is its Sustainability Agenda, which acknowledges that national ownership is crucial for long-term epidemic control and sustained progress. PEPFAR's new Country Operational Plan (COP) Guidance mandates countries to monitor program progress across five critical domains: data-driven decision-making, local leadership in service delivery, domestic health financing and resource mobilisation, accountability for and clarity of results and spending, and an enabling environment, which includes relevant laws, policies, and effective planning and coordination [14].

Nigeria, with an estimated 1.9 million PLHIV and an overall HIV prevalence of 1.4% among individuals aged 15 and older, has also relied on foreign aid for its national HIV response [16–20]. PEPFAR's flagship HIV support in Nigeria has, since 2005, been instrumental in containing the nation's HIV/AIDS epidemic [16]. The program has focused on bridging coverage gaps, which yielded the central theme of PEPFAR Nigeria COP22: "Equitable Sustainability"—Leaving no trace of either geography or population behind [16]. This plan addressed several key challenges, including optimising ART coverage for sub-populations such as children and adolescents, strengthening the viral load monitoring cascade, and maintaining collaborations with the Nigerian government, civil society, and other stakeholders [16].

PEPFAR and the Global Fund have provided over 90% of direct funding for the HIV response in Nigeria [21]. These aids are distributed across governmental and non-governmental organisations in subnational states for a few years to foster equitable access to care. For 18 years (2004–2022), FHI 360, an international NGO, with support from PEPFAR through the United States Agency for International Development (USAID), implemented HIV care services in Akwa Ibom and Cross River States, Nigeria, under various projects [22–24]. In 2022, USAID began transitioning its HIV care program to local organisations under the Accelerating Control of the HIV Epidemic in Nigeria (ACE) awards. FHI 360 transitioned its treatment program with over 185,700 care recipients to Excellence Community Education Welfare Scheme (ECEWS), an indigenous non-governmental organisation. Like most nations, transitions in Nigerian programs face funding cuts and declining care quality following the shift to PEPFAR III, which emphasises local ownership [25, 26]. Similar transitions in Kenya and Ghana have demonstrated that rapid shifts in funding and management can jeopardize service continuity, weaken monitoring systems, and increase the risk of commodity stockouts if local capacity is overestimated [5].

Despite these risks, evidence on the outcomes of donor-to-local transitions remains sparse, and virtually no published analyses have examined early patient-level

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outcomes following a transition in Nigeria. The transition here described presents a timely opportunity to generate empirical data. ECEWS is one of the few indigenous partners with a national reach; yet, its capacity to maintain viral load coverage, high retention in care, and timely reporting under full financial and programmatic responsibility has not been independently evaluated. This study addresses three interrelated gaps. First, whether key service indicators—HIV testing, patient retention, and viral load testing—were maintained during the first year of local stewardship. Second, it documents operational lessons from managers and stakeholders to illuminate what worked during the transition, and it finally presents a context-specific transition model that can guide future donor-exit strategies for HIV programs in Nigeria and comparable high-burden settings globally.

Methods

Study design

This study employed a before-after design using routinely collected quantitative program data. The quantitative analysis evaluated the outcome of the transition on key program indicators. Program data was retrieved for a year between January and December 2022 to provide insights into the outcomes and impacts, including challenges and success factors related to the transition process. A transition model was developed to facilitate the implementation of the study, with a systematic process at its core.

Study setting and participants

The study was conducted in Akwa Ibom and Cross River States, Nigeria. The implementation setting has been described in a previous study [27]. These states were selected because of their high HIV burden (with approximately 153,315 and 32,459 PLHIV in Akwa Ibom and Cross River States, respectively) and their central role in the national HIV response. FHI 360 has served as a major USAID partner in Nigeria for decades, delivering health and education-focused programs while building local capacity. In 2021, ECEWS emerged as a leading indigenous nonprofit dedicated to expanding access to education, healthcare, and economic opportunities. Operating across 17 subnational states, ECEWS manages multi-funded projects supported by USAID, the Global Fund, CDC, and the Federal Government of Nigeria. In line with PEPFAR's localization policy, which prioritizes indigenous implementers, ECEWS assumed responsibility for PEPFAR-supported projects previously managed by FHI 360, prompting the current program transition. FHI 360 managed the USAID-funded "Meeting Targets and Maintaining Epidemic Control (EpiC) bridge project" in these states between March 2021 and transitioned it to ECEWS under the Accelerating Control

of the HIV Epidemic in Nigeria (ACE-5) project in July-August 2022. The project supported 154 health facilities across 34 Local Government Areas (LGAs) in both states. The study data reflected those of PLHIV receiving ART across all the supported health facilities across the study setting. The transition process involved key stakeholders and representatives from USAID, FHI 360, ECEWS, local health authorities, frontline health workers, and community representatives, who provided diverse perspectives to foster a smooth transition process.

Transition description

USAID adopted a three-month phased transition from May to July 2022 to allow for a gradual service transfer and minimize disruptions to clients' treatment. A transition team was formed, comprising representatives from the host governments, the donor agency (USAID), the outgoing implementing partner (FHI 360), and the incoming implementing partner (ECEWS). The team conducted weekly coordination meetings and developed tools to guide and track the transition process. Tasks were created under themes, with transition team members assigned timelines agreed upon by all. These tasks were monitored at each meeting. The transition process was structured around five stages:

1. Planning for the transition

This stage involved a week-long meeting with representatives from both implementing partners (IPs) to develop a transition plan. The plan included pre-transition assessments, identification of critical infrastructure for transition, timelines, role delegation, and measurable benchmarks and monitoring systems. The transition plan also incorporated capacity-building for the local partner, covering areas such as human resources, pharmacy, quality assurance, procurement, grant management, internal controls, governance, and audit preparation. The transition team utilised a suite of project management tools, which included a Gantt chart and a vision board, to outline activities, timelines, milestones, targets, and task owners, ensuring effective planning. To manage documentation, a transition plan document was developed, which defined team roles, expected outputs, and key checkpoints. For operational control, a client-tracking system safeguarded medical records and ensured clients' follow-up, while an asset inventory logged all equipment, supplies, and medicines scheduled for handover. A progress tracker allowed teams to monitor advancement against set milestones and timelines, while a risk matrix and issue log flagged and resolved emerging issues during the transition.

2. Stakeholders' engagement

Stakeholders were actively engaged throughout the transition process to ensure their participation and address emerging concerns. This involved consultations with key personnel, including government officials, healthcare providers, and community leaders, where roles were clearly defined to avoid overlaps and ensure coordinated efforts. The transition plan was communicated through regular meetings and updates, ensuring all parties were aligned with the objectives and timelines. Additionally, stakeholders were encouraged to voice concerns, which were addressed through open dialogue and problem-solving sessions.

3. Leadership and coordination

Coordination was provided through weekly virtual meetings. Sub-teams were created for finance, service delivery, data transition, and other areas. These teams provided progress reports during the meetings, with feedback loops established to ensure overall alignment and progress towards the common goal. These meetings served as a platform for continuously monitoring the transition's progress, enabling real-time feedback and adjustments as needed. They also provided a channel for performance reviews, ensuring that the newly transitioned program maintained its momentum and that issues impacting service delivery, financial management, or client care were swiftly resolved. The incoming IP maintained effective communication with the project employees, ensuring the dissemination of consistent and reassuring messages to maintain morale and reduce uncertainty. Employees were informed about the transition goals, processes, and any potential changes in their roles or workflows. Open communication was a key focus, with transparent discussions about the risks and benefits of the transition.

4. Transition services

The outgoing partner provided high-level technical assistance to ensure a seamless transition of services, with a focus on critical areas such as financial management, service delivery, asset transfer, and the migration of client and program databases. This included support to maintain financial stability during the transition so that program activities continued without disruption, overseeing the orderly transfer of project assets, including equipment, to the incoming partner, securing an efficient transition of client-level and program-level databases, ensuring that all clients' information was accurately transferred and remained accessible for ongoing care. Additionally, clients were proactively notified about the transition during their clinic visits, with clear communication provided, while reassuring them about the continuity of their care. Contingency plans and support

mechanisms were implemented to ensure uninterrupted access to services while proactively addressing any issues that arose.

5. Transition monitoring

The donor agency, USAID, supported the transition and early startup phases by providing hands-on virtual and in-person assistance. This direct involvement was crucial in ensuring the transition was carried out smoothly and that emerging challenges were promptly addressed. Monitoring and evaluation included donor support during the transition and startup phases, monitoring program leadership transfer, management responsibilities, performance, and results, as well as assessing the transition status against short-term goals after three months. This support extended beyond the immediate transition period, with USAID participating in the weekly coordination meetings.

Data collection
Quantitative data were sourced from Electronic Medical Records (EMR), the Lafiya Management Information System (LAMIS) [28], and the District Health Information System (DHIS2), which were documented daily by trained data entry clerks. Both systems featured built-in data quality checks to minimise transcription errors, with routine cross-platform validation further enhancing data accuracy. Client-level data were extracted from the LAMIS, including the date of the last drug pickup, refill duration, date of the last viral load test, and viral load results. Concurrently, aggregate data on the number of individuals tested for HIV and their test results were gathered from DHIS2, covering both the pre-transition period (January 2022 – June 2022) and the post-transition period (July 2022 – December 2022). All extracted data were anonymised, ensuring the exclusion of any patient identifiers.

Data analysis
Quantitative data were analysed to assess the effect of the transition on key health outcomes using descriptive statistics. This offered a foundational understanding of the variables involved. This was followed by interrupted time series (ITS) analysis, which evaluated changes in HIV testing over time, allowing for a comparison of trends before and after the transition. ITS analysis is suitable for longitudinal data that have a clear intervention point—in this case, the transition model. It estimates any immediate shift at the transition and any change in the post-transition trend, helping to determine whether movements in service indicators exceed normal variation. It further assumes that the pre-transition trend would have continued unchanged; therefore, unrecorded

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events overlapping the cut-off can confound the results. Chi-square tests were applied to examine differences in categorical outcomes, such as the timing of refill appointments and the uptake of viral load testing, between the pre- and post-transition periods. These methods provided insights into whether the observed outcome changes were statistically significant and attributable to the transition. The Mann-Whitney U test was used to compare on-schedule refill appointments and viral load coverage across the two periods. To obtain valid inference, the Newey–West standard errors were used, which correct ordinary leastsquares estimates for serial correlation and heteroskedasticity typical of monthly service data. This adjustment stabilises confidence intervals and p-values, although it does not resolve problems arising from an incorrectly specified model. All statistical analyses were conducted using STATA version 14 [29]. A significance level of $p < 0.05$ was set for all tests.

Outcomes

This evaluation quantified the impact of transitioning from donor-supported to locally led service on patient-level HIV service indicators. Transition status was coded at the facility level as pre-transition, transition months, and post-transition. Outcomes were derived from routinely collected EMR data and summarized for each period before statistical comparison. The primary outcome is HIV testing uptake, defined as the proportion of clinic attendees aged fifteen years and older receiving

an HIV test within a given period. This indicator is sensitive to disruptions in commodity supply chains and staff taskshifting during programme handovers. Two secondary outcomes provide insight into service continuity. The first is on-schedule ART refill, measured as the percentage of scheduled drug pickup visits occurring on or before the appointment date. Punctual refills reflect the robustness of drug distribution systems and appointment management workflows following the withdrawal of external support. The second secondary outcome is timely viral-load monitoring, expressed as the proportion of ART clients whose viral-load samples were collected within the guideline-recommended time frames for new clients and within 12 months (+/- 3 months) for those who are stable on treatment. This metric measures laboratory throughput and patient engagement in the care cascade following transition. For each outcome, we calculated statistical tests with point estimates and 95% CIs, then applied segmented interrupted time series (testing, VL) or binomial (refill) regression to estimate immediate level change, adjusting for facility size, calendar month, and pre-existing secular trend [30, 31].

Results

Overview

Approximately 185,774 persons were receiving ART services across sites in both states shortly before the pre-transition period, with 153,315 in Akwa Ibom State and 32,459 in Cross River State. During the study period, approximately 405,702 HIV testing services were conducted, with 377,595 expected ARV refills and a varying number of viral load eligibility and tests, as shown in Fig. 4. A summary of all key outcome indicators reported in this study, along with the percentage change, is provided in Table 1.

HIV testing services

Between January and December 2022, a total of 405,702 individuals were tested for HIV. Of these, 116,138 individuals (29%) were tested in the pre-transition period (January to June 2022), averaging 19,356 tests per month. In contrast, 289,564 individuals (71%) were tested during the post-transition period (July to December 2022), with an average of 48,260 tests conducted monthly. The average number of tests declined by 11% (–2,035) between January and June 2022 but increased by 7% (+1,322) in July 2022, continuing to rise throughout the post-transition period, resulting in an overall 17% increase in testing (Fig. 1). An ITS analysis revealed a significant increase in the number of individuals tested between July and December 2022 compared to the pre-transition period ($p = 0.001$) (Fig. 2). A downward trend in HIV testing services was observed during the pre-transition period

Table 1 Summary of all key outcome indicators reported pre- and post-transition

Service delivery		Pre-transitioning	Post-transitioning	% change
HIV testing services	Period 1	27,633	18,776	−32%
	Period 2	19,497	38,008	95%
	Period 3	19,325	49,104	154%
	Period 4	16,282	51,104	214%
	Period 5	15,947	69,039	333%
	Period 6	17,454	63,533	264%
On-time Refills		97.8%	98.23%	0.4%
Viral load sample collection rate	Quarter 1	98.4%	96.4%	−2.0%
	Quarter 2	98.2%	97.7%	−0.5%
Viral load result receipt rate	Quarter 1	72.1%	77.1%	5.0%
	Quarter 2	94.0%	90.0%	−4.0%

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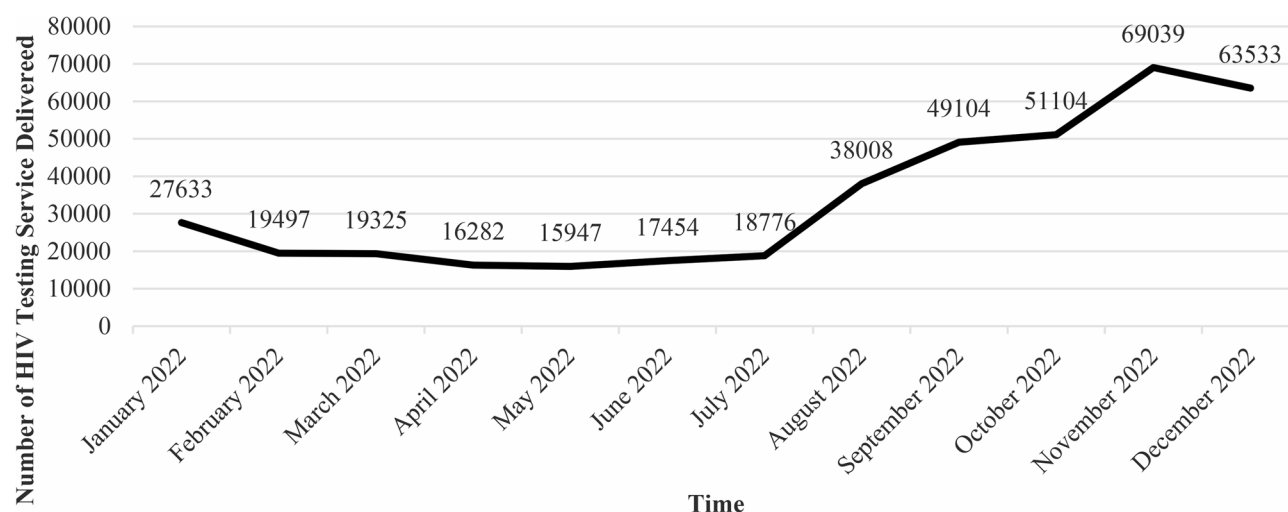
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Fig. 1 Trend in HIV testing services delivery pre – and – post project transitioning (January 2022 – December 2022)
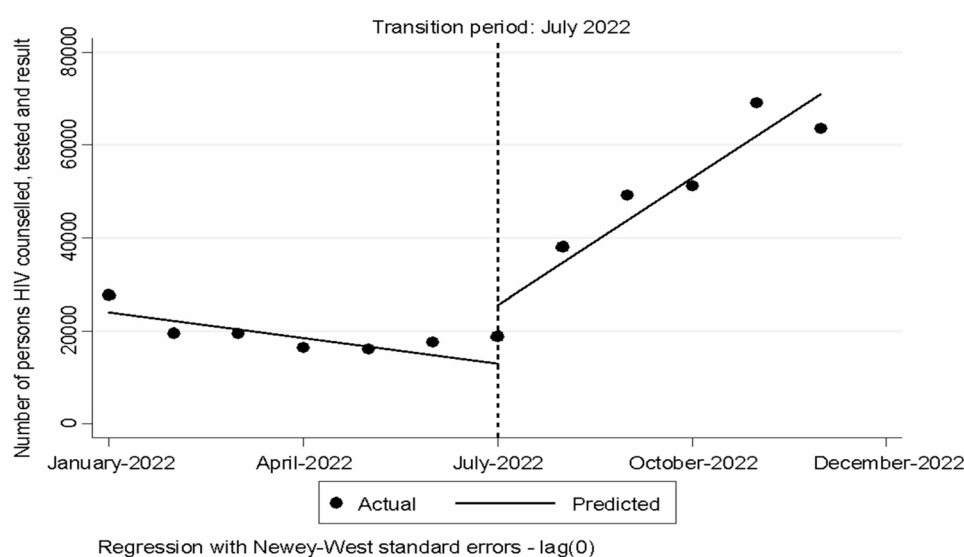

Fig. 2 Interrupted time series of HIV testing services between January and December 2022

(January–June 2022), with a notable inflexion point during the transition period (July 2022) (Fig. 2).

On-schedule ART refill appointments
The trend of on-schedule ART refill appointments before and after the transition is summarised in Fig. 3. A sharp decline in on-schedule refill appointments was observed in June 2022, which gradually reversed in the succeeding months, continuing to improve throughout the post-transition period. Before the transition, 97.8% ($n = 185,833$) of the 190,010 clients expected for ART refill adhered to their appointment schedules, compared to 98.2% ($n = 184,263$) of the 187,585 clients during the post-transition period, a statistically significant difference ($\chi^2 = 88.6$; $p < 0.001$) (Table 2). The results from the Newey-West regression indicate a notable change in the

level and trend of the outcome variable after the transition (Table 3). The baseline average was approximately 23,970 on-schedule ART refills each month. Prior to the transition, there was a modest, non-significant decline of about 1,845 refills per month ($p = 0.062$). In July 2022—the first month under ECEWS—refills jumped by roughly 12,586, a borderline-significant immediate level change ($p = 0.065$). Crucially, the slope reversed after the transition: refills rose by an additional 10,956 each month ($p = 0.001$). The net post-transition growth rate was about 9,111 extra refills per month (Table 3.).

Viral load testing uptake
The trend of viral load testing uptake before and after transition is summarised in Fig. 4. The uptake of viral load testing remained high throughout the transition,
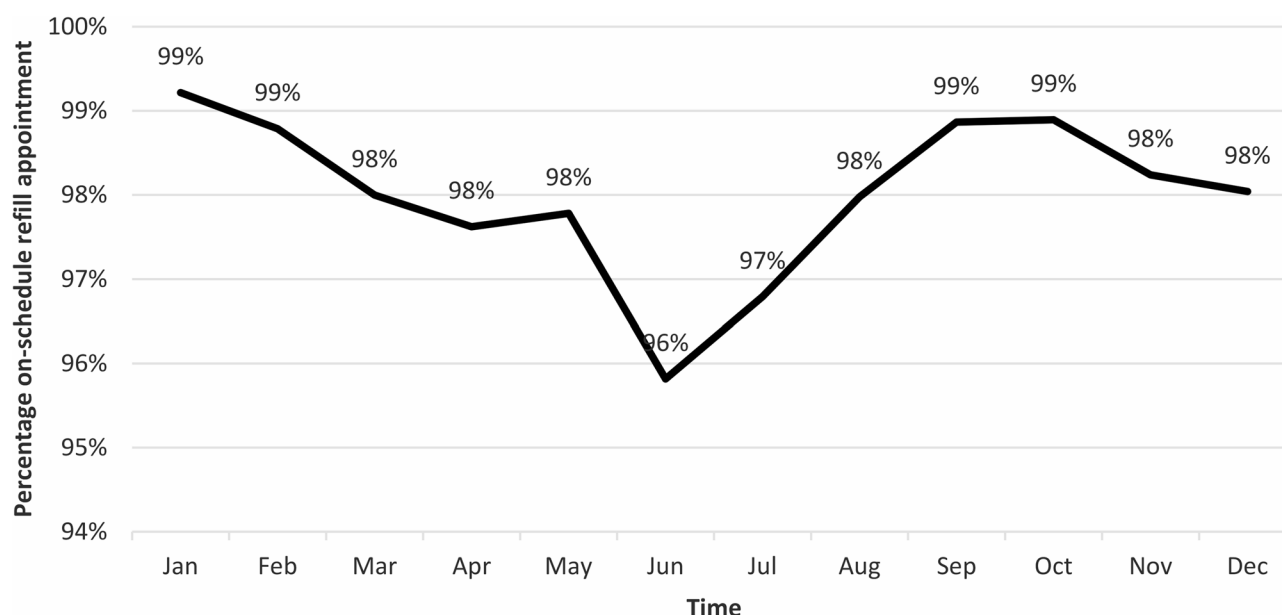
Fig. 3 Comparison of on-schedule refill appointments before and after the transition period

Table 2 On-schedule clinic adherence before and post transition regression coefficients

Period	ART refill Appointment		% Refill	Chi-square test	*p*-value
	Ex-pected Refill	Actual Refill			
Pre-transitioning period (January 2022 – June 2022)	190,010	185,833	97.80%	88.6	<0.001
Post-transitioning period (July 2022 – December 2022)	187,585	184,263	98.23%		

Table 3. Interrupted time series regression (Newey-West Standard Errors

Variable	Coefficient (β)	Std. Error	t	*p*-value	95% CI
Baseline level (intercept)	23.969.76	2,750.90	8.71	<0.001	17,626.18 -30,313.34
Pre-intervention trend	-1,845.37	850.40	-2.17	0.062	−3,806.41 - 115.66
Immediate level change (July 2022)	12,586.13	5,896.12	2.13	0.065	- 1,010.35 -26,182.62
Post-intervention trend change	10,956.17	2,133.01	5.14	0.001	6,037.44 - 15,874.90
	Coefficient (β)		Std. Err.		95% Conf. Interval
Post-intervention linear trend (combined)	9110.8		1,956.16		.-

with a 3% increase immediately after the transition (from 96 to 99%) and a slight decline to 98% in the following quarter.

Outcome of the transition model implementation

Structured communication and coordination activities were implemented throughout the transition, with no reported service interruptions and consistently high stakeholders meeting attendance. Transition communications documented objectives, timelines, and expectations, and every scheduled milestone was met on or before its target date. Routine monitoring records showed that staff maintained their usual clinical and administrative duties, while monthly programme indicators—service uptake, adherence, and retention—increased relative to the six-month baseline prior to the transition. The transition roadmap listed six handover milestones; each was completed, and the corresponding capacity-building sessions were delivered as planned. Stakeholder feedback forms recorded readiness scores above the predefined threshold at every assessment point. Donor partners provided mentorship and training to facility staff, and staff retention logs remained slightly stable across the 12-month observation window. Technical support visits from donor members and outgoing IPs were logged in monthly reports, and programme management capacity checklist scores improved from a median of 58% pre-transition to 81% post-transition. The Monitoring and Evaluation framework tracked key performance indicators in real-time, with most indicators remaining above their alert threshold during the reporting period. At the close of the transition, local partners were providing all HIV prevention, treatment, and support services, and
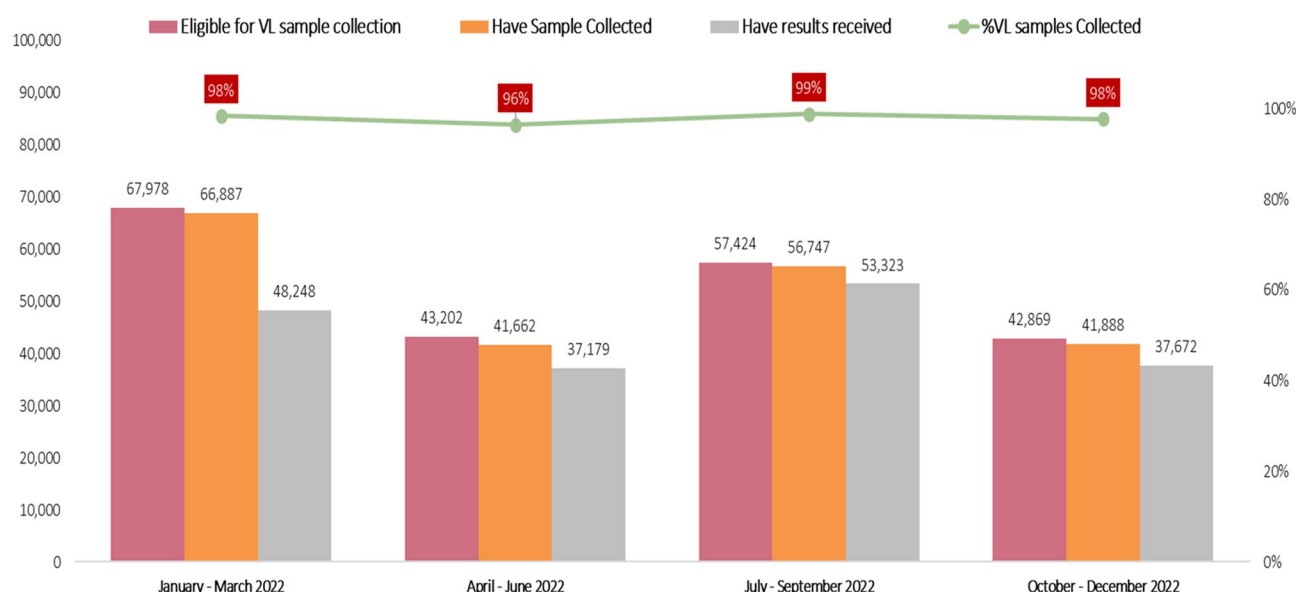
Fig. 4 Viral load uptake for the eligible cohort (quarterly trend: January 2022 – December 2022

financial records showed that operating costs were met from local budgets without interruption.

Discussion

The transition process described in this study yielded positive outcomes across most study objectives, with slight negative performance across some KPIs (Table 1). With the model implemented, the transition led to a substantial 149% increase in the number of individuals accessing HIV testing services, rising from 116,138 before the transition to 289,564 after the transition. The predicted trendline in the post-transition period indicates a sustained increase in HIV testing services, likely due to improvements, new funding, or more effective testing strategies. The sharp increase in the number of HIV tests conducted, as observed in the ITS, highlights the effectiveness of strategies in scaling up HIV testing services (Fig. 2).

Adherence to ART refill appointments improved significantly, with on-schedule refill rates increasing from 97.8% pre-transition to 98.2% post-transition. Similarly, on-schedule refill appointments remained optimal six months post-transition, unlike the transition experience in South Africa, where the absence of a patient tracking system during the transition led to suboptimal client retention in care [32]. The transition plan's inclusion of transferring electronic client records from an international to a local partner enabled effective monitoring of scheduled and missed appointments, allowing for early intervention through pre-existing case management structures. Furthermore, the proactive management of commodities, including the transfer of a two-month seed stock of essential supplies, ensured uninterrupted

service delivery and sustained uptake of viral load testing throughout the post-transition period.

Notably, the uptake of viral load testing remained high, rising from 96 to 99% immediately after the transition, thereby maintaining strong service continuity (Fig. 4). These outcomes were achieved through comprehensive planning, robust stakeholder engagement, and flexible communication strategies, demonstrating the effectiveness of the transition model in ensuring uninterrupted access to essential HIV care services during the program handover. The sustained uptake of viral load testing during the transition also highlights the importance of sufficient transition time and effective communication. Previous studies have linked short transition timelines and poor communication with disruptions in care, as seen in the Avahan and South African transitions [4, 33]. However, despite a similar transition timeframe, the transition in Nigeria was seamless, likely due to the flexible and open communication within the transition team and the coordinated efforts between IPs and the donor agency.

Across the literature, five key themes critical to sustaining HIV/AIDS response during transitions have been identified, including early stakeholder involvement, flexible communication, consortium partnerships, strategic planning, and effective monitoring [34, 35]. These strategies were deployed during the transition phase described in this study, and the outcomes underscore the importance of a structured and collaborative approach to program transitions. The experience of other countries, such as Rwanda, Uganda, and Kenya, highlights the complexities of transitioning HIV programs [5, 25, 26]. In Rwanda, the Ministry of Health initially grappled with human

resources and technical expertise following the transition from donor-funded programs [26]. In Uganda, transitioned facilities were more likely to discontinue HIV outreach services and report declines in care access [12]. Similarly, in Kenya, transitions led to disruptions in laboratory testing, loss of training, and a decline in financial incentives for health workers, resulting in a decline in the quality of care [5].

Nigeria's transition contrasted with Kenya and Uganda, where shifts to government management coincided with declines in HIV testing [5, 16]. In Nigeria, service delivery structures were maintained; outreach testing continued, donor-funded staff were retained, and testing rates remained stable or increased [34, 35]. The successful transition rested on two mutually reinforcing conditions. First, USAID provided intensive, hands-on assistance that went beyond the typical donor role. This support covered uninterrupted commodity supply, embedded technical advisors, and a stepwise performance-management package that ensured facilities met readiness benchmarks before complete handover. Second, ECEWS commenced transition with considerable baseline capacity: a trained workforce, an established quality-improvement unit, a functional data monitoring system, and long-standing relationships with state and local health authorities. These elements created a favourable ecosystem in which technical guidance could be rapidly absorbed and sustained.

We found no evidence of donor pressure or incentive schemes during the transition period, reducing the likelihood of related confounding. However, the ongoing national "Test & Treat" campaign, launched in 2016, and parallel local initiatives to optimise HIV testing probably contributed to the rise in testing volumes. Uncertainty about treatment continuity and stability after the transition may also have motivated clients to pick up ARVs more reliably. These concurrent activities could therefore explain part of the observed increase in testing coverage and on-time drug refills. The lessons learned from the transition emphasise the need for a systematic and organised approach to HIV program transitions to ensure zero disruption of services. Local indigenous organisations have demonstrated the capacity to meet PEPFAR's mandates, with international partners potentially continuing to provide phased-out technical assistance [5, 36]. A co-creation and phased transition model, with an explicit declaration of project assets and liabilities, facilitates a smooth transition [4]. Additionally, building implementation around government institutions and stakeholders is crucial for ensuring the sustainability of the transition [5, 25].

This transition mirrored challenges documented in previous studies on health program transitions in low- and middle-income countries. Similar to findings previously reported from other programs in sub-Saharan Africa, including initial disruptions and declines in HIV testing rates and new ART initiations, as well as increased missed ART refill appointments [24, 33, 35]. These disruptions were primarily due to logistical challenges such as reallocating patients and adjusting healthcare workers to new operational systems. However, consistent with the phased transition strategies previously reported [33], the phased approach employed in this transition allowed health facilities to adapt gradually, eventually leading to restored and even improved service uptake. Service delivery indicators stayed stable, yet staff turnover increased among ancillary workers who feared job loss. Regular, transparent briefings built into the transition model reassured the remaining staff about contract continuity and helped stabilise the workforce.

Consistent with prior evidence on the importance of strong leadership, multisector engagement, and transparent, predictable processes [4, 5], our findings highlight that effective local leadership and proactive stakeholder engagement sustained service continuity and fostered trust among providers and patients. The involvement of community members in decision-making, as emphasised in a previous study [36], was instrumental in addressing concerns and reducing resistance to changes in service provision. Furthermore, the ongoing technical support from FHI 360 to ECEWS, similar to the support structures highlighted in a program transition in Southern Africa [6], played a vital role in equipping healthcare providers to manage new systems and processes, thereby facilitating a smoother transition and enhancing service delivery. The findings from this study have significant implications for future transitions of HIV and other public health programs. Policymakers and program managers should prioritise early and continuous planning, ensure the availability of necessary resources, and engage all relevant stakeholders throughout the process. Additionally, the lessons learned from the Nigerian experience can serve as valuable guidance for other countries facing similar transitions, helping to sustain already documented processes.

This study had limitations, particularly around its short-term focus, as the longer-term implications of the transition on client retention and viral suppression were not assessed. Our study also did not assess the impact of the transition on subpopulations and other technical and operational program subunits, which limits the scope of our findings and their applicability for informed decision-making. Also, as it did not capture the qualitative perspective of care recipients, our study lacks firsthand perspectives from clients on the transition, which limits the strength of our conclusions. Future recommendations include extending the collaboration period between the two IPs to address challenges, standardising

incentives and stipends for stakeholders, establishing an independent agency to manage data and asset transitions, integrating clients' feedback into the transition model, and ensuring timely communication and local ownership of the HIV response. A long-term post-transition evaluation is also necessary to fully understand the impact of the transition from the care recipient's perspective.

Conclusion

Transitions in donor-funded programs are critical moments that guide the trajectory of the next project phases. The successful transition of these programs usually depends on a couple of factors and implementation models. The case in Nigeria described in this study demonstrates the effectiveness of a phased and systematic approach. This transition not only maintained but enhanced key HIV service delivery outcomes, including a significant increase in HIV testing rates, on-schedule refill appointments, and viral load testing uptake. The seamless process underscores the importance of strong stakeholder collaboration, local capacity-building, and open communication throughout the transition period. These findings highlight the potential for local indigenous organisations to lead HIV program implementation effectively. The lessons from this transition offer valuable insights for future transitions, emphasising the need for careful planning, stakeholder engagement, and sustained support to foster gains towards achieving HIV/AIDS epidemic control in Nigeria and globally. Further long-term evaluations would be essential to assess the enduring impact of the transition on program sustainability and patient outcomes.

Abbreviations

PEPFAR	U.S. President's Emergency Plan for AIDS Relief
PLHIV	People living with HIV
ART	Antiretroviral therapy
ECEWS	Excellence Community Education Welfare Scheme
FHI 360	Family Health International
USAID	United States Agency for International Development
ACE 5	Accelerating Control of the HIV Epidemic in Nigeria Cluster 5
COP2	Country Operational Plan
EMR	Electronic Medical Record
GHAIN	Global HIV/AIDS Initiative Nigeria
HQ	Headquarter
IP	Implementing Partner
MOH	Ministry of Health
NAIIS	Nigeria HIV/AIDS Indicator and Impact Survey
SIDHAS	Strengthening Integrated Delivery of HIV/AIDS Services

Authors' contributions
E.O.D., I.B., and E.N. conceptualised and designed this study. I.B., U.A., and E.N. conducted a literature review. E.O.D., I.B., and E.N. analysed this study. E.O.D., I.B., O.T., P.N., O.O., A.I, A.A., O.O., N.U., H.U., and A.I. wrote the initial draft, which E.O.D., I.B., B.M.U., A.E., K.O., D.O., E.J., O.O., and A.I. reviewed and edited. A.A.,

O.O., and A.E. supervised the work. BMU is the corresponding author and is responsible for the work's credibility.

Data availability
The data supporting this study's findings is owned by Excellence Community Education Welfare Scheme (ECEWS) and is not publicly available due to privacy and ethical considerations. Access to these data can be requested from the corresponding author, subject to approval by the relevant authorities.

Declarations

Ethics approval and consent to participate
Ethical approval for this study was sought and obtained from the ECEWS' Ethics and Scientific Review Committee. The study protocol was reviewed and approved by the Akwa Ibom State Ethical Research Board (REF No: 1847437-1) and was deemed non-human subject research. All procedures adhered strictly to the Declaration of Helsinki and relevant organisational regulations. Participants' consent to participate was waived by the ECEWS' Ethics and Scientific Review Committee.

Consent for publication
Not applicable.

Competing interests
The authors declare no competing interests.

Author details
[1]Excellence Community Education Welfare Scheme (ECEWS), Abuja, Nigeria
[2]U.S. Agency for International Development (USAID), Abuja, Nigeria
[3]Family Health International 360, Abuja, Nigeria

References
1. Elendu C, Amaechi DC, Elendu TC, Amaechi EC, Elendu ID, Akpa KN, Oloyede PO, Adegbola MO, Idowu OF. Shaping sustainable paths for HIV/AIDS funding: a review and reminder. Ann Med Surg (Lond). 2025;87(3):1415–45. https://doi.org/10.1097/MS9.0000000000002976.
2. HIV.gov. What is PEPFAR? HIV.gov; 2024. Available from: https://www.hiv.gov/federal-response/pepfar-global-aids/pepfar. Cited 2024 August 26
3. US President's Emergency Plan for AIDS Relief (PEPFAR). PEPFAR 3.0 Controlling the epidemic: delivering on the promise of an AIDS-free generation 2014. Available from: http://www.pepfar.gov/documents/organization/234744.pdf. Cited 2022 December 14
4. Burrows D, Oberth G, Parsons D, Mccallum L. Transitions from donor funding to domestic reliance for HIV responses Nairobi, Kenya: Aidspan; 2016. Available from: https://www.globalfundadvocatesnetwork.org/wp-content/uploads/2016/04/Aidspan-APMG-2016-Transition-from-Donor-Funding.pdf. Cited 2024 August 30
5. Rodríguez DC, Mohan D, Mackenzie C, Wilhelm J, Eze-Ajoku E, Omondi E, et al. Effects of transition on HIV and non-HIV services and health systems in Kenya: a mixed methods evaluation of donor transition. BMC Health Serv Res. 2021;21(1):457. https://doi.org/10.1186/s12913-021-06451-y. Epub 20210513.
6. Vermund SH, Sidat M, Weil LF, Tique JA, Moon TD, Ciampa PJ. Transitioning HIV care and treatment programs in Southern Africa to full local management. Aids. 2012;26(10):1303–10. https://doi.org/10.1097/QAD.0b013e3283552185. PubMed PMID: 22706012; PubMed Central PMCID: PMC3576840.
7. US Department of State. Annual Reports to Congress on the President's Emergency Plan for AIDS Relief 2024. Available from: https://www.state.gov/annual-reports-to-congress-on-the-presidents-emergency-plan-for-aids-relief/

8.   Chin RJ, Sangmanee D, Piergallini L. PEPFAR funding and reduction in HIV infection rates in 12 focus Sub-Saharan African countries: A quantitative analysis. Int J MCH AIDS. 2015;3(2):150–8. PubMed PMID: 27621994; PubMed Central PMCID: PMC5005989.

9.   UNAIDS, AIDS-related deaths UNAIDS. 2023. Available from: https://www.unaids.org/en/resources/fact-sheet. Cited 2024 August 27

10.   Goosby E, Dybul M, Fauci AS, Fu J, Walsh T, Needle R, et al. The united States president's emergency plan for AIDS relief: a story of partnerships and smart investments to turn the tide of the global AIDS pandemic. J Acquir Immune Defic Syndr. 2012;60(Suppl 3):S51–6. https://doi.org/10.1097/QAI.0b013e31825ca721. PubMed PMID: 22797740.

11.   Vogus A, Graff K. PEPFAR transitions to country ownership: review of past donor transitions and application of lessons learned to the Eastern Caribbean. Glob Health Sci Pract. 2015;3(2):274–86. https://doi.org/10.9745/ghsp-d-14-00227. Epub 20150617.

12.   Wilhelm JA, Paina L, Qiu M, Zakumumpa H, Bennett S. The differential impacts of PEPFAR transition on private for-profit, private not-for-profit and publicly owned health facilities in Uganda. Health Policy Plan. 2020;35(2):133–41. https://doi.org/10.1093/heapol/czz090. PubMed PMID: 31713608; PubMed Central PMCID: PMC7050684.

13.   Nkengasong J, Ruffner M, Bartee M, Katz IT, Reid MJA. Sustaining the HIV/AIDS response: pepfar's vision. J Int AIDS Soc. 2023;26(12):e26192. https://doi.org/10.1002/jia2.26192. PubMed PMID: 38031907; PubMed Central PMCID: PMC10687756.

14.   US Department of State. Controlling the Epidemic: Delivering on the Promise of an AIDS-free Generation 2014. Available from: https://www.state.gov/wp-content/uploads/2019/08/PEPFAR-3.0-%E2%80%93-Controlling-the-Epidemic-Delivering-on-the-Promise-of-an-AIDS-free-Generation.pdf. Cited 2024 August 27

15.   The Lancet. Ending the HIV pandemic: Preparing for the future. Lancet. 2023;402(10402):585. https://doi.org/10.1016/s0140-6736(23)01728-2. PubMed PMID: 37597879.

16.   US Department of State. Strategic Direction Summary Washington DC,: US Department of State. 2022. Available from: https://www.state.gov/wp-content/uploads/2022/09/Nigeria-COP22-SDS.pdf. Cited 2024 August 27

17.   World Bank. World Development Indicators Geneva, Switzerland: World Bank. 2023. Available from: https://data.worldbank.org/indicator/NY.GNP.PCAP.CD. Cited 2024 August 30

18.   UNAIDS, Country Fact Sheets UNAIDS. 2023. Available from: https://www.unaids.org/en/regionscountries/countries/nigeria. Cited 2024 August 30

19.   National Agency for the Control of AIDS (NACA). Nigeria HIV/AIDS Indicator and Impact Survey (NAIIS) 2018 Abuja, Nigeria: NACA. 2022. Available from: https://naca.gov.ng/nigeria-hiv-aids-indicator-and-impact-survey-naiis-2018-final-report/. Cited 2024 August 26

20.   Federal Ministry of Health. National HIV/AIDS Indicator and Impact Survey (NAIIS). 2018: Final Report. Abuja, Nigeria: National AIDS and STIs Control Programme: HIV AIDS Division, 2019.

21.   U.S. President's Emergency Plan for AIDS Relief (PEPFAR). Nigeria Country Operational Plan 2021: Strategic Direction Summary.: US State Department. 2021. Available from: https://www.state.gov/wp-content/uploads/2021/09/Nigeria_SDS_Final-Public_Aug-11-2021.pdf. Cited 2024 August 27

22.   FHI360, Global HIV/AIDS Initiative Nigeria (GHAIN). 2012. Available from: https://www.fhi360.org/resource/global-hivaids-initiative-nigeria-ghain-monographs-0 Accessed March 2025.

23.   FHI360, Strengthening Integrated Delivery of HIV/AIDS Services. 2021. https://www.fhi360.org/resource/strengthening-integrated-delivery-hivaids-services-brief Accessed March 2025.

24.   FHI360, Meeting Targets and Maintaining Epidemic Control (EpiC). 2023. https://www.fhi360.org/projects/meeting-targets-and-maintaining-epidemic-control-epic Assessed March 2025.

25.   Binagwaho A, Kankindi I, Kayirangwa E, Nyemazi JP, Nsanzimana S, Morales F, et al. Transitioning to country ownership of HIV programs in Rwanda. PLoS Med. 2016;13(8):e1002075. https://doi.org/10.1371/journal.pmed.1002075. Epub 20160809.

26.   Wilhelm JA, Qiu M, Paina L, Colantuoni E, Mukuru M, Ssengooba F, et al. The impact of PEPFAR transition on HIV service delivery at health facilities in Uganda. PLoS ONE. 2019;14(10):e0223426. https://doi.org/10.1371/journal.pone.0223426. Epub 20191009.

27.   Nwaokoro P, Sanwo O, Toyo O, Akpan U, Nwanja E, Elechi I, et al. Achieving HIV epidemic control through integrated community and facility-based strategies: lessons learnt from ART-surge implementation in Akwa ibom, Nigeria. PLoS ONE. 2022;17(12):e0278946. https://doi.org/10.1371/journal.pone.0278946. Epub 20221221.

28.   Ochanya IA, Alexander A, Ihoghosa I et al. Management and Monitoring of PLHIV Using Electronic Systems in Nigeria: Lafiya Management Information System (LAMIS). 2019. Available online: https://www.researchgate.net/publication/333264177_Management_and_monitoring_of_PLHIV_using_electronic_systems_in_Nigeria_Lafiya_Management_Information_System_LAMIS (accessed on 22 July 2025).

29.   StataCorp. Stata statistical software. Release 14. College station. TX: StataCorp LP; 2015.

30.   Federal Ministry of Health (FMOH). National Guidelines for HIV Prevention Treatment and Care, Abuja. Nigeria.: FMOH; 2020. Available from: https://naca.gov.ng/national-guidelines-for-hiv-prevention-treatment-and-care-2020/

31.   World Health Organization (WHO). Consolidated Guidelines on HIV Prevention, Testing, Treatment, Service Delivery and Monitoring Geneva, Switzerland: WHO. 2021. Available from: https://www.who.int/publications/i/item/9789240031593

32.   Kavanagh MM. The politics and epidemiology of transition: PEPFAR and AIDS in South Africa. J Acquir Immune Defic Syndr. 2014;65(3):247–50. https://doi.org/10.1097/qai.0000000000000093. PubMed PMID: 24346642.

33.   Bennett S, Singh S, Rodriguez D, Ozawa S, Singh K, Chhabra V, et al. Transitioning a large scale HIV/AIDS prevention program to local stakeholders: findings from the Avahan transition evaluation. PLoS ONE. 2015;10(9):e0136177. https://doi.org/10.1371/journal.pone.0136177. Epub 20150901.

34.   Zakumumpa H, Rujumba J, Amde W, Damian RS, Maniple E, Ssengooba F. Transitioning health workers from PEPFAR contracts to the Uganda government payroll. Health Policy Plan. 2021;36(9):1397–407. https://doi.org/10.1093/heapol/czab077. PubMed PMID: 34240177; PubMed Central PMCID: PMC8505860.

35.   Katz I, Glandon D, Wong W, Kargbo B, Ombam R, Singh S, et al. Lessons learned from stakeholder-driven sustainability analysis of six National HIV programmes. Health Policy Plan. 2014;29(3):379–87. https://doi.org/10.1093/heapol/czt024. Epub 20130423.

36.   Sgaier SK, Ramakrishnan A, Dhingra N, Wadhwani A, Alexander A, Bennett S, et al. How the Avahan HIV prevention program transitioned from the gates foundation to the government of India. Health Aff (Millwood). 2013;32(7):1265–73. https://doi.org/10.1377/hlthaff.2012.0646. PubMed PMID: 23836743.

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