

Sustainability of Donor Funded HIV Prevention, Care, and Treatment Programs for Key Populations in Nigeria

Margaret Shelleng^{1,2*}, Ihoghosa Iyamu³, Okikiolu Badejo⁴, Hadiza Khamofu⁵, Paul Olaiya⁶
¹PEPFAR Coordination Office, US President's Emergency plan for AIDS Relief (PEPFAR),
Abuja, Nigeria

²Department of Public Health, Texila American University, Guyana, South America

³School of Public Health, University of British Columbia, Canada

⁴Department of Public Health, University of Antwerp, Belgium

⁵Global health Population Department, FHI360, Nigeria

⁶Emergency Preparedness and Response Department, WHO, South Africa

Abstract

Overseas development assistance (ODA) for HIV from bilateral donors other than the US has fallen 57% in the last decade. HIV responses in low- and middle-income countries is \$8 billion short for 2025. Donors want national governments to gradually take over HIV responses to maintain program gains and investments. Programs with greater sustainability capacity can maintain positive outcomes and benefits over time. We examine Nigeria's donor funded KP HIV program for sustainability. A mixed-methods approach using Washington University Program Sustainability Assessment Tool (PSAT) to survey perspectives of key informants from HIV stakeholders. Overall and domain mean scores and standard deviation determined, and quantitative analysis conducted using IBM Statistical Package for the Social Sciences (SPSS) version 28. Thematic analysis was applied to open-ended questions from key informant interviews. A total of 24 consenting respondents participated. Overall mean sustainability score was 4.72. Highest mean scoring domains were program adaptation (5.6) and program evaluation (5.59), lowest mean scores were partnerships (3.17) and funding stability (3.56). Sociocultural and political contexts hinder strategic behavioral change communication to promote KP and quality services. Suboptimal political support, funding insecurity, limited partnerships, and donor-driven strategic planning cycles threaten the program's sustainability.

Keywords: HIV, Key Populations, Program Sustainability.

Introduction

HIV remains a global health threat despite concerted efforts to control the epidemic over the past 3 decades. This threat has escalated over the past 2 years as the Covid-19 pandemic, combined with declining funding for global HIV response has limited access to life-saving HIV prevention, care, and treatment services globally [1]. In 2021, there were 38.4 million people living with HIV globally, with 1.5

million new infections and 650,000 AIDS-related deaths [2]. HIV is also widening inequalities within and between countries while stalling the HIV response. Countries in sub-Saharan Africa (SSA) continue to be most affected by the HIV/AIDS epidemic as 67% (25.6 million) of PLHIVs reside in the region, with 5 million of these PLHIVs resident in West and Central Africa (WCA). Nigeria, the most populous nation in WCA, bears the highest burden of HIV in the region (3rd

highest in sub-Saharan Africa) with an estimated 1.9 million PLHIV and a HIV prevalence of 1.4% in the adult population [3]. HIV disproportionately affects some sub-populations referred to as key populations (KP). Key populations include gay men and other men who have sex with men (MSM), sex workers (SW) and their clients, people who inject drugs (PWID), transgender people (TG) and people in closed and custodial settings (PICC). HIV is more prevalent in this high-risk population because of high-risk sexual, unprotected penile-anal sex and with multiple sexual partnering or substance use behaviors that make them more susceptible to HIV infection. Among Sex Workers (SW), occupational demands of having multiple sexual partners on daily basis, becoming riskier where some clients offer to increase their fare for unprotected sex which throws off the conversation around condom negotiations.

In 2021, 70% of new HIV infections globally occurred among KP, while 54% of new infections were among KPs in sub-Saharan Africa [4]. KPs experience higher risk for HIV with PWID, female SW, MSM and TG women respectively having 35, 30, 28 and 14 times the risk of their counterparts in the general population. These increased risks are reflected among KPs in Nigeria as estimates suggest the HIV prevalence among MSM (25%), brothel-based female SW (17.1%), non-brothel based female SW (15%), and PWID (10.9%), is significantly higher than the prevalence in the general population at 1.4% [5]. The increased risk may in part be explained by the relatively lower uptake of essential health services including HIV services among KPs due to marginalization, stigma, and human rights violations [6].

The Global Coalition's Road map to reducing new infections by 75% by 2020 continues to face challenges with high HIV incidence and low prevention and treatment coverage among KPs despite efforts to make these services more accessible especially in the

last decade. The new coalition expands on the HIV Prevention 2020 Road Map and addresses the inequalities that slow progress. It considers an evolving context of persistent inequalities and overlapping pandemics, economic challenges, shrinking civil society space, and human rights erosion [7]. Nigeria's HIV epidemic is more aptly described as a mixed epidemic with concentrated foci among KPs [5] which also threatens progress made by the HIV control program more generally.

Nigeria's HIV prevention, care, and treatment program has made significant progress in achieving the UNAIDS laid out 95-95-95 fast track targets to end the HIV epidemic by 2030 – "95-95-95 testing and treatment targets achieved within all subpopulations and age groups". These targets call for 95% of PLHIV to be diagnosed, 95% of all diagnosed PLHIV to be on sustained antiretroviral therapy (ART) and 95% of all PLHIV on ART to have viral suppression by 2025. By December 2021, the Nigerian program had identified 89% (approximately 1.77 million) of the estimated 1.9 million PLHIVs, 97% of whom were receiving ART and 95% of whom were virally suppressed [8]. The Nigeria HIV program is largely supported by international donors namely the US president's emergency plan for HIV/AIDS relief (PEPFAR) and the global fund to fight AIDS, tuberculosis, and malaria (GF-ATM) in strategic partnership with the government of Nigeria (GoN) in what is known as the National HIV Alignment Program. In 2021 the two donors contributed 98% (71% - PEPFAR and 27%-GF-ATM) of the reported \$799 million in total HIV expenditures [8]. This donor-funded HIV program also supports delivery of tailored HIV prevention, care, and treatment services to KPs through One Stop Shops (OSS) (i.e., standalone service sites addressing the entire spectrum of HIV care while minimizing access barriers), integrated community ART services and government public health facilities. These services are fully funded by PEPFAR and GF-

ATM, with minimal integration of services like OSS with the rest of the health systems.

However, international donors have begun transitioning HIV control programs to country governments (as a form of sustainability strategy towards ownership) to continue their financing, management, and implementation. Sustainability being the ability to maintain programming and its benefits over time [9]. However, poor transitions can lead to financial shortages, medical product and supply stock-outs, service disruptions, and human resource shortages which affect program continuation and population health [10]. In 2013 for example, PEPFAR Nigeria transferred responsibility for the HIV response in Abia and Taraba states to the GoN. While the programs in these states were sustained through the Subsidy Reinvestment and Empowerment Program (SURE-P) scheme for over a year, its viability was threatened with the end of the SURE-P program in 2016 and reduction of funding to less than 10% of the requested budget in 2017 [11].

In the context of unreliable funding for HIV programs on transition, the sustainability of such HIV program in Nigeria especially for KPs must be closely considered to prevent a reversal of current gains and perhaps resurgence of the HIV epidemic. Moreover, Nigeria is slated for the next wave of program transition from donor support alongside Malaysia and Cambodia [12]. In other similar contexts, programs have achieved varied levels of sustainability upon transition. For example, while the program in China remained viable with robust continued technical support from the US government and UNAIDS, programs in Romania and Nigeria failed. In Romania, with only 1% of the HIV budget allocated to preventive services and even less for KPs, a lack of payment options for civil society organizations in a context of pervasive HIV stigma resulted in KP services not being covered by the Romanian government [12]. While other factors including the abruptness of

the transition might account for some of these outcomes, a clear assessment of the sustainability of the Nigerian KP program is urgently required, given similarities between its context and other similar jurisdictions where transition failed.

Sustainability can be considered as a multifaceted process for ensuring long-term benefits of programs or interventions while maximizing limited resources, maintaining community support, and maintaining ethical standards. We define sustainability as the general continuation and maintenance of desired aspects of a program and its associated results and continued adaptation and development of the program in response to the system's evolving needs [13]. According to Schell, public health programs can only provide positive results if their actions are maintained throughout time referring to the ability of programs to do that as their "capacity for sustainability" [9]. Schell and colleagues define sustainability capability as the existence of structures and procedures that enable a program to effectively implement and maintain evidence-based policies and activities by leveraging resources. The authors identified 9 domains- (1) funding stability; (2) political support; (3) partnerships; (4) organizational capacity; (5) program adaptation; (6) program evaluation; (7) communications; (8) public health impact; and (9) strategic planning- which pertain to the ability of a program to continue its activities and benefits over time.

Country programs with partial or full donor support have been encouraged to plan for sustainability of their KP especially in contexts where governments are unwilling to support or fund them [12]. Further sustainability concerns exist for poorly integrated or often isolated parallel health systems for KPs, set up and operated without government support which could be disrupted during the transition process. Programs that have a greater capacity for sustainability may be better prepared when faced with threats of change, such as cuts in

funding, shifts in infrastructure, or even changes in leadership. It has been reported that approximately forty percent of new programs do not survive beyond the first few years following the conclusion of initial funding [9].

Therefore, this study aimed to assess the sustainability capacity of donor funded HIV prevention, care, and treatment programs for KPs in Nigeria while being implemented and to identify challenges and factors limiting their sustainability from the perspective of HIV prevention program managers, health professionals at OSSs for KPs and other stakeholders involved in the delivery of the program.

Materials and Methods

The study was conducted across Lagos and Kano states plus the Federal Capital Territory (FCT) in Nigeria. The Federal Republic of Nigeria is located in western Africa on the Gulf of Guinea and has a total land area of 923,768 km². It is a Federal Republic comprised of 36 states and 774 local government areas. It has a population of 213,401,323 in 2021, with a distribution of 51.7% rural and 48.3% urban. Health care delivery is a shared responsibility between the three levels of government and the private sector, and the average life expectancy in Nigeria is 54.7 years.

This was a mixed-methods study. Key informants from HIV stakeholders familiar with the KP program and had influence, experience, and knowledge of the HIV program were surveyed between November 2022 to February 2023. Informants included government representatives at the state and national (FCT) levels, donors (United Nations, PEPFAR), PEPFAR implementing partners (IPs) and principal recipients (PR) of the Global Fund grant, the network of People Living with HIV (NEPWHAN), Country Coordinating Mechanism, and state-level community and religious leaders in Lagos and Kano states.

We recruited a convenient sample of consenting participants who had working

knowledge and experience of the HIV program for KP and working in any of the 3 states. The survey was an adapted version of the Program Sustainability Assessment Tool (PSAT) which was developed by the Washington University, St. Louis, Missouri [14] and adapted by the Centre for Managing Chronic Disease, University of Michigan to include open-ended probes developed by evaluators. The PSAT, is a 40-item multiple-choice instrument [15] that evaluates a program's capacity for sustainability in 8 domains including political support, funding stability, partnerships, organizational capacity, program evaluation, program adaptation, communication, and strategic planning. Each domain is scored on a 7-point Likert scale, ranging from 1- "To little or no extent" to 7- "To a very great extent". We further adapted the open-ended questions of the PSAT to be more specific to the Nigerian HIV KP program and transferred to an online program, Kobo Toolbox, and sent via emails. Recruitment emails with the attached guide for completing the tool and link for accessing the questionnaire were sent using program listservs for each of the states with consenting participants while for the one KI that wanted the questionnaire administered by a data collector, a date set for the interview was set and interview conducted. All surveys were conducted using Kobo Toolbox.

Simple descriptive statistics were used to summarize the data presenting mean scores and corresponding standard deviations for responses to items from the PSAT for each domain and the summary PSAT score. All quantitative analyses were completed using IBM Statistical Package for the Social Sciences (SPSS) version 28. For open-ended questions corresponding to each PSAT domain, we applied thematic analyses. One researcher coded participants' response and discussed emergent themes with the rest of the team. Subsequently, emergent themes were identified, defined, and aligned with the domains of the sustainability framework guiding the study. Qualitative

analyses were conducted using QDA Miner [16].

Results

Respondents' Characteristics

Across Abuja, Lagos and Kano states, a total of 24 respondents consented to participate in the study, with 16 (66.7%) in Abuja, 8 (33.3%)

representing donor organizations and 5 (20.8%) representing civil society organizations and 11 (45.8%) supporting community-based HIV programs and 11 (45.8%) supporting a mix of community- and facility-based HIV KP programs (Table 1).

Table 1. Respondents' Characteristics

Characteristics	N (%)
State	
Abuja	16 (66.7)
Kano	4 (16.7)
Lagos	3 (12.5)
Missing	1 (4.2)
Type of organization	
Civil society organization	5 (20.8)
Donor organization	8 (33.3)
Government of Nigeria	4 (16.7)
Non-governmental organization	5 (20.8)
Others	2 (8.3)
Site of operations	
Community	11 (45.8)
Community/Facility	11 (45.8)
Facility	2 (8.3)

Overall, the mean sustainability score for HIV KP programs was 4.72, SD: 1.48 (Table 2). In terms of the sustainability domains, mean scores in descending order were program adaptation (5.6, SD: 1.36), program evaluation (5.59, SD: 1.35), organizational capacity (5.37, SD: 1.40), communication (5.23, SD: 1.45), political support (4.81, SD: 1.52), strategic planning (4.44, SD: 1.67), funding stability (3.56, SD: 1.34) and partnerships (3.17, SD: 1.72). Regarding partnerships, the lowest scores were observed in sub-domains related to the engagement of local leaders from diverse organizations (government, private, non-profit and community organizations) in implementing program activities (3.14, SD:1.75) and the engagement of local leaders from diverse organizations in developing program goals

(3.17, SD: 1.95) (Appendix 2). Similarly, the lowest scores for funding stability were observed in sub-domains related to having stable and flexible funding beyond current funding cycle (3.14, SD: 1.75) and being funded through a balanced contribution from various sources (3.17, SD:1.92). Conversely, regarding program adaptation, the highest scores were observed for programs adapting to new science/evidence as needed (5.82, SD: 1.47) and adapting strategies as needed (5.73, SD: 1.49). In terms of program evaluation, highest scores were observed for using program evaluation results to demonstrate successes to funders and other key stakeholders (5.77, SD: 1.41) and having capacity for quality program evaluation (5.68, SD: 1.39).

Table 2. Mean Sustainability Scores across 8 Domains of the PSAT for HIV KP Programs in Nigeria

Sustainability Domain	Definition of Domain	Mean (SD)
Political support	Having internal and external political environments that support the program	4.81 (1.52)
Funding stability	Establishing a consistent financial base for the program	3.56 (1.34)
Partnerships	Cultivating connections between your program and its stakeholders	3.17 (1.72)
Organizational capacity	Having the internal support and resources needed to effectively manage the program and its activities	5.37 (1.40)
Program evaluation	Assessing the program to inform planning and document results	5.59 (1.35)
Program adaptation	Taking actions that adapt the program to ensure its ongoing effectiveness	5.60 (1.36)
Communications	Strategic communication with stakeholders and the public about the program	5.23 (1.45)
Strategic planning	Using processes that guide the program's direction, goals, and strategies	4.44 (1.67)
Overall score		4.72 (1.48)

Political support (mean 4.81, SD: 1.52). Responding to open-ended questions, participants highlighted *suboptimal political support* for HIV KP programs underpinned by the prevailing sociopolitical context, hostile laws and policies that criminalize KPs including religious and cultural bias within the country. Some political champions were noted within government agencies, bilateral and multilateral donor organizations, non-governmental organizations (NGOs) and civil society organizations (CSOs). These champions were said to provide leadership and support within the programs but were limited by non-committal external support especially from the GoN partners. One participant noted that *“There is an absence of political support, especially from the relevant government agencies for HIV.”* Participants also noted mixed but improving support from local stakeholders as awareness of the importance of the HIV KP programs increases. One participant stated that *“local stakeholders tacitly support KP intervention in the country. Many at the state levels are beginning to*

appreciate the imperativeness to providing access to services irrespective of sexual orientation”.

Funding stability (mean 3.56, SD: 1.34). The prevailing hostile sociopolitical and legal context and predominantly external donor-dependent funding mechanisms with limited government and local contributions results in *threatened funding stability* of the HIV KP programs. While participants noted efforts to raise local contributions through the Federal Ministry of Health (FMoH) and National Agency for the Control of AIDS’ (NACA) public health approaches, results were said to be limited by lack of legislative support for KP programs and pervasive discrimination against KPs. Most respondents expressed concerns about the capacity for their programs to secure funding beyond the current cycle, emphasizing the need for follow-on donor funding, while exploring alternative donor funding sources.

Partnerships (mean 3.17, SD: 1.72). Participants emphasized efforts to build diverse partnerships with stakeholders relevant to the success of the HIV KP programs but noted the

need for strengthened partnerships between programs and local community partners and the private sector organizations. While some participants noted that diverse stakeholders (including NACA, FMOH, security agencies, NGOs, public and private agencies, PEPFAR, Global Fund and KP-led community-based organizations (CBOs)) were engaged in developing program goals, others were unsure about the extent of this engagement. However, some participants expressed hope for these partnerships to grow – “*the private sector is least engaged, but there is the promise for increased engagement in the future*”.

Organizational capacity (mean 5.37, SD: 1.40). Most participants suggested that the HIV KP programs have *developed organizational capacity*, benefiting from dedicated funding, and integrating their functions within organizational structures of implementing organizations. Strong leadership within implementing organizations in terms of communicating a clear vision, effectively managing resources, conducting advocacy with partners, and establishing strong leadership structures were noted as important factors contributing to this organizational capacity. However, some participants expressed concerns about having adequate human resources for health (HRH) especially at the state, facility, and community level. Participants acknowledged the role of funding in securing adequate HRH.

Program evaluation (mean 5.59, SD: 1.35). A well-developed *high-quality program monitoring and evaluation capacities* driven by a skilled workforce that is motivated towards short- and long-term outcomes that inform program adaptations guided by epidemic control indices and goals were considered a key strength for sustainability. However, some participants noted that longstanding data quality issues and, in some cases, nonalignment of program goals with local development goals may be a concern. However, participants agreed that the programs

have developed mechanisms for sharing program data with stakeholders, to help to increase transparency and accountability. While there was agreement about the successes of the HIV KP programs, some participants suggested that the programs do not do enough to showcase its successes to the public.

Program adaptation (mean 5.60, SD: 1.36). The HIV KP programs were also seen as being *highly adaptable*, relying on diverse evidence from program data, implementation science, and community feedback to ensure that the programs continue to be effective. Specific examples of recent program adaptations included integrating COVID-19 and Mpox in program planning and service delivery, adoption, and pilot of harm reduction for PWID, and implementation of event-driven pre-exposure prophylaxis (PrEP) for other KPs beyond MSM. However, some participants asserted that programs were frequently adapted based on opinions of program managers and donors rather than available evidence. Others highlighted the need for better coordination of program adaptation among program partners. “*KP programs are open to new science, particularly using proof of concepts and implementation science. However, this needs to be better coordinated*”.

Communications (mean 5.23, SD 1.45). HIV KP programs were said to emphasize *communication efforts but were often limited by the diverse sociocultural contexts* which determine the extent to which the need for the programs may be discussed with local stakeholders and affected communities to raise awareness. Participants stressed the need for targeted communication efforts, considering the sensitivity of KP issues at the local community level and the need for wider public education on HIV and STIs prevention and treatment. While there is some understanding of the program’s value among stakeholders, much work remains to demonstrate this same value to communities.

Strategic Planning (mean 4.44, SD: 1.67).

In terms of the sustainability of strategic planning, participants considered it to be *largely donor-driven and cyclical*, with non-costed national strategic plans which make long-term planning difficult. Participants noted that there were sustainability plans with the KP program linked to the larger HIV/AIDS program strategy, but only few were aware about the details of the plan. Further, participants noted efforts by programs to communicate their goals with clearly laid out responsibilities for stakeholders, including program beneficiaries who are increasingly taking on program roles. However, participants raised concerns about the ability to sustain stakeholder commitments when funding ceases especially given the sociopolitical context – “*while stakeholders understand the public health imperative of the program, the social and political context makes it challenging for them to champion it actively*”.

Discussion

This study used a mixed-method approach to assess KP access to HIV services, available competency to provide KP-friendly services at public facilities and OSS, and to determine the ability of the program to maintain programming and its benefits over time. The mixed methods study design deepened understanding and of and presented a holistic view of the KP HIV program, barriers to access, available competency to provide KP services at facilities, and factors that affect sustainability of the program. This research sought to answer the following questions: *Does the HIV program for key populations have the capacity (structures and processes) for sustainability beyond current funding?*

Establishing program sustainability metrics is an important first step in ensuring successful transition of donor funded projects while maintaining momentum towards HIV epidemic control, especially within KPs that are disproportionately affected by the disease [17].

We found that overall, the Nigerian HIV KP programs have demonstrated moderate level of sustainability with key domains of strength being program adaptation, program evaluation and organizational capacity. Our findings mirror other studies [14, 18] where program adaptation and monitoring and evaluation scored highest. However, in our findings sustainability of the HIV KP programs in Nigeria is threatened by suboptimal political supports, funding stability and local partnerships especially within communities and in the private sector.

In a similar study [18], funding stability scored the lowest unlike our study where partnerships scored the lowest. The need for partnerships can be related to funding stability as these partnerships are expected to diversify the funding sources to sustain the program in the long term. This has implications for funding stability. Further, we found that the key challenges to sustainability are underpinned by somewhat hostile sociopolitical and legal contexts of HIV KP programs in the country and non-committal support especially from the GoN (in terms of funding) which has reinforced the largely donor-driven nature of programs. This prevailing context was seen to influence other sustainability domains, limiting capacity for committed engagement with local communities and other relevant stakeholders and resulted in the need to adapt communication strategies to address sensitivities of communities.

To the best of our knowledge, this is the first study exploring the sustainability of HIV KP programs in Nigeria and other similar contexts in Africa, using standardized multidomain tools like the PSAT. While many studies of HIV program sustainability have focused narrowly on funding, there have been recommendations to adopt a multidimensional view of sustainability, exploring the internal and external environments of programs [17, 19]. Studies have assessed the sustainability of

broader HIV/AIDS programs in sub-Saharan Africa.

A recent systematic review of the sustainability of differentiated service delivery programs had findings that were congruent with ours, identifying organizational capacity and program design as highest scoring domains, while suboptimal stakeholder engagement, unfavorable laws and policies and stigma were important contextual factors limiting sustainability of HIV programs [20]. Similar contexts were noted as being limiting factors in another evaluation of HIV programs in Zimbabwe [21].

The Joint United Nations Programme on HIV/AIDS (UNAIDS) and other multilateral donor agencies have recognized the imperative for sustainability planning at this state of the global HIV/AIDS control program [22]. This imperative has been reflected in the structure of HIV control programs including the HIV KP programs in Nigeria, which have focused largely on building institutional/organizational capacity within programs, ensuring local workforce capacity for program evaluation and evidence-based program implementation relying on implementation science methods. Therefore, it is no surprise that HIV KP programs have demonstrated strengths in these domains.

However, key sociocultural and legal headwinds continue to limit progress across other domains. For example, the Same-Sex Marriage Prohibition Act, signed into law in Nigeria in 2014 simultaneously reflects and reinforces the stigma and discriminations that KPs, often limiting access to care services offered by the HIV KP programs [23]. While governments have adopted a public health approach to secure access to care in this context, there are limits to the political supports and funding that these programs can establish especially within communities with pervasive stigma.

The United Nations General Assembly in 2021, noted this challenge and emphasized the

need for stronger community engagements, coordination and integration among partners, and community education as to address stigma, using a human rights approach [22, 24]. Further, while country ownership of programs has been increasing, a key challenge is that gaps remain in the local contribution to financing required to support HIV programs [20, 22]. A key recommendation has been to include HIV/AIDS programs within universal health coverage (UHC) efforts, to ensure that vulnerable populations continue to access services [22]. However, financing UHC in Nigeria, remains a challenge.

Our findings have implications for the Nigerian HIV programs which are being planned and prepared for transition to the GoN with no considerations of the KP program. Despite moderate level of sustainability in terms of organizational capacity, evaluation, and adaptability, we believe that insufficient political support and funding instability in a relatively hostile context will increase the chances that the programs are not sustained. Donor agencies and implementing agencies must refocus advocacy efforts on securing financing, integration of HIV KP programs within UHC efforts, sourcing alternative funding from the private sector and strengthening the partnerships required to sustain programs [22]. More importantly, advocacy efforts to ensure a human rights approach to HIV care for KPs should be pursued, alongside wider public communication to limit the pervasive effects of stigma and its impact on the HIV KP programs [24, 25]. Securing sustainable funding is a challenge that will require innovative approaches to health financing. Securing partnerships within the private sector, alongside other innovative approaches to care that ensure shared contributions from all partners where possible. However, more research is required to determine how such financing approaches might work, within such wider sociocultural contexts as described in this study.

The strength of this study lies in its multidimensional approach to assessing sustainability of HIV KP programs in Nigeria, using a standardized tool that combined quantitative and qualitative data. Further, our inclusion of a wide array of organizations across the national, state and community levels implies a rather comprehensive view of sustainability of HIV KP programs across the 3 states. However, we used a convenient sample which may limit the generalizability. However, we believe that our context rich descriptions may improve the transferability of the findings to other similar contexts. Further, our approach to interviewer administered questionnaires may have introduced the risk of social desirability bias. However, the range of cadres of health workers, program managers and other stakeholders included in this study make this bias quite unlikely.

Conclusion

HIV response in Nigeria has evolved to better serve KP clients. The organizational capacity and program evaluation and adaptation of HIV KP programs were sustainable in our study. However, unstable funding, limited partnerships, and suboptimal political support

References

- [1] Joint United Nations Programme on HIV/AIDS. in Danger: UNAIDS Global AIDS Update 2022. Geneva, Switzerland: Joint United Nations Programme on HIV/AIDS; 2022.
- [2] Joint United Nations Programme on HIV/AIDS. UNAIDS data 2022 [Internet]. Geneva, Switzerland: Joint United Nations Programme on HIV/AIDS; 2022 [cited 2023 Mar 18]. Available from: https://www.unaids.org/en/resources/documents/2023/2022_unaids_data.
- [3] Federal Ministry of Health, Nigeria (2019). Nigeria HIV/AIDS Indicator and Impact Survey (NAIIS) 2018: Technical Report. Abuja, Nigeria.
- [4] Joint United Nations Programme on HIV/AIDS Factsheet (2022). retrieved from:

in an unfavorable sociopolitical and legal context restrict sustainability efforts. Given the impending transition of these programs to the GoN, programs must strengthen advocacy and communication to reduce stigma and integrate their programs into wider UHC-covered programs. Nigeria will benefit from transformative partnerships that go beyond public authorities and donors, using a whole-of-society approach to work with relevant stakeholders, including KP communities and the private sector, to drive KP acceptance, reduce stigma and discrimination, and ensure transparent and equitable HIV response resource allocation.

Acknowledgements

Nigerian Government, partners and stakeholders- NACA, NASCP, Lagos State Ministry of Health, CCM, SFH, FHI360, UNDP, UNODC, Global Fund, CDC Nigeria, USAID, DoD, Henry Jackson Foundation, PEPFAR.

Conflict of Interest

Author declares that there is no conflict of interest.

- https://www.unaids.org/sites/default/files/media_asset/UNAIDS_FactSheet_en.pdf.
- [5] Federal Ministry of Health, Nigeria (2021). HIV/STI Integrated Biological & Behavioural Surveillance Survey (IBBSS), 2021.
 - [6] Hunt Jennifer, Bristowe Katherine, Chidyamatore Sybille, & Harding Richard. (2017). They will be afraid to touch you': LGBTI people and sex workers' experiences of accessing healthcare in Zimbabwe—an in-depth qualitative study. *BMJ Global Health*.
 - [7] HIV Prevention 2025 Roadmap. Getting on track to end AIDS as a Public Health threat by 2030 Available and retrieved from <https://hivpreventioncoalition.unaids.org/wp->

- content/uploads/2022/11/JC3053_2022-HIV-Road-Map-Publication_En_v6.pdf.
- [8] PEPFAR Nigeria SDS. (2022). Nigeria Country Operational Plan (COP) 2022 Strategic Direction Summary.
- [9] Schell, S. F., Luke, D. A., Schooley, M. W., Elliott, M. B., Herbers, S. H., Mueller, N. B., & Bunger, A. C. (2013). Public health program capacity for sustainability: A new framework. *Implementation Science*, 8[1]. <https://doi.org/10.1186/1748-5908-8-15>.
- [10] Huffstetler, H. E., Bandara, S., Bharali, I., Kennedy Mcdade, K., Mao, W., Guo, F., Zhang, J., Riviere, J., Becker, L., Mohamadi, M., Rice, R. L., King, Z., Farooqi, Z. W., Zhang, X., Yamey, G., & Ogbuoji, O. (2022). The impacts of donor transitions on health systems in middle-income countries: a scoping review. *Health Policy and Planning*. <https://doi.org/10.1093/heapol/czac063>.
- [11] Banigbe, B., Audet, C. M., Okonkwo, P., Arije, O. O., Bassi, E., Clouse, K., Simmons, M., Aliyu, M. H., Freedberg, K. A., & Ahonkhai, A. A. (2019). Effect of PEPFAR funding policy change on HIV service delivery in a large HIV care and treatment network in Nigeria. *Plos One*, 14(9). <https://doi.org/10.1371/journal.pone.0221809>.
- [12] Flanagan, K., Rees, H., Huffstetler, H., Mcdade, K. K., Yamey, G., Gonzalez, D., & Hecht, R. (2018). *Policy Impact in Global Health*.
- [13] Lennox, L., Maher, L., & Reed, J. (2018). Navigating the sustainability landscape: A systematic review of sustainability approaches in healthcare. In *Implementation Science* (Vol. 13, Issue 1). *BioMed Central Ltd*. <https://doi.org/10.1186/s13012-017-0707-4>.
- [14] Luke, D. A., Calhoun, A., Robichaux, C. B., Moreland-Russell, S., & Elliott, M. B. (2014). The program sustainability assessment tool: A new instrument for public health programs. *Preventing Chronic Disease*, 11(2014). <https://doi.org/10.5888/pcd11.130184>.
- [15] Calhoun, A., Mainor, A., Moreland-Russel, S., Maier, R. C., Brossart, L., & Douglas, L. A. (2014). Using the Program Sustainability Assessment Tool to Assess and Plan for Sustainability.
- [16] QSR International. (2023). QDA Miner 6 [Computer software]. Available from <https://www.qsrinternational.com/qda-miner-qualitative-data-analysis-software>.
- [17] Oberth, G., & Whiteside, A. (2016). What does sustainability mean in the HIV and AIDS response? *African Journal of AIDS Research*, 15[1], 35–43. <https://doi.org/10.2989/16085906.2016.1138976>.
- [18] Calhoun, A., Mainor, A., Moreland-Russel, S., Maier, R. C., Brossart, L., & Douglas, L. A. (2014). Using the Program Sustainability Assessment Tool to Assess and Plan for Sustainability.
- [19] Marum, E., Conkling, M., Kanyanda, J., Gandi, S. B., Byaruhanga, R., & Alwano, M. G. (2016). HIV Testing Services in Africa: Are They Sustainable? In *Current HIV/AIDS Reports* (Vol. 13, Issue 5, pp. 263–268). *Current Medicine Group LLC* 1. <https://doi.org/10.1007/s11904-016-0328-6>.
- [20] Okere, N. E., Lennox, L., Urlings, L., Ford, N., Nanche, D., Rinke De Wit, T. F., Hermans, S., Gomez, G.B., & Acquir, J. (2021). Exploring Sustainability in the Era of Differentiated HIV Service Delivery in Sub-Saharan Africa: A Systematic Review. <http://links.lww.com/QAI/B644>.
- [21] Vu, M., Holec, M., Levine, R., Makunike-Chikwinya, B., Mukamba, J., Barnhart, S., Wiktor, S., Weiner, B., & Feldacker, C. (2022). Working toward sustainability: Transitioning HIV programs from a USA-based organization to a local partner in Zimbabwe. *Plos one*, 17(11 November).
- [22] Joint United Nations Programme on HIV/AIDS. Way forward to achieving sustainable AIDS results [Internet]. Geneva, Switzerland: Joint United Nations Programme on HIV/AIDS; 2018 Nov [cited 2023 Apr 14]. Available from: https://www.unaids.org/sites/default/files/media_asset/20181122_UNAIDS_PCB43_Way_fw_achieving_sustainable_AIDS_resp_results_EN.pdf.
- [23] Research Directorate, Immigration and Refugee Board, Canada. The Situation of Sexual and Gender Minorities in Nigeria (2014–2018) [Internet]. Immigration and Refugee Board Canada. 2019 [cited 2023 Apr 14]. Available from: <https://irb.gc.ca/en/country-information/research/Pages/situation-gender-minorities-nigeria.aspx>.

[24]United Nations General Assembly. Political Declaration on HIV and AIDS: Ending Inequalities and Getting on Track to End AIDS by 2030 [Internet]. Geneva, Switzerland: United Nations; 2021 Jun [cited 2023 Apr 14]. Available from: https://www.unaids.org/sites/default/files/media_asset/2021_political-declaration-on-hiv-and-aids_en.pdf.

[25]Iyamu I (2020). The Findings of the National HIV / AIDS Indicator and Impact Survey (NAIIS) Presents an Opportunity for a Pivot in the HIV / AIDS Response in Nigeria. *Glob Health Annu Rev.* 1[5]:22–4.