

DDD 101: Community pharmacy ART distribution models

Decentralized Drug Distribution (DDD) Learning
Collaborative

July 30, 2020





Learning Collaborative Agenda (7-8:30 am EST)

- **Why Decentralized Distribution of Antiretroviral Therapy in the Private Sector?**
Mr. James Batuka, FHI 360, Nairobi Kenya
- **IDI/KCCA Community Pharmacy Refill Program – An urban model for ART access**
Dr. Martin Ssuuna, Infectious Diseases Institute, Kampala Uganda
- **Leveraging Private Pharmacists to Expand Art Distribution Towards Sustainability**
Dr. Peter Agada, Howard University – SIDHAS, Abuja Nigeria
- **DSD Community Pharmacy Dispensation model**
Dr. Mwanza Wa Mwanza, Center for Infectious Disease Research in Zambia (CIDRZ), Lusaka Zambia
- **Supporting Private Pharmacies to Provide Community Based Antiretroviral Therapy**
Dr. Bola Obembe, Institute of Human Virology Nigeria (IHVN), Abuja Nigeria

Why Decentralized Distribution of Antiretroviral Therapy in the Private Sector?

James Batuka

FHI 360, Kenya

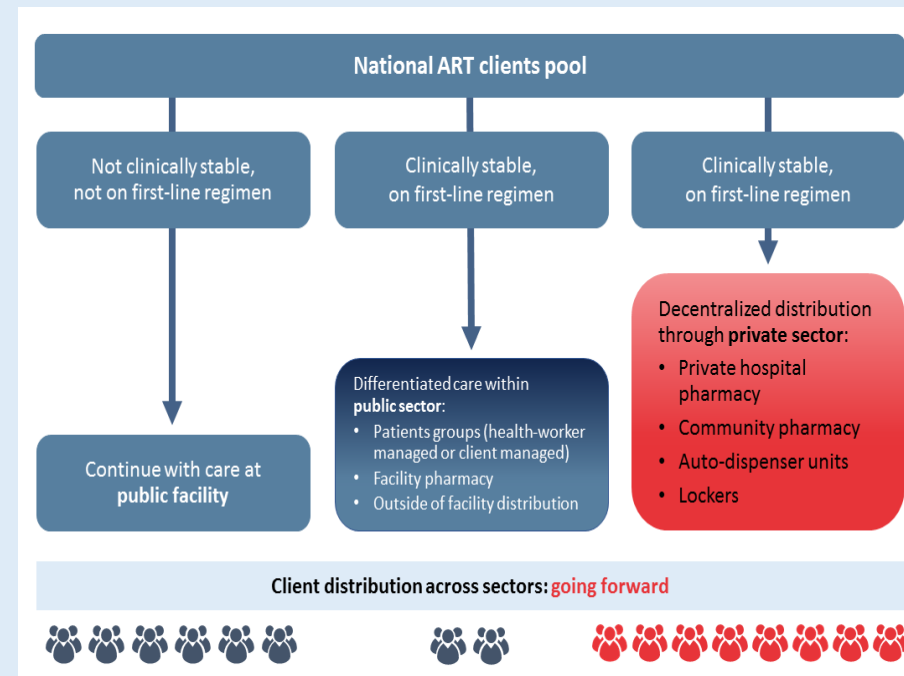
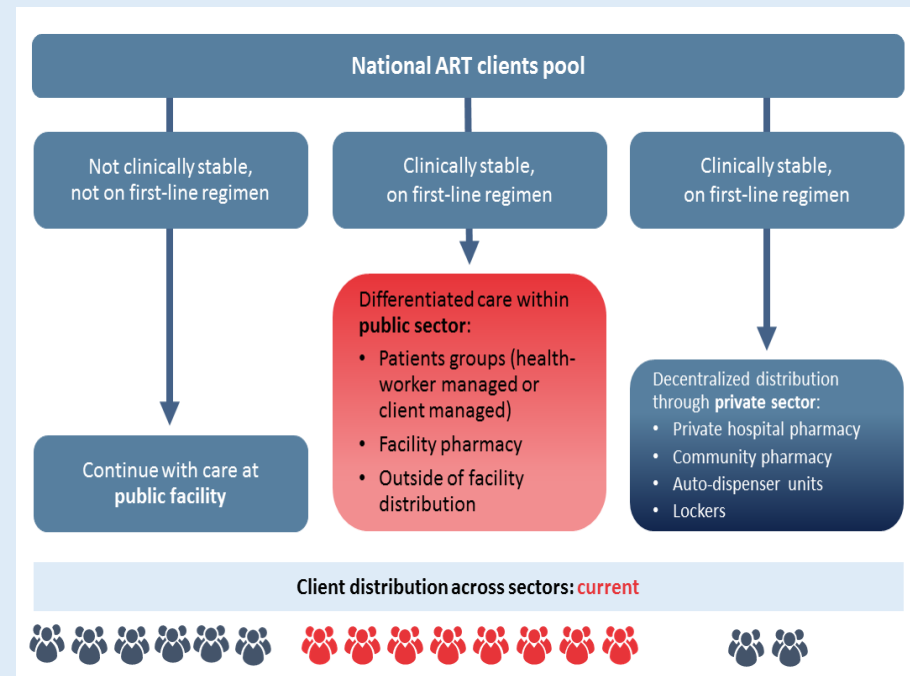


Introduction

- High HIV burden and growing cohort of stable patients on ART
- Test-and-start puts a strain on already weak health systems
- Limited human resources for health, and some overcrowded public hospitals
- HIV services are mainly provided by public health facilities and NGOs with limited private-sector participation
- Long distances to health facilities and long waiting times often lead to missed appointments and suboptimal retention
- Over-reliance on donor funding for ART services (PEPFAR and Global Fund)

Vision for the future

- Stable patients devolved into the community
- Refill process for ART made client-centered
- Sustainability achieved when more patients can access ARV drugs from the private health sector
- More public-private partnerships



Why private sector ART distribution models?

- Overburdened public sector facilities within weak health systems
- Private sector has untapped potential and can address unmet patient demands
 - Convenience, confidentiality, and quality
 - Provide greater choice
- Free up public sector resources and capacity to take care of patients most in need
- Growing number of patients with ability and willingness to pay
- COVID-19 pandemic

Existing private sector ART distribution models

Private Clinic

- Trained clinicians provide comprehensive care
- Well-established
- Often enjoy support from donor/government
- Clients may contribute, reducing costs to government
- Can manage both stable and non-stable clients

Private Pharmacy

- Patients pick drugs from an approved pharmacy
- Widely available
- Flexible pick up points and hours
- May include home delivery
- Can be linked to public or private clinics
- Low set up and maintenance cost
- Clients may pay for services
- Allows for pharmacovigilance

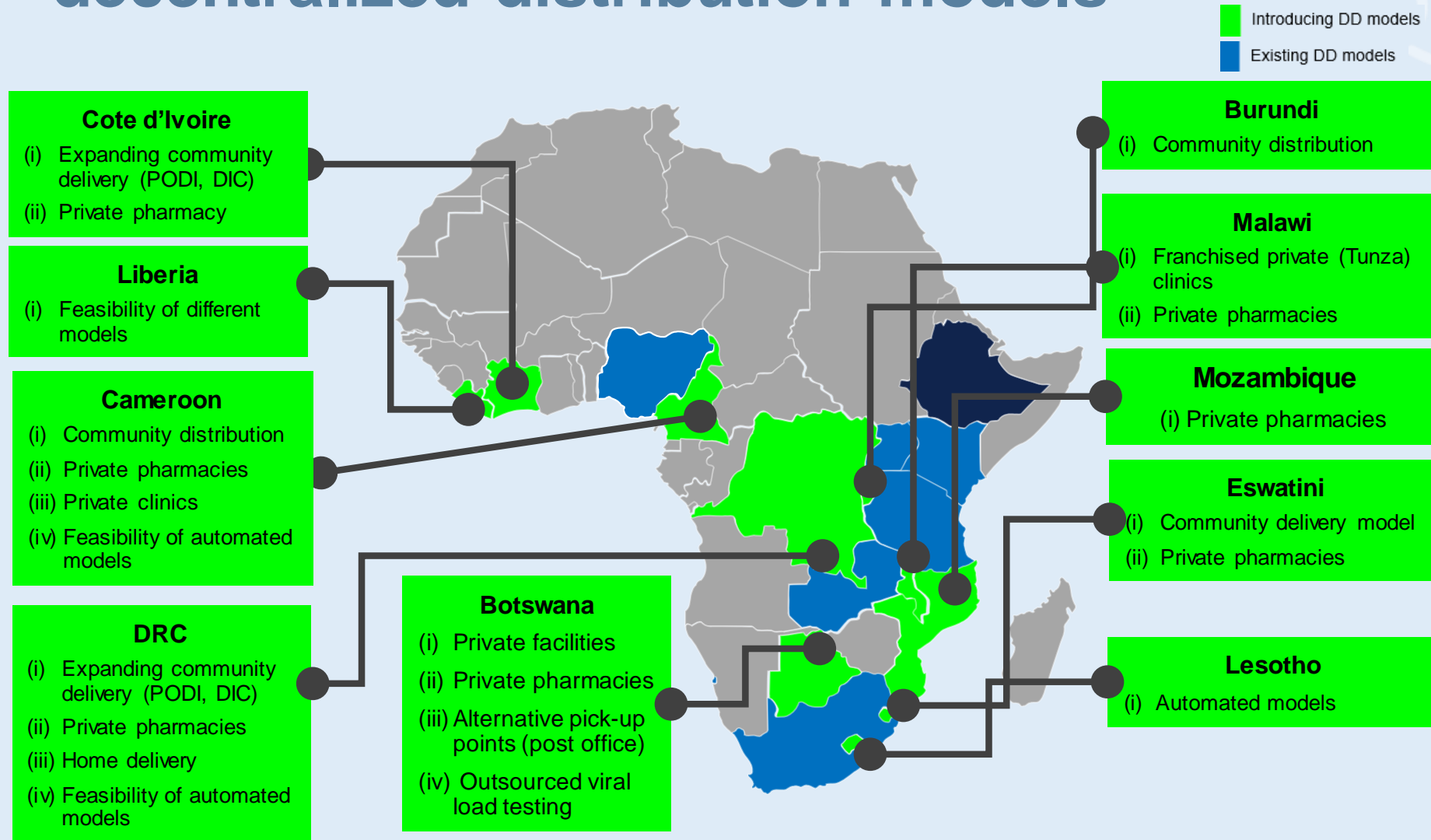
Automated models

- Patients pick drugs from lockers or machines
- Flexible locations and hours
- Requires good “last mile management”
- Can be combined with other chronic diseases medicines
- Requires reverse logistics in case patients do not show up
- Automated models require good infrastructure and may be costly

Benefits:

- Economic: Potential cost savings for funders (Govt/donors) and patients (e.g. reduced transportation and opportunity costs)
- Social: Reduced stigma
- Epidemiologic: Reduced LTFU, improved adherence, viral load suppression

EpiC-supported introduction of decentralized distribution models



References

1. Decentralized Distribution of Antiretroviral Therapy through the Private Sector
<https://www.fhi360.org/sites/default/files/media/documents/epic-project-strategic-guide-scale-up.pdf>
2. Modifying Models for Decentralized Distribution of ART through the Private Sector to Address Disruptions Related to COVID-19. <https://www.fhi360.org/sites/default/files/media/documents/epic-art-ddd-covid-19.pdf>

IDI/KCCA Community Pharmacy Refill Program – An urban model for ART access

Dr Martin Ssuuna



Infectious Diseases Institute
College of Health Sciences, Makerere University, Uganda
Investing In The Future – Impacting Real Lives



Presentation Outline

- Background HIV services
- IDI-KCCA community pharmacy ART refill program
- Future of the refill program
- Acknowledgements

HEALTH FACILITIES PROVIDING ART SERVICES IN KAMPALA REGION



Background Kampala region

- Daily population movements – large day time population
- Economic hub - transitory migrants
- Urban poor - informal settlements; informal employment

About Kampala region HIV services



- 215,427 active in HIV care
- PNFP & PFP facilities - fees for service, staff turnover
- Public facilities - waiting time, over crowding, staffing
- Retention & adherence

Kampala HIV services – mid level public sector HFs

| PLHIV active on ART Apr – Jun 2020 | |
|---|--------------|
| Facility | Total |
| Kiswa HC | 6014 |
| Kisenyi HC | 11765 |
| Kitebi HC | 7152 |
| Kawaala HC | 9127 |
| Total | 34058 |

- KCCA and IDI with funding from PEPFAR – CDC
- 4 out of 6 with very high volumes (90% stable)
- >200 new clients in care per week

IDI-KCCA community pharmacy ART refill program

- A community-based differentiated ART care model
- Selected private community pharmacies within Kampala – flexible visits
- In line with current MoH strategic direction to differentiate models of ART delivery in order to improve treatment adherence and promote retention in HIV care.

Permission and approvals



The Council Of The Pharmaceutical Society Of Uganda

Our Ref:

1000/PSU/2016

Your Ref:

Date:

22nd July 2016

Plot no: 1847 Banda - Kyambogo
P.O. Box 3774, Kampala - Uganda
Tel no: +256 414 348 796, 0392 174 280
Fax: +256 414 340 385
Email: psupo@psu.or.ug
Website: www.psu.or.ug

THE HEAD – OUTREACH PROGRAMS,
INFECTIOUS DISEASES INSTITUTE
MAKERERE UNIVERSITY COLLEGE OF HEALTH
P.O BOX 22418,
KAMPALA, UGANDA.

Dear Sir,

REF: ACCEPTANCE TO YOUR PROPOSAL.

Telephone: General Lines: 34-374/231563/9
Permanent Secretary's Office: 256-041-340872.
Fax: 256-041-231584



THE REPUBLIC OF UGANDA

IN ANY CORRESPONDENCE ON
THIS SUBJECT PLEASE QUOTE No.
ADM. 140/291/01

August 15, 2016

The Director Public Health and Environment
Kampala Capital City Authority

Dear Sir,

RE: ENGAGING PRIVATE COMMUNITY PHARMACIES IN KAMPALA AS
DRUG REFILL POINTS FOR THE STABLE CLIENTS ON ANTIRETROVIRAL
THERAPY



DIRECTOR PUBLIC HEALTH AND
ENVIRONMENT

Ref: DPHE/KCCA/609/01

30th August, 2016

The Head – Outreach Programs
Infectious Diseases Institute
P.O. Box 22418
KAMPALA

RE: DIFFERENTIATED MODELS OF HIV CARE;
ENGAGING PRIVATE COMMUNITY PHARMACIES
WITHIN KAMPALA AS DRUG REFILL POINTS FOR
THE STABLE CLIENTS ON ART

Who qualifies for the program?



- Adult (>20yrs) on ART
- Adherence > 95%; suppressed VL
- On standard first line ARVs
- No active major OIs
- At least 2 active phone contacts

Roles of the Nurse - dispenser

- Patient health education; assess clients for danger signs; referral if necessary
- Dispense ARVs, Dapsone & Cotrimoxazole, **INH**
- Immediate follow up of clients who miss appointments
- Data management including inventory management for all medicines and reporting on program activities

Qualities of the community pharmacies



A nurse-dispenser attending to a PLHIV due for refill at a community pharmacy

- Licensed by NDA; availability of a certificate of practice by PSU
- Availability of a competent supervising pharmacist
- Availability of drug storage facilities
- Space, access, security

Roles of Key stakeholders

IDI

- ❖ HR – Nurse dispensers
- ❖ TA for key staff
- ❖ Transport medicines
- ❖ Lockable drug storage cabins and furniture
- ❖ Client tracking systems
- ❖ Tools for inventory management and client care
- ❖ Branded drug packaging material
- ❖ Support supervision and reporting

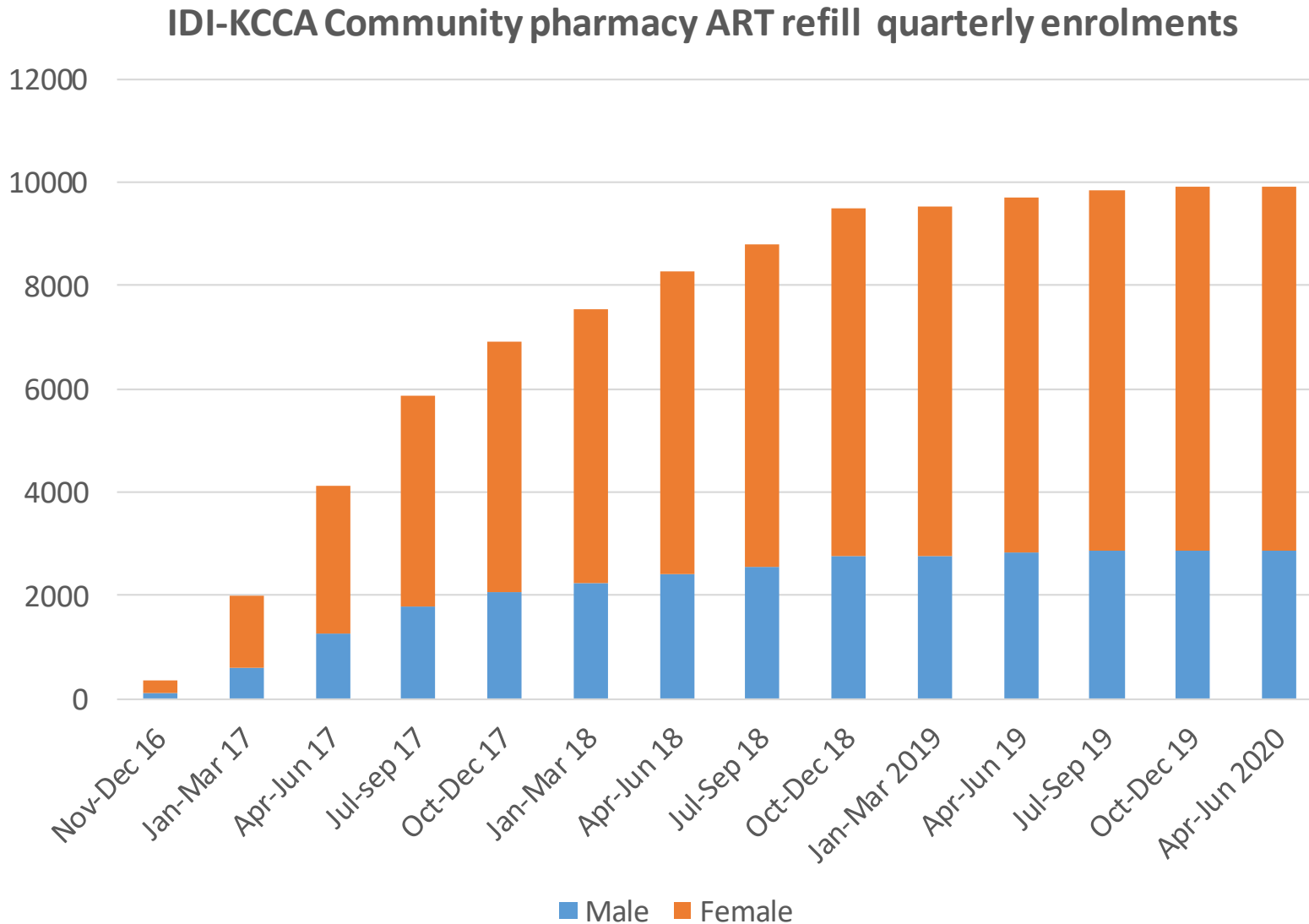
Facility

- ❖ Sensitize, assess and enrol eligible clients onto the program
- ❖ Logistics support through the national systems
- ❖ Attend to the clients on CPRP twice a year
- ❖ Attend to the emergency clinical needs of the clients
- ❖ Provide regular feedback

Pharmacy

- ❖ Ensure up-to-date occupational and operational licensure of the pharmacy
- ❖ Provide working room/space for one dispenser & storage
- ❖ Meet utility costs
- ❖ Provide feedback about the program

Progress so far



- Total No = 9926 (99% virally suppressed)
- 98% keep appointments
- Waiting time (<10 min)
- Client feedback (swift, flexible services)

The future of the CPRP

- Integrate technology – ART access APP linked to facility EMR for real time data management and reporting
- Layer other health interventions – TPT, HIVST, PrEP, PEP, NCDs, FP
- Program modifications for sustainability
 - ?Accreditation of pharmacies to receive ART
 - ?Insurance landscape

Acknowledgements

- PEPFAR
- CDC
- KCCA
- MoH
- Participating Pharmacies
- PLHIV “Friends”

Thank you

For further questions or comments, please contact:
office@idi.co.ug | <http://idi.mak.ac.ug>

Visit us on social media:



Infectious Diseases Institute
College of Health Sciences, Makerere University, Uganda
Investing In The Future – Impacting Real Lives



July
2020

LEVERAGING PRIVATE PHARMACISTS TO EXPAND ART DISTRIBUTION TOWARDS SUSTAINABILITY

Dr. Peter Agada, Howard University-SIDHAS



USAID
FROM THE AMERICAN PEOPLE



Strengthening Integrated Delivery
of **HIV/AIDS** Services

Outline



Approach

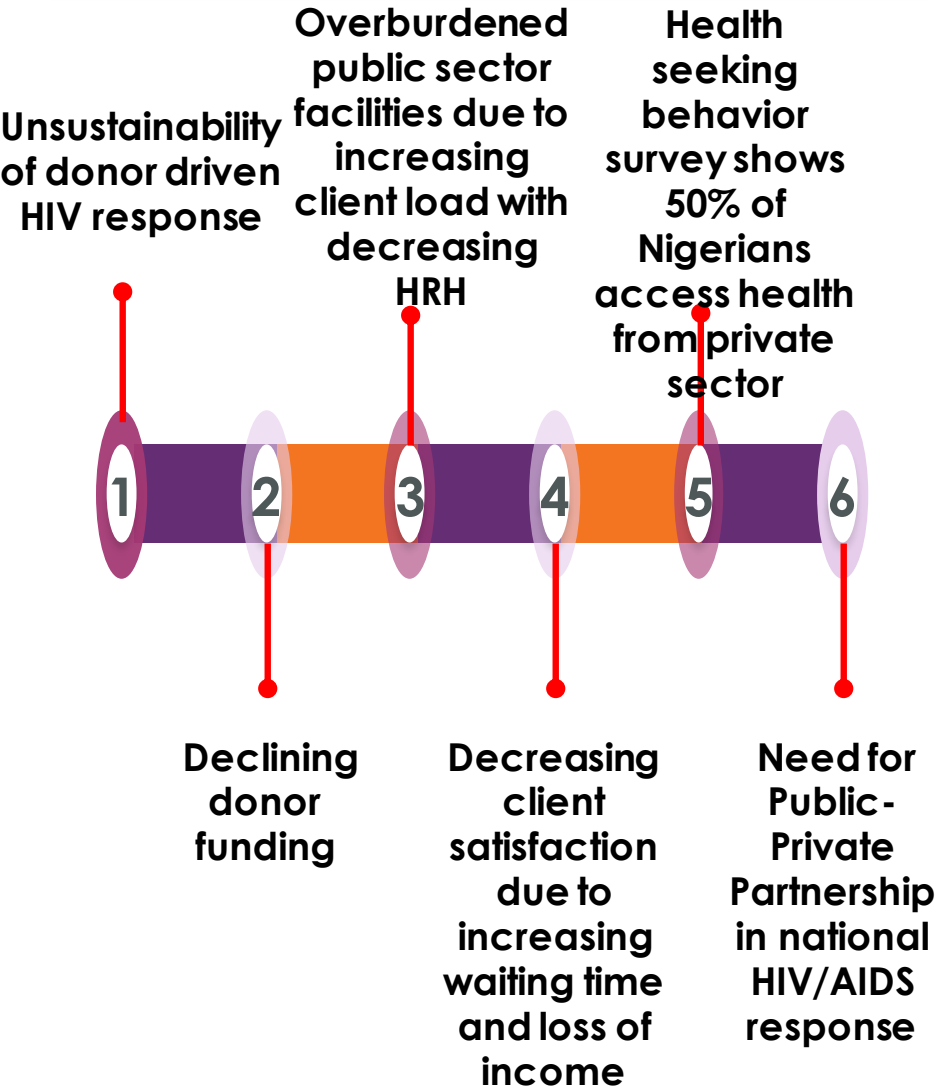


Impact

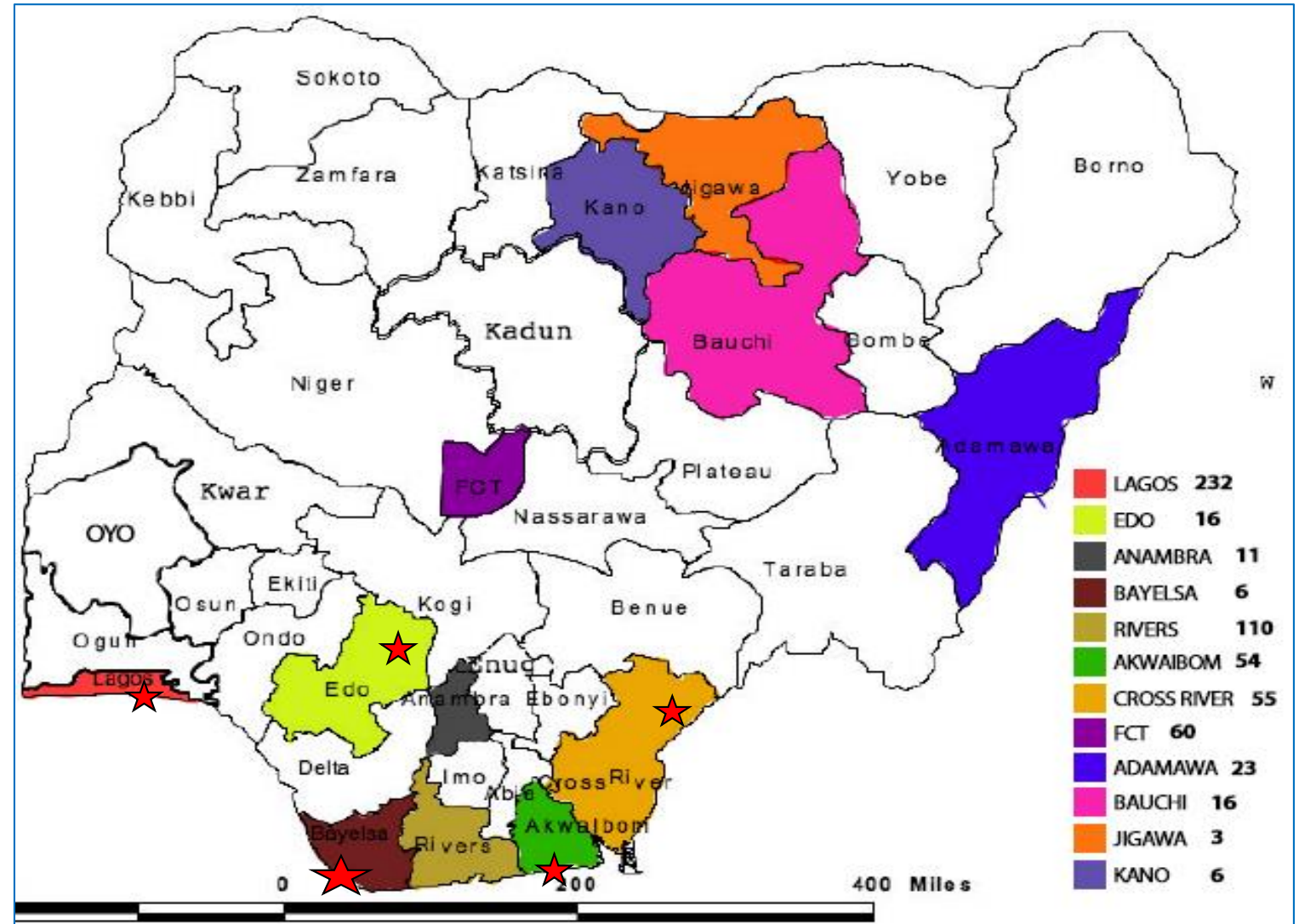


Challenges

Rationale for Private Sector Pharmacy participation in HIV/AIDS programming in SIDHAS



Historical Spread of CPARP Sites 2016-2020



IMPLEMENTATION APPROACH

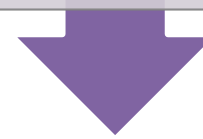
PRE-IMPLEMENTATION

Stakeholder Engagement
& Orientation

Mapping, Baseline Assessment and Selection of
participating CPs & Health Facilities

Training & Orientation

Business Case
Development

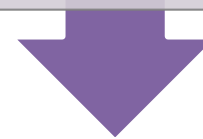


HEALTH FACILITY

Ongoing Technical
Assistance

Semiannual return visits by clients to hub
facilities for clinical & laboratory review

Visits on 'as needed' basis for management of
OIs and severe to life-threatening ADRs



COMMUNITY PHARMACY

Ongoing Technical
Assistance

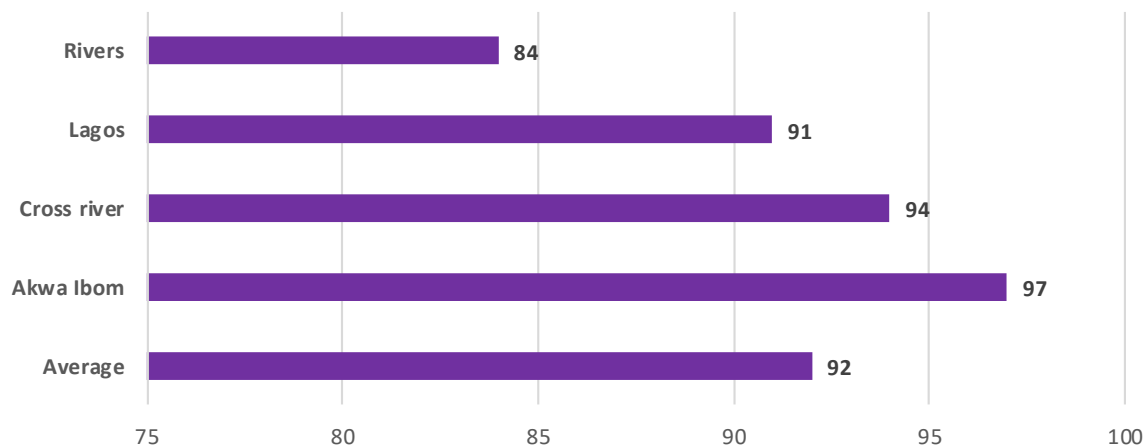
Medication Adherence Counseling
& Dispensing Services

Chronic Care Screening,
Intervention & Documentation

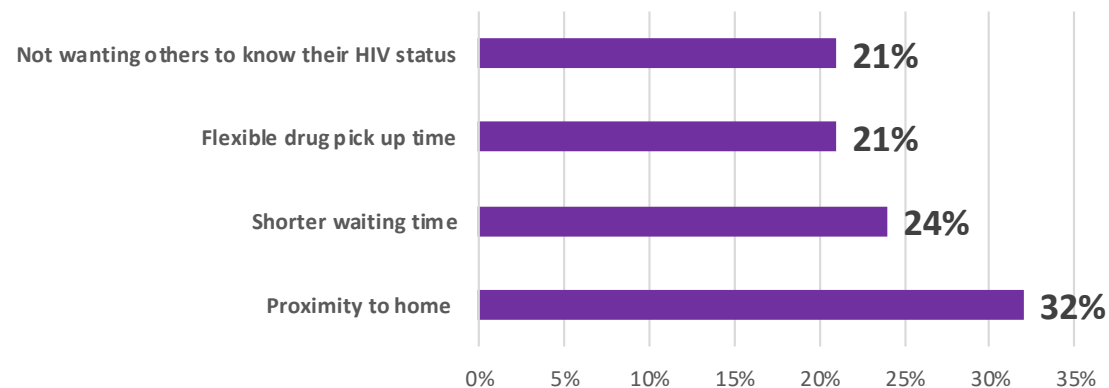
Report Generation and
Submission

Perspectives of ART Clients, Facility Staff and Community Pharmacists on Provision of ARV Refill in Community Pharmacies

% CPs willing to provide ARV refill services

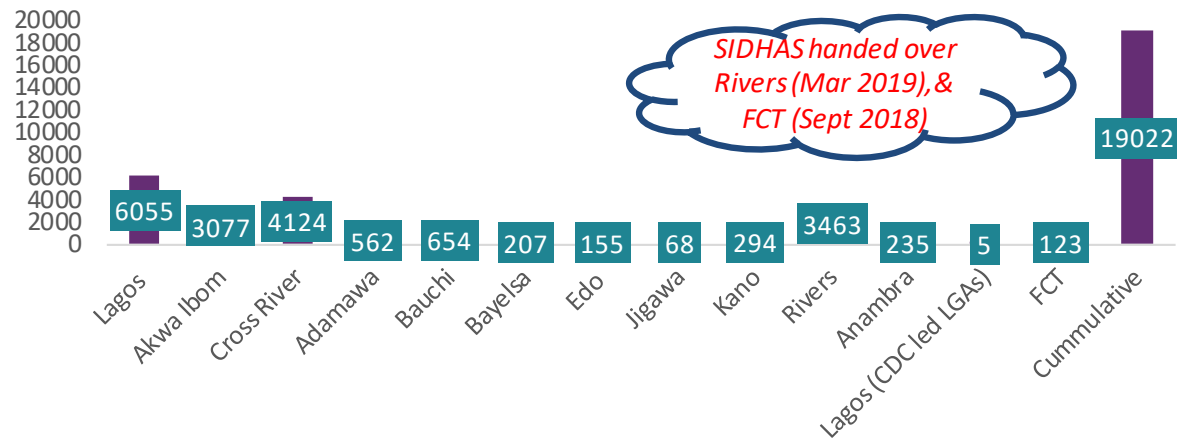


Reasons for clients preference for ARV refills at CPs

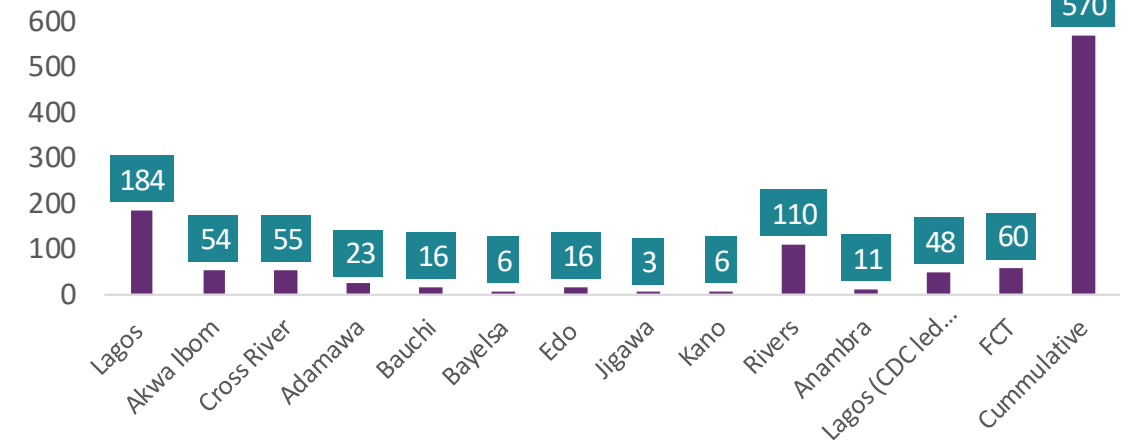


- ▶ Total of 701 clients on ART, 169 multidisciplinary health facility personnel and 150 community pharmacists were surveyed across four states (Akwa Ibom, Cross River, Lagos and Rivers).
- ▶ Approximately 37% of the surveyed patients were willing to pick up ARV refills from a community pharmacy with 29% willing to pay an administrative fee for the service.
- ▶ Over 50% of facility staff were willing to support the devolvement of stable ART patients to community pharmacies
- ▶ The most common reasons for supporting devolvement of stable ART clients to community pharmacies included excessive workload for HRH (21%) and long client waiting times (21%).

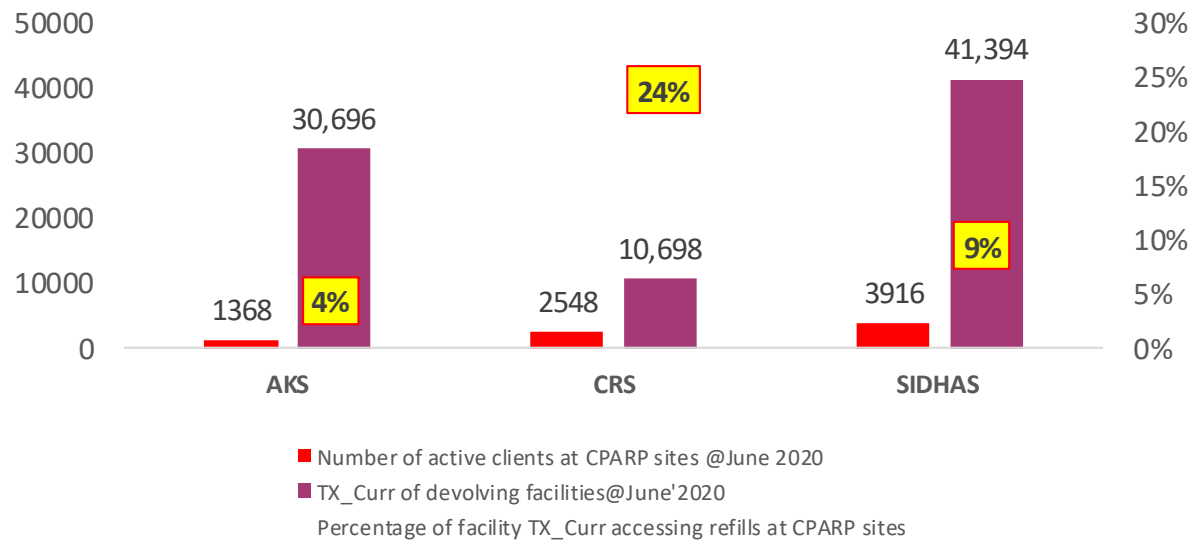
Cumulative number of clients ever devolved from hub hospitals to CPARP Pharmacies in Current and Previous SIDHAS supported states (2016 – 2020)



Number of Community Pharmacies ever activated for CPARP



Percentage of TX_Curr of participating hospitals currently devolved to CPARP for community ART refill services as at June 2020

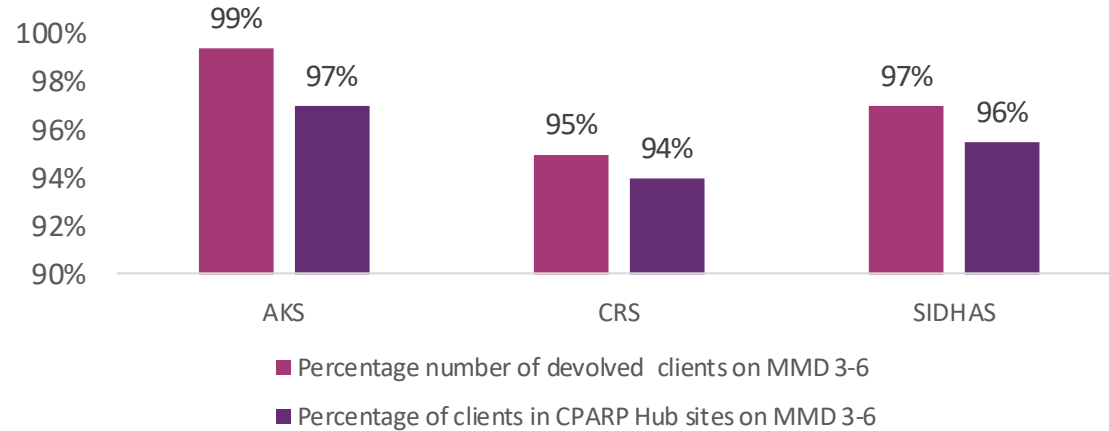


Impact of CPARP on Hospital Pharmacy Staffing Needs

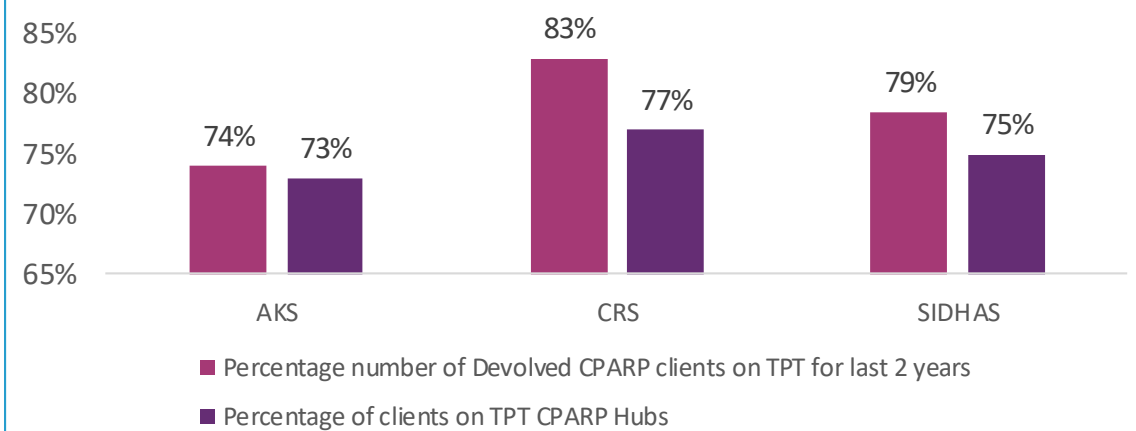
| | Names of SIDHAS supported heavy burden facilities | Facility ART work load pre-devolvement (Tx_Curr before SAPR 2018) | WSN calculated Hospital pharmacy HR requirement pre-devolvement (Based on Tx_Curr pre-SAPR 2018) | Total number of clients devolved to community pharmacies as at SAPR 2018 | WSN calculated Pharmacy HR requirement based on new Tx_Curr post-devolvement | Percentage decrease in Pharmacy HR requirement post-devolvement |
|-------------|---|---|--|--|--|---|
| Lagos | Ajeromi GH | 3859 | 9 | 1572 | 5 | 44% |
| | Badagry GH | 3706 | 8 | 636 | 7 | 13% |
| Cross River | UCTH | 2191 | 9 | 473 | 7 | 22% |
| | GH Calabar | 3008 | 13 | 716 | 10 | 23% |
| Rivers | UPTH | 4747 | 9 | 1404 | 7 | 22% |
| | BMSH PH | 4397 | 6 | 830 | 5 | 17% |
| Akwa Ibom | Ikot Ekp GH | 2554 | 8 | 437 | 6 | 25% |

Quality of Care indices for clients refilling at CPARP sites compare favorably with clients at the hub facilities

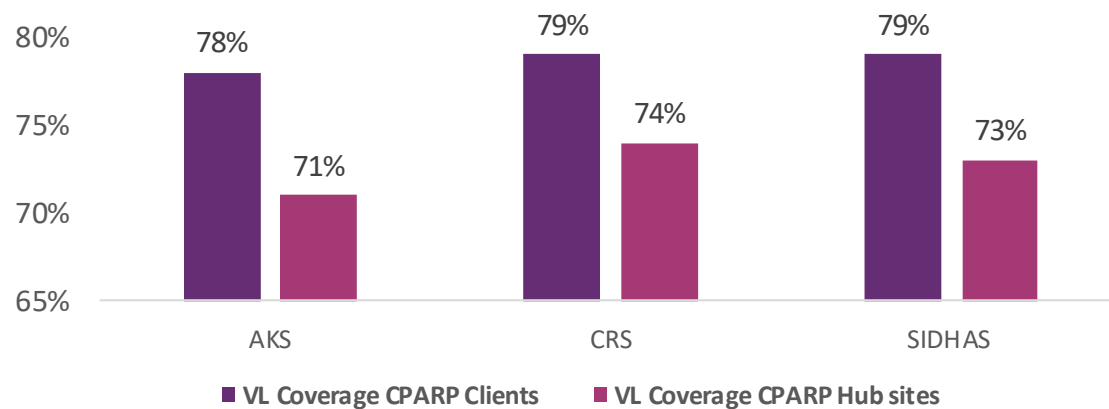
Percentage of Devolved CPARP Clients on MMD 3-6 vs Clients on MMD 3-6 at Hub Hospitals as at June 2020



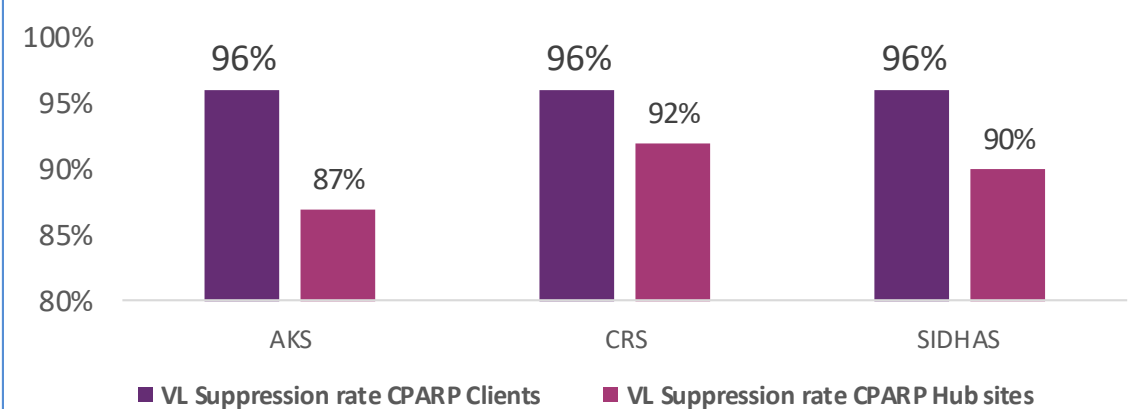
Percentage of Devolved CPARP Clients on TPT vs Hub Clients as at June 2020



Percentage Viral Load Coverage for Devolved Clients vs Hub Hospitals as at June 2020



Percentage Suppression Rate Devolved Clients vs Hub Hospitals as at June 2020



Impact of CPARP on community pharmacy retooling to provide enhanced service quality

COPA Assessment Domains



COPA 1

- General
- Setting of the pharmacy
- Professional development
- Drug Schedules
- Medication Review
- Standards of Practice



COPA 2

(COPA 1 criteria plus):

- Health promotion activities
- Diagnostics
- Pharmacotherapy Monitoring
- Research and development
- Audit/Finance Systems



COPA 3

(COPA 1 & 2 criteria plus):

- Domiciliary services
- On-line services
- Pre-registration training
- Compounding
- Para-pharmaceuticals
- Customer perceptions (external audit)

No. of CPs
assessed

61

No. of CPs
accredited

27

COPA1:
CPs

21

COPA2:
CPs

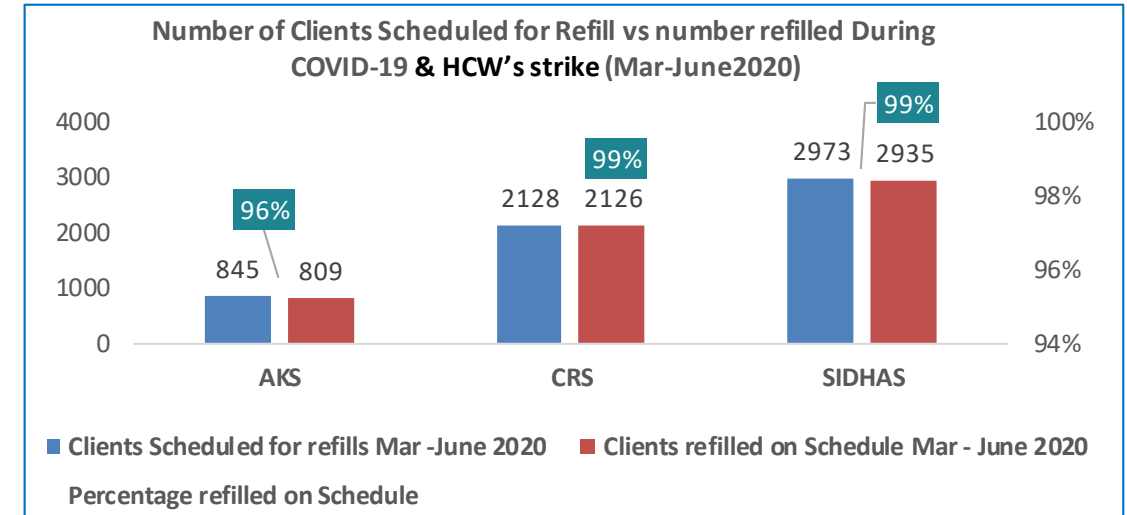
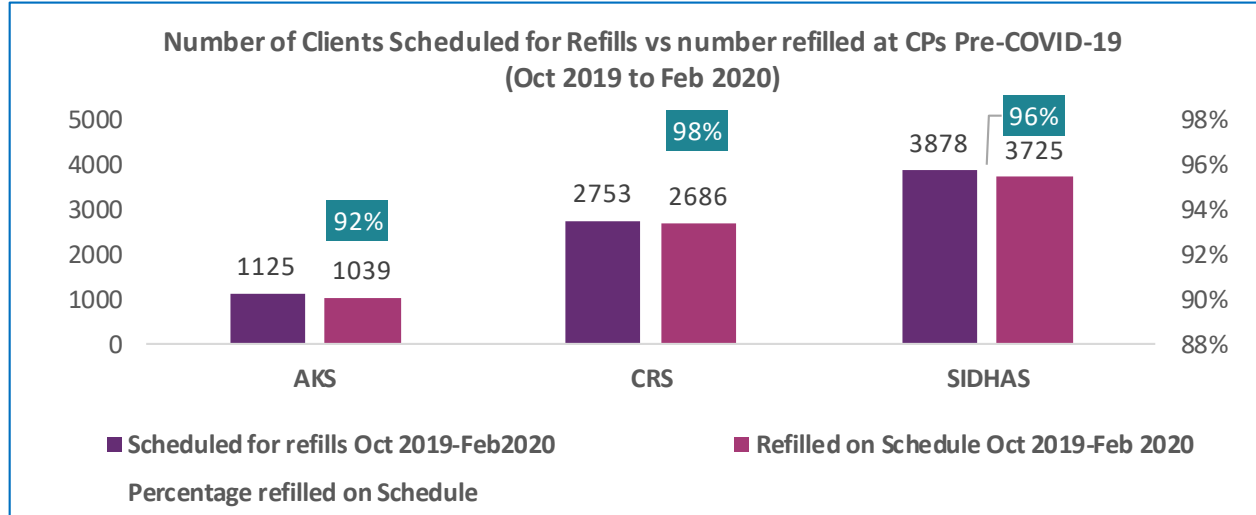
3

COPA3:
CPs

3



Client refill at CPs unaffected by COVID-19 & HCW's Strike



Feedback from participants and beneficiaries

| | | | |
|----------------------|--|-----------------------|---|
| DEVOLVED CLIENTS | <ul style="list-style-type: none"> '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 | <ul style="list-style-type: none"> '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 | <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> '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' |

Challenges

- Intervention is currently limited only to stable patients able & willing to pay.
- Lack of Insurance Coverage is a barrier to access for indigent clients interested in the program
- CPs yet to be linked to national supply chain for sustainability
- Documentation burden at the CPs



THANK YOU

DSD Community Pharmacy Dispensation model

Dr Mwanza Wa Mwanza

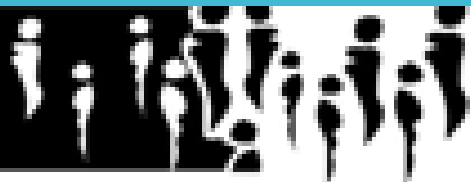
CIDRZ : Clinical Care Department



CIDRZ

Presentation Layout

- 1 **Background and Objectives**
- 2 **Model description and selection criteria**
- 3 **implementation strategies**
- 4 **Results**
- 5 **Challenges and lesson learnt**



Background



Zambia has a projected population of about **18 million** people and over **1 million** of these are on antiretroviral therapy (ART).



People living with HIV (PLHIV) face barriers related to **transportation costs**, **time away from work**, **competing life priorities**, and **long wait times** in congested ART clinics.



In response to these barriers, in 2015, WHO recommended providing high-quality, client-centered HIV care using **differentiated service delivery (DSD)** approaches that adapt HIV services in ways that better meet the needs of PLHIV

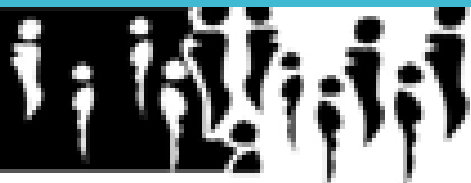


CIDRZ

Background



We developed a DSD model, the **Community Pharmacy Dispensation (CPD) model**, which we implemented within a large PEPFAR-funded HIV prevention, treatment, and care program in Lusaka, Zambia and describe the model and early results herein



CIDRZ

Objectives

Improve client experience and satisfaction

Improve service uptake for clients with competing priority schedules

Improve retention

Decongest Health Facilities



CIDRZ

Model Description



- CPD model was implemented in catchment areas of 3 urban, high-volume (>4,500 patients in care) ART clinics beginning in August 2018.



- CPD enables community retail pharmacies to be used as ART collection points for patients struggling with ART refill collection from health facilities during normal operating hours.



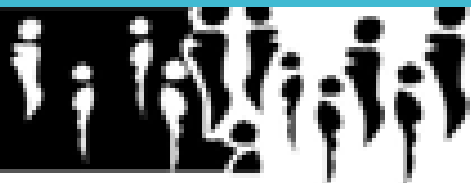
- Stable in-care patients (defined as HIV-positive, on ART >6 months, not acutely ill, CD4 $\geq 200/\mu\text{l}$ and viral load $< 1,000$ copies/ml) were eligible for CPD as long as they meet point 2 condition



- Clients were assigned a neighboring retail pharmacy for Drug collection
- CPD visits alternated with visits at the main facility clinical follow-up.



- We used client satisfaction and retention to assess CPD model uptake.



CIDRZ

Pharmacy Selection Criteria



Community Pharmacy must be fully registered with the Zambia medicine regulatory authority(ZAMRA)



Community Pharmacy managed by a Registered Pharmacist with Health Profession council(HPCZ)



Retail Pharmacy that has been operating for over two years



Operating hours beyond 17 hours and during weekends.



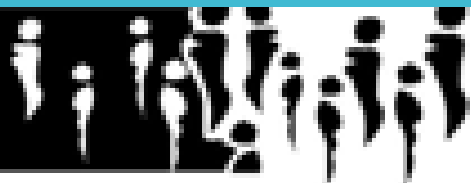
Must be ready to sign an MOU with CIDRZ and adhere to regulations and requirements stipulated in the MOU.



After each dispensation must accurately complete the Daily Activity Register (DAR) and weekly submit short visit forms and DAR with the MOH pharmacy personnel.



Must be ready to provide other ART services including PrEP drug pick-ups, Rapid HIV test services and TB prophylaxis etc



CIDRZ

Implementati on strategies



Model implementation approvals from MOH, ZAMRA and HPCZ



Mapping of facilities to identify adjacent community pharmacies.



Development of model SOPs.



Coordination of Stakeholder's meetings.



Sensitization of health facilities and Community Pharmacies.



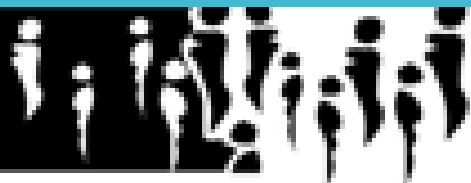
Identification and enrollment of stable clients in the Community dispensation model.



Monthly drug distribution to Community Pharmacies and data reconciliation.



Missed appointment follow ups.



CIDRZ

Implementati on strategies



Weekly update of Smart Care and eLMIS.



Labs and 6 monthly clinical visits done at main facility



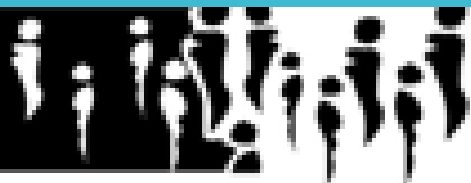
Monitoring and Evaluation activities.



Monthly supervisory visits and routine drug audits to participating Community Pharmacies for the purpose of accountability and reporting..



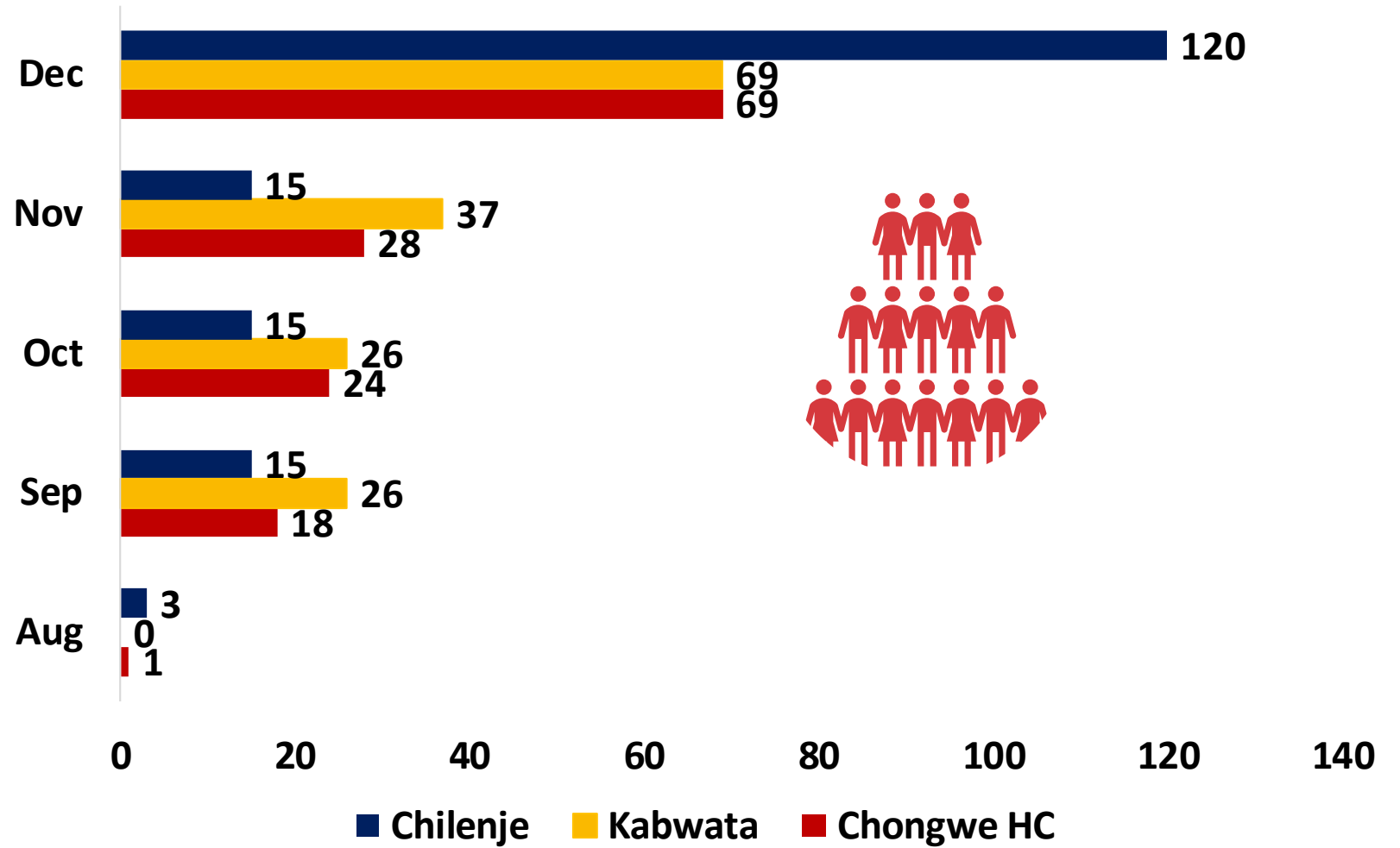
CIDRZ provided a monthly incentive of K1000 to each participating retail Pharmacy. Disbursement and retirement of funds was through a designed acquittal form.



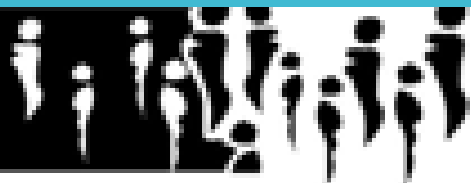
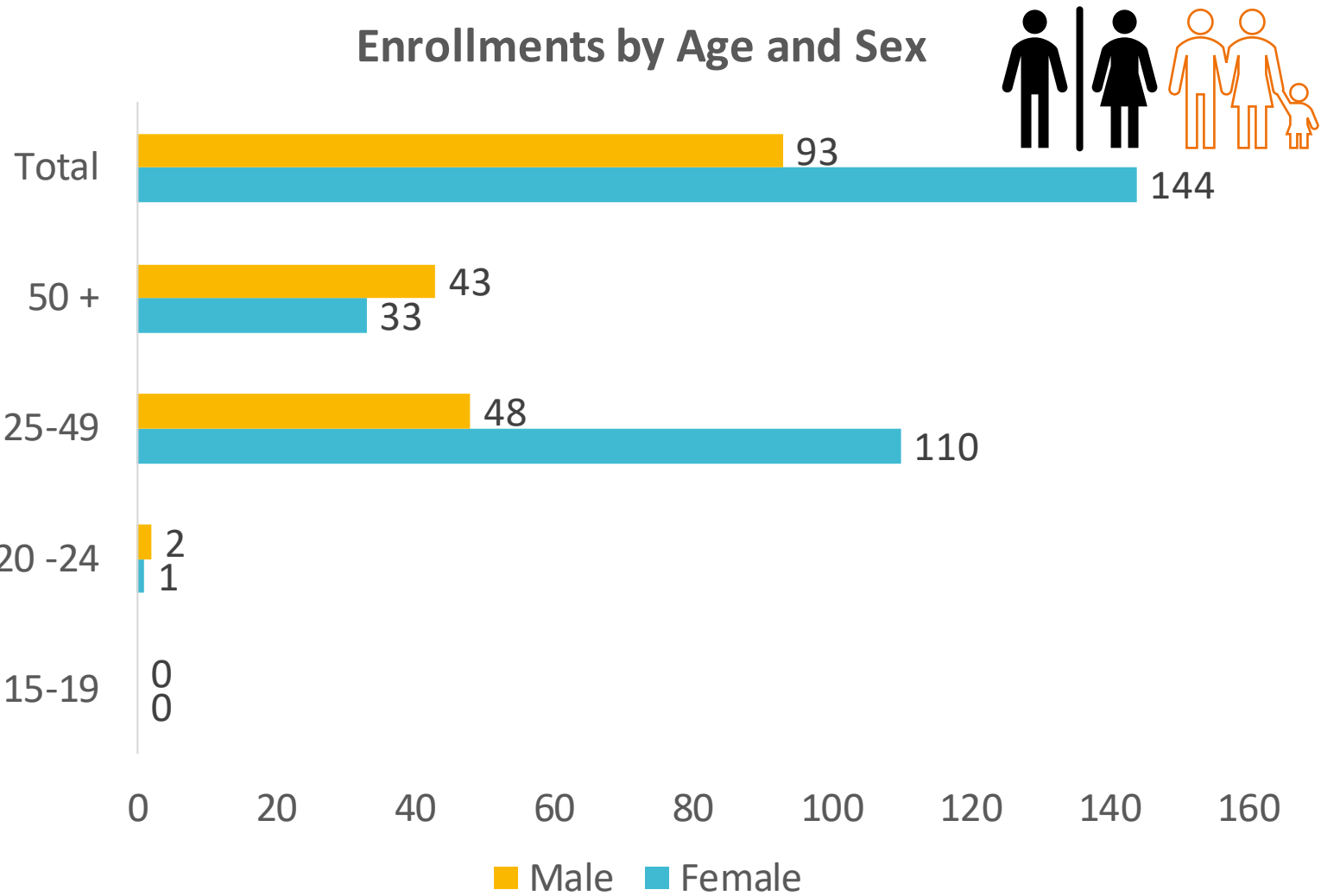
CIDRZ

Results (1)

Enrollments by Facility



Results (2)



Challenges

Change in guidelines from 3 month to 6 MMDs affected the scale up

Data reconciliation: Synchronizing dispensation with smart care

No central Dispensation unit: Only clients from one facility could access service in this model

How to keep the community pharmacies motivation



CIDRZ

Lessons learnt

ADAPTATION

- The model is suitable for 12 months clinical follow ups and 6MMD

RETENTION

- **100%** drug pick-up (retention) vs 75% overall retention at 3/12

FEEDBACK ON MODEL

- Positive feedback from facility staff and retail pharmacies.
- The CPD model was acceptable to ART-treated PLHIV, particularly adult females, with increasing enrollments across facilities with time.

NEXT STEPS

- To improve enrollment and maximize the public health benefits of this model, stakeholder engagement and integration with facility-based clinical services are needed.



Thank
you



Thank you



CIDRZ



Supporting Private Pharmacies to Provide Community Based Antiretroviral Therapy

Institute of Human Virology Nigeria (IHVN)
Presenter: Bola Obembe
30th July 2020

IHAVN Supported States



| State | Prevalence % [1] | Total Treatment Current Per State |
|----------|---------------------|--|
| FCT | 1.6 | 43,843 |
| Nasarawa | 2.0 | 44,207 |
| Rivers | 3.8 | 66,000 |
| Katsina | 0.3 | 8,018 |

[1] Nigeria HIV/AIDS Indicator and Impact Survey
<https://nigeriahealthwatch.com/nigerias-race-to-the-2020-goal-of-90-90-90-an-ambitious-target-to-end-aids/#.XMruXth7nLU>

The Community ART Model runs in FCT, Nasarawa, Rivers and Katsina



**The
intervention
to address the
challenge:**

**Community
Pharmacy ART
Model**

“An out-of-hospital
differentiated ART Delivery
Model”

The Model is Addressing Overcrowding, Poor Quality of Care and Stigma



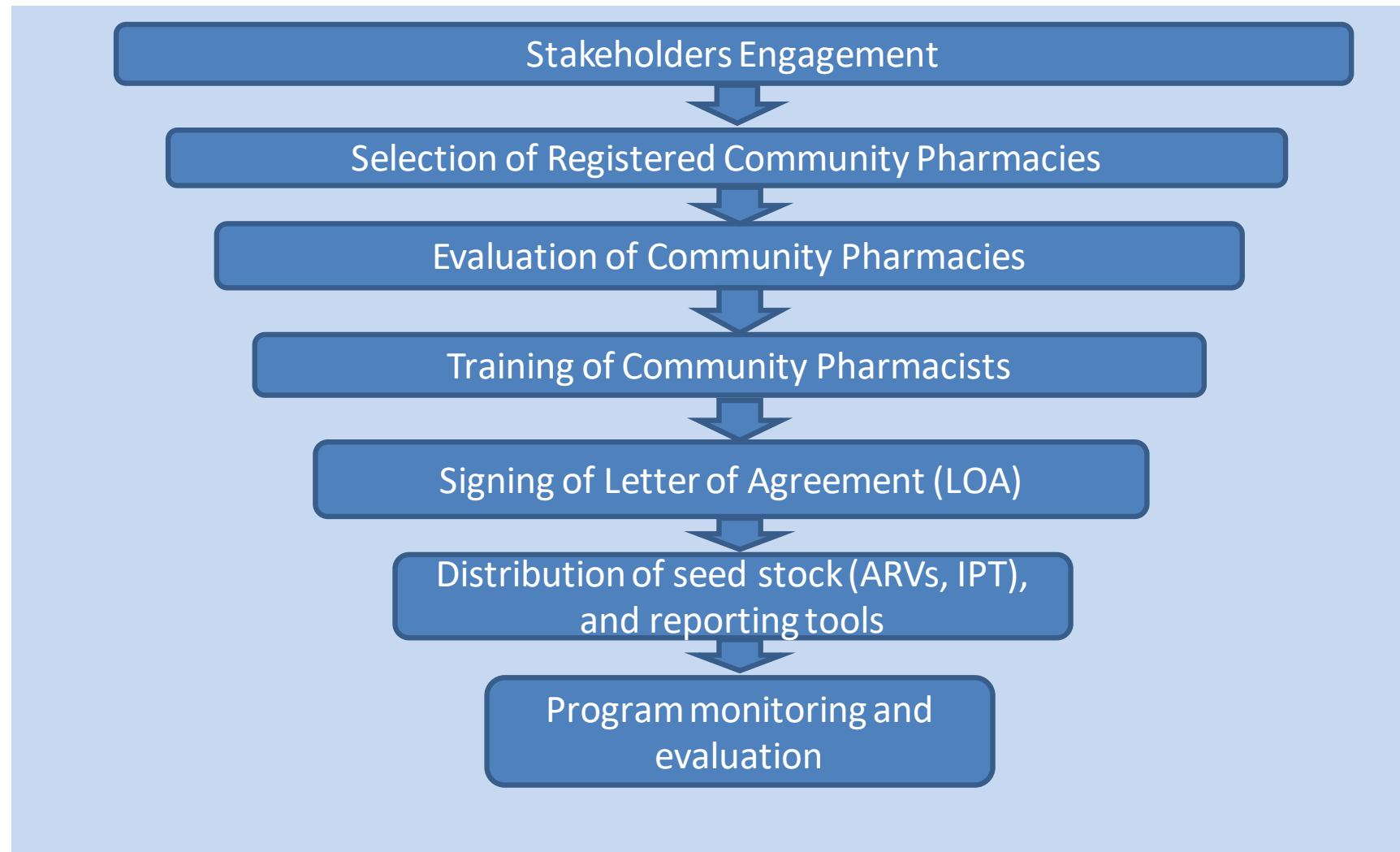
The problem: Overcrowded health facilities with few staff



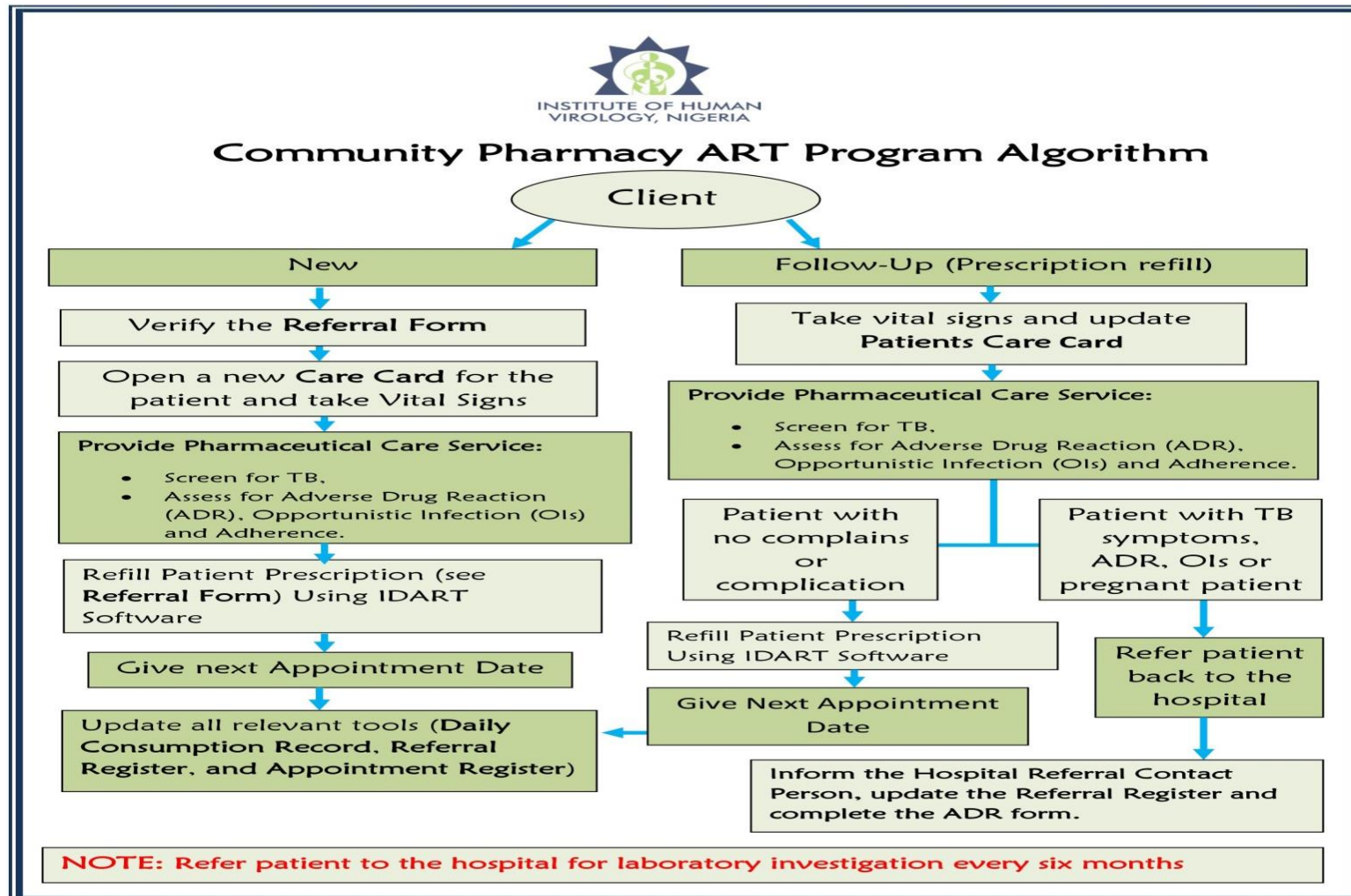
The solution: Treat in the Community



The Process of Engaging Community Pharmacies



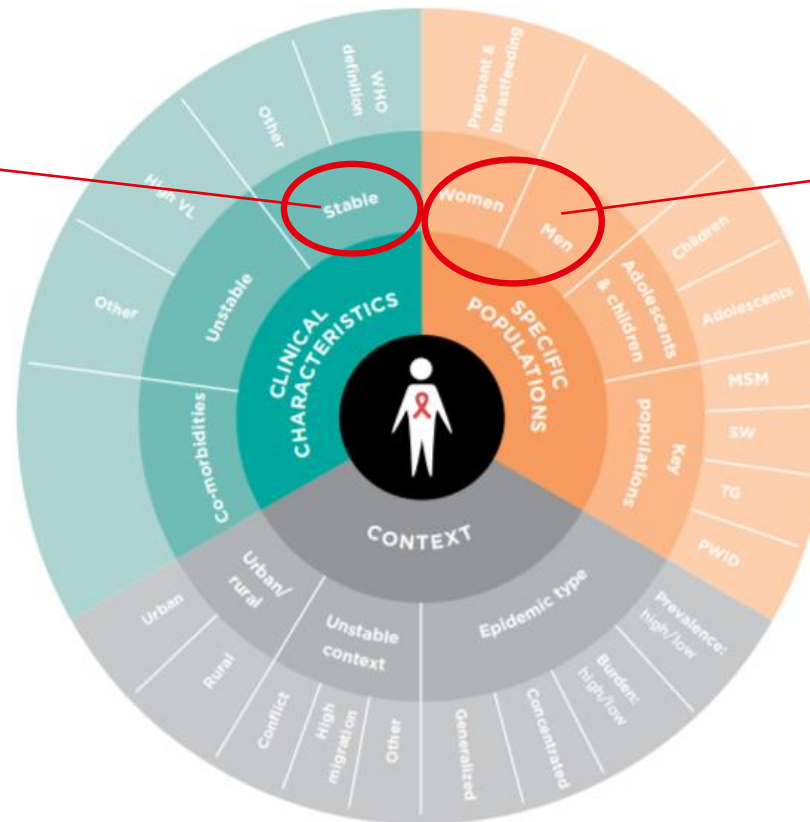
The Community Pharmacy ART Model Approach





Approach: Who is the Intervention Aimed at?

First-line regimen
Clinically stable
Client with viral
suppression (<1000
copies/ml) or clients
with good adherence
profile ($\geq 95\%$) and
manageable adverse
drug reactions)



Adult PLHIV

Approach: The Building Blocks of the Model

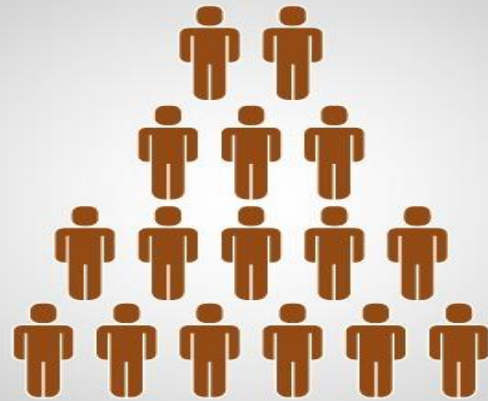


| | ART refills | Clinical consultation | Psychosocial support |
|-------|---------------------------------|--|---|
| WHEN | 3 months | 6-12 months | 3 months |
| WHERE | Registered community pharmacies | Health facility | Community pharmacies |
| WHO | Community Pharmacist | Clinician | Community Pharmacist |
| WHAT | ART refill | Patients are reviewed for improvement in clinical outcomes | Counselling to address stigma and other barriers to adherence |

Community Pharmacy ART Model Outcomes



Community Pharmacy ART Model Outcomes



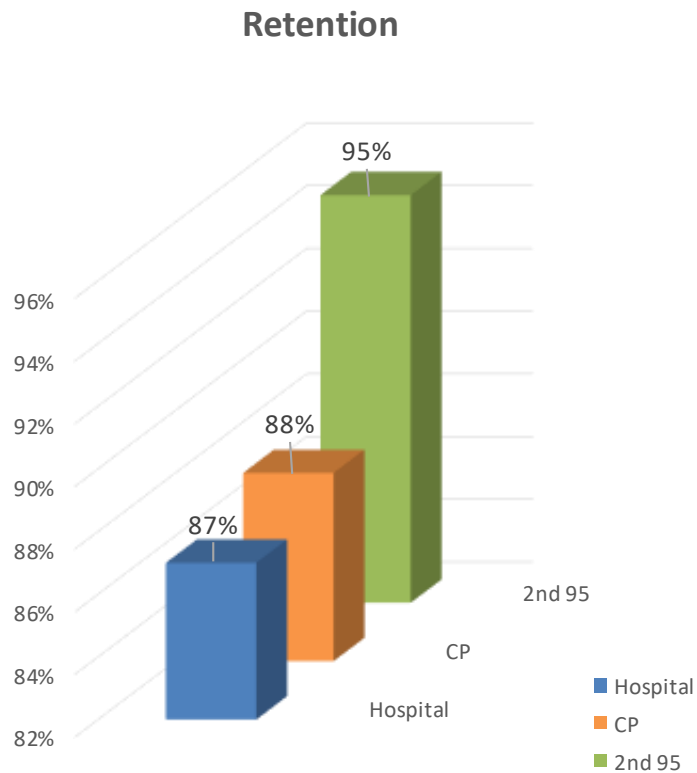
7,805
PLHIV devolved to
community pharmacies

5,445
Women

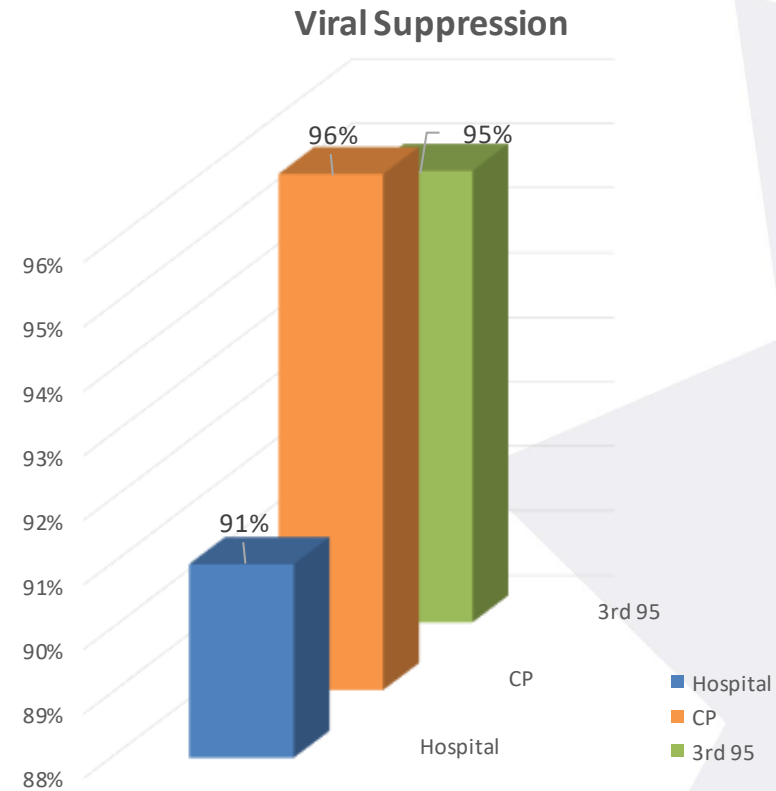


2,360
Men

Treatment Outcomes in Community Pharmacy vs Hospital



Key
CP- Community
Pharmacy



Impact of the model on patients and healthcare workers



"I prefer here (community pharmacy) because I know many people in that hospital. If they know that you have HIV, they will insult you because of the sickness. The way our aunty (the pharmacist) handles us is good. She puts her mind to ask you questions. She is not angry."

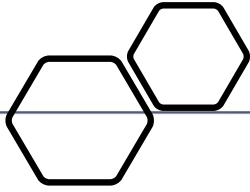
- Client

"I can come in the evening and at any time. She (the pharmacist) normally does not waste my time... In the hospital, we stay till at times two o'clock, at times three o'clock."

- Client

"It forms a family quorum between you and the patient. When they come they open up easily to you and they have to talk unlike in the crowded hospitals, So the availability of time, good pharmaceutical care is sure. Most of the patients that came testify to this, that the program is an excellent one and they love it and their haven't been any complaints from them."

- Healthcare worker



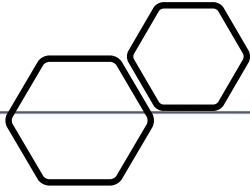
Success of the Community Pharmacy ART Model



Supply chain was not broken; this ensured constant availability of medications.



Program evaluation using the key performance indicators



Success of the Community Pharmacy ART Model

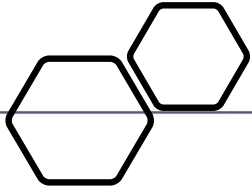


High impact
on the
patients

Good outcomes for
patients

PATIENTS
PREFERRED THE
MODEL OVER THE
HOSPITAL-BASED
APPROACH

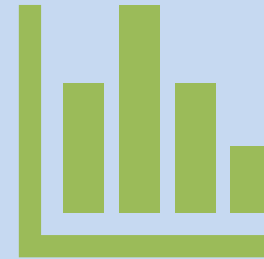
Avong YA et al, 2018. Integrating Community Pharmacy into Community Based Anti-retroviral Therapy Program: A Pilot Implementation in Abuja, Nigeria



The Challenges to address

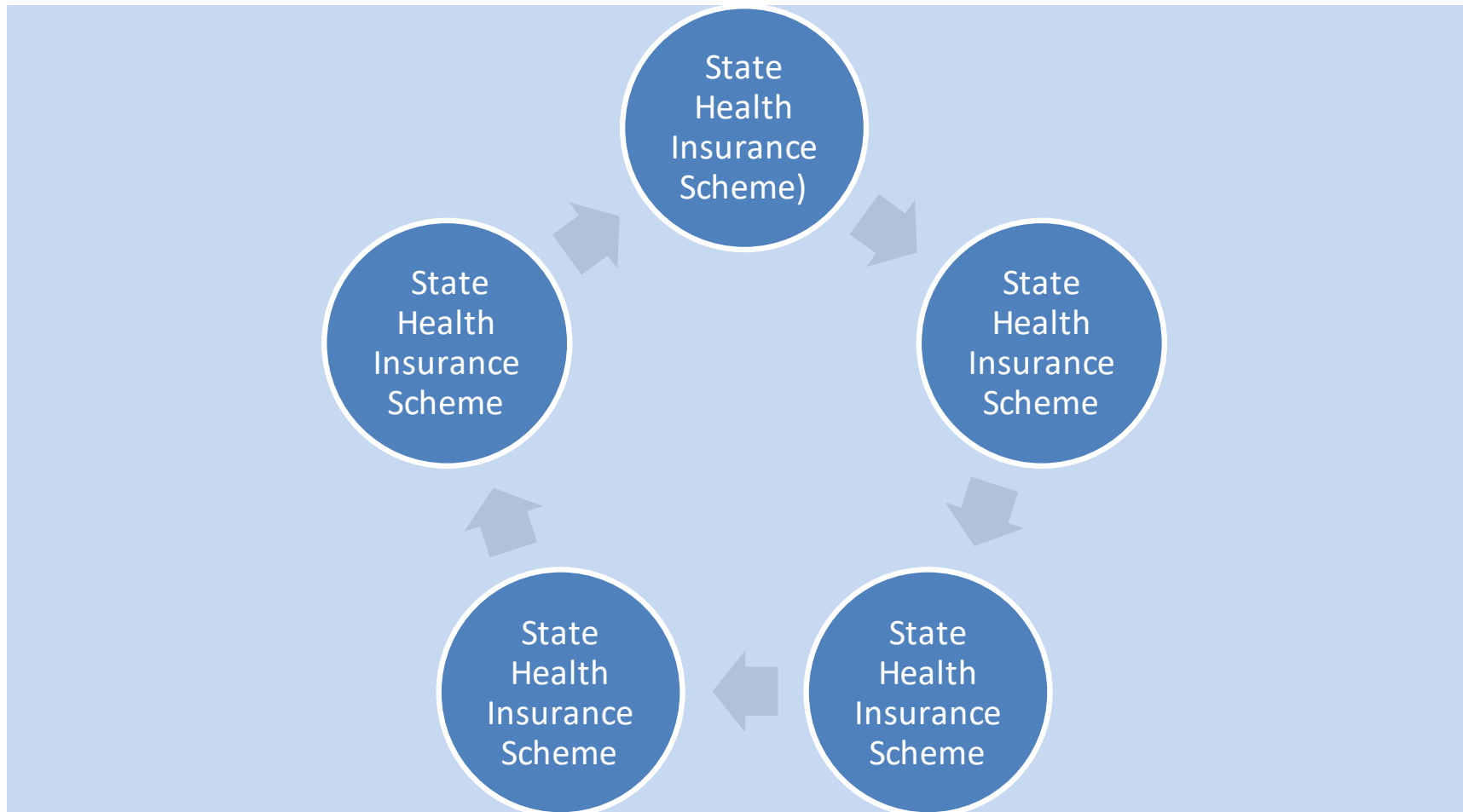


Long lead time

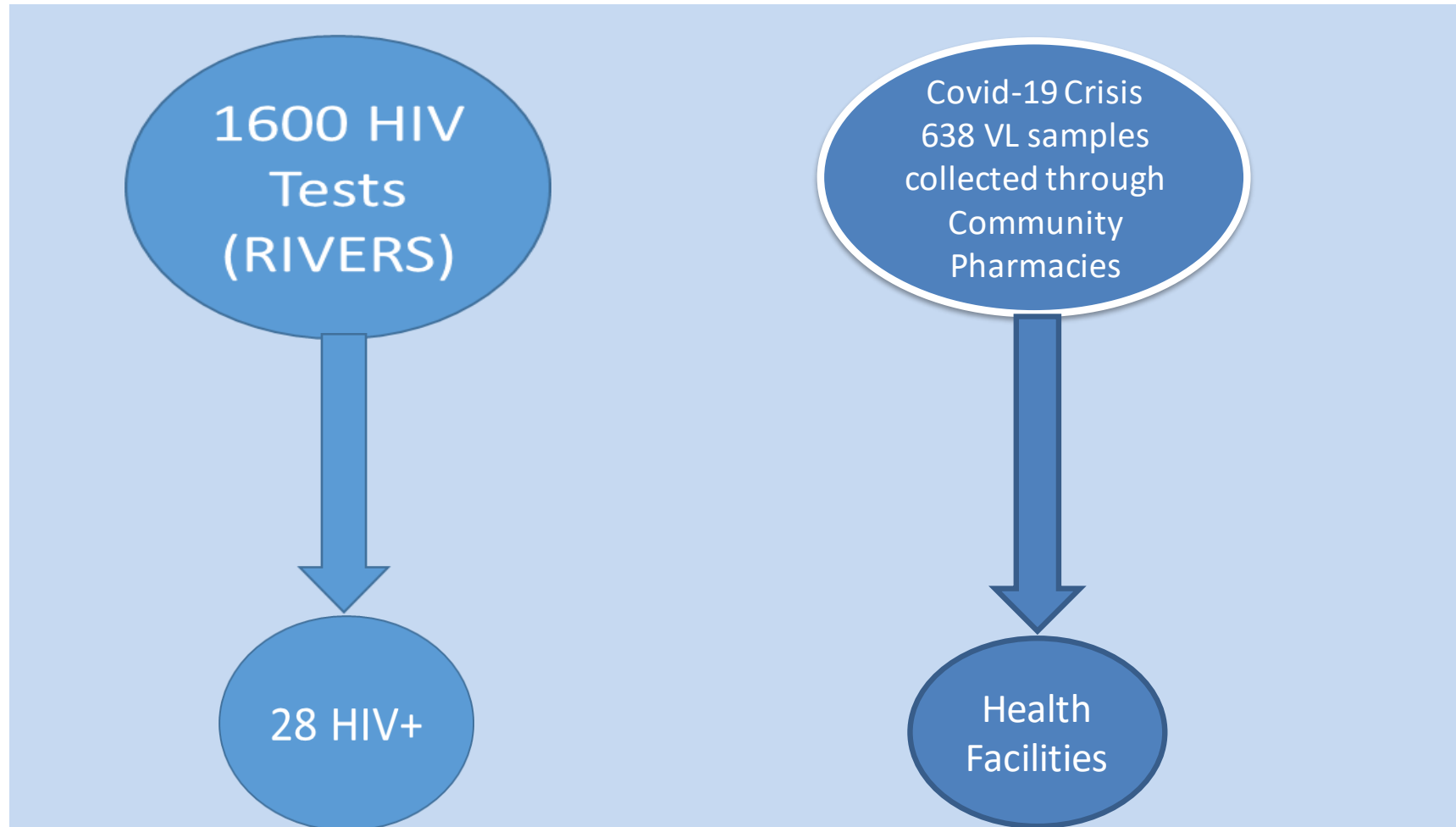


Delay in reporting

Sustainability of the Community Pharmacy ART Model



Potentials for the Community Pharmacy



Publications and Oral abstracts from the Community Pharmacy ART Model



1. Avong YK, Gambo G. Aliyu,, Bolajoko Jatau, Ritmwa Gurumnaan, Nanfwang Danat, Gbenga Ayodele Kayode, Victor T. Adekanmbi, Patrick Dakum. Integrating Community Pharmacy into Community Based Anti-retroviral Therapy Program: A Pilot Implementation in Abuja, Nigeria. PLOS ONE, 2018 Jan 10; 13 (1): e0190286. doi: 10.1371/journal.pone.0190286. eCollection 2018.
2. Yohanna Kambai Avong, G Ayodele, B Jatau, E Bosede Avong, V Adekanmbi, A Abimiku, C Olalekan Mensah, P Dakum. Providing Antiretroviral Therapy Outside the Hospital in a Low-resource Setting: a Pilot Study. The Lancet Global Health, Consortium of Universities for Global Health 9th Annual Conference, 15 March 2018.
3. Yohanna Kambai Avong, Gbenga Ayodele Kayode, Bolajoko Jatau, Eunice B. Avong, Victor Adekanmbi, Alash'le Abimiku, Charles Olalekan Mensah, Patrick Dakum (2017). Man Shall Not Live By Bread Alone: The Experience of Providing Antiretroviral Therapy outside the Hospital in a Low-resource Setting. Abstract #1111. Presented at the 9th Consortium of Universities of Global Health, Global Health Conference, 16th – 18th March, 2018, New York City, New York, United States of America.
4. Patrick Dakum¹, Yohanna Kambai Avong¹, Bolajoko Jatau¹, Gbenga A. kayode¹, Blessing Ukpabi¹, Fati Ibrahim¹, Ahmad Aliyu¹, Obinna Ogbanufe², Charles Olalekan Mensah¹ (2019). Acceptability of a Community based Treatment of HIV/AIDS by Geriatric Patients in North Central Nigeria. Presented at the 8TH Annual Scientific Conference and General Meeting of Epidemiological Society of Nigeria, July 29th-31st, 2019.
5. B Jatau, Y Kambai Avong, B Ukpabi, C Olalekan Mensah, P Dakum (2019). Applying the Principles of Epidemiological Research in Health Project Implementation. Presented at the 8TH Annual Scientific Conference and General Meeting of Epidemiological Society of Nigeria, July 29th-31st, 2019.
6. Blessing U ¹, Bolajoko Jatau ¹, Yohanna Avong ¹, Dennis Mordi ¹, Charles Mensah ¹, Patrick Dakum¹(2018). Patient satisfaction with Community Pharmacy Antiretroviral Therapy: Qualitative Interview of key informants. Presented at the Nigerian Implementation Science Alliance, 18th- 19th September, Abuja, Nigeria, 2018.

Collaborators in the Community Pharmacy Project



INSTITUTE OF HUMAN
VIROLOGY, NIGERIA





Q+A

Upcoming Session

Taking the digital step: Using automated dispensing to improve patient experiences

Thursday, August 13, 2020

7:00 EDT | 14:00 EAT

[Register Here](#)

