Leveraging Private Pharmacists to Expand ART Distribution, Promote Adherence, and Mobilize Resources

**COUNTRY:** Nigeria  
**IMPLEMENTING PARTNER:** USAID

**WHAT WAS THE PROBLEM?**

Nigeria has the second largest burden of HIV in Africa, with an estimated 3.4 million HIV-positive persons\(^1\), of which 1,090,233 were receiving life-long antiretroviral therapy (ART) as of June 2018. HIV care and treatment programs have been highly donor-dependent and largely implemented in public hospitals. These hospitals have high numbers of clients on ART with low human resources for health (HRH), resulting in congestion, delays, overworked staff, suboptimal client-provider interaction time, poor client satisfaction and retention on treatment. Although the private sector provides about 60 percent of total health services in Nigeria\(^2\), private pharmacy participation and resource mobilization for the HIV response is low.

**WHAT IS THE SOLUTION?**

The solution uses community-based private sector pharmacists to expand ART distribution, ease access, promote adherence, mobilize resources and alleviate congestion in public hospitals.

Solution activities were initiated under the Sustainable Financing Initiative (SFI) funded by PEPFAR through USAID and implemented in Nigeria by FHI360-led consortium for Strengthening Integrated Delivery of HIV/AIDS Services (SIDHAS). Howard University (HU) is the core SIDHAS consortium partner responsible for strengthening pharmacy systems and services. SFI’s goal is to deliver an AIDS-free generation with host country government shared financial responsibility by increasing private sector participation in HIV/AIDS services and expanding service coverage.

SIDHAS implemented the SFI activity ‘Leveraging the role of licensed pharmacists for Test and Start’ in Lagos and Rivers States in fiscal year (FY) 2017 and expanded, in FY 2018, to Akwa Ibom and Cross River States and Federal Capital Territory with technical leadership from the Howard University team. SIDHAS provides technical assistance to enable private pharmacists to provide refills for ART in community pharmacies that serve as satellite pharmacies to public hospitals. Private pharmacists are mobilized to invest in HIV services as a viable business and...
receive returns on investments through service fees paid by clients and the increased customer base. This solution targets stable ART clients who willingly pay a fixed out-of-pocket fee [N1000 (<$3) per refill visit] towards human resource and administrative costs, while ART drugs are supplied free by PEPFAR. Linkage of devolved clients to their hospitals for continuum of care is ensured through a referral system and active monitoring of clients’ return for semiannual reassessments. SFI includes a robust quality assurance and quality improvement component that leads to accreditation and branding as model pharmacies and is implemented collaboratively with pharmacy practice regulators and associations in Nigeria.

WHAT WAS THE IMPACT?
The intervention decongested public hospitals providing ART, reduced facility staffing requirements, improved client satisfaction and adherence to drug pick-ups, and mobilized resources for HIV care in a sustainable and cost-efficient manner. Clients and providers at both public and private facilities embraced the intervention. The private pharmacies reported financial and professional gains, and the hospital staff confirmed a reduced workload resulting in greater effectiveness. SFI also provided a platform for continuous quality improvement for community pharmacy practice through a home-grown accreditation and branding system for model pharmacies. Seventeen pharmacies had been accredited by June 2018.

Figure 1 shows the quarterly increase in number of clients opting to pay for the private pick-up model. By March 2019, 14,535 patients [5,371 in Lagos state, 3,463 in Rivers state, 2,607 in Akwa-Ibom state, 3,094 in Cross River state and 123 in the Federal Capital Territory (FCT)] had opted for this private pharmacy pick-up model due to its convenience and other associated benefits.
*SFI was closed out of CDC-led LGAs in Lagos and FCT at the end of FY18Q4*

**ACCEPTIBILITY**

A baseline assessment in 2016 had indicated that up to 27 percent of clients were willing to receive ART refills at community pharmacies with 21 percent willing to pay a service fee (see Appendix 6).

Figure 2 indicates percentage of ART clients from specific public sector hospitals, with Ajeromi General Hospital, Lagos having 50.5% of ART clients opting in for this model.
### Figure 2: Number of Clients living with HIV receiving ART and devolved to Community Pharmacies to receive ART refills in FY19

<table>
<thead>
<tr>
<th>Location</th>
<th>TX_Curr</th>
<th>FY17 Q1</th>
<th>FY17 Q2</th>
<th>FY17 Q3</th>
<th>FY17 Q4</th>
<th>FY18 Q1</th>
<th>FY18 Q2</th>
<th>FY18 Q3</th>
<th>FY18 Q4</th>
<th>FY19 Q1</th>
<th>FY19 Q2</th>
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</table>

### Figure 3: Growth of Number of CP Outlets vs. Number of ART Pick Up Visits at Community Pharmacies

- **Number of CP Outlets**
- **Cumulative pick up visits**

- FY17 Q1: 305
- FY17 Q2: 777
- FY17 Q3: 2,568
- FY17 Q4: 6,265
- FY18 Q1: 145
- FY18 Q2: 298
- FY18 Q3: 318
- FY18 Q4: 334
- FY19 Q1: 299
- FY19 Q2: 313

- FY17 Q1: 16
- FY17 Q2: 106
- FY17 Q3: 101
- FY17 Q4: 145
- FY18 Q1: 228
- FY18 Q2: 298
- FY18 Q3: 318
- FY18 Q4: 334
- FY19 Q1: 299
- FY19 Q2: 313

- Cumulative Pick Up Visits:
  - FY17 Q1: 305
  - FY17 Q2: 1,082
  - FY17 Q3: 3,650
  - FY17 Q4: 9,915
  - FY18 Q1: 11,143
  - FY18 Q2: 14,131
  - FY18 Q3: 17,249
  - FY18 Q4: 20,563
  - FY19 Q1: 23,557
  - FY19 Q2: 26,679

- Total Pick Up Visits as of FY19: 26,679
HEALTH OUTCOMES
The mean prescription on-time refill rate recorded in community pharmacies was 94.7% (95% CI: 94.2- 95.3) as seen in Table 1 below.

Table 1: Adherence to on-time prescription pick up per state

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Akwa Ibom (n= 655)</th>
<th>Cross River (n= 751)</th>
<th>Lagos (n= 1846)</th>
<th>Rivers (n= 1634)</th>
<th>Average</th>
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</thead>
<tbody>
<tr>
<td>Prescription on-time refill rate</td>
<td>90.2 (88.3-92.2)</td>
<td>98.5 (98.3-98.9)</td>
<td>92.5 (91.5-93.5)</td>
<td>97.1 (96.5-97.8)</td>
<td>94.6 (94.2- 95.3)</td>
</tr>
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</table>

Further analysis of an initial 1,151 clients devolved to community pharmacies for at least 12 months indicated that 93 percent were retained, 5 percent (including 0.5% percent that returned for financial reasons) returned to hospital care due to factors such as relocation, pregnancy, comorbidities, viral load blip, etc. The remaining 2 percent were defaulters due to late attendance (1.8 percent) and loss to follow up (0.2 percent).

Feedback from participants and beneficiaries

- **DEVOLED CLIENTS**
  - I am really enjoying going to the Pharmacy to pick up my drugs. I don’t have to wake up early to go and queue up before collecting my drugs.
  - I like the program of community pharmacy. It has more privacy. It saves time. I want to continue. Thank you.
  - They are very cordial at the community pharmacy.
  - There is no congestion.

- **COMMUNITY PHARMACISTS**
  - It has been financially rewarding.
  - The trainings by Howard on Pharmaceutical Care has improved quality of service.
  - My practice has graduated from mere dispensing to providing quality pharmaceutical care to clients.

- **HOSPITAL PHARMACISTS**
  - Client load has been reduced from an average of 60 per day to about 30-35 per day so we have more time for engagement with the clients especially the unstable ones to improve outcomes.

- **ART COORDINATORS**
  - With stable clients being devolved, the client load has reduced, giving us more time for quality interactions with the clients at all the service delivery points.
  - Reduced waiting times for clients in the clinic.
  - The clinics also run more smoothly.

See Appendix for documentary video and articles showing feedback from SFI stakeholders.
HOW DOES IT WORK?

INDIVIDUAL LEVEL
Formative assessments and engagements

The target population for this voluntary intervention included clients, hospital staff providing ART and private pharmacists who all indicated some willingness to participate in a baseline assessment. Stakeholder engagement was critical due to the novelty of ART provision outside hospital premises, out of pocket expenditure, as well as concerns about quality, accountability and client outcomes. These concerns were discussed at initial stakeholder engagements at the local, state and national levels and included key players in the intervention. Plans and processes were modified according to feedback.

High volume hospitals with at least 500 clients and severe human resource deficits were targeted for participation. Private pharmacies needed to be registered and licensed, pharmacist-owned, willing to participate and have passed a screening done using a standard checklist. Private pharmacists provided the following services: dispensing of ART and opportunistic infection medication, chronic care screening, adherence monitoring and support, pharmacovigilance, referrals, logistics management, and documentation and reporting. Each private pharmacist signed a memorandum of understanding with the Pharmacists Council of Nigeria, Association of Community Pharmacists of Nigeria, Director of Pharmaceutical Services of the State Ministry of Health and Howard University to ensure appropriate monitoring. A robust monitoring and evaluation system was deployed and included standard operating procedures (SOPs), flow charts, documentation and reporting tools at the hospital and community pharmacy. An electronic reporting system was further developed to address documentation challenges and promote real time data synchronization with client information at the devolving hospital.

Client eligibility criteria for devolvement were adults or adolescents currently on ART, not pregnant, stable on treatment, willing and able to be devolved and pay the service fee. Stable clients were defined as those on ART for at least one year, virally suppressed (viral load< 1000 copies per ml), adherent to treatment, and having no opportunistic infections or comorbidities. Clients who opted for this model completed a consent form and were devolved to their chosen participating community pharmacy for ART refill.

SERVICE DELIVERY LEVEL
Community pharmacists were trained on pharmaceutical care in HIV management, logistics management of HIV medicines and commodities, and monitoring and evaluation including continuous quality improvement systems.
Orientations were conducted for support staff at the community pharmacies to uphold clients' rights and prevent stigma and discrimination. Hospital staff were also provided orientations on the model and processes, and joint meetings were conducted with participating community pharmacists. Community pharmacists held onsite orientation at the hub hospital from which clients were linked to before client devolvement commenced.

At the hub hospital, eligible clients were identified based on the assessment criteria. During health talks or interactions with the health care team, clients were provided information on the community pharmacy refill option. Clients willing to participate were taken through the informed consent process. Documentation for devolvement was done using client devolvement forms and registers, and clients were then referred to their preferred community pharmacy from a list of participating pharmacies. The hospital also managed a longitudinal client devolvement register which provides appointment dates for viral load and other laboratory assessments.

Devolved clients' folders were opened at the community pharmacy with complete client information such as demographic details, regimen, duration on ART, etc. Basic clinical services such as chronic care screening (e.g. tuberculosis, hypertension, diabetes, nutrition), medication adherence assessment and interventions, adverse drug reactions (ADR) monitoring, prescription filling, ARV and OI drug dispensing, patient counseling and referrals were provided by the community pharmacist on each refill visit to the community pharmacy. Community pharmacists collected drugs from the hub hospitals and managed the inventory of ARVs and OI medications, maintained proper documentation and returned clients' refill documents to the hub hospitals for proper linkage and continuum of care. Devolved clients were instructed to return to the hub hospital once a year for clinical and virologic re-assessment and collection of new prescriptions for subsequent refill at the community pharmacy.

SIDHAS provided technical assistance for this new approach to ensure high quality service provision and proper linkage of clients, medications and clinical records between the hospital and the community pharmacies. Routine data and performance review meetings with all stakeholders were a key continuous quality improvement activity. Furthermore, Community Pharmacy Action Centre (COPA) which is a three-tiered QA/QI system, was developed to accredit and brand model pharmacies in Nigeria in line with global best practices. By the end of March 2019, twenty-six private pharmacies have been branded. Of the twenty-six pharmacies, twenty-one have attained accreditation at COPA 1, two pharmacies have attained COPA 2 while three have attained COPA 3 (the highest level of accreditation).
PEPFAR SOLUTIONS PLATFORM (BETA)

HEALTH SYSTEMS LEVEL
This intervention improved adherence and removed barriers to access by decongesting participating hospitals. Prior to the intervention, 38 percent of clients said they spent more than three hours in a hospital when refilling medication. (See Appendix 6).

Clients reported a range of twenty to thirty minutes to refill medication at the community pharmacy and were pleased to have adequate time to discuss challenges with pharmacists. Since patients could now access refills on weekends and public holidays, they also reported convenience of this system as a benefit. This was not available for outpatients at public sector hospitals.

ART refill in community pharmacies also positively impacted the workload of hospital pharmacists in certain heavy burden hospitals. The World Health Organization’s ‘Workload Indicator for Staffing Needs’ (WISN) tool was used to calculate the pharmacy staffing requirement before and after client devolvement. There is a need for additional client devolvement, particularly in those hospitals that have not yet achieved any reduction of their pharmacy staffing needs. This would further decongest the hospital pharmacy. Table 2 below shows the reduction in pharmacy staffing requirements as of March 2018, following client devolvement.

Table 2: Reduction in Pharmacy Staffing Requirement

<table>
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<tr>
<th>State</th>
<th>Names of heavy burden facilities</th>
<th>Facility ART workload as at SAPR 2018 (TX_CURR)</th>
<th>WISN calculated Hospital pharmacy HR requirement based on total client load at SAPR 2018</th>
<th>Number of clients devolved to community pharmacies as at SAPR 2018</th>
<th>WISN calculated Pharmacy HR requirement based on new workload after devolvement</th>
<th>Percentage decrease in Pharmacy HR requirement following devolvement</th>
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LOCAL ENVIRONMENT

This public-private partnership has been a welcomed development in addressing the health needs of the nation. Individual clients and the Network of People Living with HIV (NEPWHAN) have repeatedly applauded client devolvement to private pharmacies. The intervention is sustainable because it leverages existing pharmacy infrastructure in the communities and relies on trained health providers who expressed willingness to participate in the provision of HIV/AIDS services. Further, the involvement of practice regulators (PCN), professional associations (PSN), Association of Community Pharmacists of Nigeria (ACPN), government officials, multidisciplinary health teams, and most importantly the NEPWHAN also engenders sustainability.

SFI funding for the intervention is limited to support for implementers to provide capacity building and technical assistance. The investments yielded significant benefits including improved patient access and client retention, service quality and integrated service delivery. Further expansion of services can be achieved with minimal additional cost to the donor.

NATIONAL ENVIRONMENT

Implementation of the intervention was enabled through a critical policy change: inclusion of differentiated models of care, as part of the 2016 integrated guidelines for HIV prevention, treatment and care, including care provided at community pharmacies. Revision of the guidelines was facilitated by the Federal Ministry of Health and National ART Task Team and partners, approved by the Honorable Minister for Health, and included active participation from the SIDHAS team.

Simultaneously, the Test and Start policy was adopted as part of guideline revisions would create space for nearly two million HIV positive clients, currently not on ART, to access care. The existing legal framework also supports implementation of the guidelines as intended.

SCALABILITY

Through SIDHAS, this intervention was initially piloted in two states and has been expanded to four states within forty-eight USAID supported hospitals. By the end of March 2019, over twenty one percent of total ART clients have been devolved to community pharmacies. An expansion to two CDC States was also piloted in late FY18. There is interest from private pharmacies and states yet to participate, creating an opportunity for expansion as fewer than five percent of available community pharmacists in Nigeria currently participate.

Additionally, the intervention could be adapted and implemented in other country contexts where community pharmacists are willing to support the
national HIV response. Experience from the Nigerian context suggests that monitoring implementation on an ongoing basis is crucial; for example, through implementing agency oversight which may also help encourage collaboration of partners. The following activities and considerations will also be critical to adaptation and implementation of the intervention:

- Situational analyses
- Baseline assessment of stakeholders
- Identification of stakeholders to support/champion the intervention and to address specific contextual challenges
- Inclusion of service fees (if present) within client health insurance schemes, to avoid issues with inability to pay and consequent service uptake challenges

As this model has demonstrated positive impact on adherence, variations might be considered to address unstable clients with poor adherence where access to care and/or medications is the primary driver. (Example: Pediatric clients may be considered for devolvement in scenarios where parents wish to be devolved with their children)

**MANAGEMENT & OVERSIGHT**

**PEPFAR TEAM INVOLVEMENT:**
The PEPFAR team was fully involved in the development and monitoring of the intervention. USAID teams from the US and Nigeria worked closely with implementing partners and facilitated additional funding for expansion to more states after the first year. The involvement of the USG Interagency team in Nigeria also led to intervention expansion in two CDC-supported states, leading to collaboration of the SIDHAS team with CDC implementing partners APIN and IHVN.

**IMPLEMENTING MECHANISM MANAGEMENT:**
The annual work plan had to be modified to include SFI activities and funding.

**IMPLEMENTING PARTNER:**
FHI360 and Howard University jointly planned the SFI interventions, and Howard University lead the implementation of the private pharmacy component. The existing collaborations of Howard University with private sector pharmacies and pharmacy bodies in Nigeria, such as Global HIV/AIDS Initiative Nigeria (GHAIN), Sustaining Comprehensive HIV/AIDS Response through Partnerships (SCHARP) and SIDHAS, were useful in engendering stakeholder acceptance and joint implementation of the activity with pharmacy stakeholders. Private pharmacies had been trained to provide HIV testing services, care and support services, and also received training on TB screening and case identification alongside patent and proprietary medicine vendors.
PEPFAR SOLUTIONS PLATFORM (BETA)

MONITORING:
The monitoring and evaluation plan for the intervention was derived from the implementation objectives and proposed activities. The plan tracked service inputs and outputs deemed integral to deriving the key outcome of the initiative, or ROI.

The following indicators were monitored:
- Number of community pharmacy outlets providing ARVs
- Number of community pharmacists trained to dispense ARVs
- Number of ART clients devolved to community pharmacies
- Number of ARV pick up visits to community pharmacies during the reporting period

The intervention leveraged monitoring and evaluation structures for SIDHAS to deploy routine data collection and reporting tools to implementation sites and document monthly service achievements. Service providers at each site were trained to document service data in relevant registers and collate summary statistics using relevant monthly summary forms. Summary forms were then collected and validated, and service data were reported to the country office by SIDHAS technical backstops overseeing the respective implementation sites. Data was routinely analyzed to inform program implementation. Routine, on-the-job monitoring and supportive supervision was provided to service providers in order to reinforce training elements and provide hands-on mentoring on data collection, collation, reporting and interpretation for use.

COMMUNICATIONS AND FEED-BACK LOOPS:
Midterm and annual reviews, instituted by USAID staff, provided useful feedback from implementers, participants and beneficiaries, as well as a platform for guidance, where necessary.

BUDGET

COST OF INNOVATIVE SOLUTION:
The main cost elements for the intervention included those for technical assistance provision and capacity building, as well as monitoring which amounted to approximately $29.1 per client per year. Participating community pharmacists were encouraged to invest in the initiative to realize returns on their investments. Costs were kept low by leveraging the existing SIDHAS project for implementation.

EFFICIENCY MEASURES:
Intervention coordination is being transitioned to existing pharmacy associations and relevant government bodies. To promote sustainability, the pharmacy associations have commenced leading and funding some of the performance
review meetings. Although the stakeholders agreed to a fixed service cost for ART refills, actual cost calculations and the inclusion of such costs in health insurance packages at the private and public health insurance levels are being considered.