Summary of differentiated service delivery at AIDS 2020: Virtual

Review from the International AIDS Society DSD initiative
All of AIDS 2020: Virtual content was considered

• Abstracts
  – Including late-breaker abstracts
  – Including orals and posters
• Bridging and symposium sessions
• Satellites

Download the complete DSD roadmap for AIDS 2020: Virtual here
Overview

1. **Integration**
2. **Specific populations**
3. **DSD country planning/optimization**
4. **Costing**
5. **Enrollment strategies**
6. **Quantitative outcomes**
7. **Qualitative outcomes**
8. **DSD for PrEP**
9. **Re-engagement**
10. **Testing and linkage**
11. **DSD for advanced HIV disease**
12. **DSD & COVID-19**
1. INTEGRATION WITH DIFFERENTIATED SERVICE DELIVERY

1.1 TB PREVENTIVE THERAPY
1.2 NCD’S
A Comparative analysis of adherence and completion rates in TB preventive therapy (TPT) among People Living With HIV on 3-months & 6-months Multi-Months ART dispensing

K. Kakanfo1, U. Akpan2, I. Iyamu2, H. Khamofu1, M. Balejou3, T. Banku2, A. Okomoye2, C. Obahilly5, E. James5, S. Raj Pandey1

Results

- A retrospective review for stable HIV patients on ART and TPT between March 2017 and October 2018; data collected from initiation of TPT to 6 months after TPT initiation
- Adherence was assessed as good (>95%) or poor (<95%) while TPT completion was assessed as either completed or not at the end of 6 months.
- Total of 917 patients on MMD initiated on IPT, majority of patients were on 6MMD (n = 642; 70.0%), while 275 (30.0%) were on 3MMD.
- Adherence to TPT was 95.6% (n=263) among patients on 3MMD compared with 98.3% (n=631) among those on 6MMD (p=0.19).
- 95.6% (n=263) of patients on 3MMD completed TPT compared with 98.4% (n=631) among those on 6MMD (p=0.011).
- Adherence to TPT and TPT completion rates were good in both MMD models. We also found that TPT adherence and completion rates were comparable both 3MMD and 6MMD.

https://cattendee.abstractsonline.com/meeting/9289/Presentation/1251
INTEGRATION - Feasibility and acceptability of providing TPT in Community Antiretroviral Refill Groups (CARGs) in Zimbabwe

25 central level key informant interviews (KII) with staff, 20 KII with CARG leaders, 16 FGDs with 135 CAARG members

96% of central level informants and 85% of CARG leaders described providing TPT via CARGS as a good or very good idea

All cadres preferred model that included multi month provision of TPT and fewer clinic visits with monitoring of side effects by CARG leaders

https://cattendee.abstractsonline.com/meeting/9289/Presentation/2954
https://cattendee.abstractsonline.com/meeting/9289/Presentation/2554

SF_13094 and PEE1392
INTEGRATION - Resilient chronic care systems: Differentiated service delivery for people with HIV and non-communicable diseases

- Facility-based group models for ART and NCDs (hypertension, diabetes, asthma)
- Clients on treatment for > 12 months and who are stable
- Model supported task sharing of NCD care to nurses
- Pre-packing of medication reduced waiting time for patients and workload for nurses

https://cattendee.abstractsonline.com/meeting/9289/Presentation/2945
2. SPECIFIC POPULATION CLIENT OUTCOMES
SPECIFIC POPULATIONS - High HIV viremia among adolescents in Teen Clubs, Malawi

Teen clubs of 10-19 year olds in Malawi, run by EGPAF - “Ariel teen clubs”, monthly and open to all adolescents (no stability criteria)

Cross sectional study from 38 facilities in Malawi, n=1,345 adolescents, median age 15 years, 53% female

30% of adolescents had virema (high VL >1000 copies/mL), less (aOR 0.52, 95% CI 0.33-0.8) likely in secondary school adolescents compared to primary school

https://cattendee.abstractsonline.com/meeting/9289/Presentation/1318
SPECIFIC POPULATIONS - Low transition to adults care from HIV team clubs, Malawi

An evaluation of the effectiveness, facilitators and barriers of HIV Teen Clubs in achieving successful transition from teen to adult care in Blantyre, Malawi using the RE-AIM Framework

Jerome Galagade
University of Malawi – College of Medicine

Factors associated with successful transition from HIV Teen Club to adult care

<table>
<thead>
<tr>
<th>Variable</th>
<th>% who transitioned</th>
<th>Crude OR (95%CI)</th>
<th>P-value</th>
<th>Adjusted OR (95%CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>4.0%</td>
<td>1 (Reference)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>8.6%</td>
<td>2.3 (0.3, 11.4)</td>
<td>0.319</td>
<td></td>
</tr>
<tr>
<td>Age at transition</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≥20</td>
<td>5.3%</td>
<td>1 (Reference)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;20</td>
<td>7.5%</td>
<td>1.5 (0.3, 7.4)</td>
<td>0.460</td>
<td></td>
</tr>
<tr>
<td>Facility Location</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>12.5%</td>
<td>1 (Reference)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>1.3%</td>
<td>0.1 (0.01, 0.9)</td>
<td>0.037</td>
<td>1 (Reference)</td>
</tr>
<tr>
<td>Facility Ownership</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government</td>
<td>1.0%</td>
<td>1 (Reference)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private</td>
<td>22.9%</td>
<td>28.1 (3.4, 235.0)</td>
<td>0.002</td>
<td>22.8 (2.4, 219.0)</td>
</tr>
<tr>
<td>Adolescent Guardian</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parents</td>
<td>12.3%</td>
<td>1 (Reference)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>6.3%</td>
<td>0.5 (0.1, 2.4)</td>
<td>0.374</td>
<td></td>
</tr>
</tbody>
</table>

- Retrospective cohort of 131 adolescents in HIV team clubs in 14 primary care facilities in Malawi
- Assess fidelity of implementation of a checklist for Teen Club transition protocols
- Only 6.9% of adolescents transitions within six months of the expected transition time

https://cattendee.abstractsonline.com/meeting/9289/Presentation/3873
SPECIFIC POPULATIONS - Outcomes from postnatal clubs in Khayelitsha, South Africa

Postnatal clubs for mother-infant-pairs in Khayelitsha, South Africa

N=141 in postnatal clubs and n=221 in historical control

Improved rapid completion in infants and 12-18 month viral load completion (but not suppression) in mothers

https://cattendee.abstractsonline.com/meeting/9289/Presentation/2738
3. DSD COUNTRY PLANNING/OPTIMIZATION
OPTIMIZATION - Feasibility and determinants of multi-month scripting (MMS), Thailand

Feasibility and Determinants of Multi-month Scripting (MMS) of HIV Antiretroviral Therapy in Thailand
Pimpanitta Saenyakul1, Chidchanok Jeansuwannagom1, Aree Burmrongkithin1, Suphatchara Chaitiamras1, Suchanya Duangmung1, Marisa Sanguankwamdee2, Ravipa Vannakit2, Mathew Avery1

The Mean of days MMS were significant differences among;

- The highest was Chonburi =100 days (95% CI [93:107])
  The lowest was Samutprakarn = 68 days (95% CI [57:80]), \( p < .001 \)
- Tertiary hospitals = 95 days (95% CI [89:101])
  Secondary hospitals = 84 days (95% CI [79:89]), \( p = .004 \)
- Patients with universal health coverage = 93 days (95% CI [90:95])
  Other health rights such as employment insurance, civil servant medical benefit scheme, etc. = 81 days (95% CI [71:92]), \( p = .046 \)
- General populations = 87 days (95% CI [82:92])
  Key populations = 94 days (95% CI [90:98]), \( p = .036 \)
- Public hospitals = 94 days (95% CI [90:98])
  Private hospitals = 66 days (95% CI [57:76]), \( p < .001 \)

- Describes MMS across Thailand using patient records and with focus group discussions with providers

- 82% of client receiving 3-6 month prescriptions with differences by province, level of hospital, payment scheme (insurance) and population
  - Longer in Tertiary vs. secondary hospitals, in patients with UHC vs. other schemes, in key populations vs. general and in public vs. private hospitals

https://cattendee.abstractsonline.com/meeting/9289/Presentation/2578
OPTIMIZATION - Diversity of DSD models in Malawi, South Africa and Zambia

- Conducted interviews with 28 respondents in the three countries
- Much diversity in models, but most are individual models for stable adults
- Six month dispensing well established in Zambia, becoming more common in Malawi, limited to 2-months in South Africa

- 39% delivered services to individuals outside facilities, primarily at medication pickup points
- 29% were facility-based individual models, such as fast-track services and specialized clinics
- 24% were healthcare worker-led group models, predominantly adherence clubs
- 8% were client-led groups such as community ART groups (CAGs).

https://cattendee.abstractsonline.com/meeting/9289/Presentation/2691
OPTIMIZATION - Strategies to maintain care during major and prolonged turmoil, Haiti

Strategies to maintain patients on ART in the context of major and prolonged socio-political turmoil in Haiti

Patrice Joseph1, Jean Edouard Mathon2, Rose Irene Verdier1, Colette Guiteau1, Karine Severe3, Marc Antoine Jean Juste3, Rode Secours1, Serena Koenig3, Marie Marcelle Deschamps2, Hoi Ching Cheung3, Jean William Pape3,4

1) GHESKIO, Port-au-Prince, Haiti; 2) Harvard University, Boston, MA, USA; 3) Analysis Group, Inc., Boston, MA, USA; 4) Weill Cornell Medical Center, New York, NY, USA

- GHESKIO, largest HIV provider in the Caribbean, adapted services to respond to the political turmoil
- Key adaptations (aimed at reducing patients’ wait time) include extending clinical visits to every 6 months and support community drug distribution
- 35% reduction in the total annual number of all patients visiting centre between 2017 and 2019
- In 2019, decrease of 46% in ART patient visits, but overall loss to follow-up of only 2%

Table. Change in number of patient clinic visits and active ART patients at GHESKIO Center, 2019

<table>
<thead>
<tr>
<th></th>
<th>Patient visits</th>
<th>Active Patients on ART</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan 2019</td>
<td>18,801</td>
<td>11,044</td>
</tr>
<tr>
<td>Dec 2019</td>
<td>10,128</td>
<td>10,823</td>
</tr>
<tr>
<td>% Change</td>
<td>46%</td>
<td>2%</td>
</tr>
</tbody>
</table>

[https://cattendee.abstractsonline.com/meeting/9289/Presentation/2659](https://cattendee.abstractsonline.com/meeting/9289/Presentation/2659)
4. DSD COSTING
Estimated the total cost per patient retained at 12 months after entry into a DSD model:

a. Standard of care (SOC)

b. Community adherence groups with 3-month dispensing (CAGs), and

c. Community ART distribution with 6-month dispensing.

CAG and community distribution interactions incur costs primarily for healthcare provider staff, while facility visits include costs for infrastructure and other expenses (Fig 1)

The annual cost to patient was substantially less for the 3-months CAG and 6 months community distribution arms compared to SOC (Figure 2)

Community- based ART delivery with multi-month dispensing in Lesotho reduced provider costs of treatment by approximately 7%

Much larger savings accrued to patients from community-based models; patient costs fell by roughly 60%

Community-based models of DSD for ART for stable clients likely produce small cost savings for providers and large savings for patients in Lesotho

https://cattendee.abstractsonline.com/meeting/9289/Presentation/2599
The tool is designed to answer questions such as:

1. Where will cost savings occur when treatment scenarios are changed?
2. Which optimized treatment scenario provides the greatest cost savings
3. What is the total projected cost for different treatment scenarios annually for the next 5 years by patient by type
4. What is the overall unit cost by patient type for different treatment scenarios

The tool helps policymakers evaluate potential costs savings of various DSD models, including alternate scenarios of different service delivery schedules and types, task-shifting policies, different ARV regimes and different laboratory test schedules.

Tool is available on [http://avenirhealth.org/software-pc.php5](http://avenirhealth.org/software-pc.php5)

https://cattendee.abstractsonline.com/meeting/9289/Presentation/238
COSTING - Patient costs and satisfaction associated with DSD models for HIV treatment in four sub-Saharan African countries

Review of peer-reviewed literature, non-peer reviewed literature that reported empirical information on patient costs and satisfaction among people in DSD models in Malawi, South Africa, Tanzania, Uganda. All sources with a comparison showed a substantial reduction in patients' monetary costs and/or time spent obtaining ART compared to conventional care. A large majority of patients were satisfied with their DSD model, and most preferred a DSD model to conventional care; group models (e.g. adherence clubs) were less popular than individual models. Only a handful of studies have compared the costs to patients of DSD models to conventional care and/or reported patient satisfaction with DSD models.

Table 2. Patient satisfaction with and preference for DSD models

<table>
<thead>
<tr>
<th>Country</th>
<th>Model name</th>
<th>Satisfaction metric or model to which DSD is preferred (SOC=standard of care or conventional model)</th>
<th>% of patients reporting satisfaction with DSD model</th>
<th>% of patients reporting that they prefer the DSD model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kenya</td>
<td>Facility fast track</td>
<td>Compared to community adherence group</td>
<td>84.7%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Community adherence groups</td>
<td>Compared to facility fast track</td>
<td>15.3%</td>
<td></td>
</tr>
<tr>
<td>South Africa</td>
<td>Centralized chronic medicines dispensing and distribution</td>
<td>% patients who were happy to be enrolled in model</td>
<td>96.3%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Adherence clubs</td>
<td>% patients who were &quot;satisfied&quot; or &quot;very satisfied&quot; with care</td>
<td>96.3%</td>
<td></td>
</tr>
<tr>
<td>Tanzania</td>
<td>ARV community delivery</td>
<td>% patients who were &quot;satisfied&quot; or &quot;very satisfied&quot; with ARV community delivery</td>
<td>96.9%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Home-based delivery</td>
<td>Compared to SOC</td>
<td>86.0%</td>
<td></td>
</tr>
<tr>
<td>Zambia</td>
<td>Home-based delivery</td>
<td>Compared to adherence club or SOC</td>
<td>70.5%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Adherence clubs</td>
<td>Compared to home-based delivery or SOC</td>
<td>15.4%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Community adherence groups</td>
<td>Compared to SOC</td>
<td>89.6%</td>
<td></td>
</tr>
</tbody>
</table>

https://cattendee.abstractsonline.com/meeting/9289/Presentation/2650
5. DSD ENROLMENT STRATEGIES
ENROLLMENT STRATEGIES - Impact of changes to eligibility on DSD in Eswatini, Malawi, Tanzania and Zambia

Sought to examine how differences to DSD eligibility would impact the proportion and total number of patients eligible using PHIA data from the four countries

DSD eligibility was defined as: over 18 years, on first line ART, not on TB treatment and less than 5 missed doses in the prior 30 days

Varied eligibility by:
- Level of VL suppression (<40, 200 or 1000 copies/mL)
- Time on ART (3, 6, 12 months)
- Pregnancy/breastfeeding status.

Inclusion of pregnant and breastfeeding women would achieve the highest proportion of adults eligible across all four countries (range from 57% in Tanzania to 71% is Eswatini)

Lowest proportion from defining viral suppression as <40 or by requiring 12 months on ART

Cohort sizes for DSD programme could increase by up to 20-30%

https://cattendee.abstractsonline.com/meeting/9289/Presentation/2651
6. DSD QUANTITATIVE PATIENT OUTCOMES

6.1 ACROSS DSD MODELS
6.2 MULTI-MONTH REFILLS
6.3 FAST-LANE PICK-UP
6.4 COMMUNITY MODELS
QUANTITATIVE - Systematic review of outcomes within differentiated ART delivery models for stable clients

- Systematic review of patient ≤12m or 12-24 months post enrolment retention and VL suppression outcomes
  - In differentiated ART delivery models compared to conventional care
  - In sub-Saharan Africa
- 8 studies included
- 10/16 outcomes represented small (<10%) improvements compared to standard of care
- Two group models showed large improvements (>20%) in retention while three had slightly worse retention outcomes

https://cattendee.abstractsonline.com/meeting/9289/Presentation/2706

Most published DSD models produce equivalent or slightly better health outcomes than conventional care for patients already stable on ART
QUANTITATIVE - Patient outcomes during scale-up of multiple models, South Africa

Comparison of DSD model outcomes when patients given a choice of model in routine setting

- Compared to patients who qualified for differentiated ART delivery but not enrolled.

- *All models only provide clinical review annually*

- Small numbers in Community ART Groups (N=178)/Community Adherence Clubs (N=104) but significant numbers in Facility Adherence Clubs (N=3482)/Spaced Fast Lane Appointments (SFLA) (N=2101)/Community Pick-up Points (PuP) (N=3616)

- Overall retention at 12, 24 and 36 months in DSD models was high, and significantly higher than compared to SoC (yellow bars)

- Viral suppression was high among those in PuPs and SLFA

https://cattendee.abstractsonline.com/meeting/9289/Presentation/2564
QUANTITATIVE - 24-month outcomes of extended (6 monthly) ART refills in Adherence Clubs from a randomized control trial

- RCT of standard of care (SoC) adherence clubs (ACs) and intervention ACs with 6-monthly ART refills
- N= 1,173 SoC & 977 Intervention patients
- Non-inferior retention, viral load completion and suppression at 24-months

24-month retention
Intervention: 93.1% (95% CI: 91.2-94.7%)
SoC: 94.0% (95% CI:92.4-95.2%)

Viral load completion
Intervention: 94.5% (95% CI:92.9-95.8%)
SOC: 89.3% (95% CI: 85.6-92.1%)

Viral load suppression
Intervention: 96.3%
(95% CI:94.6-97.58%)
SOC: 97.5% (95% CI: 96.4-98.3%)

https://cattendee.abstractsonline.com/meeting/9289/presentation/3756
QUANTITATIVE - Impact of multi-month scripts and dispensing on outcomes, Nigeria and Tanzania

- Increased likelihood of being retained the longer the script (small numbers beyond 3 months)
  
  [Link](https://cattendee.abstractsonline.com/meeting/9289/Presentation/1374)

### Table: Percentage Retention on ART for Patients with Multi-month Drug Supply

<table>
<thead>
<tr>
<th>Description</th>
<th>Retained on ART</th>
<th>Overall Retention (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number of Patients (6,936)</td>
<td>Yes 6,389</td>
<td>92%</td>
</tr>
<tr>
<td></td>
<td>No 547</td>
<td></td>
</tr>
<tr>
<td>1 Month drug supply (1,268)</td>
<td>Yes 898</td>
<td>71%</td>
</tr>
<tr>
<td></td>
<td>No 370</td>
<td></td>
</tr>
<tr>
<td>2 Months drug supply (2,174)</td>
<td>Yes 2,038</td>
<td>94%</td>
</tr>
<tr>
<td></td>
<td>No 136</td>
<td></td>
</tr>
<tr>
<td>3 Months drug supply (2,991)</td>
<td>Yes 2,950</td>
<td>99%</td>
</tr>
<tr>
<td></td>
<td>No 41</td>
<td></td>
</tr>
<tr>
<td>4 Months drug supply (463)</td>
<td>Yes 463</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>No 0</td>
<td></td>
</tr>
<tr>
<td>5 Months drug supply (16)</td>
<td>Yes 16</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>No 0</td>
<td></td>
</tr>
<tr>
<td>6 Months drug supply (24)</td>
<td>Yes 24</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>No 0</td>
<td></td>
</tr>
<tr>
<td>Sub-Total: Multi-months drug supply (5,668)</td>
<td>Yes 5,491</td>
<td>97%</td>
</tr>
</tbody>
</table>

### Predictors of Missed Appointments Among HIV-Positive Patients on Lifelong Antiretroviral Therapy in Tanzania

- 6 health facilities in Tanzania
- Patients on multi-month dispensing (MMD) for ≥2 months had lower odds of missed appointments (AOR = 5.30; 95% CI [5.17-5.44])

[Link](https://cattendee.abstractsonline.com/meeting/9289/Presentation/1729)
QUANTITATIVE - 3 vs 6-month dispensing in community ART groups, Zimbabwe

Outcomes of 3 vs 6-monthly Dispensing of Antiretroviral Treatment (ART) for Stable People Living with HIV in Community ART Refill Groups: a Cluster-Randomized Trial in Zimbabwe

- RCT between SoC (3-monthly health facility drug pick-up) 3 and 6-monthly CARGs in Zimbabwe
  - Annual clinical visit and viral load across arms
- 12-month retention high in both CARG arms: non-inferior (3MMD Facility=93%, 3M CARG=94.8% and 6MMD CARG=95.5%)
- Men had improved retention in 3MMD CARG model and people who lived>9km from clinic in the 6MMD CARG model.
- Rural clinic patients had higher retention in CARG than facility pick-up model.

https://cattendee.abstractsonline.com/meeting/9289/Presentation/2685

Table 1: Participant retention in ART care (primary outcome) after 12 months (all participants)

<table>
<thead>
<tr>
<th>Arm</th>
<th>Enrolled</th>
<th>Retained</th>
<th>Adjusted Risk Difference (RD)</th>
<th>95% CI</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>3MF (control)</td>
<td>1919</td>
<td>1784</td>
<td>93.0%</td>
<td>Ref</td>
<td>-</td>
</tr>
<tr>
<td>3MC</td>
<td>1335</td>
<td>1265</td>
<td>94.8%</td>
<td>1.1%</td>
<td>-0.5 to 2.8</td>
</tr>
<tr>
<td>6MC</td>
<td>1546</td>
<td>1477</td>
<td>95.5%</td>
<td>1.2%</td>
<td>-1.0 to 3.6</td>
</tr>
<tr>
<td>6MC vs. 3MC</td>
<td>0.1%</td>
<td>-2.4 to 2.6</td>
<td>0.93</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
QUANTITATIVE - Outcomes of community-based differentiated ART delivery models, South AFrica

- Secondary analysis within STREAM trial
- 390 people living with HIV assessed for CCMDD eligibility and outcomes after 12m on ART
- Importantly - indicates proportion eligible for differentiated ART delivery at 6m on ART

https://cattendee.abstractsonline.com/meeting/9289/Presentation/420
QUANTITATIVE - Expansion of the centralized chronic medication dispensing and distribution programme, South Africa
QUANTITATIVE - Improved outcomes in ART clubs, Tanzania

- Compared outcomes of nurse overseen and CHW-led ART clubs with patients remaining in clinics (not clear if including only those eligible or all patients)
- n=2,521 with 25% in DSD model
- Outcomes:
  - DSD patients 92% vs SOC 82% retention at 12m
  - DSD patients 99.2% vs SOC 95.7% adherence (not defined) at 12m
  - SOC patients more likely to become unstable over time (appears they started stable)
  - Urban patients more likely to become unstable over time

https://cattendee.abstractsonline.com/meeting/9289/Presentation/2710
Expanding access to HIV treatment in low- and middle-income countries through decentralized drug distribution in the private sector

H. Mawusee1, K. Badiana1, T. Minior1, S. Bakes1, J. Tayag2, M. Hijazi1
1 USAID, Office of HIV/AIDS, Washington, DC, United States, 2 USAID, South Africa, Pretoria, South Africa

Nigeria Case Study: Success of a Private Pharmacy Model

Between 2016 to 2019, USAID’s Sustainable Financing Initiative established ARV refill services at 117 private clinics and 320 private pharmacies across four states in Nigeria, enabling nearly 18,000 patients to pick up medication closer to home. 95 percent of patients picked up their refills on time, and 93 percent of patients were retained in the model, with 5 percent opting to return to the public sector and only 2 percent defaulting. Pharmacy visit times were under 30 minutes, compared with an average of 2.3 hours in the public sector. This work was estimated to provide a 45 percent return on investment to PEPFAR due to reduced client load and associated staffing and overhead costs at public facilities. The program is now sustainably operating without SFI investment.

https://cattendee.abstractsonline.com/meeting/9289/Presentation/2641
QUANTATIVE - Adherence Clubs for men who have sex with men, Uganda

- Challenge: Poor VL suppression among MSM (11.9% 15/126 across 8 facilities).

- Set up adherence clubs for MSM across Uganda – 71 eligible with VL suppression and 1 year on ART.

- 10 clubs, 4-11 patients/club, across Uganda with lay HCW trained in gender and sexual diversity.

- Patient preference for monthly meetings

- Followed for 11 months all remained suppressed

https://cattendee.abstractsonline.com/meeting/9289/Presentation/2642
QUANTITATIVE - PopART RCT of Clubs and home-based delivery, Zambia

Viral suppression in stable HIV+ patients in two community models of ART delivery: A cluster-randomized trial nested within the HPTN 071 (PopART) trial in Lusaka, Zambia

Mohammed Limbada1, David Macleod2, Kenny Chileshe3, Ellen Muhau1, Osborne Shibwela1, Sian Hoyd, Ab Schaap1,4, Richard Hayes2, Sarah Fielder1 and Helen Ayles1,4 on behalf of the HPTN 071 (PopART) Study Team

1. Zambart, Lusaka Zambian, 2. Department of Infectious Disease Epidemiology, London School of Hygiene and Tropical Medicine, London, United Kingdom, 3. Imperial College and Imperial college NIHR BRC, London, United Kingdom 4. Department of Clinical Research, London School of Hygiene and Tropical Medicine, London, United Kingdom.

- RCT comparing:
  - SOC (3m refill + clinical)
  - adherence club (AC) (3m refill + 6m clinical)
  - home-based delivery (HBD) (3m refill + 6m clinical)
- Patients given choice between HBD and AC
- n=2,489, followed for 12-months
- High VL suppression across 3 arms (all >98%) –
- LTFU low across arms SOC: 52/781, HBD: 18/852, AC: 20/808)
- Higher known mortality in community arms – more in HBD (17) AC (7) SOC (2)

https://cattendee.abstractsonline.com/meeting/9289/Presentation/2694
7. DSD QUALITATIVE OUTCOMES
QUALITATIVE – Reasons eligible patients have not joined 6MMD, Ethiopia

"You are not benefiting us by keeping us away": Why do some people decline to participate in Ethiopia’s appointment spacing model with 6-month antiretroviral therapy (ART) dispensing?

- 12 focus group discussions (FGDs) with clients eligible for new 6MMD program (known as the “appointment spacing model” or ASM)
- Half on ASM, half declined ASM, n=93
- All on 6MMD very satisfied
- Reasons for declining 6MMD:
  - Decreased frequency of health facility visits
  - Lack of safe and private space for medication storage
  - Misunderstanding about ASM and mistrust in healthcare system

Conclusion
ASM may not suit everyone, but acceptability may be improved by:
- Optimizing ART packaging
- Enhanced education / orientation to reduce misunderstandings and misconceptions
- Improved community engagement and/or supplement comm support services

https://cattendee.abstractsonline.com/meeting/9289/Presentation/2627
QUALTIATIVE – Reasons for adolescents disengaging from HIV care, Kenya

Semi structured interviews with adolescents living with HIV (n=32) + caregivers (n=25) in Kenya who were LTFU more >60 days, and started ART within preceding 18 months

Reasons for disengagement included:
- Stigma (Drop out to avoid disclosure; enacted stigma -neglect upon disclosure; anticipated stigma – at clinic or school )
- Family-level factors (especially when orphaned and/or newly living with caregivers who lacked the knowledge or resources to support them in care)
- Financial (e.g. transportation, especially when newly orphaned/new caregivers)
- Mental health (‘giving up on life’)

https://cattendee.abstractsonline.com/meeting/9289/Presentation/1311
Focus group discussions with clients (32 FGDs), professional (n=16) and lay providers (n=16) + interviews with staff
Inductive and deductive analysis to synthesize findings under the themes – acceptability, appropriateness and feasibility

<table>
<thead>
<tr>
<th>Theme</th>
<th>Patients</th>
<th>Providers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acceptability</td>
<td>Highly acceptable</td>
<td>Highly acceptable</td>
</tr>
<tr>
<td>Appropriateness</td>
<td>Highly appropriate</td>
<td>Moderately appropriate</td>
</tr>
<tr>
<td>Feasibility</td>
<td>Moderately feasible/scalable</td>
<td>Moderately feasible/scalable</td>
</tr>
</tbody>
</table>

https://cattendee.abstractsonline.com/meeting/9289/Presentation/2734
In-depth interviews with 23 patients, 7 healthcare workers and 6 key informants of randomized control trial of 6-monthly ART Adherence Clubs vs. standard of care adherence clubs

**Pros:** increased convenience, improved motivation for treatment adherence, increased confidentiality (limit unintended disclosure), increased health system efficiency

**Cons:** concern for adequate drug supply

Six-month ART refills could improve efficiency and patient-centredness of differentiated HIV service delivery

[https://cattendee.abstractsonline.com/meeting/9289/Presentation/3862](https://cattendee.abstractsonline.com/meeting/9289/Presentation/3862)
QUALITATIVE - Barriers and facilitators of PrEP use before and after implementation of a PrEP program for key populations, Uganda

Interviews (n=75) & focus groups (12 groups, n=94) pre and post (individuals who had started, discontinued, and refused PrEP) PrEP rollout in Uganda.

Conclusion: Uptake and adherence could be improved with good comms/opinion leaders as users; continuation may be facilitated with flexible delivery and refill models

https://cattendee.abstractsonline.com/meeting/9289/Presentation/2586
8. DSD FOR PrEP
Bringing PrEP closer to home: Why now is the time for differentiated PrEP

Pre-recorded satellite featuring:

- PrEP screening, initiation, follow-up and continuation at drop-in centre
- 3-month PrEP refills

Increase in digital demand creation, mobile PrEP services and 2-monthly PrEP refills

Peer-led approaches for reaching female sex workers with PrEP in Ethiopia, Fethia Keder, PSI

Bringing PrEP to key populations in Thailand, Nittaya Phanuphak, Institute of HIV Research and Innovation

Taking PrEP online: Project PrEP in South Africa – Saiga Mullick, Wits Reproductive Health Institute

http://differentiatedservicedelivery.org/Resources/differentiated_PrEP_slides
Bringing PrEP closer to home: Why now is the time for differentiated PrEP

Live session

Bringing PrEP closer to home: Why is now the time for differentiated PrEP? Part II (Live session!)
Co-chairs: Kimberly Green (PATH); Jessica Rodrigues (AVAC), Anna Grimsrud (IAS)

1. Why differentiated PrEP matters? Session and speaker introduction
   Kimberly Green, PATH, Vietnam

2. Setting the scene: People before programmes—the case for diversifying PrEP delivery
   Jessica Rodrigues, AVAC, United States

3. Reflections from the pre-recorded session
   Anna Grimsrud, International AIDS Society, South Africa

4. Country case studies
   - The Kelley-Ross Clinic One-Step PrEP Program
     Elyse Tung, Kelley-Ross Pharmacy Group, United States
   - #PrEPLove: Key population-led PrEP services
     Tham Thi Tran, PATH and Lu Trong Tin, Glink, Vietnam
   - Diversifying PrEP delivery for adolescent girls and young women in Kenya
     Habel Alwang’a, PATH, Kenya

http://differentiatedservicedelivery.org/Resources/differentiated_PrEP_slides
9. RE-ENGAGEMENT STRATEGIES
RE-ENGAGEMENT - Impact of a campaign for re-engagement, South Africa

- Two-part campaign in the Johannesburg Health District to encourage patients to return to care
  - *Part 1*: Healthcare worker training on how to manage returning patients
  - *Part 2*: Mass media messaging on importance of return to care

- Saw a 92% increase in people returning to care

- Not all components were implemented
  - 25% reported patients were sent to the back of the queue and that staff insist on transfer letters
  - 69% of staff responded they educate and offer differentiated care
  - 83% welcome and 77% encourage those that return
  - 11% give shorter ART refill

https://cattendee.abstractsonline.com/meeting/9289/Presentation/2218
RE-ENGAGEMENT - Patient-reported reasons for missed appointments from a large South African sample

- Total of 31,315 responses categorised, a total 29,102 included in the analysis
- Sample was 68% female, median age of 34 years and median duration on ART of 27 months
- Patient-based barriers (59%), clinic based (21%), structural (13%) and medical (7%)
- 32% of patients were misclassified as having missed their appointment due to data capture barriers
  - The most common reason for misclassification was “receiving ART through a DSD modality (55%)
    - 34% transfer to another clinic
    - 11% visit not captured
- Conclusion that patient-based interventions such as appointment reminder and case managers would be beneficial
- And that misclassification of those who are in a DSD model or who have transferred contributed significantly to data capture barriers

https://cattendee.abstractsonline.com/meeting/9289/Presentation/2588
10. TESTING AND LINKAGE
TESTING - Improvements in case finding with community-led testing, Nepal

HIV services closer to the communities: community-level interventions to optimize HIV case findings and treatment initiation in Nepal

Ashima Shrestha, FHI 360/LINKAGES Nepal Project

- Community-led testing increased number of cases identified including community index testing
- Peer navigation helped increase linkage
- [https://cattendee.abstractsonline.com/meeting/9289/Presentation/422](https://cattendee.abstractsonline.com/meeting/9289/Presentation/422)
TESTING - Increased testing and yield with faith-based testing and ART initiation services, Zambia

- Set up faith-based service posts – testing, ART initiation and follow-up linked with parent clinic
  - in busy area with men and other underserved populations
- Only tested based on risk and index
- Testing and yield increased substantially especially for men
- PEPFAR linkage proxy – 103%

https://cattendee.abstractsonline.com/meeting/9289/Presentation/2376
Informal providers can increase uptake of HIV testing among adults of unknown serostatus: Results from a cluster randomized pilot study in southwestern Uganda

Radhika Sundararajan, Weill Cornell Medical College

- Small testing intervention RCT
- Randomized traditional healers to either doing oral HIVST for clients or alternatively educating on HIV and referring to closest clinics
- 250/250 (100%) in intervention arm tested with 4% positive (10) and 7 started ART
- 57/250 (22.8%) tested at clinic with 0 new positives identified

https://cattendee.abstractsonline.com/meeting/9289/presentation/407
TESTING - Combining enhanced peer outreach and index testing, India

- Combined enhanced peer outreach approach with index testing

https://cattendee.abstractsonline.com/meeting/9289/Presentation/421
TESTING & LINKAGE - ART initiation within key population drop-in centres, Cameroon

Combined strategies to increase testing and linkage for MSM and FSW

On-site initiation at drop in centres/same day initiation/motivational interviewing/on demand appointment to link beneficiaries to treatment after hours/peer navigation and sensitizing health facilities

https://cattendee.abstractsonline.com/meeting/9289/Presentation/2635
TESTING - Outcomes of differentiated ART testing: Family planning retesting, Angola

Optimization of HIV testing in the Family Planning Service in a Health Facility in Luanda, Angola

Raul Nhononbe, Carlos Lourdes, João Pires, Joana Maria, Ariete Cruz, Amélia Ukuahembe, Marta Fonseca, Lúcia Furtado, Eduarda Gusmão, Juliana Soares Linn

- Implemented family planning retesting SOP
- Reduced HIV tests provided from 1427 to 331
- Reduced HIV positives found 7 to 5
- Higher yield for fewer tests but missed 2 new positives

Figure 1 Comparison of HIV positivity yield between standard approach and focused approach for HIV retesting in FP services.

https://cattendee.abstractsonline.com/meeting/9289/Presentation/2486
Testing - Different testing approaches to reach men, Uganda

**Lessons Learned**

<table>
<thead>
<tr>
<th>Period</th>
<th>Flexi Hour Testing</th>
<th>Social Network Strategy (SNS)</th>
<th>Assisted Partner Notification (APN)</th>
<th>HIV Self Testing (HIVST)</th>
<th>WorkPlace Testing</th>
<th>TOTAL HTS</th>
<th>TOTAL POS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oct-Dec 2018</td>
<td>1135</td>
<td>2207</td>
<td>2354</td>
<td>2354</td>
<td>504</td>
<td>6716</td>
<td>650</td>
</tr>
<tr>
<td>Jan-March 2019</td>
<td>1809</td>
<td>2982</td>
<td>2107</td>
<td>3374</td>
<td>154</td>
<td>7191</td>
<td>738</td>
</tr>
<tr>
<td>April-June 2019</td>
<td>2195</td>
<td>3141</td>
<td>8572</td>
<td>138</td>
<td>8770</td>
<td>22677</td>
<td>2394</td>
</tr>
<tr>
<td>July-Sept 2019</td>
<td>2195</td>
<td>343</td>
<td>399</td>
<td>107</td>
<td>1006</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>5139</td>
<td>195</td>
<td>8330</td>
<td>34</td>
<td>22677</td>
<td>2394</td>
<td></td>
</tr>
<tr>
<td>% Yield</td>
<td>4%</td>
<td>18%</td>
<td>20%</td>
<td>5%</td>
<td>11%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Implemented 4 testing approaches aimed at men – APN, social network testing at facilities, late hrs at 25 facilities, HIVST for partners of pregnant and breastfeeding women, workplace HTS using male champions

[https://cattendee.abstractsonline.com/meeting/9289/Presentation/2684](https://cattendee.abstractsonline.com/meeting/9289/Presentation/2684)
Time lapse from HIV test to ART initiation was not a significant predictor of long term retention.

- Retrospective analysis – patients >18 years initiating ART at 20 HIV facilities from April 2016-Sept 2019.
- 1,873 patient with HIV test and ART initiation recorded – looked at return at 1m depending on whether:
  - same day initiation (61%),
  - 1-7 days (21%) or
  - 8+ days (18%).
- Same day lower retention at 1m (82.1%), 1-7 days (91.7%), 8+ days (93.9%).
- Long term term retention not impacted by time to start.

[Link to presentation](https://cattendee.abstractsonline.com/meeting/9289/Presentation/2674)
TESTING & LINKAGE - Integrated “Siyenza” approach to increase linkage and same-day initiation, South Africa

Increases in Proxy Linkage and Same-Day Initiation of Anti-Retroviral Therapy: Findings from the “Siyenza” Approach in South Africa

Jonathan M. Grund 1, Sarah E. Porter 1, Monica Patton 1, Vanessa Da Costa 1, Romy Overmeyer 2, Melissa Briggs-Hagen 1, Romel Lacson 1, Jackie Paterson 3, Dino Rech 4, Yogan Pillay 5, Amy Herman-Roinioti 1
1 Centers for Disease Control and Prevention (CDC), Division of Global HIV & TB, Pretoria, South Africa 2 National Department of Health (NDOH), Pretoria, South Africa 3 Health Systems Trust (HST), Durban, South Africa 4 The Aurum Institute, Johannesburg, South Africa

Siyenza Interventions
- Implement program fundamentals well: HIV case finding; same-day ART initiation, immediate tracking and tracing for “out of care” clients, and transitioning stable clients into differentiated care
- Follow the data: reach men and young women with tailored programs; linking the missing PLHIV to ART
- Improve data systems and data use at all levels

Figure 1. Proportion of HIV positive clients initiated on ART increased in 69 Siyenza facilities in 5 districts in South Africa

Figure 2. Proportion of same-day ART initiations increased in 69 Siyenza facilities in 5 districts in South Africa

https://cattendee.abstractsonline.com/meeting/9289/Presentation/3864
11. DSD AND ADVANCED HIV DISEASE
ADVANCED HIV DISEASE - Post discharge linkage for AHD patients, South Africa

- Specific linkage officer visits patient before discharge
- Linkage officer makes call to patient at days 7, 14, 21 and 28 post discharge
- If ART not started linkage officer liaises with clinician at hospital, at primary care site and arranges home visit as needed

https://cattendee.abstractsonline.com/meeting/9289/Presentation/386
ADVANCED HIV DISEASE - Post discharge linkage for AHD patients, South Africa (2)

- Before implementing the model, an average of 55% of clients needing ART were confirmed to have initiated treatment following hospital admission.
- After implementation, over 90% of clients had initiated ART within 28-days post-discharge.
- This model can be described using the building blocks approach.

https://cattendee.abstractsonline.com/meeting/9289/Presentation/386
ADVANCED HIV DISEASE - Building capacity for management of patients on advanced ART regimes through guided practice using telemonitoring, KENYA

- Zoom platform was used to assist clinicians at remote sites to make decisions to switch patients to second and third line
- Multi site covering 245 staff
- Increased confidence of staff in remote sites
- Reduced need for patients to travel to centralised sites

https://cattendee.abstractsonline.com/meeting/9289/Presentation/385

Staff participant characteristics:

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>N=245 n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>157 (64%)</td>
</tr>
<tr>
<td>Median age (IQR)</td>
<td>38 (33-43)</td>
</tr>
<tr>
<td>≥5 years of experience</td>
<td>167 (68%)</td>
</tr>
<tr>
<td>Type of staff</td>
<td></td>
</tr>
<tr>
<td>Nurse</td>
<td>53 (22%)</td>
</tr>
<tr>
<td>Clinical officer</td>
<td>62 (25%)</td>
</tr>
<tr>
<td>Counsellor</td>
<td>79 (32%)</td>
</tr>
<tr>
<td>Nutritionist</td>
<td>17 (7%)</td>
</tr>
<tr>
<td>Social worker</td>
<td>10 (4%)</td>
</tr>
<tr>
<td>Other</td>
<td>25 (10%)</td>
</tr>
</tbody>
</table>

Key themes identified through SSIs:

- **Facilitators**
  - Participatory format
  - Inclusion of multiple sites
  - Access to experts
  - Session coordinator
  - Provision of pre-paid internet data bundles

- **Barriers**
  - Unstable internet
  - Technology issues
  - Rain (poor audio)
  - Inadequate devices
  - Schedule interruptions

Pre/post intervention questionnaire (n=52):

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Pre Mean</th>
<th>95% CI</th>
<th>Post Mean</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manage patients on 2nd line ART</td>
<td>6.5</td>
<td>6.2-6.8</td>
<td>5.0</td>
<td>4.7-5.4</td>
</tr>
<tr>
<td>Switch ART for 2nd line failure</td>
<td>3.8</td>
<td>4.3-5.3</td>
<td>4.9</td>
<td>3.4-5.5</td>
</tr>
<tr>
<td>Manage patients on 3rd line ART</td>
<td>6.0</td>
<td>5.7-6.4</td>
<td>3.8</td>
<td>3.3-4.3</td>
</tr>
<tr>
<td>Identify barriers to adherence</td>
<td>4.9</td>
<td>4.5-5.5</td>
<td>5.8</td>
<td>5.6-6.1</td>
</tr>
<tr>
<td>Use MMAS-8 adherence scale</td>
<td>5.5</td>
<td>5.2-5.9</td>
<td>5.5</td>
<td>5.2-5.8</td>
</tr>
<tr>
<td>Provide adherence support</td>
<td>4.9</td>
<td>4.8-6.0</td>
<td>5.8</td>
<td>5.4-6.1</td>
</tr>
<tr>
<td>Construct a multidisciplinary team plan</td>
<td>5.2</td>
<td>4.7-5.5</td>
<td>5.4</td>
<td>4.2-5.1</td>
</tr>
<tr>
<td>Interpret a HIV drug resistance test</td>
<td>5.0</td>
<td>4.7-5.5</td>
<td>5.4</td>
<td>4.2-5.1</td>
</tr>
</tbody>
</table>

*Likert scale: 1: None or no skills, 2: Vague knowledge, skills or competence, 3: Slight knowledge, skills or competence, 4: Average among peers, 5: Competent, 6: Very competent, 7: Expert, teach others
12. DSD AND COVID-19
DSD in 2020 – Responding to the needs of people living with HIV before, during and after COVID-19

• KENYA
  – DSD in Kenya’s HIV programme before and during COVID-19, Dr Catherine Ngugi, National AIDS and STI Control Programme
  – Scaling up DSD in Kenya during COVID-19, Dr Paul Wekesa, Centre for Health Solutions

• CAPE TOWN, SOUTH AFRICA
  – Scale up and adaption of City of Cape Town Clubs, Dr Beth Harley, City of Cape Town

• SIERRA LEONE
  – Utilizing the Network of HIV Positives in Sierra Leone (NETHIPS) for DSD during COVID-19, Idrissa Songo, NETHIPS
  – Prioritized DSD implementation in Sierra Leone due to COVID-19, Dr Alren Vandy, National AIDS Control Programme

Learning from and beyond COVID-19 for DSD, Lynne Wilkinson, International AIDS Society
http://differentiatedservicedelivery.org/resources/DSD_satellite_AIDS2020
All 14 countries have adapted national DSD programmes

- Asked people within the department of health about how DSD has changed
- 10 have expanded MMD eligibility, four waiving VL suppressed, 6 permitting newly initiated, 3 including PBFW and virally suppressed children above 2 years. 7 have increased MMD and 9 enabled MMD of TPT

[https://cattendee.abstractsonline.com/meeting/9289/Presentation/3783](https://cattendee.abstractsonline.com/meeting/9289/Presentation/3783)
DSD & COVID-19 – Expanding DSD in response to COVID-19, Trinidad and Tobago

Using differentiated models of care (DSD) to maintain gains in ART retention during the COVID-19 pandemic: Lessons from a large HIV treatment facility in Trinidad and Tobago

Presenting Author: N. Lyons (nlyons@mrftt.org)

Contributing Authors: J. Edwards, I. John, S. Todd, I. Marcellin-Wilson, W. Samaroo-Francis, O. Lavia, G. Boyce

Medical Research Foundation of Trinidad and Tobago

Figure 3: Antiretroviral Treatment (ART) Pick-Up: Mar –May (2019, 2020)

https://cattendee.abstractsonline.com/meeting/9289/Presentation/3783
DSD & COVID-19 - Costs of community-based antiretroviral therapy delivery due to COVID-19 lockdown, Uganda

**Figure 1:** ART delivery approach to client missing clinic appointments in Uganda.

- Estimated additional costs for home-delivery of HIV medicines as a result of lockdown
- Additional costs included: staff transport and allowance, motorcycle repair, purchase of delivery envelopes and airtime
- Calculated cost/patient and estimated regional cost for those who would be unable to attend due to lockdown
- Cost was $2.80/patient and an additional $34,000 would be needed to reach 15,000 patients who would miss appointments during a 6-month lockdown.

https://cattendee.abstractsonline.com/meeting/9289/Presentation/3779