

# Summary of differentiated service delivery at AIDS 2022



# All of AIDS 2022 content was considered

- Abstracts
  - Late-breaker abstracts
  - Oral abstract presentations
  - Posters
- Pre-conferences
- Symposiums and bridging sessions
- Satellites

Download the complete DSD roadmap for AIDS 2022 [here](#).



# Content summarized by thematic area


1. DSD for HIV treatment
2. DSD for PrEP
3. DSD for HIV testing and linkage
4. Re-engagement

# 1. DSD for HIV treatment

- **DSD for HIV treatment in 2022**
- Quantitative
- Qualitative
- Community models
- Include virtual and/or digital intervention
- Integration – family planning, Hepatitis B and C, mental health, NCDs, TB
- Specific populations
- Advanced HIV disease
- Cost and cost-effectiveness


## Differentiated service delivery for HIV treatment in 2022

- Pre-conference spotlighting the important role of DSD in supporting HIV treatment continuity and re-engagement in care of people living with HIV who have experienced treatment interruptions.
- Included three thematic areas:



Session 1

Building stronger HIV programme resilience



Session 2

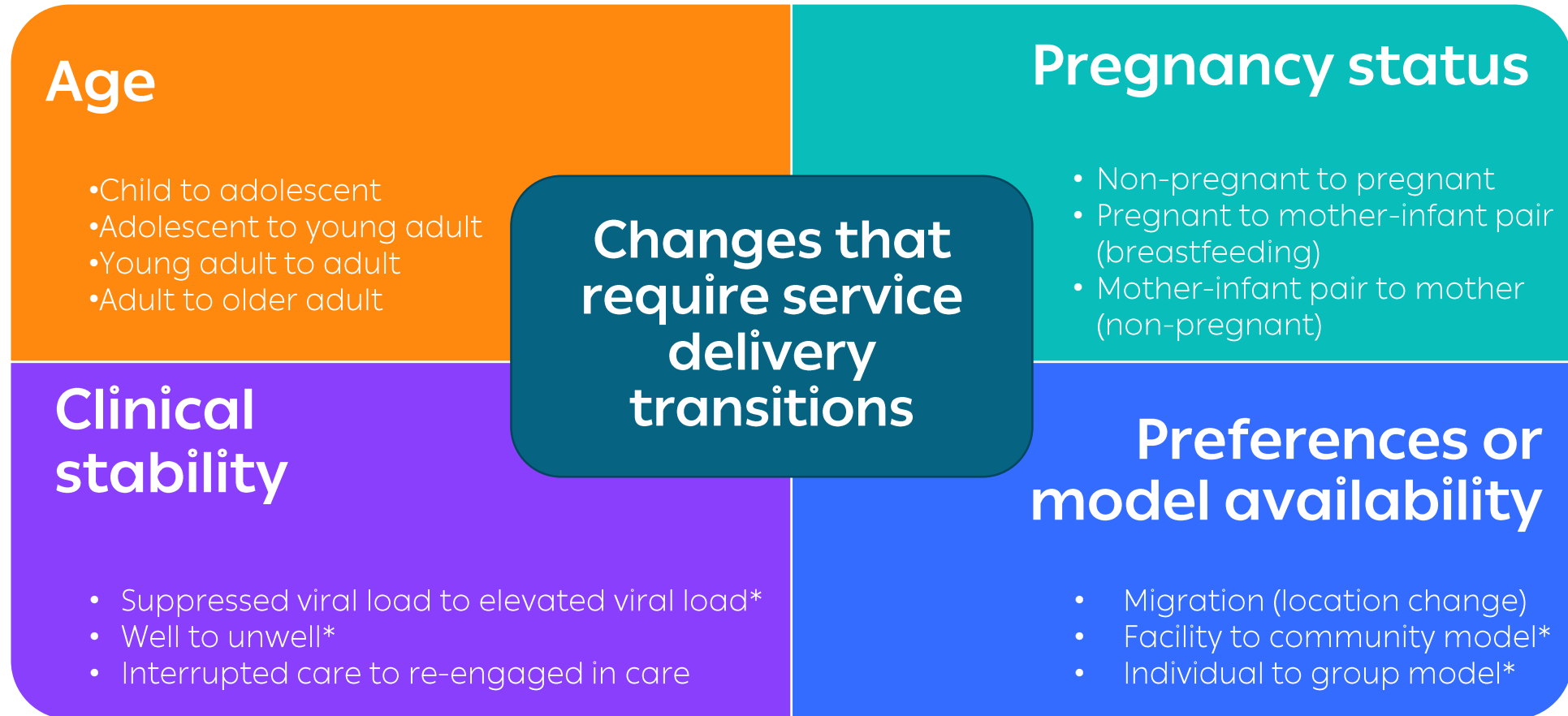
Moving into, out of and between service delivery models: Changing needs, a changing DSD model



Session 3

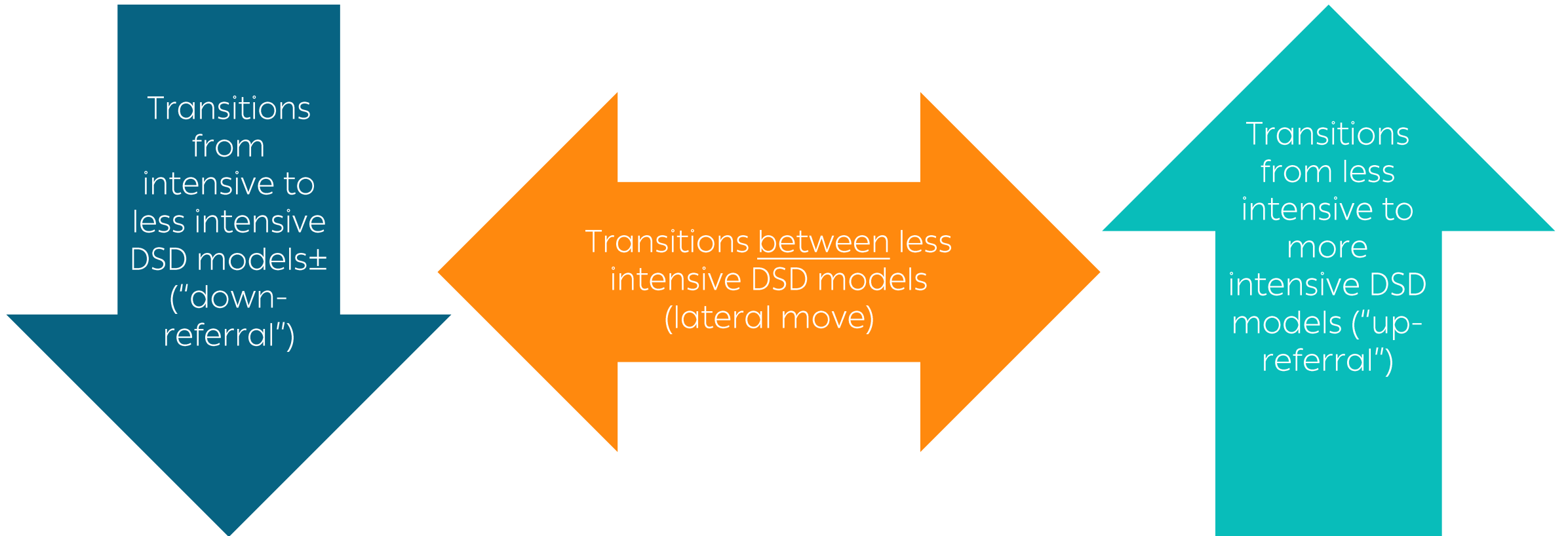
DSD to support sustained re-engagement: It shouldn't be one-size-fits all

# What changes require service delivery transitions?



\* bi-directional

# Types of service delivery transitions



$\pm$ Includes first time and transition back following a period of increased intensity

# Transition risks

## The **person** being transitioned:

- is not ready for the transition
- has not fully understood or agreed to or accepted the transition
- loses or perceives to lose a valued service component

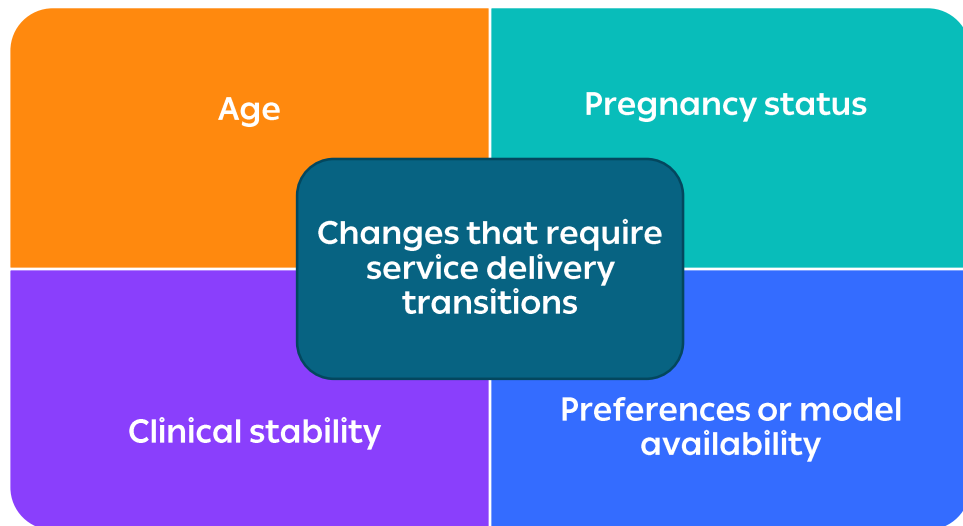
## The **health system** processes may fail to support an effective transition

- no/poor transition planning
- system failures

### For example

- prescription not submitted to appropriate drug supply system,
- ART refills not supplied to location for collection,
- ART stock outs, etc.

# Impact of poor service delivery transitions



Increased treatment interruption and losses to care occur during transitioning IN/OUT/BETWEEN DSD models



Reduced client satisfaction with poor transition planning and practices

**Need to pay increased attention to service delivery model transitions and their impact on outcomes.**

# 1. DSD for HIV treatment

- DSD for HIV treatment in 2022
- **Quantitative**
- Qualitative
- Community models
- Include virtual and/or digital intervention
- Integration – family planning, Hepatitis B and C, mental health, NCDs, TB
- Specific populations
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# Viral suppression and long term retention outcomes analysis: Expanded eligibility criteria and increased enrolment in 3MMD



## Expanded Eligibility Criteria



Reduced the time on ART required for 3MMD eligibility from 6 months to 3 months



No need for laboratory tests to verify eligibility (CD4 or viral load)



## Methodology

Retrospective cohort study of routine data collected from electronic medical records of patients enrolled in 3MMD on/after 30<sup>th</sup> March 2020, from 20 high-volume health facilities in four provinces (48% of all patients active on ART on those provinces).



### Cohort 1

Patients who met 3MMD eligibility criteria before the change in policy



### Cohort 2

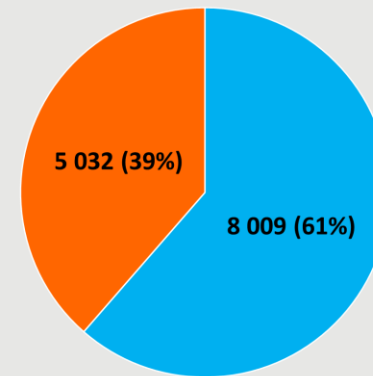
Patients who started ART on/after 1<sup>st</sup> November 2019 and became eligible for 3MMD due to the change in policy

All patients were followed until September 2020 to assess viral load suppression (VL < 1,000 copies/ml after at least 6-months on ART), and until May 2021 to assess long-term retention in care (> 12 months on ART).

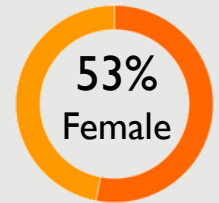
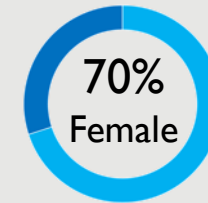
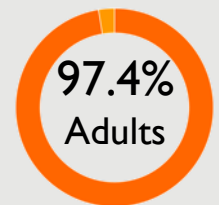
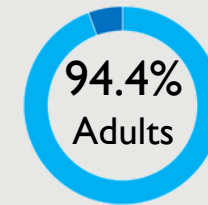


## Results

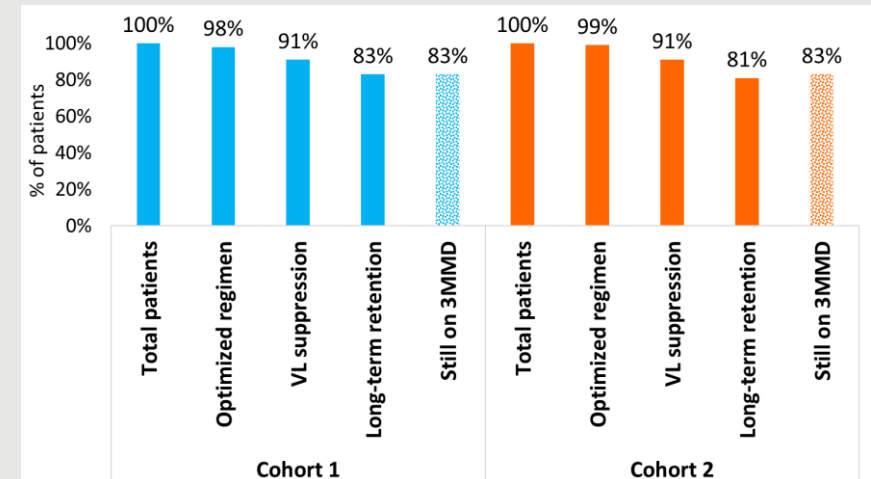
Both cohorts achieved viral suppression rates of 91%.



■ Cohort 1  
■ Cohort 2



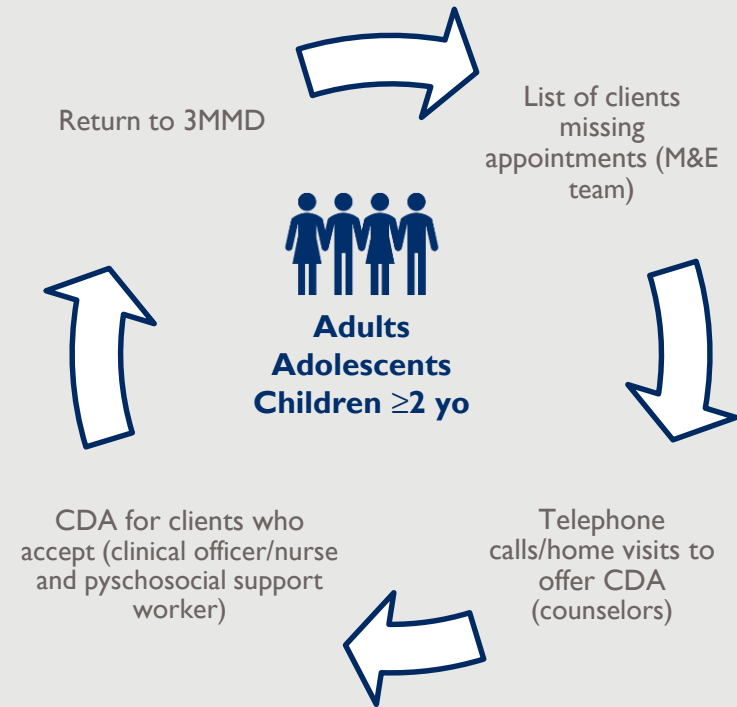
Expanded access to 3MMD had no negative impact on patients' viral load suppression (**both at 91%**) or long-term retention.



# Enrolment analysis: Community dispensing of ARVs (CDA) strategy

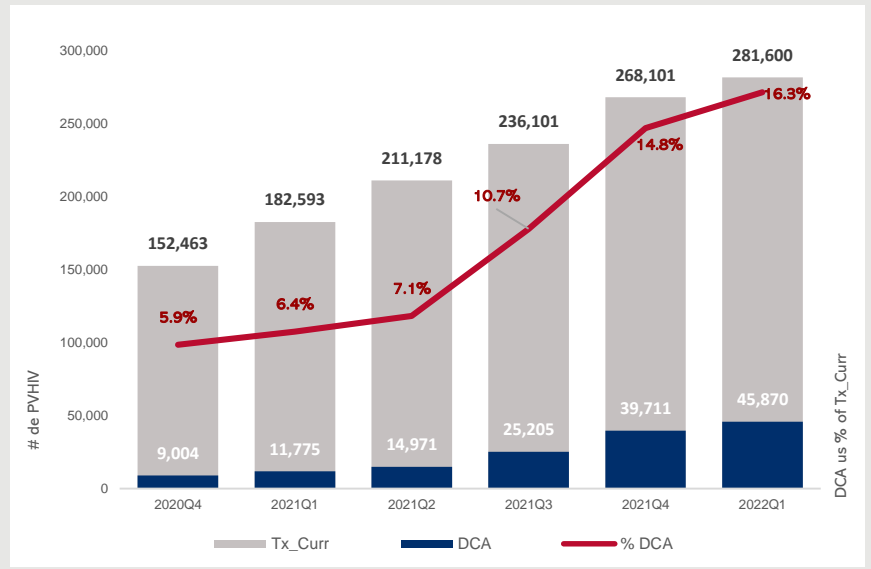
Once-off home delivery of 3-months of ART supply for people who missed appointment thereafter returning to facility-based 3MMD

## How it Works

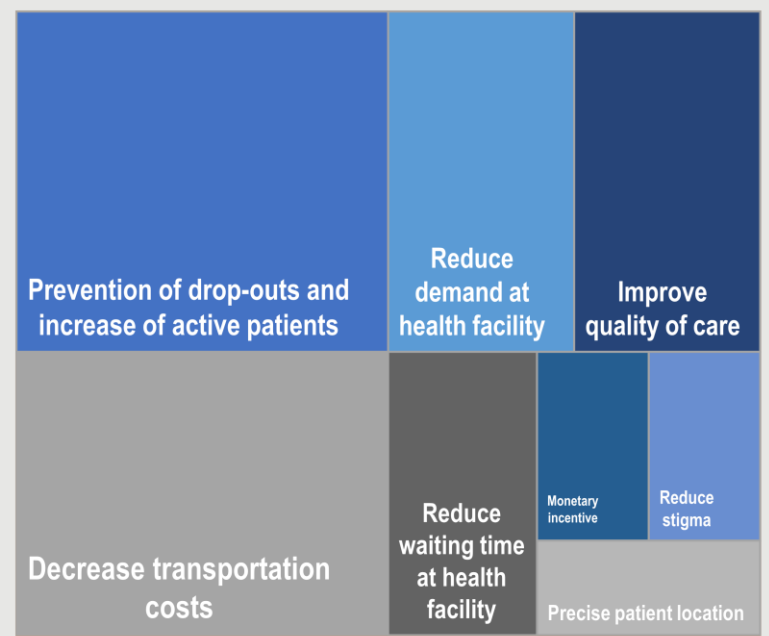


## Results

Evolution of the number of clients enrolled in CDA as % of active clients on ART (TX\_CURR only in sites with CDA), Q4FY20–Q1FY22



CDA benefits from health providers' perspectives



## Methodology

- Mix-methods:**
- Analysis of weekly monitoring data;
  - Semi-structured interviews with health providers (8 health facilities).

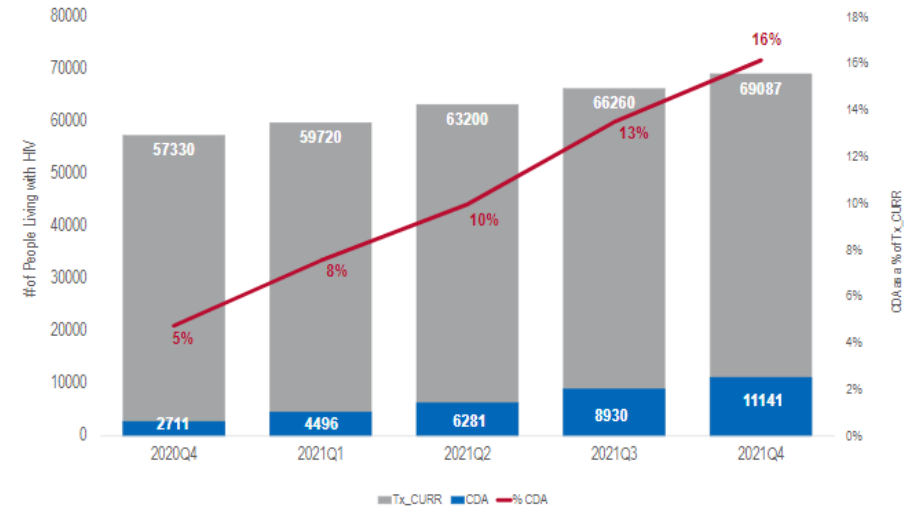
## Way Forward

- As of the end of Q1FY2022, 113 health facilities were implementing CDA by health providers;
- The strategy was formally approved by Ministry of Health and included in the updated national guidelines for differentiated models of services.

## Differentiated models of care combining three-month refills and community ARV drug distribution helped keep patients on care and treatment during the COVID-19 pandemic in Tete province, Mozambique

- Comparison of the number of current patients active on ART to determine how many patients were participating in 3-month drug distribution (3MDD) and community ARV dispensation in 33 ECHO-supported health facilities from October 2020 – September 2021.
- 84% of 69,087 active patients were participating in 3MDD and 13% were utilizing community drug dispensing.
- 3MDD enrollment increased by approx. 11,162 patients.
- Community ARV dispensing, initially at 8% of ARV dispensation in October 2020, grew to 16% by end of September 2021.

Community Distribution of ARV (CDA) trend as a % of Tx\_CURR



**Key Message:** Combining 3MDD with community ARV drug distribution reduces dropouts and increases the number of active patients on treatment.

# Expanding three-month drug distribution eligibility in Mozambique: impacts on viral load suppression and long-term retention

## Expanded eligibility criteria:



Reduced the time on ART required for 3MMD eligibility from 6 to 3 months



No need for laboratory tests to verify eligibility (CD4 or viral load)

- **Cohort 1 (C1):** Patients who met 3MMD eligibility criteria before the change in policy.
- **Cohort 2 (C2):** Patients who started ART on/after 1st November 2019 and became eligible for 3MMD due to the change in policy.

All patients were followed until September 2020 to assess VLS (VL<1,000 copies/ml after at least 6-months on ART), and until May 2021 to assess LTR.



13,041 patients were included (8,009 in C1, 5,032 in C2); 70% were female in C1 and 53% in C2, and 5.6% were children in C1 (ages 0-14 years) vs 2.6% in C2.



Distribution of patients in an optimized ART regimen was equivalent across the two cohorts, with 98% in C1 vs 99% in C2.



The distribution of patients by time on ART in C1 was: 11.5% ≤1 year; 14.5% 1-2 years, and 73.6% ≥2 years.



Viral load suppression was 91% for both cohorts.



Long-term retention was equivalent between both cohorts (83% in C1 vs 81% in C2), and for both, 83% of patients still on ART were also still on 3MMD.

These results support the implementation of the expanded 3MMD policy beyond the COVID-19 response.

**Conclusion:** Expanded access to 3MMD for HIV treatment had no negative impact on patients' viral load suppression and on long-term retention.

# Methods



**Objective: Evaluate the effect of DSD models on healthcare workers' job satisfaction, workload, and time use**

- Selected public sector clinics in Malawi (n=12), South Africa (n=21), and Zambia (n=12)
- Quantitative and qualitative survey of providers
  - Convenience sample of  $\leq 10$  DSD providers per facility between April 2021 and January 2022
  - Used principal component analysis to create an index score for job satisfaction
  - Explored associations between key variables and low reported job satisfaction
- Time and motion study
  - Convenience sample of  $\leq 5$  clinical DSD providers per facility
  - Each provider observed for 1-2 days
  - Estimated mean time (minutes) spent per provider per day on each activity. stratified by the proportion of clients enrolled in DSD models at that facility and by facility size

# Results: Workload

Figure 1: Provider-reported changes after DSD-implementation

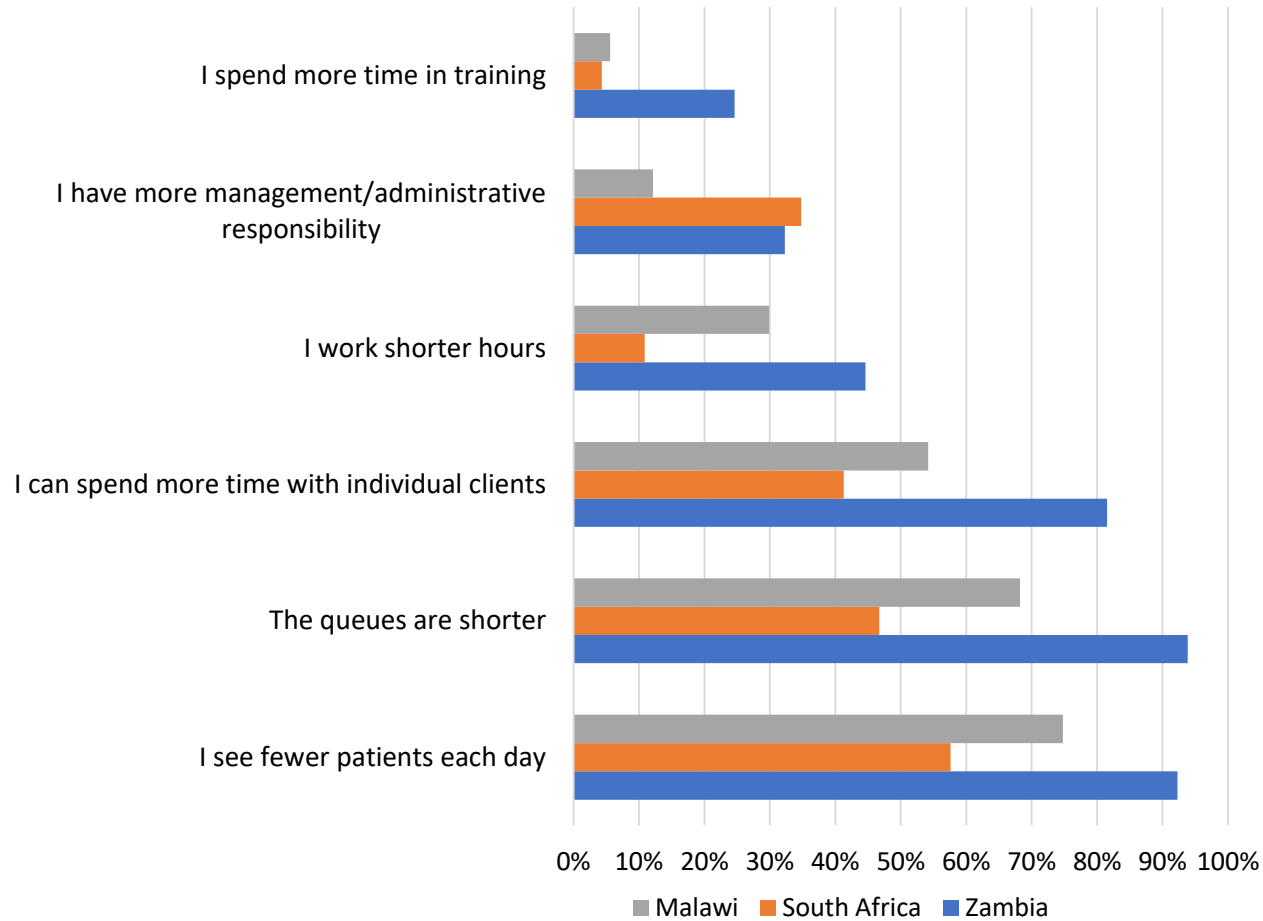
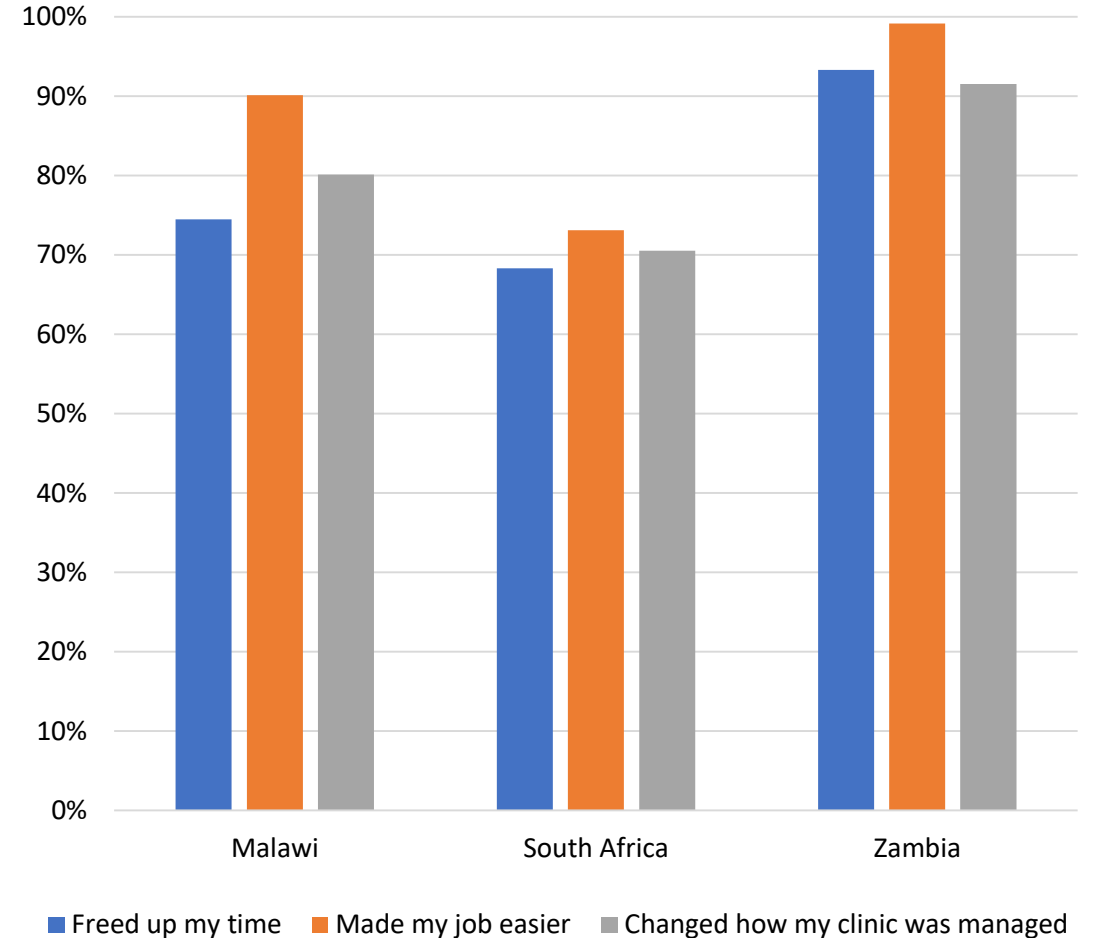
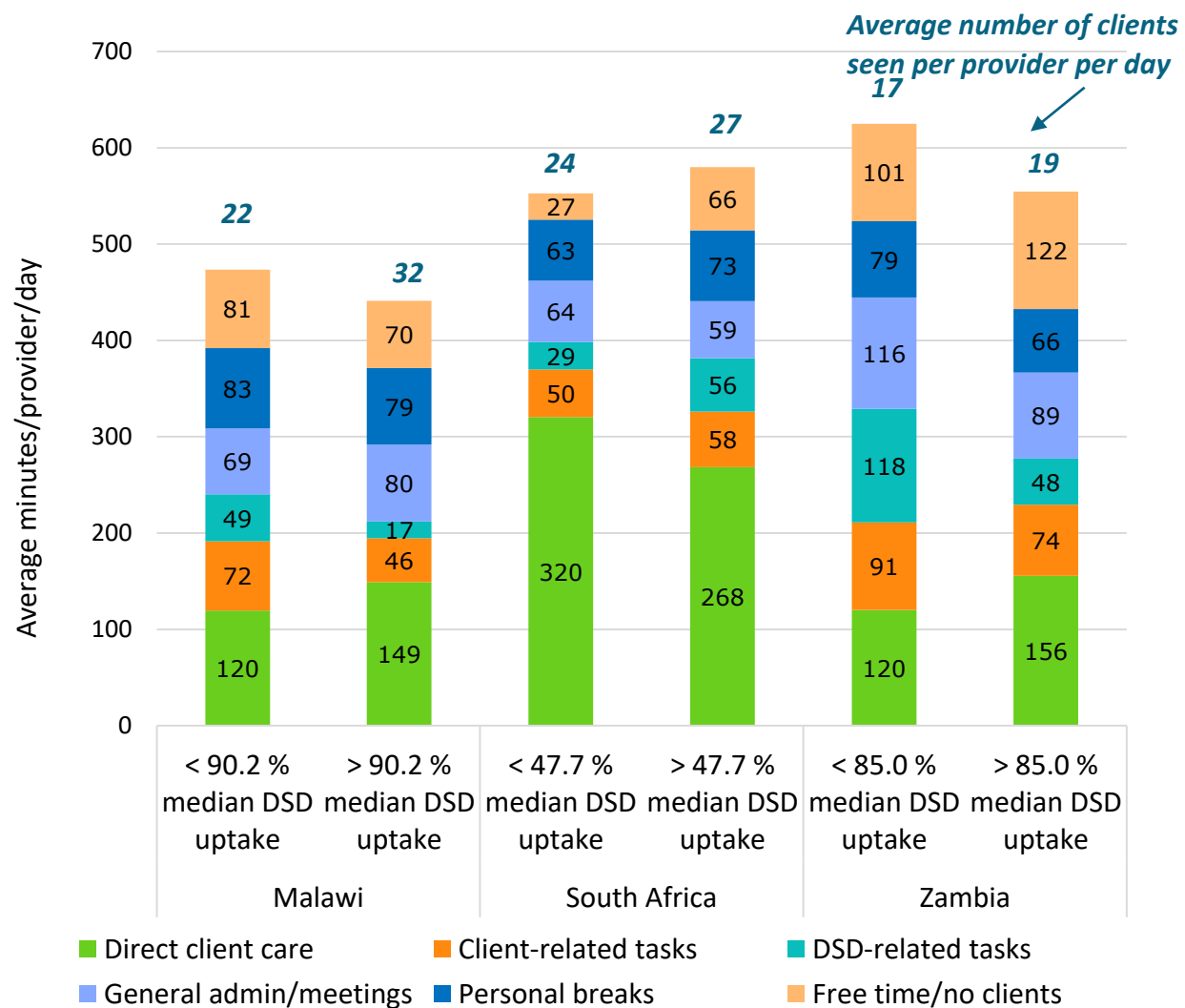


Figure 2: How did DSD implementation affect your job?



# Results: Time and motion (DSD uptake)

Figure 4: Average minutes spent by provider per activity per day

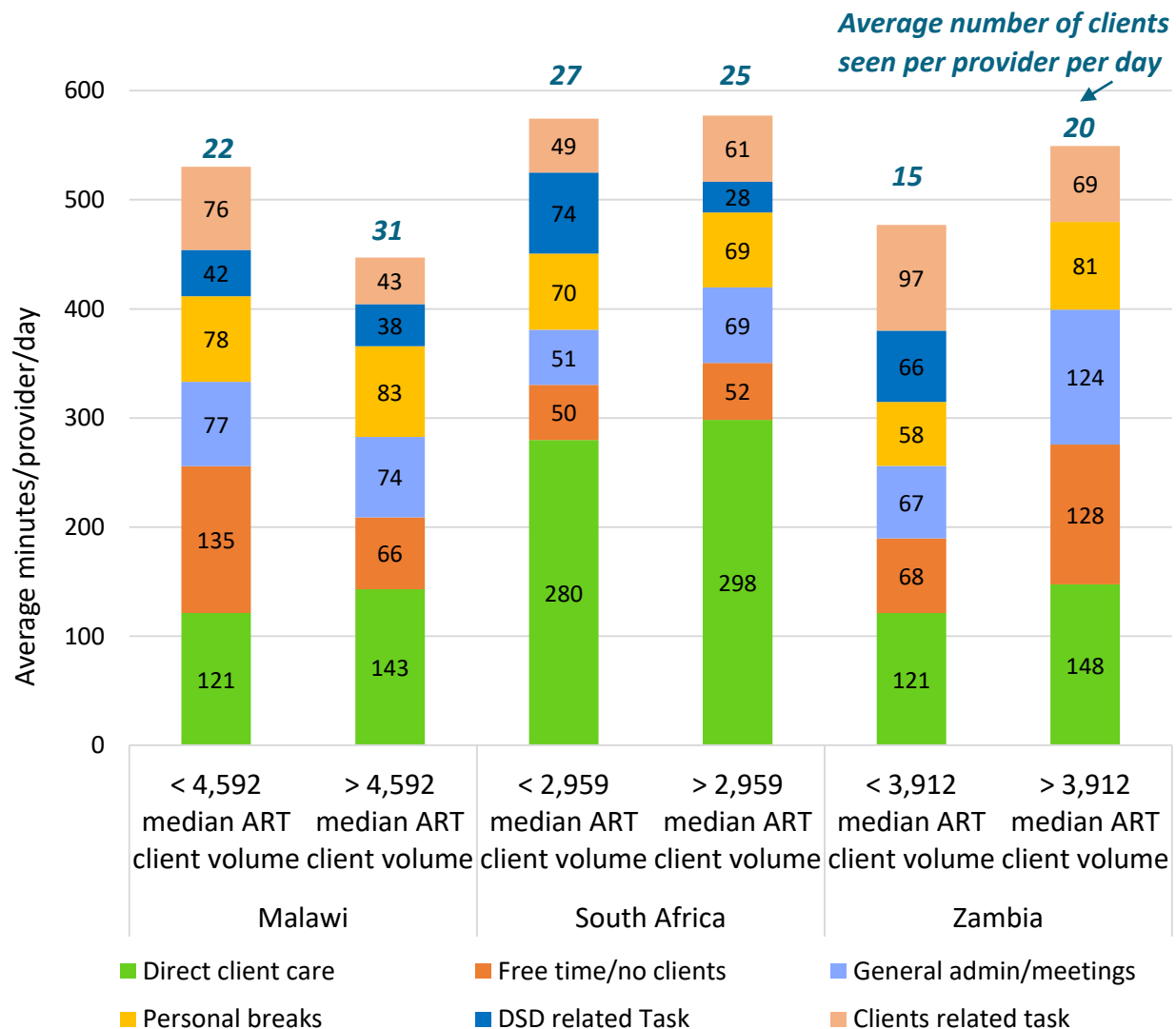


Compared to facilities with low DSD model uptake, providers in facilities with high DSD model uptake:

	Malawi	South Africa	Zambia
Worked longer or shorter days	-32 minutes/day	+27 minutes/day	-70 minutes/day
Spent more or less time on direct client care	+21 minutes	-52 minutes	+36 minutes
Spent more or less time free or on breaks	-16 minutes	+49 minutes	+7 minutes
Spent more or less time on client-related tasks	-31 minutes	+27 minutes	-70 minutes
Saw more clients per day	+10 clients	+3 clients	+2 clients

# Results: Time and motion (client volume)

Figure 5: Average minutes spent by provider per activity per day



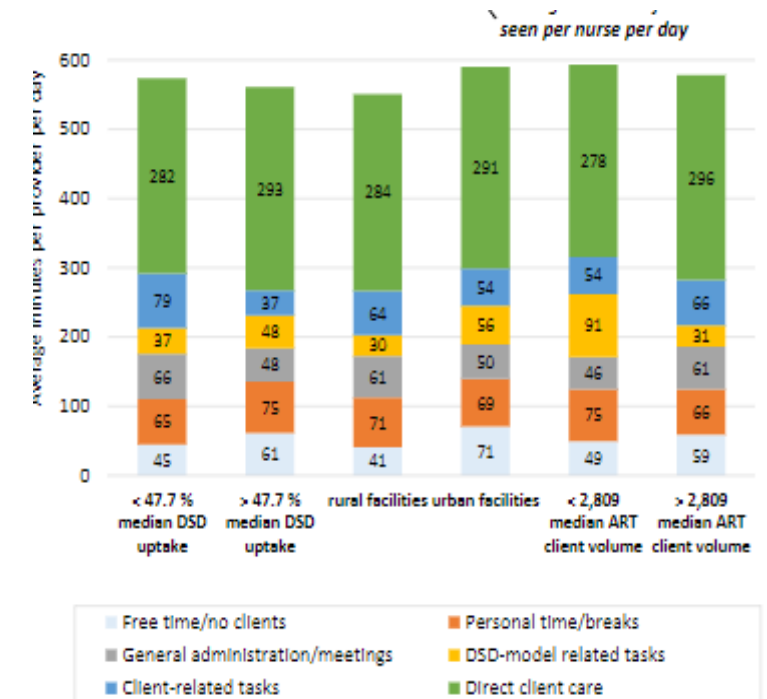
Compared to facilities with low ART client volume, providers in facilities with high client volume

	Malawi	South Africa	Zambia
Worked longer or shorter days	-83 minutes/day	+3 minutes/day	+72 minutes/day
Spent more time on direct client care	+22 minutes	+18 minutes	+26 minutes
Spent more or less time free or on breaks	+69 minutes	-2 minutes	-60 minutes
Saw more or fewer clients per day	+9 clients	-2 clients	+5 clients

## How do nurses spend their time? A time and motion analysis in the context of differentiated service delivery at primary public healthcare facilities in South Africa

- Time and motion study at 10 primary clinics (5 rural and 5 urban) in 3 districts in South Africa
- Compared to facilities with low DSD model uptake, **nurses in facilities with high DSD model uptake:**
  - worked slightly shorter days (-13 minutes),
  - had more free time/breaks (26 minutes),
  - spent substantially more time on client-related tasks (42 minutes),
  - general administration/meetings (18 minutes), and
  - spent slightly less time on direct client care (11 minutes)
- Nurses in facilities with high DSD uptake spent slightly less time on direct client care but more on related activities; they did not see more clients/day.

Average minutes spent per activity day by nurses in South African clinics

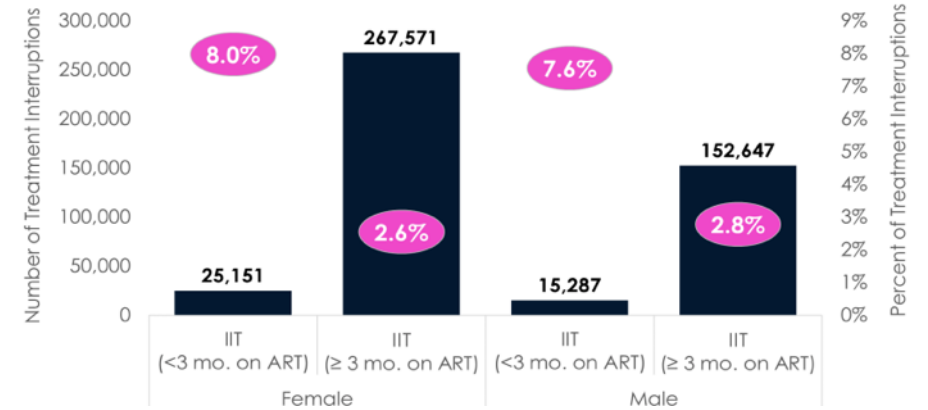


**Conclusion:** Effective reallocation of providers' time may enhance facility performance, reduce the amount of unproductive time each day, and reduce stress on frontline providers

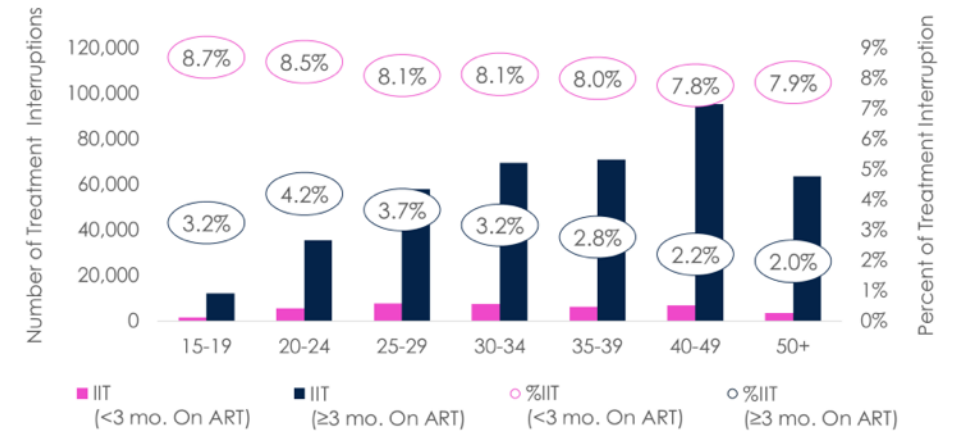
# High rates of interruptions in treatment in HIV treatment in people living with HIV on ART less than three months across the age continuum

- Routine programme data from 45 countries receiving PEPFAR support for HIV services between July – September 2021 was analyzed to determine trends in interruptions in treatment (IIT)
- Overall, 2.7% of females and 3.0% of males on ART experienced IIT
- The overall rate of treatment interruptions across PEPFAR-supported programs was low during this investigation period. However, the risk of interruptions for those on ART less than three months is a critical challenge across sex and age groups

Number and percent of interruptions in treatment (IIT) by duration on ART and sex, July -September 2021, Across 45 countries



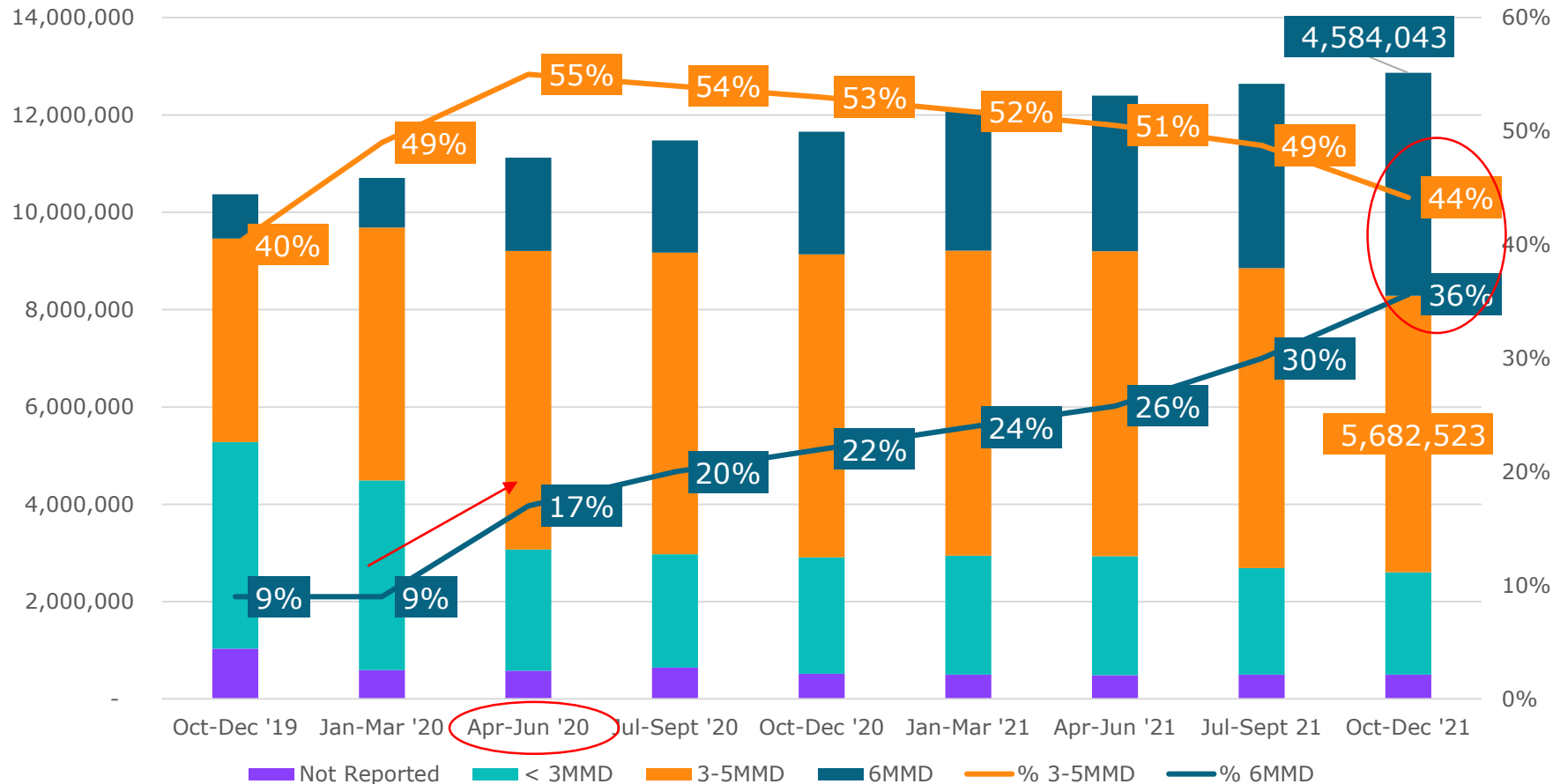
Number and percent of interruptions in treatment (IIT) by duration on ART and age group, July -September 2021, Across 45 countries



**Conclusion:** Targeted interventions for people living with HIV newly initiating ART should be prioritized to ensure treatment continuity, especially in the era of multi-month dispensing.

# Accelerated uptake of MMD across PEPFAR

Number and proportion of all ART clients on MMD in 21 PEPFAR supported countries, (Oct 2019-Dec 2021)



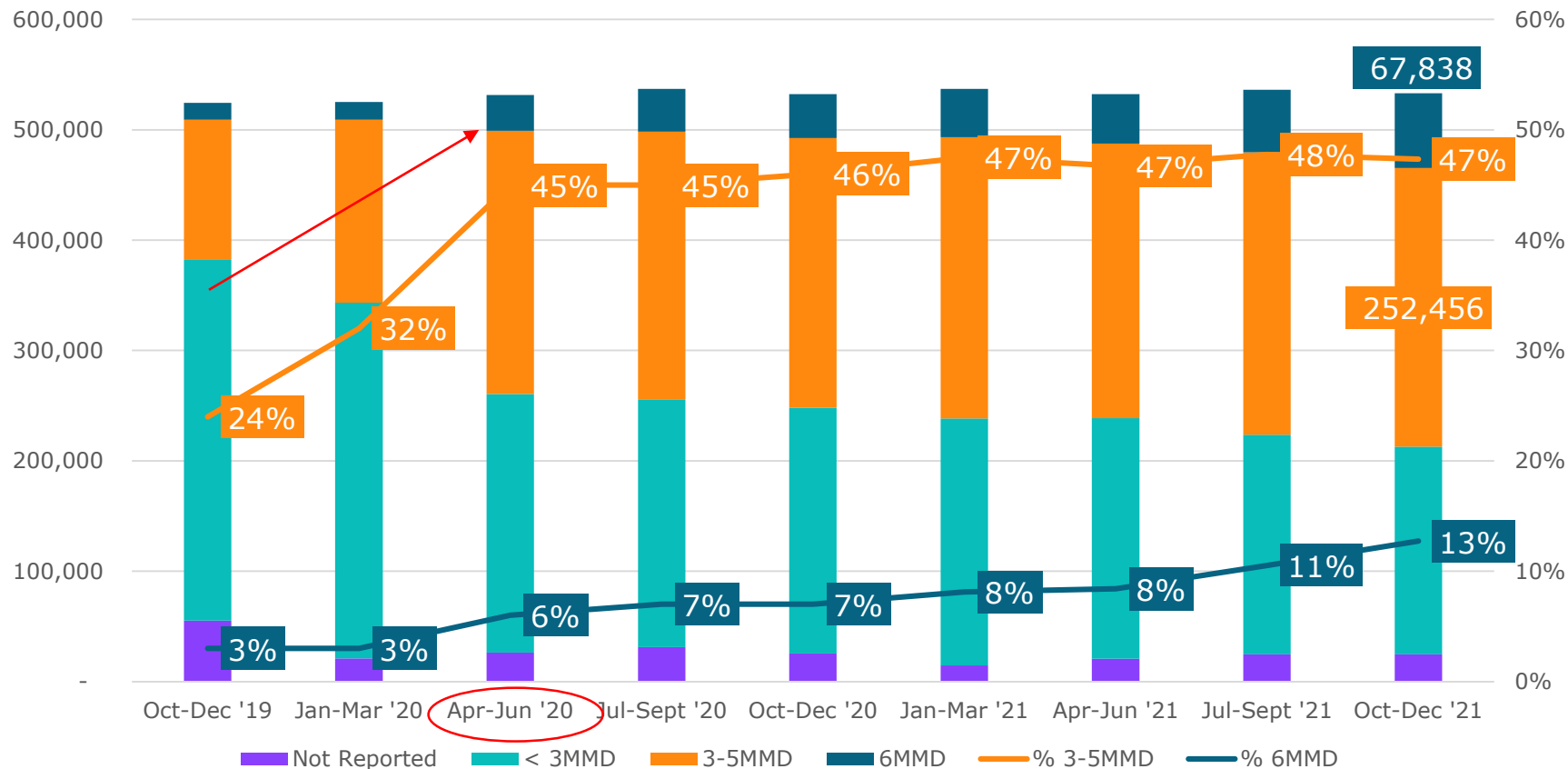
By Q4 2021, 36% of PEPFAR ART clients on 6MMD (4.6M)

By Q4 2021, 44% of PEPFAR ART clients on 3-5MMD (5.7M)

From Oct 2019-Dec 2021, the proportion of ART clients receiving MMD increased from 49% to 80% (>10M)

# Including children and adolescents less than 15 years of age

Number and proportion of ART clients <15 years of age on MMD in 21 PEPFAR supported countries (Oct 2019-Dec 2021)



By Q4 2021, 13% of ART clients <15 were on 6MMD (68,000)

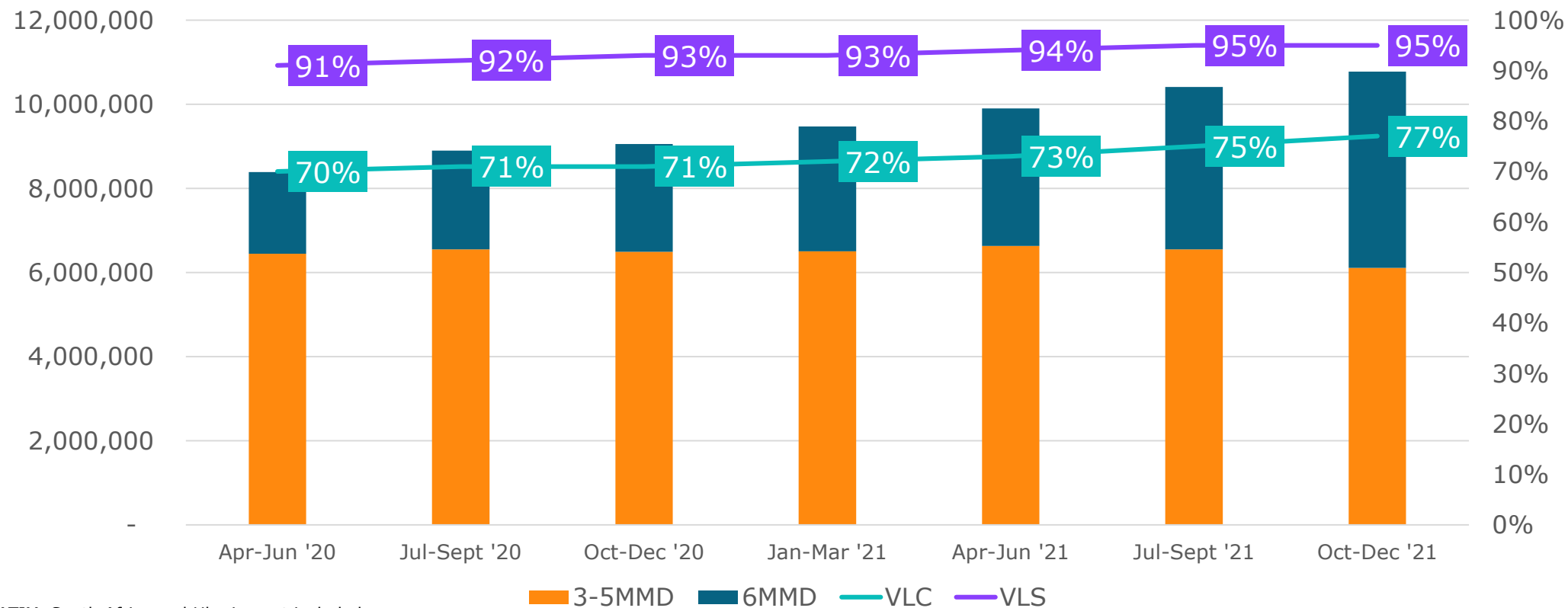
By Q4 2021, 47% of ART clients <15 were on 3-5MMD (252,000)

From Oct 2019-Dec 2021, the proportion of ART clients <15 receiving MMD increased from 27% to 60% (320,000+)



# No decline in viral load suppression (VLS)

PEPFAR trends in MMD, viral load coverage (VLC) & viral load suppression (VLS)



Source: DATIM, South Africa and Ukraine not included

From Lauren Bailey, Session 1, [DSD pre-conference](#)

# The effect of multi-month dispensing of ART on viral load suppression rates in 18 PEPFAR-supported countries

- Quarterly PEPFAR program data from Octo 2018 – Sept 2021 in 18 PEPFAR-supported countries with an average MMD reporting completeness date > 80%
- **Results:**
  - Scale-up of MMD was moderately positively correlated [ $r = 0.275$ ] with improved viral load suppression. A fixed-effect regression on VLS and MMD using robust standard errors, suggests a positive correlation between lagged MMD and VLS (beta = 0.032; SE = 0.017, p-value = 0.087, CI = -0.006 to 0.069)
- Large HIV programs have successfully scaled-up MMD to patients while sustaining and increasing VLS rates in real-world settings, supporting data from clinical trials.

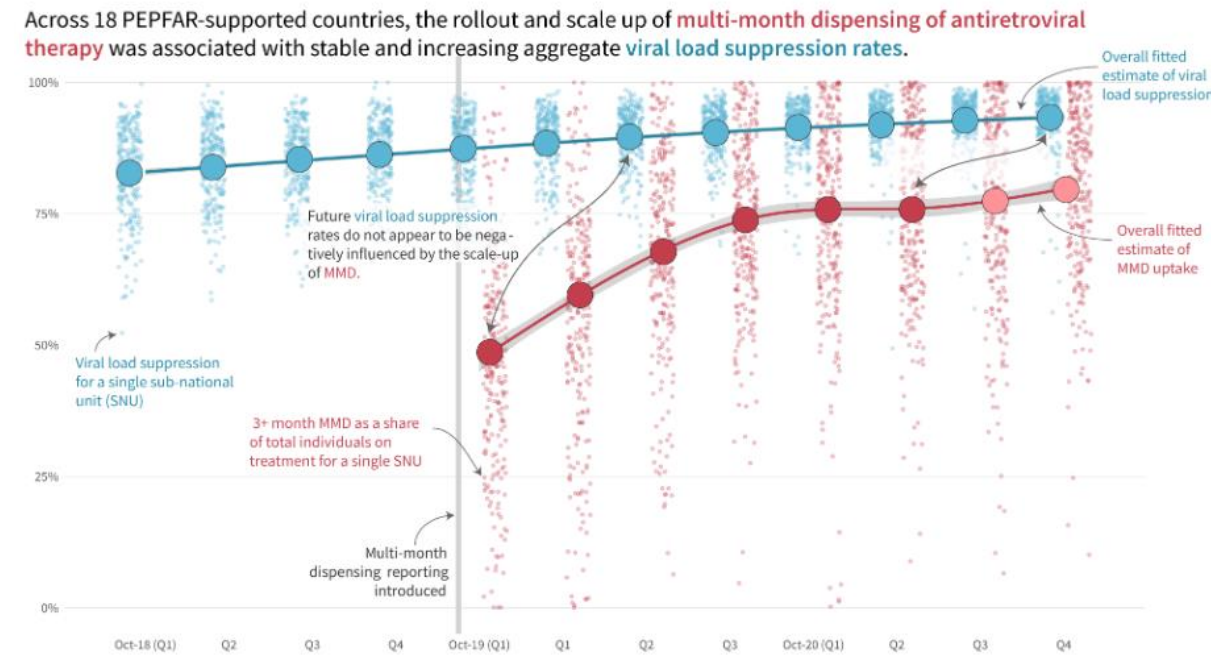


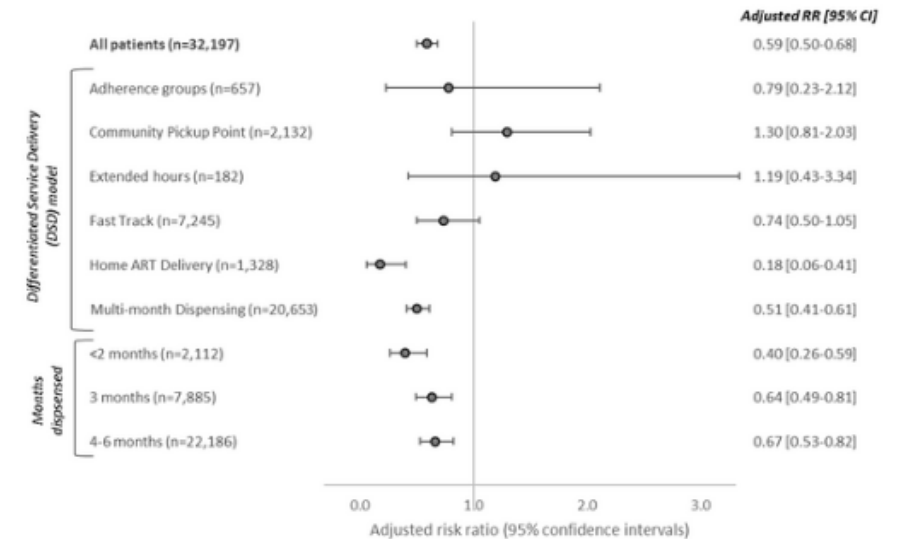
Figure 1. Correlation between changes in MMD and aggregate VLS rates by sub-national unit in 18 PEPFAR-supported countries (Angola, Burundi, Cameroon, Cote d'Ivoire, Democratic Republic of the Congo, Eswatini, Ethiopia, Kenya, Lesotho, Malawi, Mozambique, Nigeria, Rwanda, South Sudan, Tanzania, Uganda, Zambia and Zimbabwe).

**Key Message:** MMD was positively correlated with improved VLS in 83% of the 18 countries that were analyzed. Aggregate PEPFAR VLS rates were not negatively impacted by the scale-up of MMD.

# How soon should patients be eligible for differentiated service delivery models for antiretroviral treatment?

- Routine data on DSD models in Zambia to evaluate loss to follow-up (LTFU) comparing patients enrolling in DSD models early vs those who did so later (>6 months)
- **Results:**
  - For 6,340 early enrollers and 25,857 established enrollers, there were no important differences between the groups by sex (61% female), age (median 37 years), or setting (65% urban)
  - ART refill intervals were longer for established vs early enrollers (72% vs 55% were given 4-6 month refills)
  - LTFU at 18 months was 3% (192/6,340) for early enrollers and 5% (24,646/25,857) for established enrollers
  - Early enrollers were 41% less likely to be LTFU than established patients
- Patients enrolled early after ART initiation in DSD models in Zambia were more likely to be retained in care than patients referred after they were established on ART.

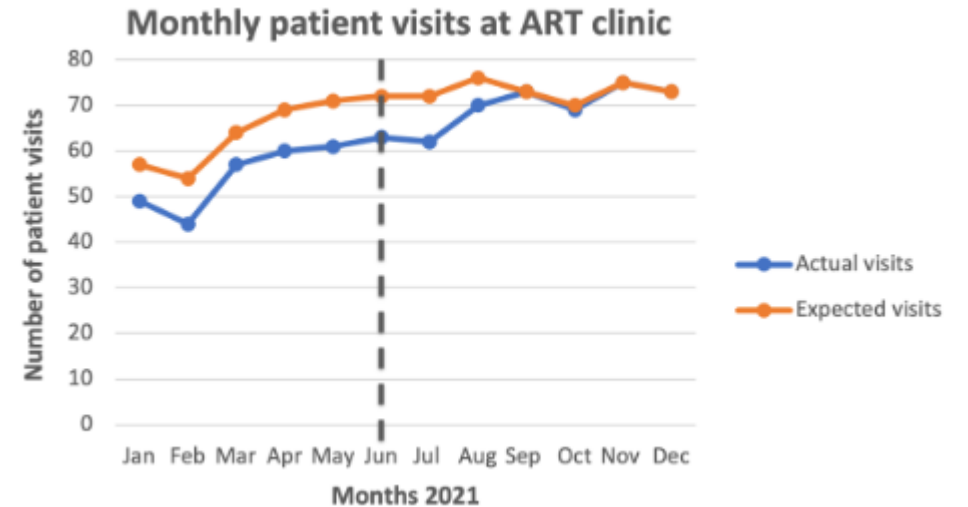
Figure 1: Relative risk of loss to follow-up within 18 months of DSD enrollment for Early Enrollers of DSD models compared to Established Enrollers, stratified by DSD model and ART months dispensed



**Conclusion:** Offering DSD model entry to at least some ART patients <6 months after ART initiation may help address high attrition during the early treatment period.

## Patient-initiated clinic appointment enhances retention and adherence to ART among adults living with HIV

- In 2021, Ministry of Health in Malawi with support from Kamuzu University of Health Sciences piloted a patient-initiated clinic appointment (PICA) strategy.
- The PICA strategy, a patient-centered innovation, empowers individuals who are stable on ART to choose their preferred next clinic appointment based on their schedules
- **Lessons learned**
  - Between June and December of 2021, Bwanje Health Center had 216 patients registered in the HIV program, including 17 new patients
  - Patient retention increased from 87% to 99%
  - Adherence to ART (estimated by pill count) also increased from 83% to 97%
  - Only 8 patients missed their scheduled clinic appointments by more than two weeks
  - 22 patients (10%) came to the clinic earlier (between 1-14 days) before their scheduled appointment due to their anticipated busy schedules

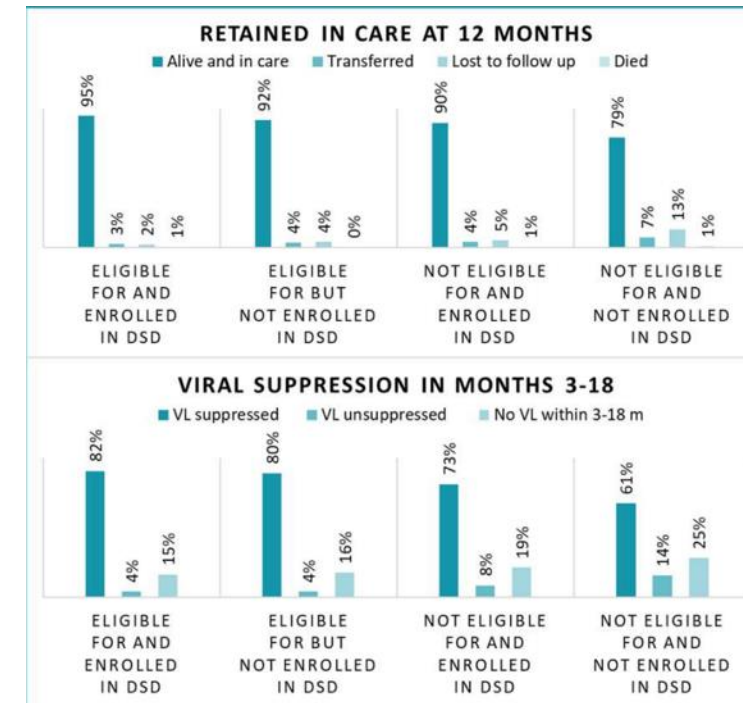


**Conclusion:** The patient-centered PICA strategy can improve retention and re-engagement in HIV care.

# What are the 12-month retention and viral suppression outcomes for South African ART clients enrolled in DSD models compared to conventional care?

- Routine data analysis to determine one-year retention and viral suppression of clients enrolled in DSD models.
- **Results:**  
 Among 12,120 clients enrolled in DSD and 22,551 ART clients eligible but not enrolled in DSD, retention was 95% and 93%, respectively  
 Viral suppression for those with a VL measure was 95% for both groups, but 29% of those in DSD models and 16% in conventional care had no VL measurement recorded.  
 Retention and VL suppression were higher for those with a known suppressed VL prior to DSD enrollment (93%) than for those with a known unsuppressed VL prior to DSD enrolment (87%)

Characteristic	Eligible for and enrolled in DSD		Eligible for but not enrolled in DSD		Not eligible for and enrolled in DSD		Not eligible for and not enrolled in DSD		Total N
	n	%	n	%	n	%	n	%	
	<b>n=8,979</b>		<b>n=21,614</b>		<b>n=1,318</b>		<b>n=20,076</b>		<b>N=51,987</b>
<b>Age</b>									
15-19	10	1%	79	1%	8	1%	601	3%	698
20-24	118	1%	546	3%	33	3%	1,230	6%	1,927
25-49	6,753	75%	16,171	75%	989	75%	15,096	75%	39,009
50+	2,098	23%	4,818	22%	288	22%	3,149	16%	10,353
<b>Gender</b>									
Female	6,419	71%	15,149	70%	935	71%	13,134	65%	35,637
Male	2,560	29%	6,465	30%	383	29%	6,942	35%	16,350
<b>Time on ART at cohort start</b>									
0-6 months	0	0%	0	0%	1	1%	923	5%	924
6-12 months	0	0%	0	0%	1	1%	821	4%	822
1-2 years	17	1%	267	1%	16	1%	2,879	14%	3,179
2-5 years	2,057	23%	7,804	36%	386	30%	8,563	43%	18,810
5 years +	6,905	77%	13,543	63%	892	69%	6,857	34%	28,197
<b>Last viral load result</b>									
<400 c/mL	8,979	100%	21,614	100%	1,022	78%	10,337	51%	41,954
400-1000 c/mL	0	0%	0	0%	122	9%	1,189	6%	1,309
1000+ c/mL	0	0%	0	0%	81	6%	2,844	14%	2,925
No VL on record	0	0%	0	0%	93	7%	5,706	28%	5,799



**Conclusion:** DSD model enrolment conferred a minor benefit to retention and equivalent viral suppression over one year of follow-up compared to conventional care for clients eligible for DSD enrolment.

## Community health commodities distribution to address community needs during COVID-19 pandemic in Eswatini

- In March 2020, Eswatini launched the Community Health Commodities Distribution (CHCD) as an emergency response to COVID-19.
- By October 2020, 97 out of the 141 facilities offered CHCD services during the pandemic.
- Community members and patients were informed about services in their catchment areas by Expert Clients (EC) during visits to health facilities.
- From April to October 2020, about 23,906 clients received CHCD services. Facilities added different curative and HIV related services based on client specific needs, and availability of commodities.
- *No data on ART refills collected from this model*

Figure 1: CHCD health facilities and PUP, as of Oct. 2020

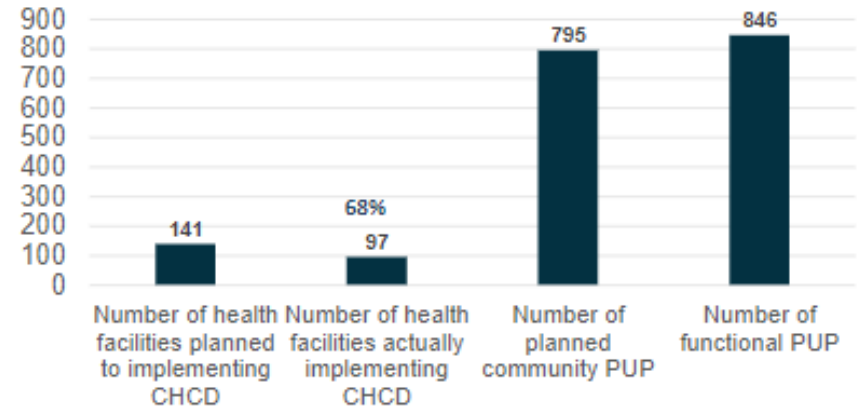
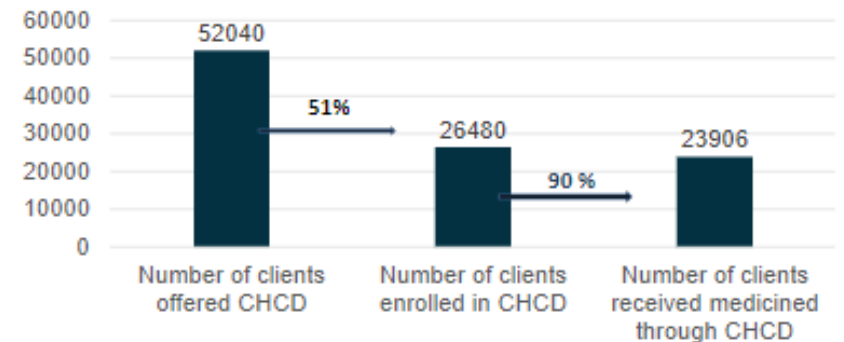


Figure 2: Clients enrolled and received CHCD, Apr – Oct 2020

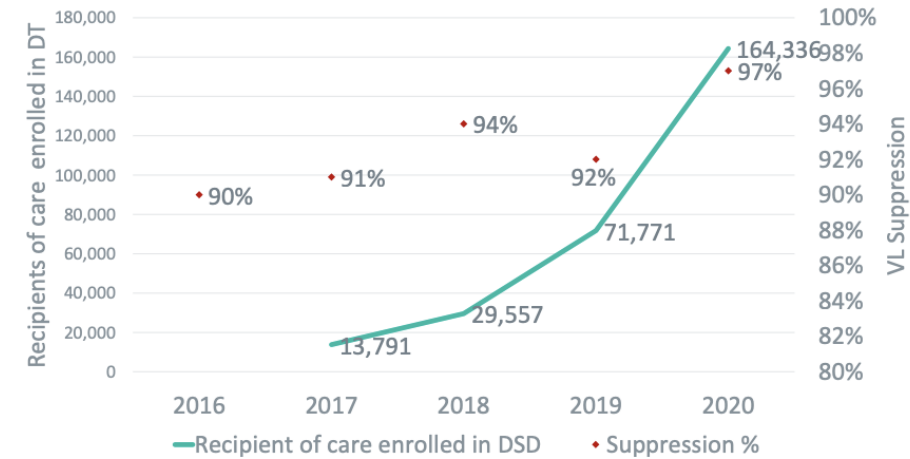


**Key Message:** Standardization of services to all pick-up points is recommended and there is a need for public health facilities to integrate CHCD in their outreach programmes.

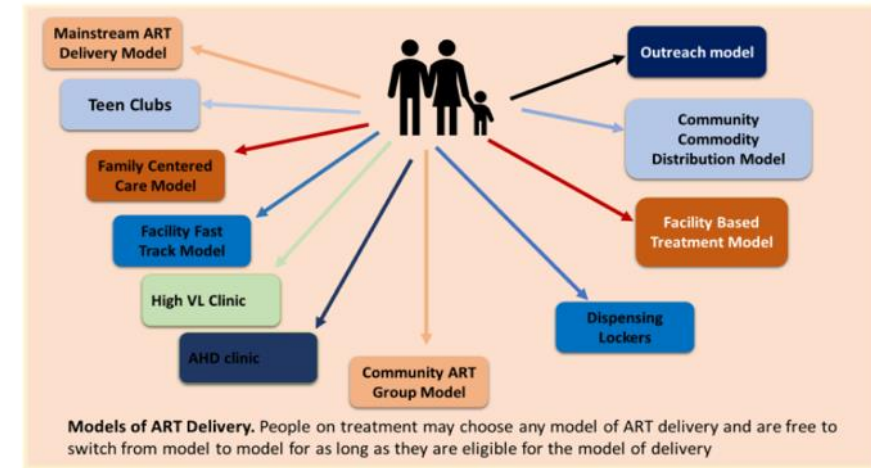
## Eswatini's Differentiated Service Delivery (DSD) models: adaptation, scale-up and monitoring

- Routine data in Eswatini
  - National HIV annual program reports (2016-2020), CMIS quarterly reports (2020-2021), results from differentiated treatment (DT) client satisfaction study, and Eswatini's CQUIN annual meeting reports and capability maturity model dashboard staging (2018-2021)
- Lessons learned:
  - The proportion of health facilities (HF) implementing DT grew from 22/176 (29%) in 2016 to 193/202 (96%) in 2020, the proportion of ART clients enrolled in DT rose from 13,791/174,103 (7.9%) in 2017 to 164,336/204,286 (80.4%) in 2020 (Figure 2)
  - Eight current models include 5 facility-based, (Mainstream, Fast Track, Family Centered Care, Treatment Clubs, Teen Clubs) and 3 community-based models (Outreach, Community Drug Distribution, and Community Antiretroviral Therapy (ART) groups) (Figure 3)
  - All DT models offer 3MMD or 6MMD
  - *Ad hoc* studies indicate high levels of client satisfaction
  - National systems cannot yet compare viral load suppression (VLS) for clients in different models, but VLS for all PLHIV on ART increased from 90% (males) and 91% (females) in 2017 to 96% and 97% respectively in 2020 (Figure 2)

**Figure 2: Enrollment in DT and viral suppression rates: 2016 - 2020**



**Figure 3: Differentiated Treatment Models in Eswatini**

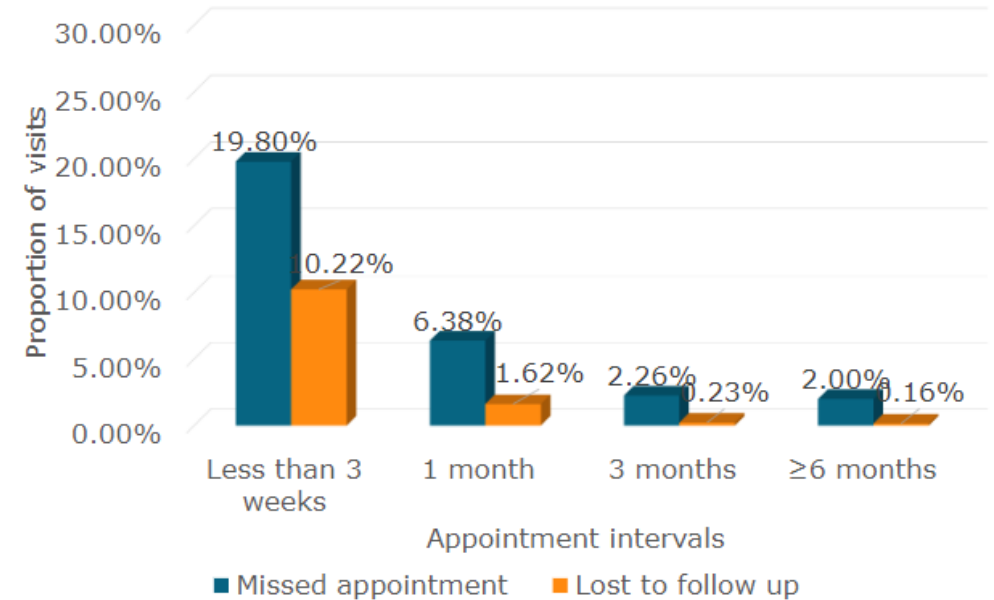


**Key Message:** Eswatini has markedly scaled up DT coverage and diversity, ensuring that HIV treatment is responsive to the needs of different groups and sub-populations.

## Different Anti-Retroviral Therapy dispensing intervals and distribution of adverse follow up outcomes in stable patients

- Extending clinic appointment intervals by dispensing more medication to stable patients was one of the strategies which can be implemented without any additional resources, it can minimize patient's opportunity cost, clinic congestion and improve quality of care.
- A total of 68,824 stable patients visited study sites at least once between 1st September 2019 and 31st August 2020 in Myanmar
- Visits with the shortest appointment interval had the highest proportion of missed appointments, and LTFU.
- 3 months and  $\geq 6$  months intervals had a similar proportion of adverse follow-up outcomes.

Proportion of missed appointments and lost follow up based on appointment intervals



**Key Message:** It is recommended to extend the analysis to assess the effect of facility-level factors, individual factors and clinical conditions on adverse follow-up outcomes.

## Differentiated service delivery to mitigate the effect of Armed conflict on ART: lessons learnt in Cameroon from 2018 - 2021

- In 2018, a mitigation plan was developed for the two regions with the disruption of services as a result of the conflict. Main intervention areas:
  - Community ARV dispensation using health care providers
  - Multi-month dispensation of ARV for displaced patients
  - Opening a health facility in most at risk zone on an agreed appointment day for treatment refills
  - Use of reference card to link displaced patients on treatment in the host region
- Routine data analysis by the ART programme between 2018 and 2020
- The number of patients maintained on ARV 12 months after initiation increased from 68% in 2019 to 80% in 2020 in the north-west region and from 71% to 78% in the south-west
- Retention in 24 months after initiation increased from 63% to 69% in the north-west and 53% to 67% in the south-west
- Number of patients on treatment in the two regions increased from 33,645 to 40,469 and from 23,775 to 30,055, respectively

**Key Message:** While measures to mitigate the impact of conflict on the health of people living with HIV have led to positive results, a broader plan is needed that includes plans to improve viral load coverage.

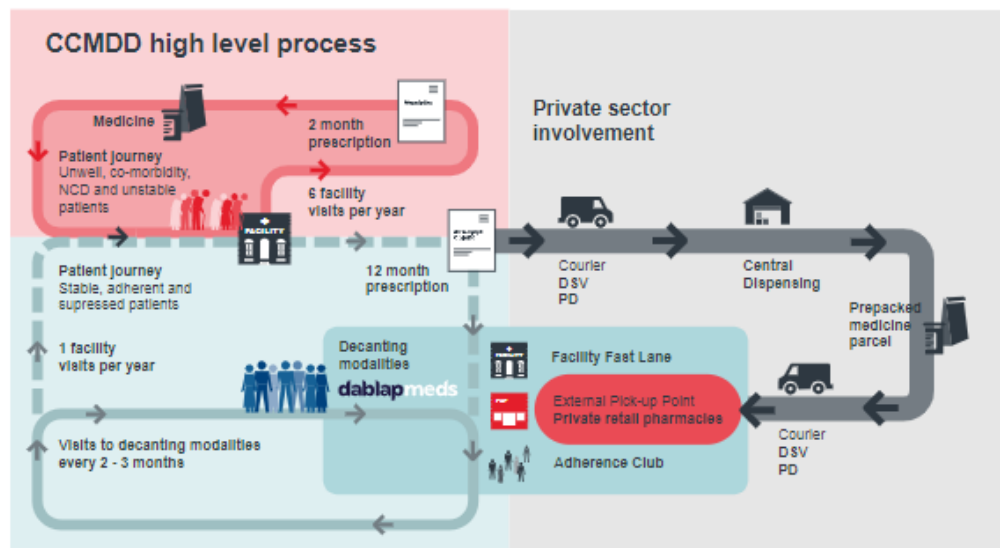
# Pivoting differentiated distribution to improve access to medicines for PLHIV in South Africa during COVID-19

**107%**  
During COVID-19, registered patients grew 107% to **over 4.72 million** registered on CCMD by October 2021.

Project Last Mile supported NDoH in adapting methods for rapid decanting, resulting in **61%** of the patient universe collecting their medication through CCMD external pick-up points.

**10 min**  
The number of active patients collecting at external pick-up points increased by 55%, with an average waiting time of less than 10 minutes.

Most new patients opt to collect from **2,848** external pick-up points, supporting increased patient benefits.



**Conclusion:** The methods adapted by Project Last Mile demonstrate how leveraging private sector pick-up points offers a solution that can flex with the growing burden of non-communicable diseases. CCMD provides a solution that gives patients agency to look after their wellness and frees public sector doctors and nurses to manage illness.

## The positive impact of multi-month dispensing (MMD) of ARVs on client treatment continuity

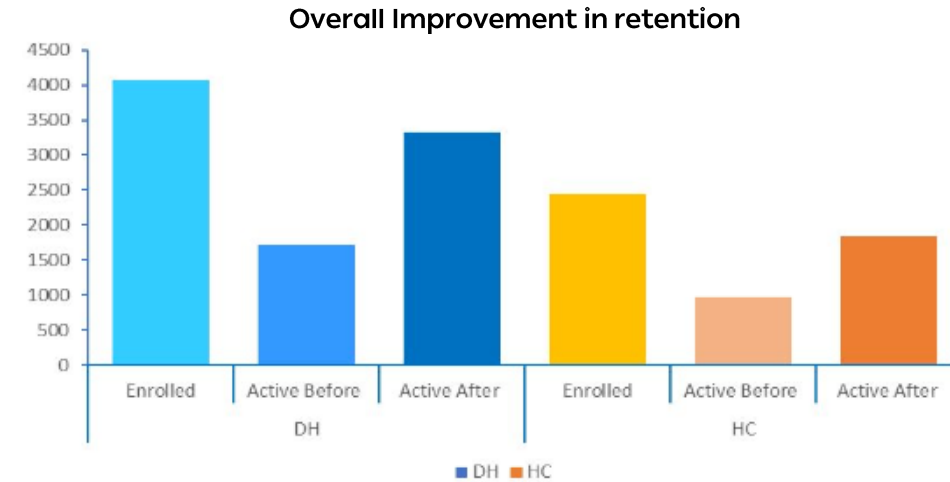
- Longitudinal quantitative retrospective cohort study of clients initiated on ART over a three-year period (2018 to 2020) in Ghana.
- Data collected from 58 health facilities that were grouped as district hospitals (DH) being secondary level sites or health centers (HC) being primary level sites.

### Results:

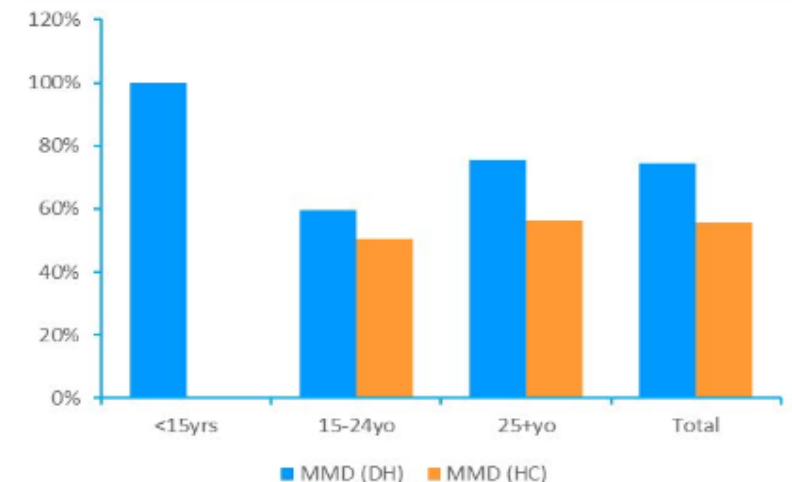
- Overall retention on ART significantly improved from 67% to 98%
- Significant difference in ART retention at HCs compared to DHs (99% and 92% respectively)
- MMD was the major contributing factor for the significant increase in client retention on ART
- Significant differences in MMD among men compared to women

### Conclusions:

- Program implementers should integrate monitoring systems that ensure proper MMD tracking and provision for all eligible clients.
- Policy makers should consider adjusting MMD eligibility to commence within 12 months on ART in resource constrained settings



### MMD is higher in DH than HC across age groups

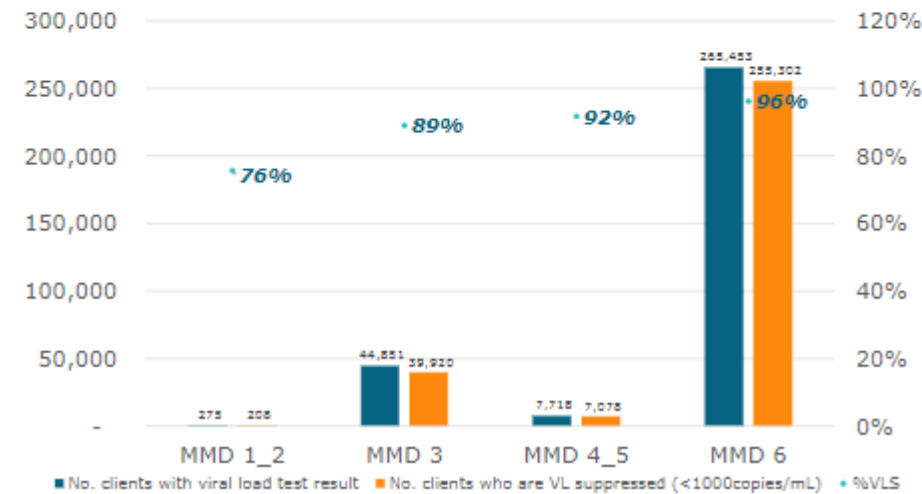


## Viral load outcomes and factors associated with viral suppression among HIV-positive patients receiving multi-month dispensing of antiretroviral drugs in the context of COVID-19 pandemic: experience from 7 states in Nigeria

- A cross-sectional study of people living with HIV receiving MMD in 444 health facilities who were active in care within the period of September 2019 to December 2021.
- **Conclusions:**
  - Although VL coverage was low, VL coverage and suppression rate among people living with HIV receiving MMD-6 was optimal and higher than the third 95% UNAIDS VL target for people living with HIV.
  - VL suppression rate for those in MMD1-2 and 3 was sub-optimal.

**Table 1: Viral Load Coverage**

Multi-month ART Dispensing	# VL result	# Nil VL result	% VL coverage
MMD 1_2	275	95	<b>74%</b>
MMD 3	44,851	22,545	<b>67%</b>
MMD 4_5	7,718	2,379	<b>76%</b>
MMD 6	265,453	14,768	<b>95%</b>
<b>Total</b>	<b>318,297</b>	<b>39,787</b>	<b>89%</b>



**Figure 1: Viral Load Suppression**

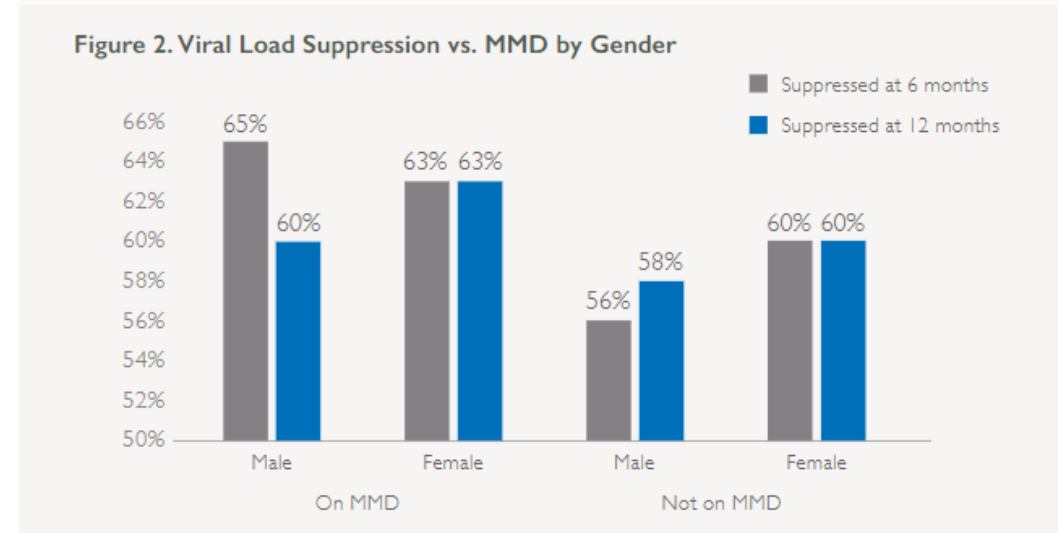
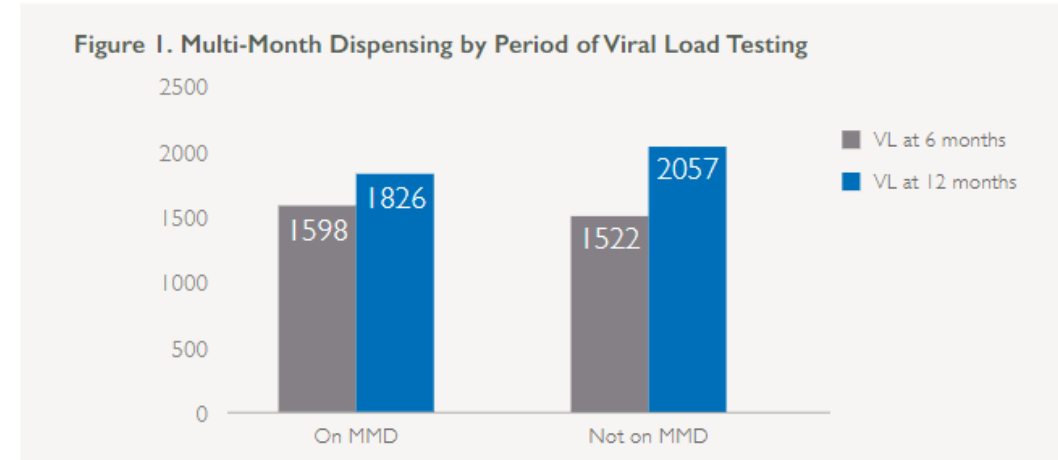
**Recommendation:** Scale-up of 6MMD to improve VL outcomes in the national HIV programme in Nigeria.

# Viral suppression levels among newly enrolled ART patients on multi-month dispensing of antiretroviral drugs

- Evaluation of the effect of MMD on viral suppression among newly enrolled adolescents and adults living with HIV in northern Nigeria
- **Results:**
  - MMD was associated with viral suppression at 6 months
  - Those on MMD had a 5% higher likelihood of viral suppression compared to patients not on MMD
  - No association between MMD and viral suppression at 12 months

**Conclusions:**

- Close to two thirds of newly enrolled patients achieved undetectable viral load levels
- Multi-month ART dispensing is an option for newly enrolled patients since it does not result in poorer treatment outcomes



# 1. DSD for HIV treatment

- DSD for HIV treatment in 2022
- Quantitative
- **Qualitative**
- Community models
- Include virtual and/or digital intervention
- Integration – family planning, Hepatitis B and C, mental health, NCDs, TB
- Specific populations
- Advanced HIV disease
- Cost and cost-effectiveness

# Does differentiated service delivery for HIV treatment change healthcare providers workload? Provider views from Malawi, South Africa and Zambia

- Provider surveys in Malawi, South Africa and Zambia to explore the effect of DSD models on their workloads.
- A diverse sample of southern African providers reported that DSD introduction freed up time, made their jobs easier, and led to changes in patient and clinic management.

"...I have less management responsibility because most of patients are given 6 months refill hence, they take time to come to the facility thereby reducing flow of patients and lessening my workload"

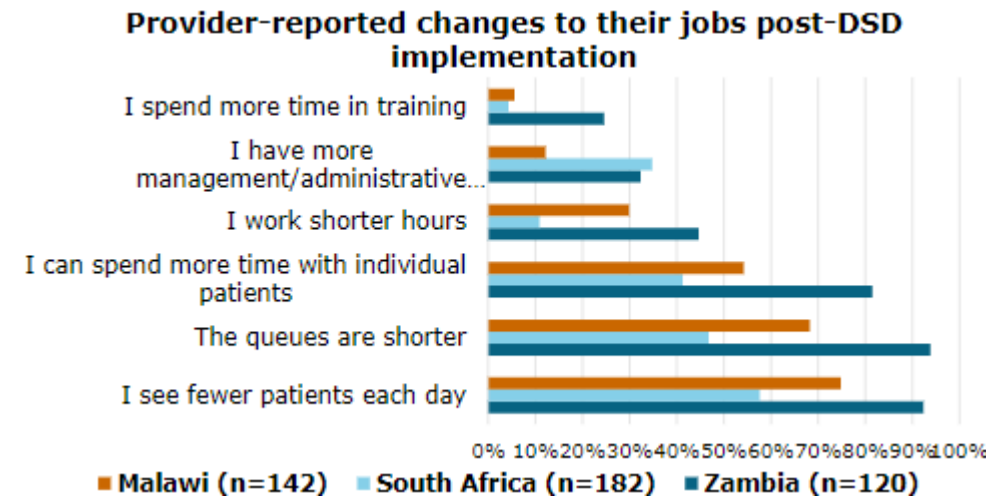
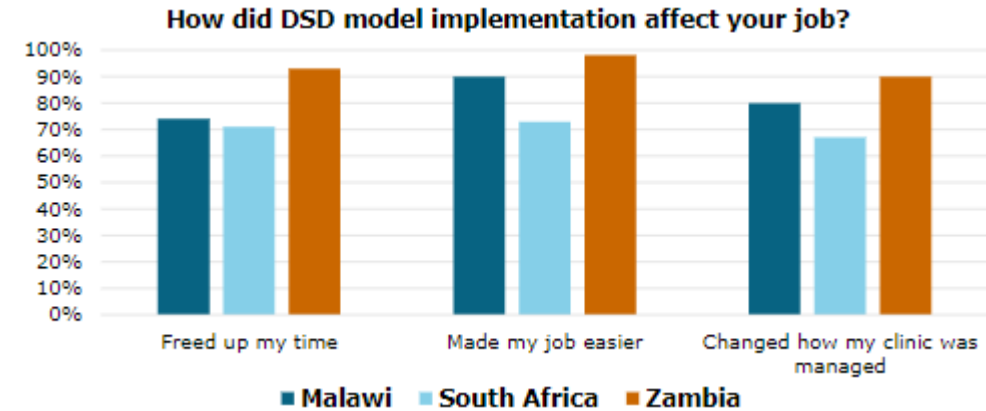
Professional Nurse, Malawi

"I see fewer patients each day and queues are shorter because the facility has been decongested. Very few people visit the facility each day. This gives me ample time to spend with my patients. I don't have to stress to finish the longer queues"

ART in charge, Zambia

"...workload is lighter than previously. Stock holding is less. Ordering is more stable than before as previously I would go to sister clinics to borrow what I didn't have because I always ran short due to the influxes of patients"

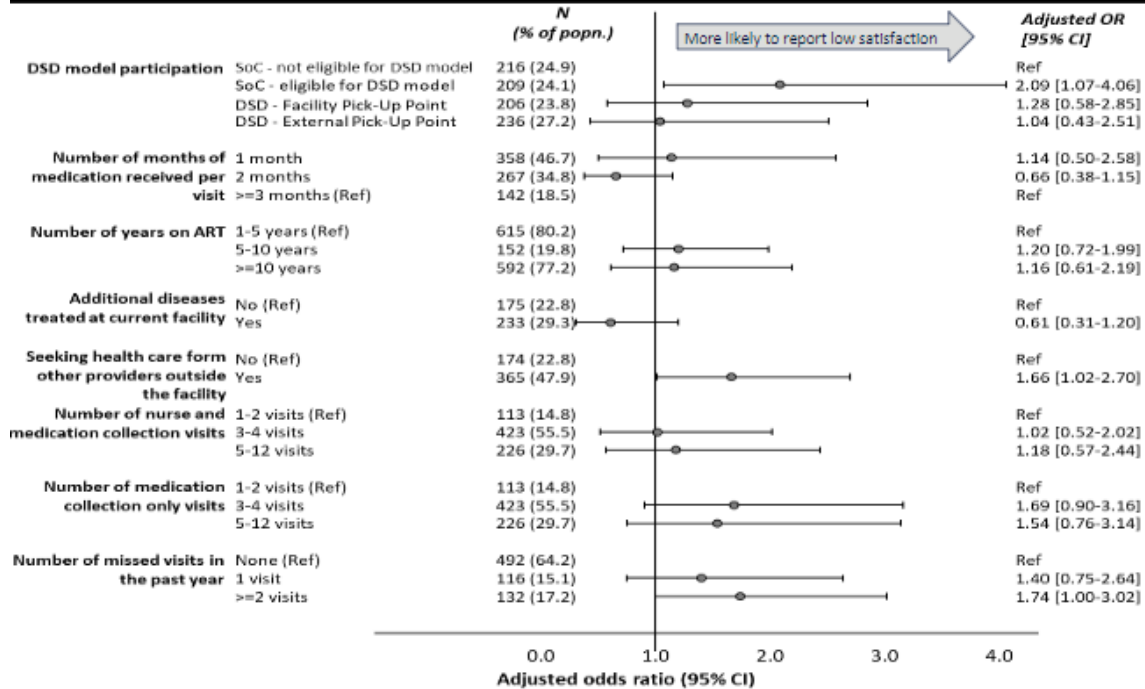
Pharmacy Assistant, South Africa



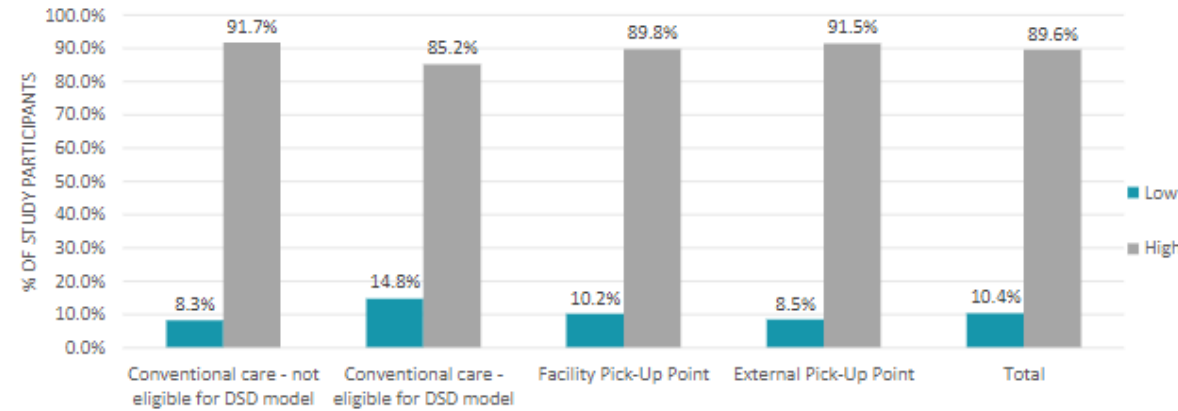
**Conclusion:** More in-depth understanding of the actual use of provider time and changes in clinic management is needed to understand the full impact of differentiated service delivery for HIV treatment.

# No differences in recipients of care perceived quality of care between differentiated service delivery models and conventional care in South Africa

**Figure 2. Crude and adjusted odds ratios of low perceived QoC for DSD model and conventional care study participants**



**Figure 1. Perceived quality of care among study participants (n=867)**



**Figure 3. Suggested HIV service improvements**

### Conventional care:

"We spend so much time waiting at the facility they seem to be short-staffed"

~ Male, 40 years old, Conventional care, not eligible for DSD model

"The system they are using is in order I wouldn't like to see any improvement as they are trying their best I have been a patient since 2015 at this facility and they treat me very well every time."

~ Female, 36 years old, Conventional care, not eligible for DSD model

"They must allow us when we send people to come and collect meds for us if we had missed appointments due to work commitment"

~ Female, 48 years old, Conventional care, not eligible for DSD model

"Employ more male staff as they seem to be the ones with better attitude towards patients"

~ Female, 30 years old, Conventional care, eligible for DSD model

"They should decant more patients. The facility sometimes has a lot of patients, and we get to wait long hours so it would really help if they decant more patients to external pick-up points for myself, I have been on medication for longer so I would appreciate it if they send me to external pick-up point."

~ Female, 29 years old, Conventional care, eligible for DSD model

### DSD models:

"The external PuP should be more flexible as in my vicinity we have just two pharmacies that offered care as an external PuP"

~ Female, 37 years old, DSD - External Pick-up Point

"They should sort out their admin. Sometimes we used to arrive at the club and not get our treatment because our names are not on that list then we had to come here at the clinic. Pele box is perfect for me because I receive a notification when my treatment is ready."

~ Female, 35 years old, DSD - External Pick-up Point

"Being able to renew script at the pharmacy where I collect medications."

~ Female, 41 years old, DSD - External Pick-up Point

"More explanation or education for patients as I was referred to external pick point today and I am happy with collecting my medication at the facility"

~ Female, 55 years old, DSD - Facility Pick-up Point

Treatment must be delivered to homes and only come once to check bloods and checkups

~ Female, 24 years old, DSD - Facility Pick-up Point

**Conclusion:** Recipients of care enrolled in DSD models in South Africa did not perceive differences in their quality of care compared to those in conventional care. "Satisfaction" may be a function of expectations—many RoC reported they were satisfied despite experiencing long waiting times and other characteristics associated with poorer quality care.

## Providers' perspectives on barriers and facilitators for implementation of differentiated service delivery models for HIV treatment in Beira City, Mozambique

- Study to identify barriers and facilitators for DSD models implementation
- **Results:**
  - Consolidated Framework for Implementation Research (CFIR) constructs of relative advantage and patient needs and resources were facilitators, while constructs of planning, engaging, and executing were barriers across all DSD models.
  - Less facility visits were the main facilitator for Fast Flow (FF), 3-monthly antiretrovirals dispensing (3M), and integration models and lack of training was the main barrier across all models.
  - Providers considered FF and 3M easier to implement and effective in reducing workload. They deemed ART adherence clubs (AC) and community ART support groups (CASG) complex to implement, thus less preferred.
  - They perceived CASG as a preferred model in rural and 3M in urban settings.
  - COVID-19 (inductively identified theme) facilitated patient eligibility for DSD that limited patient visits (FF, 3M), but temporarily interrupted implementation of community-based models (AC, CASG).

### Conclusions:

- The relative advantage of the DSD models was the main identified facilitator.
- Successful implementation requires broadly available and on-going training.
- COVID-19 has expedited DSD approaches that allow for less regular contact with the health system.

## 'Things are easy and faster' - Client and healthcare worker experiences with Differentiated Service Delivery in western Kenya

- Focus group discussions conducted at three Ministry of Health facilities in Kisumu County, Kenya, for an in-depth understanding of ART client and healthcare worker experiences with DSD to assess impact
- **Results:**
  - High satisfaction with the efficient clinic services was the predominant theme
  - Clients appreciated spending less time at the clinic, while HCWs appreciated the reduced workload, less congested facilities, and more time for clients requiring clinical care
  - Both clients and HCWs indicated improved staff attitudes and more meaningful client encounters with the reduced workload
  - Perceived stigma with community-based models was a common thread due to privacy concerns; therefore facility-based models were overwhelmingly preferred
  - Clients and HCWs agreed that DSD services add to clients' motivation to adhere and stay virally suppressed
  - Recommendations centered on further spacing of refill and clinical visits, improved privacy measures for discrete community delivery, and adherence support for suppression

*Client: "The change I have noticed is that when you come for the six-monthly clinical visits the clinician takes much time with the patient compared to when I was coming on a monthly visit."*

*Health care worker: "We are having a happier workforce because the psychological challenge as a result of being fatigued all the time is a thing of the past."*

**Conclusion:** Initiatives to consider including further spacing of clinic and refill visits, addressing privacy concerns to bolster community-based DSD, and strengthening adherence support to optimize client-centered care and health outcomes.

## Improving collaboration on national level advocacy through differentiated models and interventions to address COVID-19 and PLHIV

- Through alternative models of intervention for HIV, Turks and Caicos Islands has been able to strengthen healthcare access and human rights advocacy to people living with HIV
- In 2019, Advocacy Strategy (to support treatment adherence relating to HIV, NCDs and COVID-19) developed
- **Lessons learned:**
- 5250 persons reached with health services and improvement in continued access to medication; emergency responses and referrals
- Alternative avenue for the collection of much needed data, especially for COVID-19 and people living with HIV
- Establishment of a Peer Support Programme that supports adherence to HIV medication virtually via SMS, WhatsApp, Zoom, etc
- Involvement of young people in the discussions around covid-19 and HIV through school debates and peer education sessions.

### Key Messages:

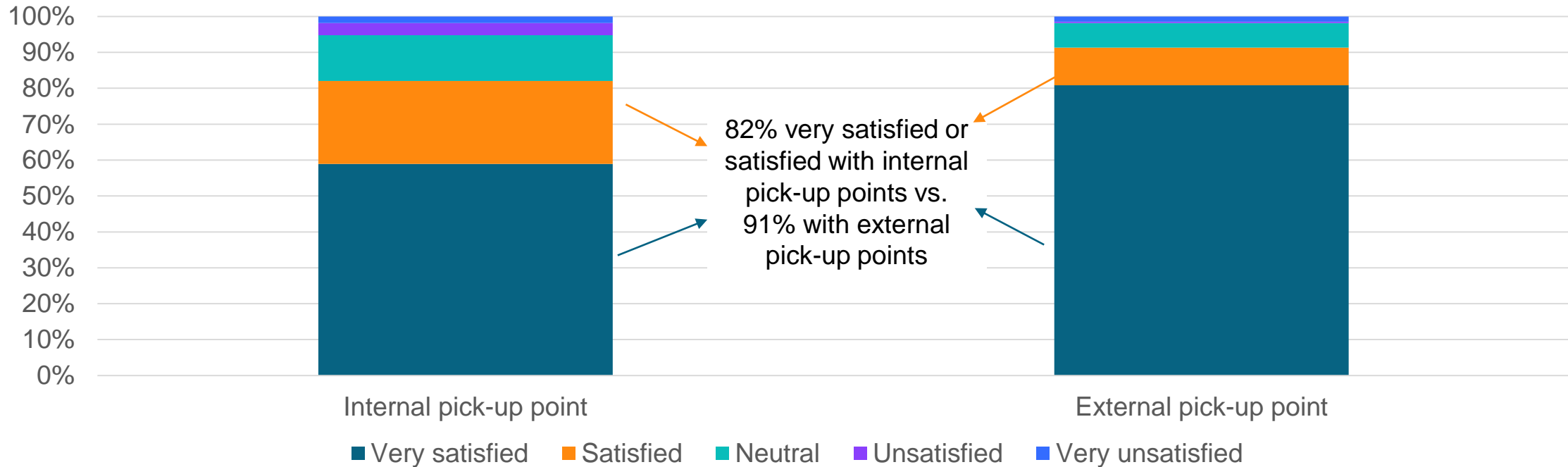
- The alternative models of intervention have made much needed headway in reaching clients which has enhanced the response and allowed for synergies between sectors.
- These strategies aim to reduce the burden on clients and health-care providers in this present pandemic. Crises can also be opportunities and the impending COVID-19 crisis pressed us to find innovative solutions.

# 1. DSD for HIV treatment

- DSD for HIV treatment in 2022
- Quantitative
- Qualitative
- **Community models**
- Include virtual and/or digital intervention
- Integration – family planning, Hepatitis B and C, mental health, NCDs, TB
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# High satisfaction with community pick-up points

Satisfaction with facility-based ("internal") vs. community-based ("external") pick-up points

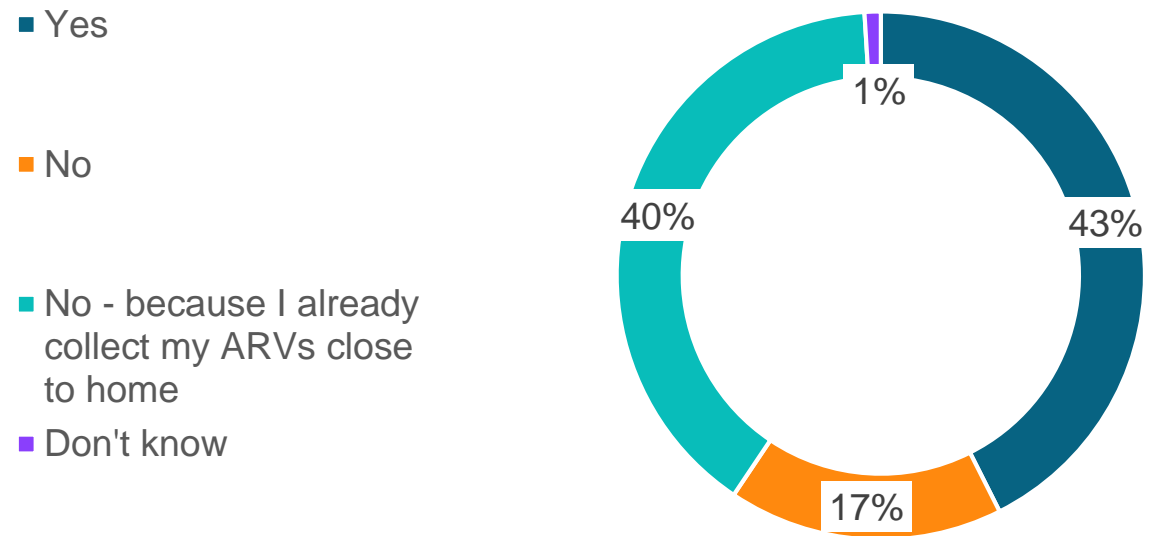


# Collecting ARVs closer to home



More than half of PLHIV who were surveyed (43%) said that they would like to collect ARVs closer to their home if it were possible, 40% said they already collect close to home

**Would people living with HIV like to collect ARVs closer to home?**  
Survey of n=9,847



## Amazon smart locker collaboration as a pick up point preference for medicine distribution programs in Sub-Saharan Africa

- The Collect & Go Smart Locker Solution serves as a Pick-up Point (PuP) for pre-dispensed medicines from Centralised Dispensing Facilities with built in monitoring and reporting capabilities.
- Lessons learned**
- Rapid uptake of Collect & Go lockers were observed in Southern Africa with more than 250 000 prescriptions loaded and 220 000 successfully collected by January 2022.
- Smart lockers addressed critical challenges related to patient and commodity management, decreasing exposure risk and increasing capacity, with the goal to facilitate more convenient and safe collection practices for patients.

550 314  
Total Prescriptions Loaded

422 768  
Total Prescriptions Collected

Period: 1 May 2020 - 30 June 2022



**Conclusion:** The locker solution provides an additional layer of patient satisfaction in terms of preference for quality, privacy and safety when compared to other Pick-up Point options

## Central Dispensing Unit (Bonolo Meds) as a differentiated care model in Lesotho

### Lessons learned:

- Alternative PuPs allow patients to quickly collect medication outside of clinic queues
- Further benefits are realized in a predictable supply chain using a 'Port 2 Patient' strategy which helps for demand planning.
- Previously, manual systems in the primary health clinics, often resulted in stock-outs and patients not always receiving their medication on time.

### Conclusions:

- The CDU as a differentiated model of medicines delivery has proved effective in increasing ease of access, adherence, and retention on treatment.
- Patient & commodity tracking has improved due to use of integrated WMS & EMR systems with a centralized data repository allowing faster and efficient programme decisions.



# Community antiretroviral therapy dispensation in Cameroon associated with superior client outcomes: a national evaluation

- Evaluation of model in which some health facilities providing antiretroviral therapy offered clients the option to receive antiretroviral (ARV) drug refills at community-based organizations (CBOs)
- **Results:**
  - Clients receiving ARV refills at CBOs had higher retention than those at offering health facilities
  - Clients receiving ARV refills at offering facilities had higher retention than at non-offering facilities, but significantly only at 3 and 24 months
  - Viral suppression was higher among clients receiving ARV refills at CBOs than at offering health facilities each year

TABLE 3. Comparison of treatment continuity between clients in CBOs and health facilities

TIME POINT	FACILITY	RETENTION RATE (%)	OR (CI)	P-VALUE
3rd month	CBO clients (n=2633)	94	1.31 (1.23 -1.38)	<0.000
	HF clients (n=2017)	90.04	1.0	
6th month	CBO clients (n=2549)	91	1.33 (1.25 – 1.41)	<0.000
	HF clients (n=1916)	86.1	1.0	
12th month	CBO clients (n=2425)	86.6	1.34 (1.26 – 1.43)	<0.000
	HF clients (n=1805)	81.1	1.0	
24th month	CBO clients (n=2063)	86.1	1.28 (1.2 – 1.4)	<0.079
	HF clients (n=1606)	72.2	1.0	

TABLE 4. Yearly comparison of viral suppression rate between CBO and health facility clients, 2018–2020

TIME POINT	FACILITY	VIRAL SUPPRESSION (%)	OR (CI)	P-VALUE
2016	CBO clients	97.8 (89/91)	3.1 (2.0 – 4.7)	0.25
	HF clients	93.55 (29/31)	1.0	
2017	CBO clients	96.31 (209/217)	1.7 (1.4 – 2.1)	0.45
	HF clients	94.62 (123/130)	1.0	
2018	CBO clients	98.55 (542/550)	1.72 (1.5 – 2.0)	<0.00
	HF clients	92.4 (316/342)	1.0	
2019	CBO clients	97.44 (647/664)	1.98 (1.74 – 2.27)	0.16
	HF clients	90.2 (313/347)	1.0	
2020	CBO clients	95.12 (917/964)	1.8 (1.6 – 2.0)	0.02
	HF clients	92.27 (501/543)	1.0	

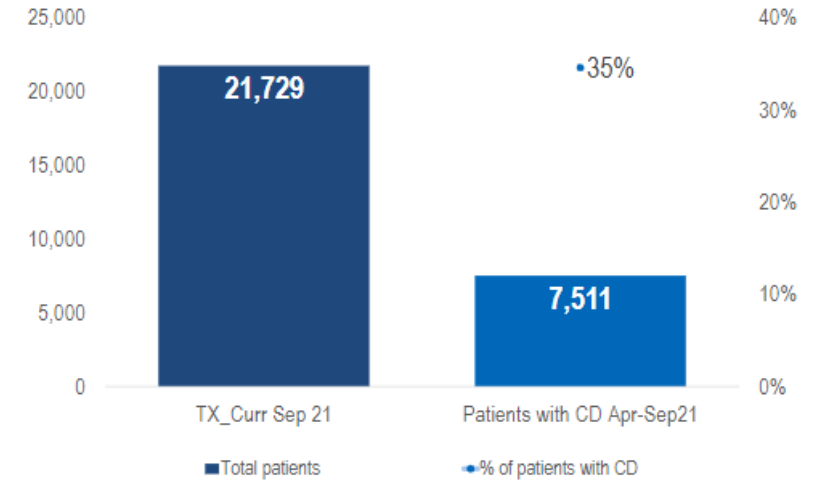
**Conclusion:** The model has potential to improve clinical outcomes for clients who receive ARV refills at CBOs and those who continue to receive refills at health facilities offering the CBO option/model.

## Community provision of ARVs in Niassa: impacts on retention for ART patients

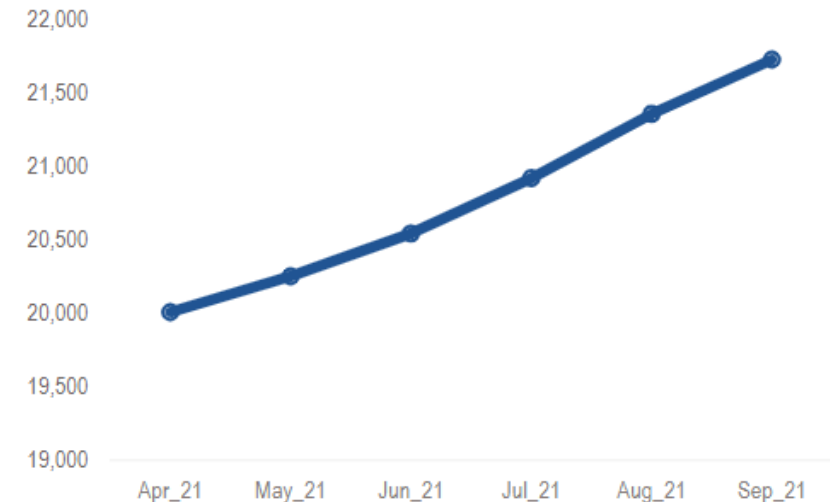
- Analysis of an alternative model of community distribution of ARVs (CDA) impact on increasing and retaining patients active on ART
- Through CDA, health providers use motorcycles to reach patients with ARVs. Once ARVs are distributed via CDA, providers upload information into the database and file the patient’s clinical record.
- The CDA model incorporated patients who had difficulties accessing their local health unit, but excluded patients with no interest in treatment, children under 2 years old, pregnant and lactating women, and patients co-infected with tuberculosis.
- **Findings and outcomes**
  - 85% of eligible patients for the CDA model participated
  - CDA increased number of patients active on ART by 9%
  - 33-day and 99-day retention remained above 90%

**Conclusion:** CDA has been a valuable strategy in Niassa and helped improve ART retention and overall access to treatment

Patients who received DCA April - September 2021



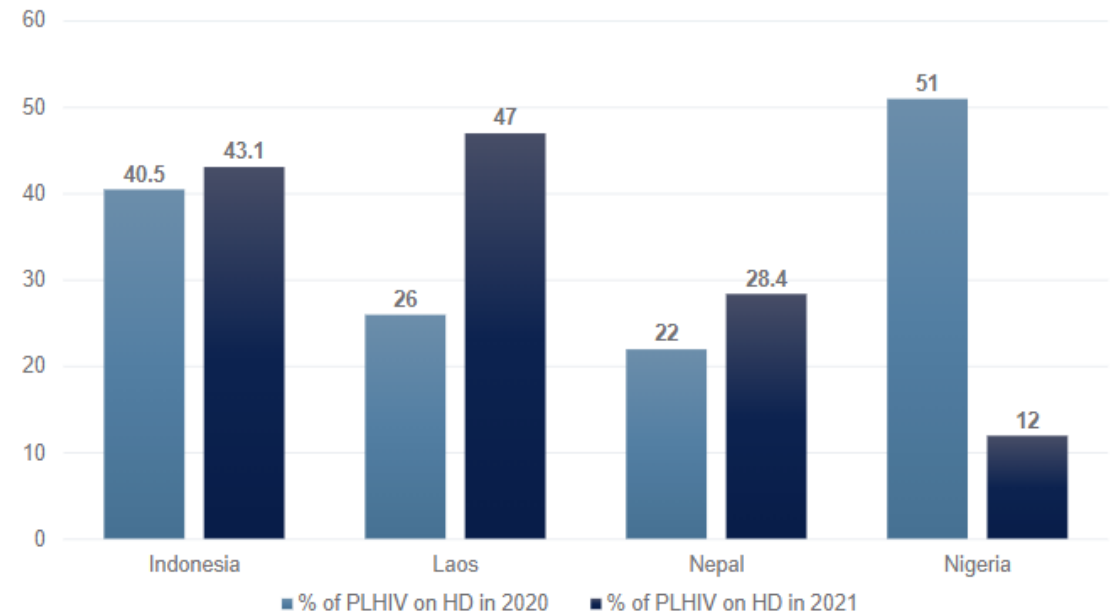
Increase in Patients on ART in health units with CDA



# Home delivery of antiretroviral drugs in Indonesia, Laos, Nepal and Nigeria: implications of COVID-19 experiences for post-pandemic decentralized ARV delivery

- Report on continued home delivery (HD) – an out-of-facility model for HIV treatment continuity as a follow-up on the review of the model, which was conducted in 2020.
- **Lessons learned**
  - Understaffing in health facilities, exacerbated by COVID-19 infection among health care providers, made ARV HD a valuable service alternative.
  - Six-month dispensing allows HD to be practical and affordable but depends on consistent ARV stocks.
  - The countries continuing ARV HD rely on donor funding and external technical assistance, and mechanisms for sustaining and scaling the approach without external support are not yet in place.

FIGURE 1. Percentage of PLHIV receiving home delivery in participating project sites, 2020 and 2021



**Conclusion:** While service delivery guidelines have been adjusted to support HD, national policy change is still needed to sustain the approach

# Leveraging Mobile clinics to provide differentiated service delivery HIV in conflict affected settings of the South West and North West regions of Cameroon

- A model of care that made use of mobile clinics (MCs) as DSD for HIV was piloted in conflict-affected regions, within the COVID-19 context.

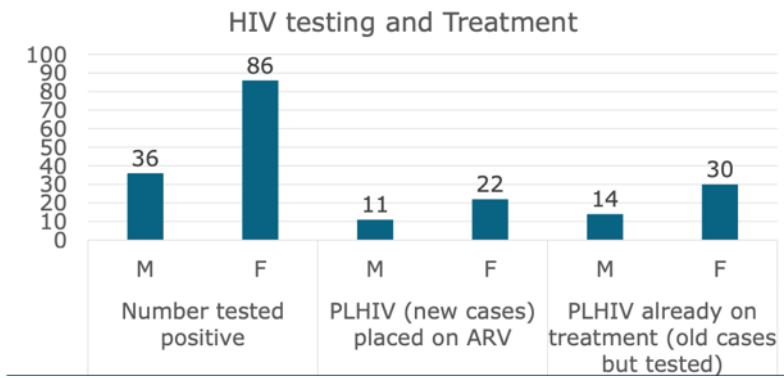
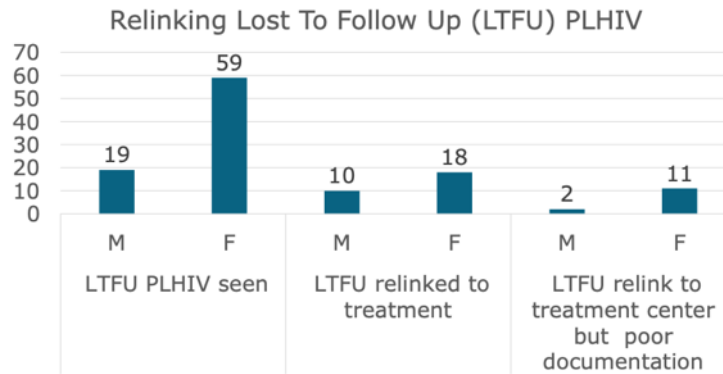
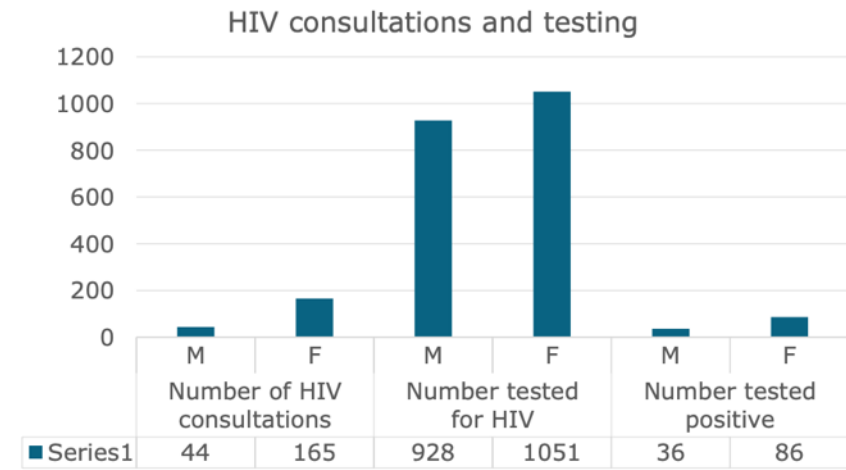
## Lessons learned

In the midst of the COVID-19 pandemic, MCs offered an opportunity to deliver HIV DSD for IDPs in conflict-affected communities.

45 persons who tested HIV positive didn't receive ARVs due to poor coordination/referrals.

A collaboration/engagement strategy between the MCs and ARV treatment centers is necessary to improve trust and allow for dispensation of ARV in hard-to-reach communities.

Training on effective referral systems should constitute a module for training MC staff.



**Conclusion:** In conflict-affected settings, mobile clinics could be leveraged as an alternative model of care for DSD for HIV to ensure continuum of HIV care and treatment.

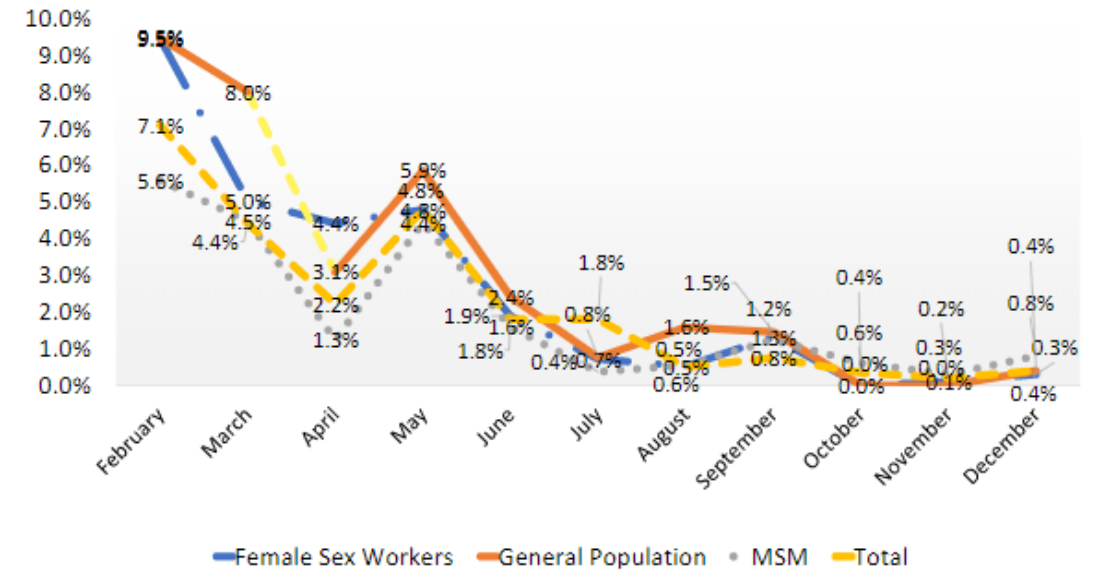
# 1. DSD for HIV treatment

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## Effectiveness of real-time client tracking tools in reducing Interruption in Treatment: evidence from a low resource setting, Zimbabwe

- Continuous Quality Improvement (CQI) intervention utilizing a client-level electronic record management system (Bahmni) to generate real time ART data across six sites from 5 districts in Zimbabwe between Feb – Dec 2021.
- **Lessons learned:**
  - IIT was 7.1% at the onset of the intervention, and dropped almost monotonically to under 1% by December 2021
  - There were no differences in IIT rates by population type nor by age and gender
  - Real-time data enabled a timely client-provider interaction that resolved challenges faced by the client (including COVID-19 induced travel restrictions)
  - The CQI strategy included differentiated service delivery to improve access to ART medication

Figure1: Month on month Interrupted in Treatment (IIT) by Population type



### Conclusions:

- The EMR has shown to be an effective tool in tracking clients on ART to reduce IIT
- Generating real-time data allows for a much more rapid and effective client-provider interaction that translates into improved ART cohort management
- This innovation must be scaled up especially in low-resource settings where patients face diverse challenges that result in IIT

## Enhanced adherence counselling (EAC) enrollment via phone: a strategy to improve timeliness of enrollment and completion of EAC among HIV-infected patients with high viral load at Nkwon Baptist Hospital, Cameroon

- Comparative retrospective observational study that involved patients with high viral load (HVL) enrolled in care and treatment at Nkwon Baptist Hospital (NBH) as at June 2021
- **Lessons learned:**
  - Of the 103 clients eligible for EAC only 93 completed 3 EAC sessions. Of these, 56 received EAC1 physically (54%) whereas 47 (46%) had EAC1 via phone.
  - Overall 68 viral load (VL) results were received (91%) and out of this 53 were suppressed (78%).
  - Out of those enrolled physically 48 (86%) completed 3 EAC sessions, 38 (79%) had repeat VL sample collection, 35 (92%) results were received with 26 suppressed (74%). Of the 47 enrolled via phone, 45 (96%) completed 3 EAC sessions, 37 (82%) had repeat VL sample collection, 33 (89%) results were received, 27 (82%) had suppressed VL.
  - Average time to completion for patients enrolled physically was 123 days, average time of completion for patients enrolled by phone was 92 days.

**Conclusion:** Enrollment of patients with high viral load on EAC by phone is an effective strategy and has the potential of scale up to improve the uptake, timeliness and completion rates of EAC especially in the context of COVID-19 where reduction of face-face contact is important in infection prevention control.

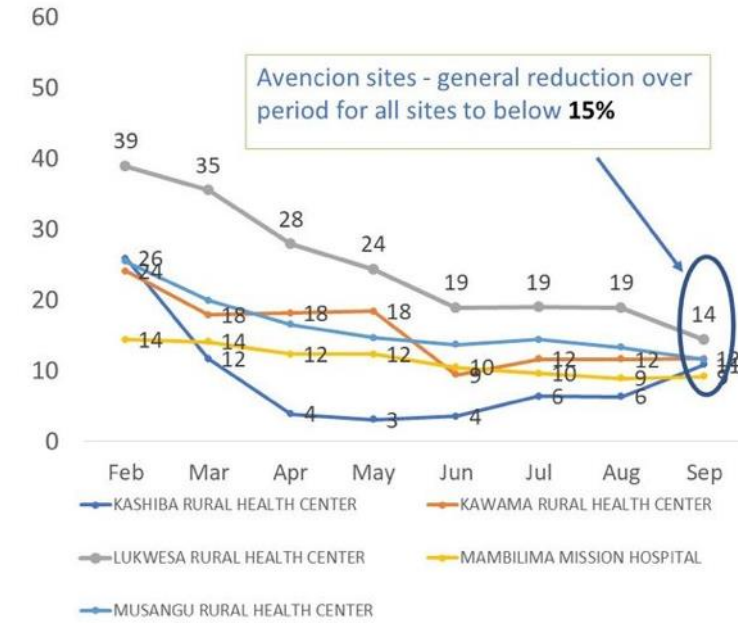
# Impact of innovative patient- centred two-way digital communication and community-based proactive cohort management on improving retention of ART clients in Zambia

## Community retention programme involving

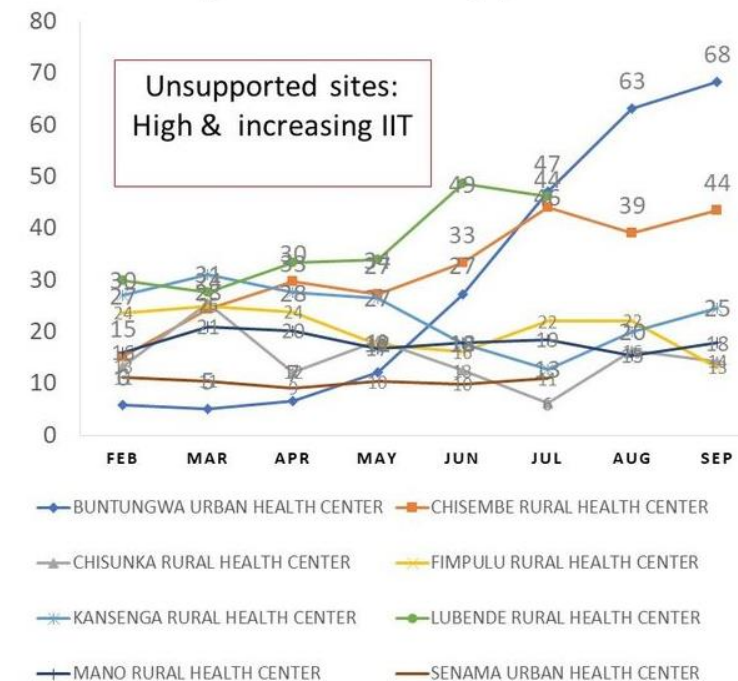
- Proactive community case management
- Improved patient-locator data
- Digital communication and appointment monitoring
- Improved customer care.
- **Lessons learned:**
  - Intervention supported patients experienced 771 IIT; reduction from 4,153 before intervention. Recovered 984 patients who had IIT and been 'lost' before intervention started. 12 of 14 intervention sites posted decreased % IIT by Q4 FY21 while non-supported sites remained with high % IIT.

**Conclusion:** Intervention reduced % IIT in 12 of 14 supported sites analyzed and can be scaled to other facilities experiencing high % IIT; recommend scaling intervention.

## Analysis of Intervention Sites



## Analysis of Non-Supported Sites



# 1. DSD for HIV treatment

- DSD for HIV treatment in 2022
- Quantitative
- Qualitative
- Community models
- Include virtual and/or digital intervention
- **Integration – family planning, Hepatitis B and C, mental health, NCDs, TB**
- Specific populations
- Advanced HIV disease
- Cost and cost-effectiveness

## Providing person-centred care means that HIV services should look to integrate other health needs into the DSD for HIV treatment models

The priority areas for integration into DSD for HIV treatment models are:

- TB treatment and prevention
- Family planning (FP)
- Cervical cancer screening and treatment (according to national guidance)
- Cardiovascular risk assessment and management of hypertension and diabetes
- Screening and management of depression, anxiety and substance abuse

The goal of integration should be to provide a one-stop service for the recipient of care (RoC) during routine care.

- At the same facility, ideally in the same clinic room
- On the same day
- By the same healthcare professional

DSD for HIV treatment models can be leveraged to:

Screen or assess for other health conditions or needs at entry into DSD and at clinical visits.

AND

Integrate the delivery of other medications into the DSD for HIV treatment models for RoCs established on treatment.

# Policy enablers [for integration within DSD for HIV treatment models]

Increased duration of  
refills and alignment  
of medication refills  
with ART refills

Task sharing of  
prescribing for  
initiation, titration (for  
NCD medication) and  
maintenance

Decentralization of  
drug dispensing and  
distribution

# Implementation challenges [to integration within DSD for HIV treatment models]

## HIV/TPT Integration

Multiple bottles of medicines at home, storage challenges, risk of stigma and accidental disclosure

## HIV/Family Planning

Limited availability of a full range of FP options;  
Difficulties in delivering one-stop shop services

## HIV/NCDs

Staff shortages and limited skills to offer services across multiple disease programs, harmonization of monitoring tools needed, limited medicines for NCDs

# INTE-AFRICA-Intervention

- Integrated primary care comprised:
  - One clinic for either HIV, diabetes or hypertension (one-stop clinic).
  - The same physicians, consulting rooms, waiting areas, and triage
  - Provision of health information, similar records, pharmacy and laboratory services.
- Integrated care clinics located within health facilities offering primary care.
- Services provided by routine healthcare staff in close to normal health service conditions.
- Vertical care was standard primary care for HIV, diabetes or hypertension organised in separate clinics.



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- Multi-country, designed to generate evidence for policy-makers.
- Sites in Dar es Salaam, Tanzania and Kampala region, Uganda
- Recruitment started Mar 2020. Ended a year later. Follow-up finished May 2022.
- Huge disruption to routine care because of Covid-19.



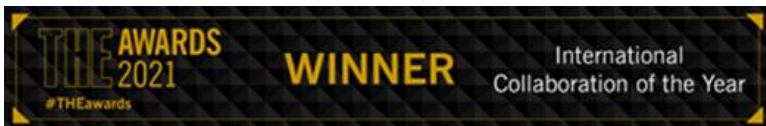
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	Integrated Arm	Vertical Arm
<b>Number enrolled, n(%)</b>	3439	3591
Age, mean (SD) years	50.8 (14.4)	50.3 (13.4)
Sex, number female (%)	2571 (74.8)	2579 (71.8)
<b>Disease condition, n(%)</b>		
HIV alone	1701 (49.5)	1665 (46.4)
Hypertension alone	906(26.3)	883 (24.6)
Diabetes alone	181 (5.3)	308 (8.6)
Multimorbidity (2 or all 3 conditions)	651 (18.9)	735 (20.4)

[From Jaffar oral presentation in this session](#)

	Integrated Arm	Vertical Arm
<b>Number enrolled, n(%)</b>	3441	3592
Retained in care, all participants, n (%)	3087 (90)	3308 (92)
Retained in care, participants with diabetes or hypertension or both, n (%)	1853 (92)	1858 (95)
Viral load <1000 copies per mil	1694/1741 (97)	1710/1755 (97)
Blood pressure <140/90 mmHg	1569/2408 (65)	1398/2429 (58)
Fasting glucose <7 mmol/l	65/247 (26)	115/545 (21)

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# Makonda Study

- PLHIV with HTN report barriers to care include costs of transportation and time for care seeking.<sup>1</sup>
- Integration can overcome these barriers with:

## Multi-month dispensing &

Alignment: MMD of ART and HTN medications in the same interval

- Person-centred models may be associated with improved clinical outcomes

## Makonda Design & Aims

- Evaluate preferences for HTN care (n=1000, 14 facilities) with Discrete Choice Experiment (DCE) & stated preferences for care
- Chart review subset: frequency of HTN and ART refills to evaluate MMD, alignment, and blood pressure control



# Makonda participants

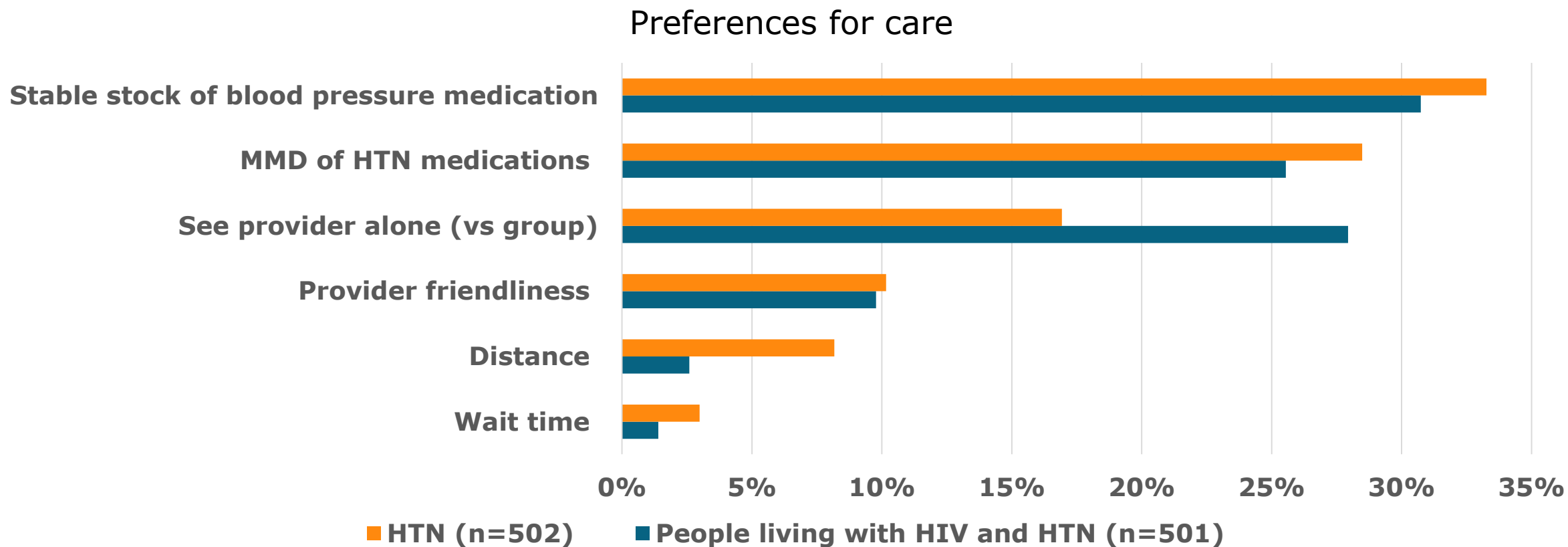
	People living with HIV and HTN* (n=501)	Chart review sub-group (n=244)	HTN (N=502)
Median age (IQR)	54 (48-60)	54 (48-60)	58 (51-66)
Female, n (%)	293 (58%)	125 (55%)	291(58%)
Duration on ART**, median years (IQR)	10 (6-15)	12 (7-15)	N/A
Duration with hypertension median years (IQR)	5 (3-8)	5 (3-9)	5 (2-8)
Diabetes, n (%)	45 (9%)	20 (8%)	121 (24%)

\*Most (n=462, 92%) identified from three fully integrated ART-NCD clinics in Lilongwe

\*\*98% on TLD and 91% suppressed <40 copies/mL within the prior 2 years

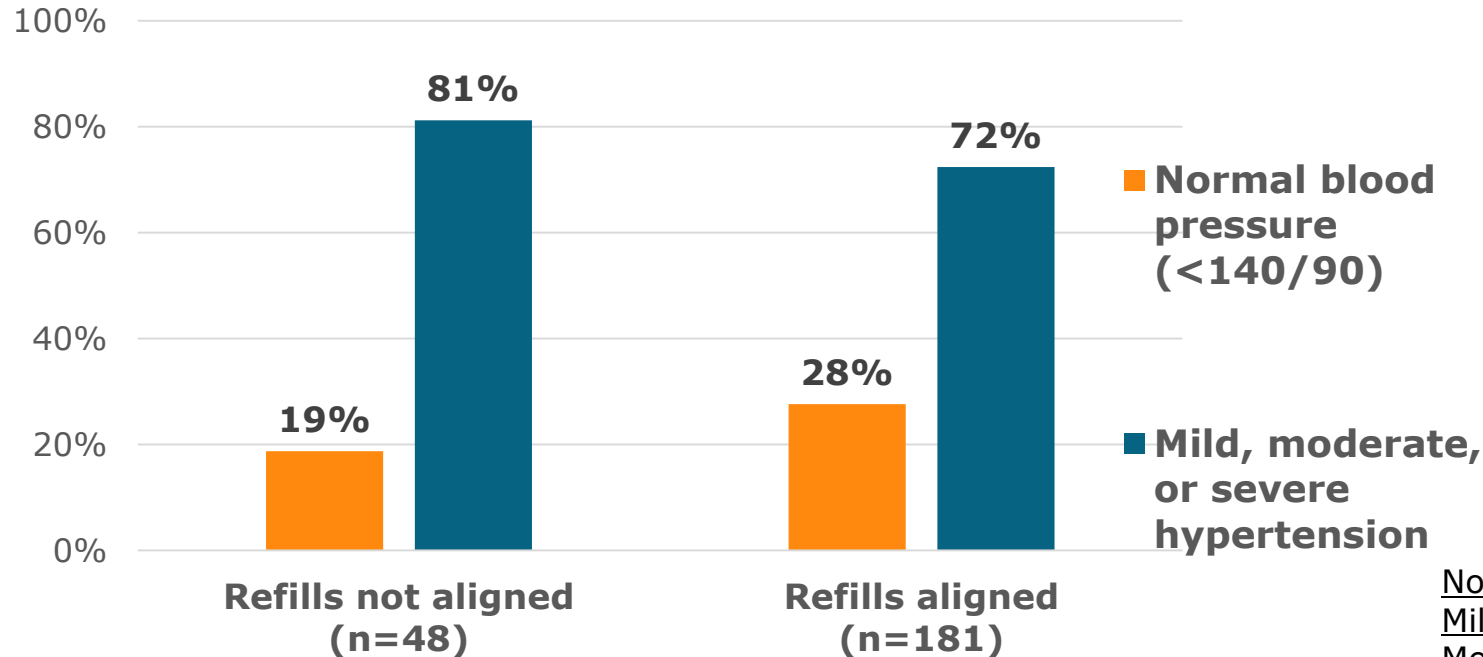
Chart review to look at ART dispensing intervals, alignment with HTN medication, blood pressure data (n=244)

# Makonda Study: Preferences for HTN care

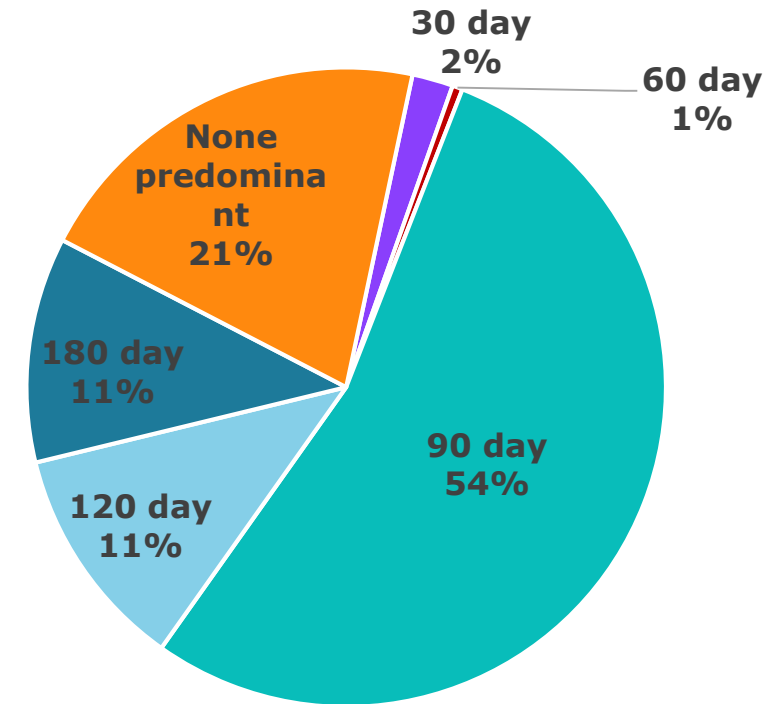


# Alignment of ART and HTN medication (n=244)

- 79% of participants had complete alignment
- With less strict definition (>50% of visits), 90% aligned
- Most common aligned interval was 90 days (54%)
- Blood pressure control (n=229) more common among those with complete alignment (28% versus 19%, p= 0.211)

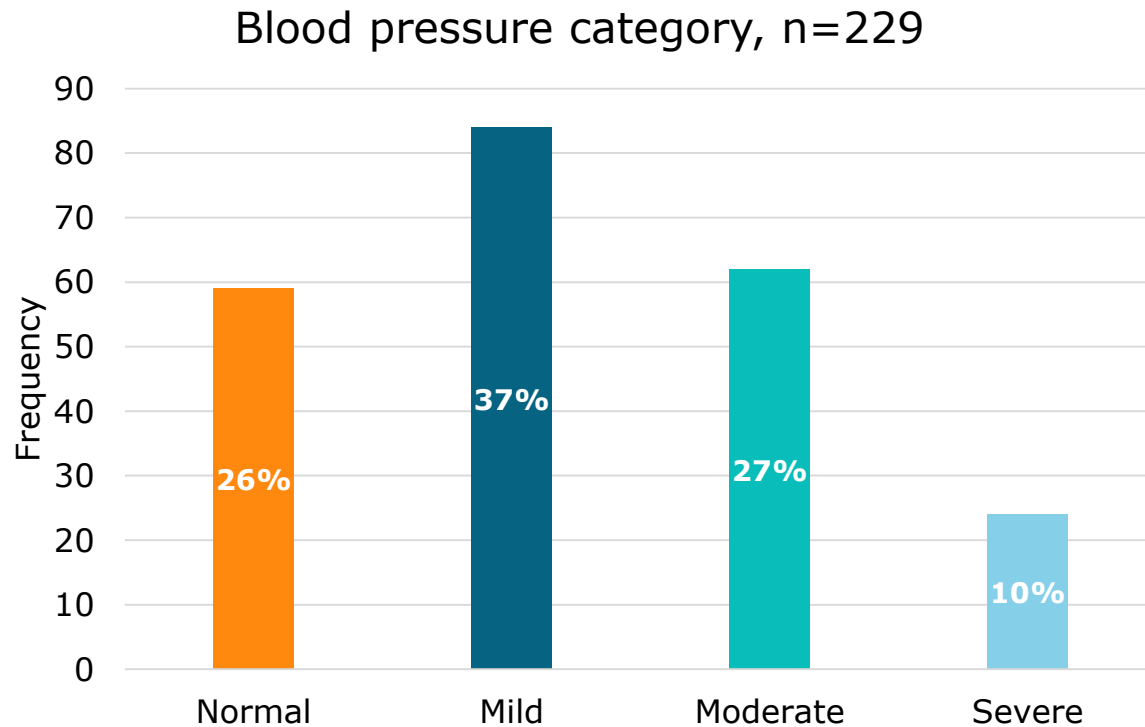


**Predominant dispense interval among individuals receiving aligned refills**



Normal: systolic <140 and diastolic <90 mm Hg  
Mild: systolic 140-159 and/or diastolic 90-99 mm Hg  
Moderate: systolic 160-179 and/or diastolic 100-109 mm Hg  
Severe: systolic ≥180 and/or diastolic ≥110 mm Hg

# Variable severity of hypertension



- Moderate or higher blood pressure elevation was common
- 94% reported missing taking blood pressure medication 0-1 times/week
- 12% had a gap of >30 days in blood pressure medication supply
- 44% on first-line monotherapy (HCTZ); 10% on  $\geq 3$  HTN medications
- 89% had no changes in HTN medications over one year

Normal: systolic <140 and diastolic <90 mm Hg

Mild: systolic 140-159 and/or diastolic 90-99 mm Hg

Moderate: systolic 160-179 and/or diastolic 100-109 mm Hg

Severe: systolic  $\geq 180$  and/or diastolic  $\geq 110$  mm Hg

# Asynchronous prescribing of ART and antihypertensives results in frequent clinic visits despite multi-month dispensing of ART in Malawi

## Results:

- Four-month dispensing was most common for ART (64.8%), while one-month dispensing was most common for antihypertensive medications (59.6%).
- Only 16.6% of individuals received synchronous dispensing for both conditions at all three visits.
- The majority (62.2%) of participants were estimated to have 12 annual refill visits, 22.8% had 6-8 annual visits, and 15.0% had 3-4 annual visits. Under synchronized six-month dispensing nearly two-thirds of patients (64.8%) would eliminate 6+ visits. Under three-month synchronized dispensing, 85.0% of respondents would eliminate at least 2 visits per year.

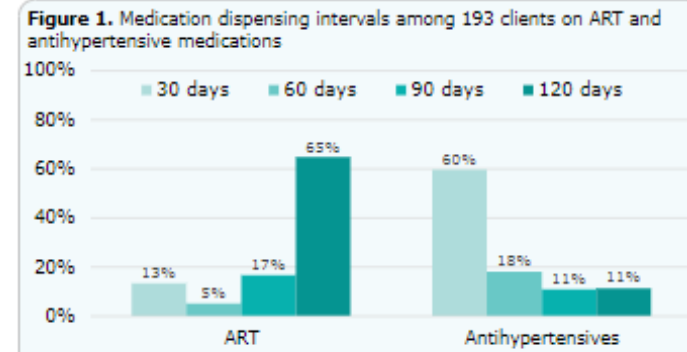


Figure 2. Combinations of ART and antihypertensive medication dispensing intervals

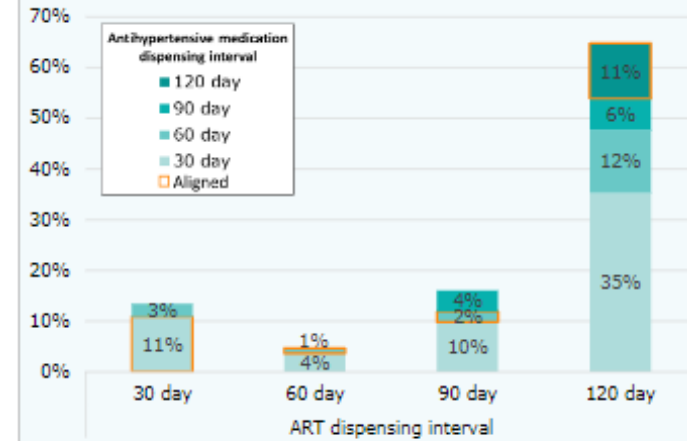
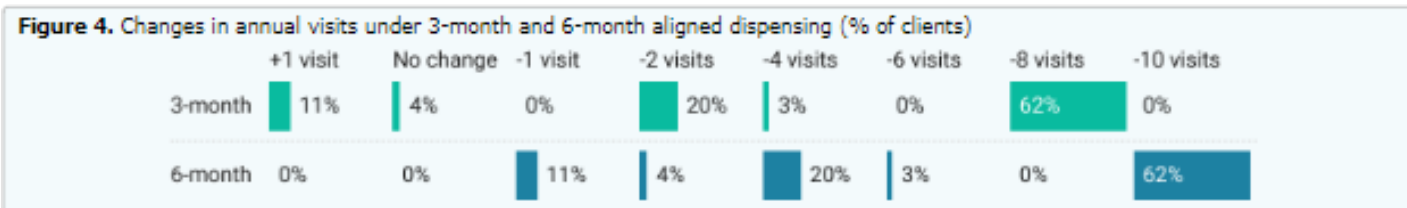


Figure 3. Total annual visits for ART and antihypertensive medications under current dispensing



## Conclusions:

- High rate of asynchronous dispensing of ART and antihypertensive medication in an integrated care setting, with most individuals requiring monthly clinic visits despite MMD of ART.
- Expanding integrated care with synchronized MMD for stable individuals with HIV and hypertension has the potential to reduce patient and health system burdens.

# Systems analysis and improvement approach for hypertension for people living with HIV

- A hybrid type III parallel cluster randomized controlled trial to assess the effectiveness of the Systems Analysis and Improvement Approach in improving HTN care cascade outcomes (SAIA-HTN), including HTN screening, HTN management, and controlled HTN
- **Lessons learned:**
  - Monthly improvement cycles targeted workflow adjustments, improved data availability and quality, patient education efforts and improved inter-provider communication
  - The intensive intervention phase of this study will conclude in August 2022, and results will inform a scaling trial

SAIA Components					
Cascade Analysis Tool					
HTN Care Casade		Total	%	Drop-Off	# of additional HIV patients treated for HTN and controlled (until step 6) if there were no drop off at this step
# Months		1			
Target Population		19,558			
# of HIV-infected Individuals		2,054			
STEP 1	Outpatient Consults - HIV+ Adult Patients	200	10%	→ 1,854	309
STEP 2	BP measured at Outpatient Consults for HIV+ Adult Patients	100	50%	→ 100	33
STEP 3A	HIV+ Patients eligible for HTN medications for the first time	33	33%		
STEP 3B	HIV+ Patients already diagnosed HTN	21	21%		
<b>Total Eligible (Step3A &amp; Step 3B)</b>		54	54%		
STEP 4A	HIV+ Patients with HTN medication prescription (new)	32	97%		
STEP 4B	HIV+ Patients with HTN medication prescription (refill)	18	86%		
<b>Total Eligible (Step4A &amp; Step 4B)</b>		50	93%	→ 4	3
STEP 5	HIV Patients who picked up HTN medications last month	17	94%	→ 33	23
STEP 6	HIV Patients (on HTN treatment) with controlled BP	12	71%	→ 5	5

### Conclusion:

- Routine data systems that collect HTN care cascade data are needed to improve delivery of HTN services for PLHIV and assess if sustained improvements in HTN care cascade outcomes are achieved. Initiating the expansion in overlap with SAIA-HTN allows for a rapid translation of this finding.

## Screening & management of hypertension among People Living with HIV (PLHIV) through 'single window approach': a experience from ART Centers in Mumbai, India

- Pilot project for integrated hypertension and ARV services through ART centers
- **Lessons learned:**
  - Routine screening for hypertension has helped in early diagnosis and treatment initiation among PLHIVs across all ART centers in the city.
  - To date 25,758 adult PLHIV registered for care have been screened for hypertension and 3948 (15.3%) have been put on anti-hypertensive medicines through ART centers.
  - 55% were males while 45% were females. The commonest age group was between 35 to 45 years of age.

### Conclusions:

- NCD screening can be integrated into HIV care through standardized screening and management protocol
- The early detection and management of hypertension and other NCDs among PLHIVs at ART Centres can help in reducing morbidity & mortality

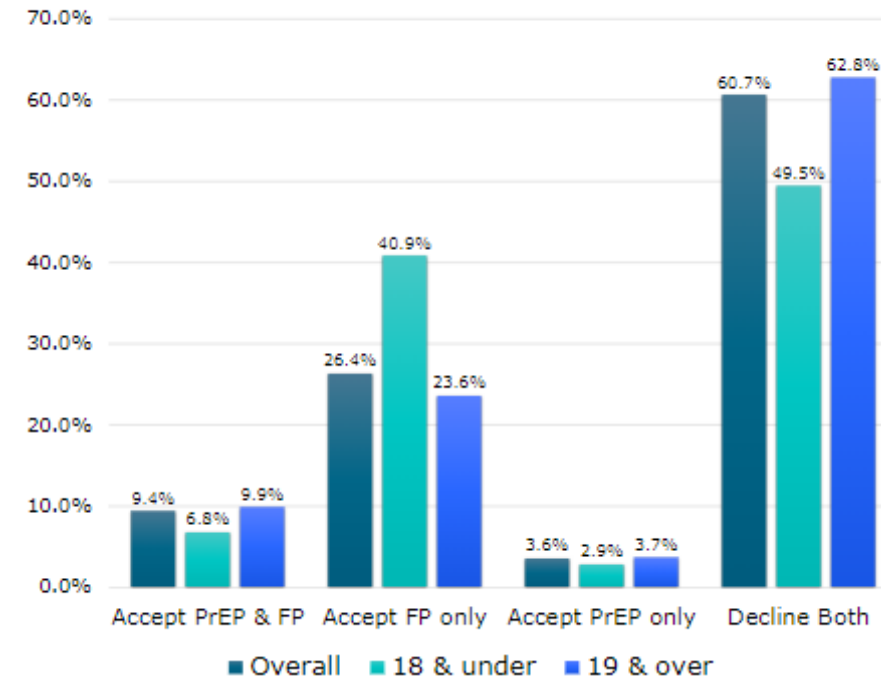
## PrEP and family planning uptake among adolescent girls and young women in post-abortion care in Kenya

- Medical records data abstracted from clients attending 14 post-abortion care (PAC) clinics in Kisumu and Thika, Kenya

### Results:

- A total of 1,041 adolescent girls and young women (AGYW) were offered PrEP and FP across 14 PAC clinics, of which 19.3% initiated PrEP and 43.1% initiated FP prior to discharge.
- The median age of AGYW clients was 24 (interquartile range (IQR): 18-30). Relative to AGYW 19 years, AGYW 18 years were less likely to initiate PrEP, more likely to initiate FP, and less likely to initiate both concurrently

Figure 1. Distribution of PrEP and Family Planning Uptake by AGYW in Post-Abortion Care Clinics



### Conclusions:

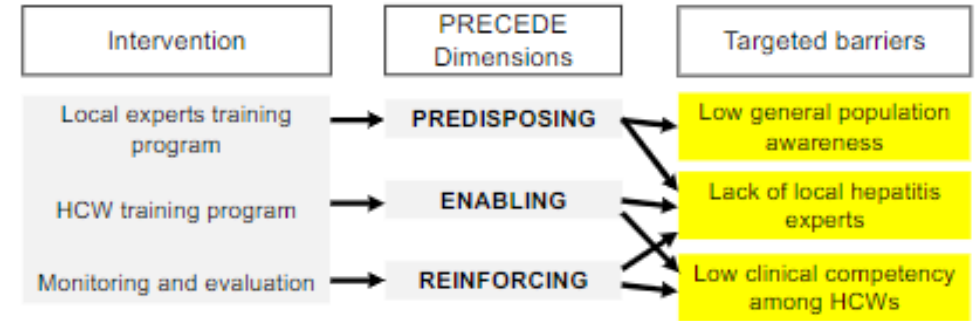
- Uptake of PrEP and FP among AGYW in PAC settings in Kenya are associated with age.
- Younger women (15-18 years) are more likely to initiate FP following post-abortion care.
- However, younger women are significantly less likely to initiate PrEP or FP and PrEP concurrently, and may benefit from additional and more age-tailored counseling around sexual health and prevention of HIV and unintended pregnancy after an abortion.

# Integrating hepatitis B into HIV programs in low and middle-income countries: pilot program in Zambia

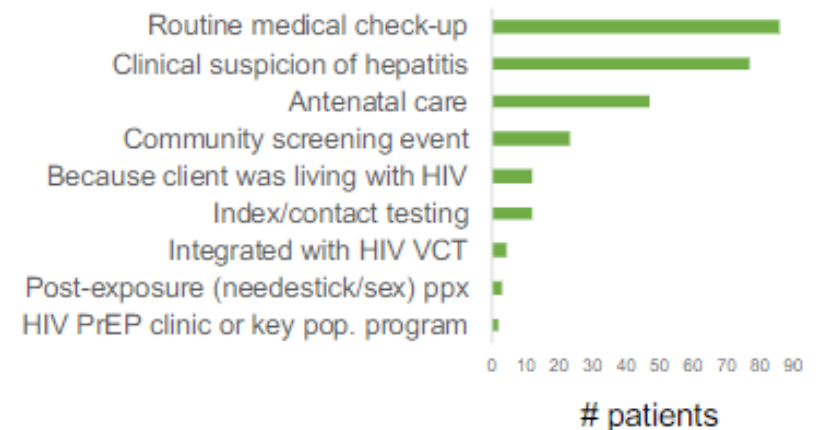
## • Lessons learned

- From September 2021-January 2022, during 20 half-day HBV clinics, 224 patient visits occurred, reaching 169 people with HBV (median age, 35 years; 39.6% female sex).
- People with HBV had been diagnosed and linked to the clinic after routine (77.9%; i.e., blood bank, routine medical check-ups, antenatal care, etc.) and clinically-driven (22.1%; i.e., signs and symptoms) HBsAg testing.
- Among the 169, 120 (71.0%) underwent serum transaminase testing, 95 (56.2%) had HBV viral load, and 63 (37.3%) were prescribed tenofovir-based antiviral therapy based on local guidelines.
- Since inception, 30 mentee physicians and 10 nurses have participated, seeing an average of 10 clients (range 3-32) with HBV per mentee.

Conceptual Framework for ACCELERATE program (based on PRECEDE)



## Ways that people with HBV learned their status

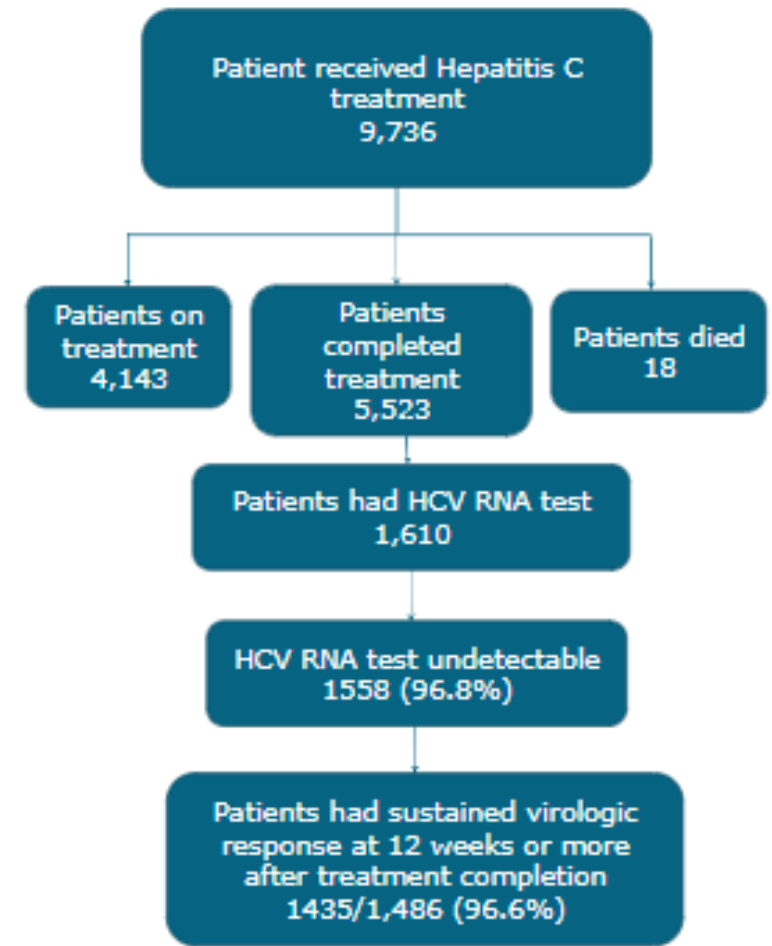


**Conclusions:** Demonstrated the initial feasibility of a model of HBV-HIV care integration in a high HIV prevalence setting in SSA. Applying treatment criteria for HBV mono-infection requires consistent laboratory capacity.

# Integration and decentralization of hepatitis C testing and treatment at district HIV outpatient clinics in Viet Nam to achieve micro-elimination

**Results:**

- Between April and December 2021, 4,587 patients were diagnosed with hepatitis C and started DAA treatment. Of which, 93.6% of the patients were men and 90.0% aged between 30-50 years old.
- As of 31 December 2021, 2083 (45.4%) completed 12 weeks of treatment, 2486 (54.0%) patients were on treatment, 18 (0.4%) patients stopped treatment for various reasons and 10 (0.2%) patients died.
- Of 2083 completed treatment, 2033 (97.6%) had completed treatment for at least 12 weeks and 447 (99.5%) of them had HCV RNA test to determine sustainable viral response (SVR 12) and 437 (97.8%) tested patients had undetectable HCV RNA.



**Fig 2. Treatment outcomes**

**Conclusions:**

- The results demonstrated feasibility of integration and decentralization of HCV testing and treatment at district HIV outpatient clinics.
- Very high cure rate achieved in this project suggests that micro-elimination of hepatitis C among PLHIV is feasible.

# OK to not be OK in HIV care: experience and outcomes of integration of mental health screening, referrals and support in routine HIV care in Zimbabwe

## OPHID & Friendship Bench Mental Health/HIV Integration Model

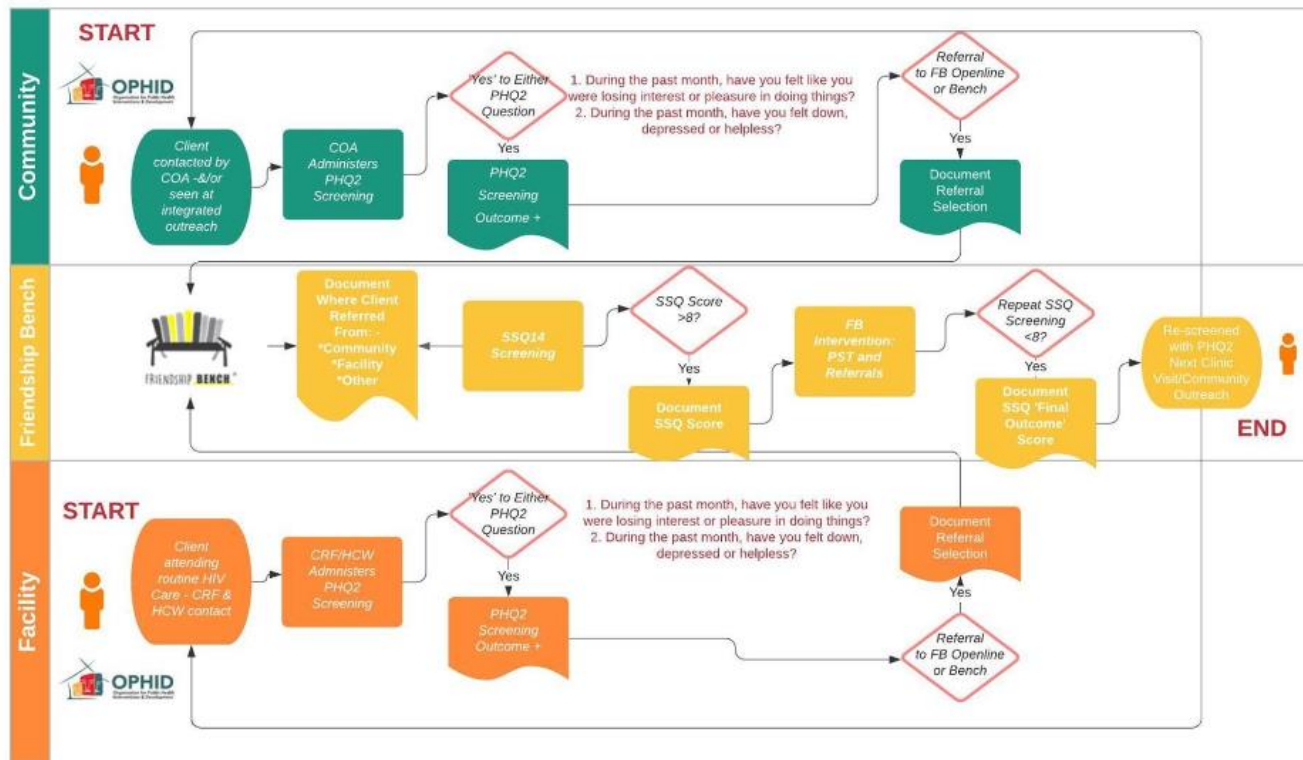
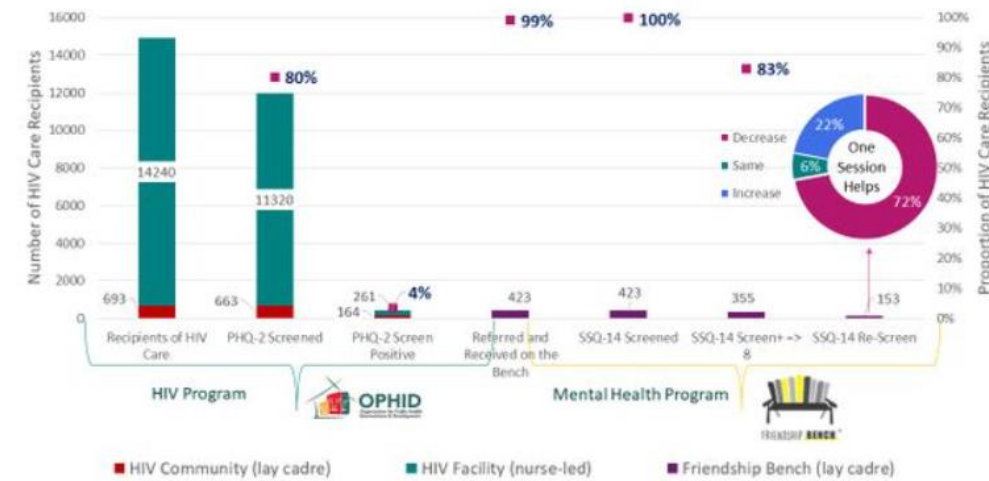


Figure. Cascade of integrated mental health screening, referral and support in routine HIV care, Chitungwiza District Zimbabwe March-May 2021



### Conclusions:

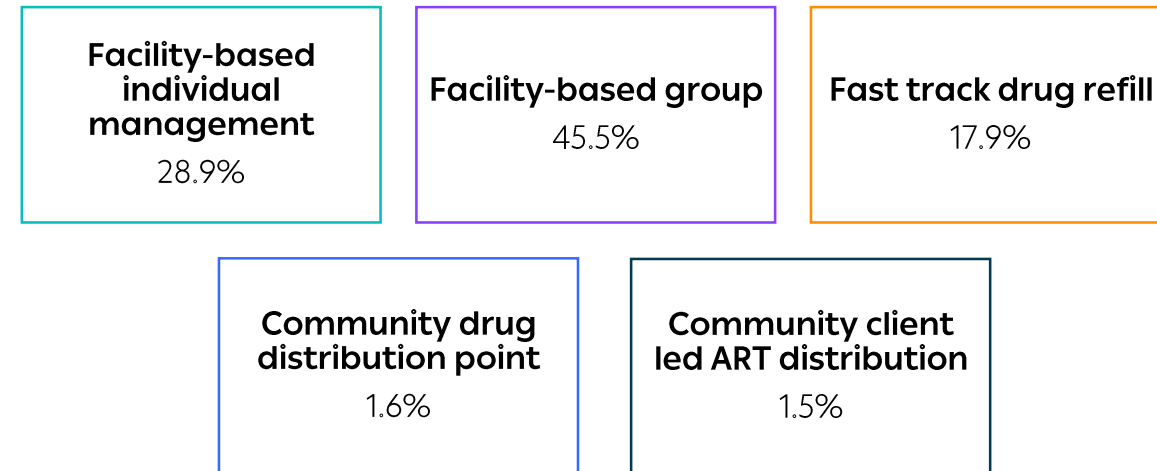
- Integration of mental health screening and referrals to community-based mental health interventions in routine HIV care is feasible and acceptable to both clients and care providers
- Clear need for MH/HIV integration
- Future implementation research is required to extend the MH/HIV cascade to include individual-level impact of integration on both HIV and mental health outcomes

# 1. DSD for HIV treatment

- DSD for HIV treatment in 2022
- Quantitative
- Qualitative
- Community models
- Include virtual and/or digital intervention
- Integration – family planning, Hepatitis B and C, mental health, NCDs, TB
- **Specific populations**
- Advanced HIV disease
- Cost and cost-effectiveness

## Assessment of the effect of community differentiated service delivery models on viral load suppression among children and adolescents living with HIV in Uganda

- Retrospective analysis of Children and Adolescents Living with HIV data from the DSD dashboard for all HIV antiretroviral clinics in Uganda from July – September 2021
- **Lessons learned:**
  - VLS among community DSD models did not differ by sex (Males = 67.0% vs Females = 66.0%, p-value >0.05) and by community DSD type; CCLAD (62.0%) vs CDDP (61.0%), p-value >0.05).
  - Among children, VLS (<1000 copies) was 62.0% and 75.0% among adolescents living with HIV receiving ART under a community DSD model..

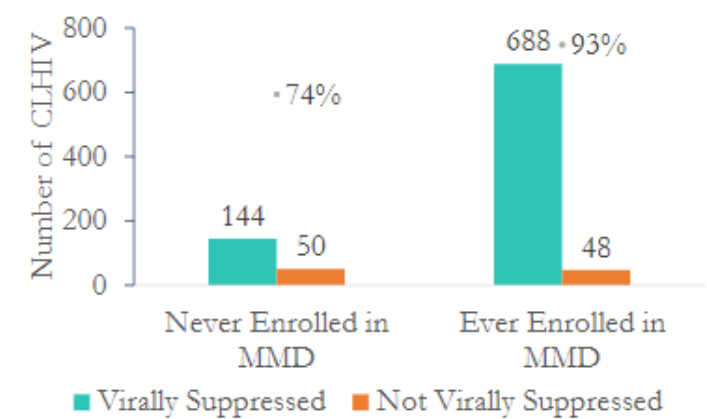


### Conclusion:

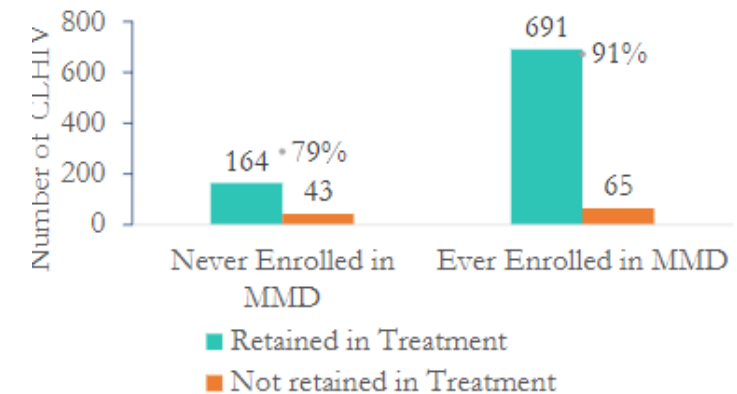
- Lower viral load suppression for children and a comparable VLS for adolescents in community DSD models, compared to the national VLS
- No significant difference in VLS among the two community DSD models

## Effects of multi month dispensing on viral suppression and continuity in treatment among HIV-infected children aged 2 to 9 years in selected health facilities in Western Kenya

- Retrospective cohort analysis of children living with HIV (CLHIV) on ART to assess viral suppression and continuity in treatment
- Results:**
  - Overall, 756 (79%) of CLHIV were enrolled in MMD. VS at baseline (March, 2020) was 85% (551/649) for MMD-enrolled vs 63% (106/167) for non-MMD.
  - At endline (September, 2021), VS for MMD-enrolled CLHIV had increased to 93% (688/736) with a retention of 91% (691/756), compared to VS of 74%(144/194) and retention of 79%(164/207) among non-MMD CLHIV
  - After adjusting for age, sex, region, and regimen, children on MMD were more likely to suppress (aRR 1.22 95% CI (1.02 ' 1.46)) and continue in treatment (aRR 1.12 95% CI (1.02 ' 1.19)).



**Figure 2. Viral suppression by MMD enrolment, March 2020-September 2021.**



**Figure 3. Retention in treatment by MMD enrollment, March 2020-September 2021.**

### Conclusions:

- MMD for children living with HIV may contribute towards the improvement of VS and continuity in treatment.
- Continued MMD implementation beyond the COVID-19 pandemic may be beneficial in improving treatment outcomes.

# Leaving no one behind: The impact of kindergarten ART clinic on HIV treatment outcomes among children enrolled in kindergarten HIV program at Lighthouse HIV care facilities

- Cross-sectional study of children living with HIV aged 0-5 enrolled in kindergarten program in four Lighthouse trust HIV care facilities from January – December 2021, to assess the impact on retention, VL suppression and mortality

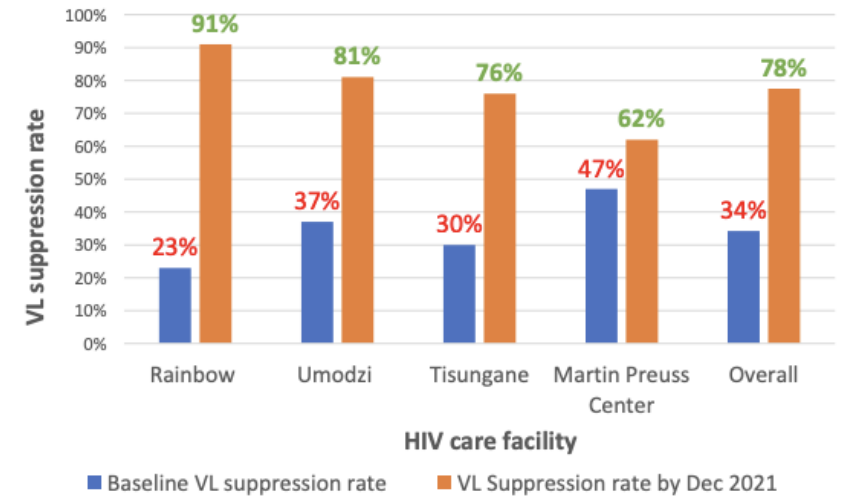
## • Results

N=430 of 515 eligible children enrolled (83%), 93% were retained

Majority of caregivers were living with HIV

Large improvements in observed in viral load suppression among the children (see Figure)

Change in overall viral load suppression after 9-13 months of FU

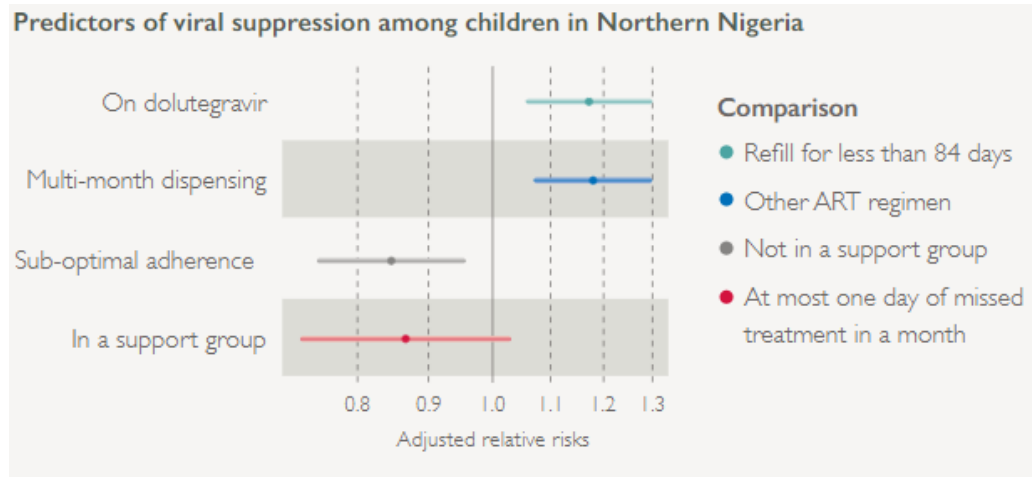


### Conclusions:

- Kindergarten ART clinic as a family centered differentiated care model for children living with HIV has the potential to improve VL suppression and other important HIV treatment outcomes.
- Knowing the challenges faced by children living with HIV to achieve optimal viral load suppression, scaling up this initiative in high volume HIV care facilities would accelerate progress towards attaining UNAIDS targets among children living with HIV.

# Multi-month dispensing and use of dolutegravir associated with better viral suppression among children in Nigeria

Characteristics of participants	Overall n (col %) (N=4373)	Virally suppressed n (row %) (N=2561)
<b>Age (years) N=4357</b>		
0-9	2206 (51)	1225 (56)
10-15	2151 (49)	1327 (62)
<b>Gender</b>		
Female	2146 (49)	1307 (61)
Male	2227 (51)	1254 (56)
<b>Duration on ART (years)</b>		
<1	634 (15)	351 (55)
1-9	3377 (77)	1960 (58)
≥10	361 (8)	250 (69)
<b>ART regimen, N=3805</b>		
DTG-based	2275 (60)	1426 (63)
NNRTI-based	385 (10)	202 (52)
PI-based	1092 (29)	542 (50)
Other	53 (1)	30 (57)
<b>On MMD, N=3802</b>		
No	2220 (58)	1168 (53)
Yes	1582 (42)	1030 (65)
<b>ART adherence (N=1,584)</b>		
95% or more adherent	1217 (77)	716 (59)
Missed ≥ 2 days	367 (23)	182 (50)
<b>Support group (N=510)</b>		
No	283 (55)	165 (58)
Yes	227 (45)	115 (51)



**Conclusions:**

- Slightly over half of the children achieved undetectable VL levels.
- VL suppression is higher among children on MMD and those on DTG, and even higher among children on DTG plus MMD.

# Implementation opportunities for scaling up methadone maintenance therapy as HIV-prevention strategy in Kyrgyzstan: methadone dosing and retention in treatment over two years

- An observational prospective cohort study design was applied to patients prescribed methadone in Kyrgyzstan between 2017 and 2021, both in community and carceral facilities.
- Retention in MMT was assessed at 1, 6, 12, and 24 months and was stratified by dosing levels, HIV status, and type of clinical setting using survival analysis. Predictors of treatment dropout were estimated using Cox multivariate regression models.

Figure 1A: Retention on methadone for all patients over 24 months, stratified by dosage, N=940  
Legend: OAT: opioid agonist treatment.

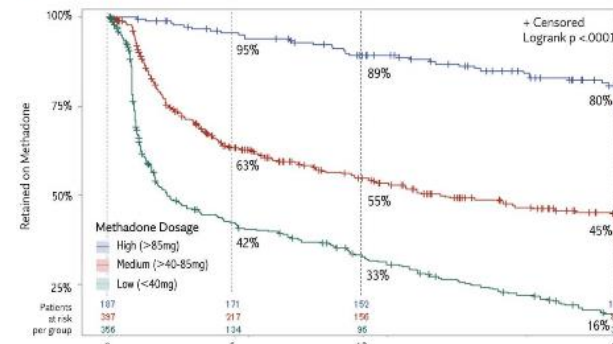


Figure 1B: Retention on methadone for all patients over 3 months, stratified by dosage (N=940)  
Legend: OAT: opioid agonist treatment.

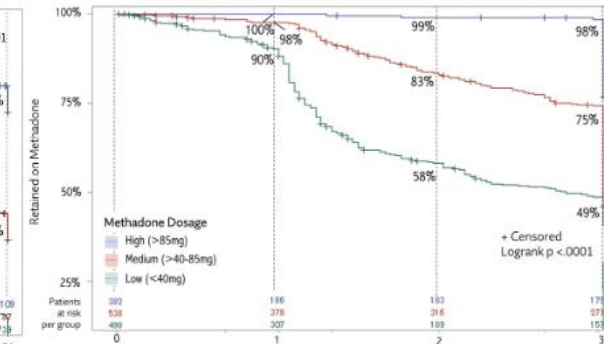


Figure 2A: Retention on methadone for all patients in community settings over 24 months, stratified by dosage (N=580)  
Legend: OAT: opioid agonist treatment.

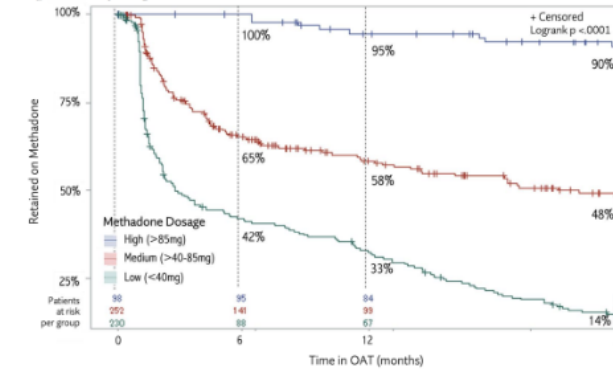
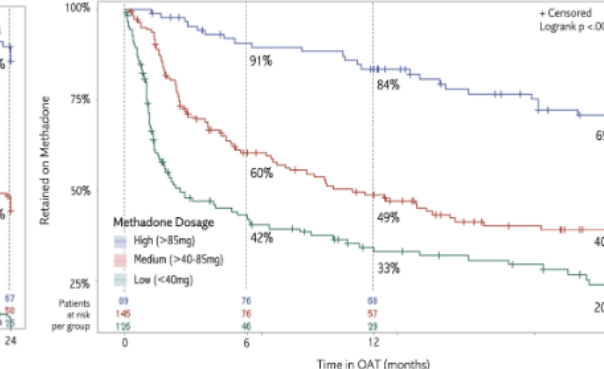


Figure 2B: Retention on methadone for all patients in carceral settings over 24 months, stratified by dosage (N=360)  
Legend: OAT: opioid agonist treatment.



## Conclusion:

- Only one-fifth of MMT clients received optimal(>85mg) dosages; receiving lower dosages contributed most to dropout, providing an implementation opportunity for MMT scale-up in Kyrgyzstan.

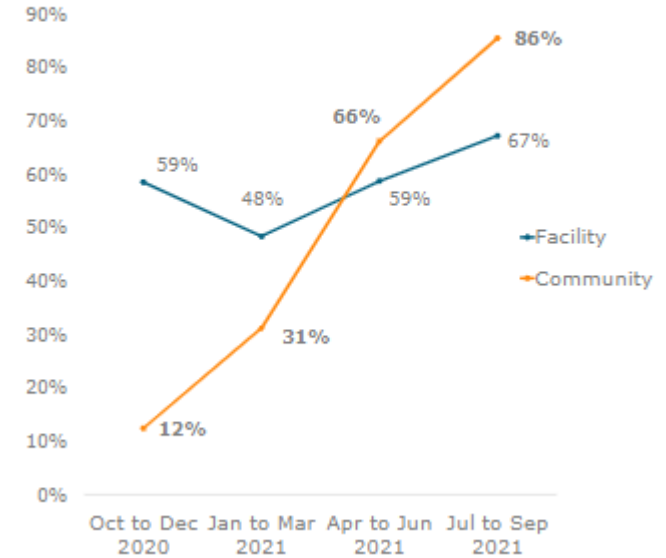
# Improving uptake of viral load tests by key populations in Zambia: a review of two models

- Review of retrospective data on VLC among key populations in districts that implemented the community-based model versus the established model.
- Routine PEPFAR program data from October 2020 – September 2021

## Results:

- Between December 2020 and September 2021 there was greater improvement in VLC in the community-based model. VLC increased from 12% (66/530) to 86% (800/935), compared to 59% (1054/1800) to 67% (1675/2490) in the facility-based model.

Figure 1. Viral load coverage in two models of service delivery to key populations in Zambia – October 2020 to June 2021



### Conclusion:

- This data suggests that the community-based model was effective in improving VLC in districts where the VLC was low, exceeding the average VLC level in the facility-based model districts within a year.
- This Improvement is especially notable given that it coincided with the COVID-19 pandemic, and highlights the importance of conducting a more robust evaluation of the model as program managers, researchers, and policymakers explore better strategies for improving VLC among key populations.

## Integrating gender-affirming care into HIV services for transgender women in three Asian countries: an implementation opportunity using rogers' diffusion of innovation theory

### Conclusion:

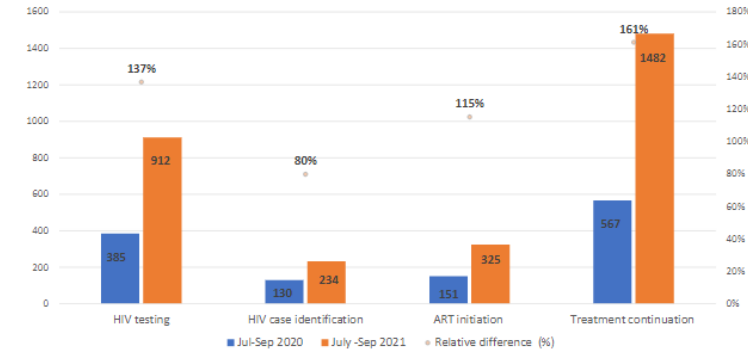
- The Integrated Trans Model was successfully diffused and disseminated from Thailand to three other Asian countries using implementation strategies informed by community and CBO leaders and tailored to cultural context.

- Documentation of how the integrated trans model of the Tangerine Clinic in Thailand has been expanded to other Asian countries
- **Lessons learned:**
  - Demonstrated to CBO leaders and staff in Myanmar, Nepal, and the Philippines the 'relative advantage' of the Integrated Trans Model for increasing transgender women's access to sexual health services
  - Created a learning collaborative in which CBO participants made on-site and virtual visits to the Tangerine Clinic
  - Trained health care providers and transgender community health workers on transgender-competent health care, supported them to develop guidelines, and discussed the 'complexity' of the Integrated Trans Model
  - Ma Baydar Clinic in Myanmar, CruiseAids Clinic in Nepal, and LoveYourself and Lakan Clinics in the Philippines began implementing the Integrated Trans Model to test its 'trialability.' Direct 'observability' from all clinics was reflected in increased accessing of HIV testing and pre-exposure prophylaxis (PrEP) services among transgender women.
  - HIV case-finding rates ranged from 2% to 15%. PrEP linkage ranged from 20% to 27%.

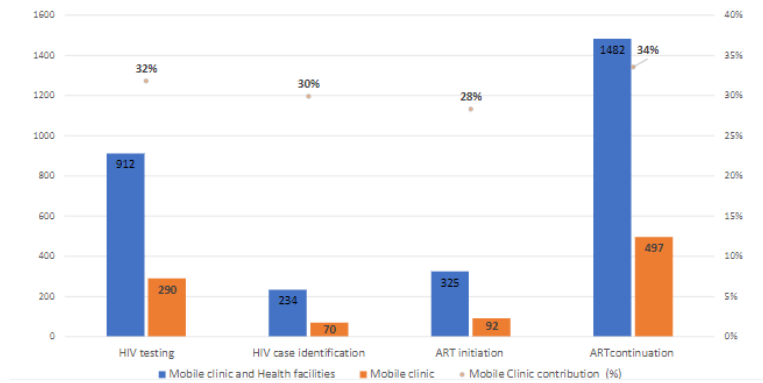
# Mobile clinics improve HIV testing, ART initiation and treatment continuation among female sex workers in Nampula Province, Mozambique

- Review of data from the pre (July-September 2020) and post (July-September 2021) implementation period to assess the impact of mobile clinics (MC) on HIV case identification, ART initiation and treatment continuation (defined as patients who did not miss their drug pickup for more than 28 days from their last scheduled appointment) among female sex workers at the seven health facilities.
- **Lessons learned:**
  - Between pre and post implementation periods, there was a 137% increase in HIV testing, 80% increase in case identification, 115% increase in ART initiation and 161% increase in treatment continuation
  - Between July-September 2021, MC contributed to 32% of HIV testing, 30% of case identification, 28% of ART initiation and 34% of treatment continuation

**Figure 1: Relative difference in HIV testing, HIV case identification, ART initiation and treatment continuation among FSW between July-September 2020 and July-September 2021 in Nampula Province (7 HF)**



**Figure 2: Mobile clinic contribution in HIV testing, HIV case identification, ART initiation and treatment continuation among FSW during the period July-September 2021**



## Conclusions:

- Implementing MC at community level improved health service provision for female sex workers
- Interventions that bring health services closer to female sex workers and involve key population partners are important to address gaps in access to HIV prevention, C&T.
- ICAP will continue to work with KP partners and DPS/SPS to strengthen and expand MC services within Nampula.

## Task-shifting and differentiation of care for nurses and outreach workers in harm reduction strengthens HIV care continuum in Kazakhstan ' Project Bridge

### Conclusions:

- NSP could play an important role in all stages of the HIV care continuum.
- Task-shifting was implemented successfully in project study sites, as both nurses and outreach workers showed confidence and understanding about their roles in HIV care service delivery, and had favorable attitudes around the services they were trained to provide to PWID.

- Examined the impact of the Bridge intervention on NSP workers' roles in HIV care, their ability to perform jobs in HIV care.
- **Lessons learned:**
  - A descriptive univariate analysis of attitudes towards Bridge services indicates that both nurses and outreach workers viewed HIV testing, HIV care service linkage, confirmatory HIV testing, and non-HIV service referrals favorably.
  - From the beginning of the intervention, both nurses and outreach workers held relatively open-minded views about PWID and recognized the importance of HIV care services.
  - Six months after the implementation, attitudes towards these topics remained consistently high. A majority of staff agreed that:
    - 1) PLWH should not feel ashamed of themselves (83.9%)
    - 2) HIV is not a punishment for bad behavior (69.4%),
    - 3) Women living with HIV should be allowed to have babies if they wish (95.2%), and
    - 4) Staff would prefer to provide services to PWID (85.5%)

## Improved viral load uptake and suppression among transgender persons with implementation of differentiated care adaptations during the COVID-19 pandemic

### Conclusion:

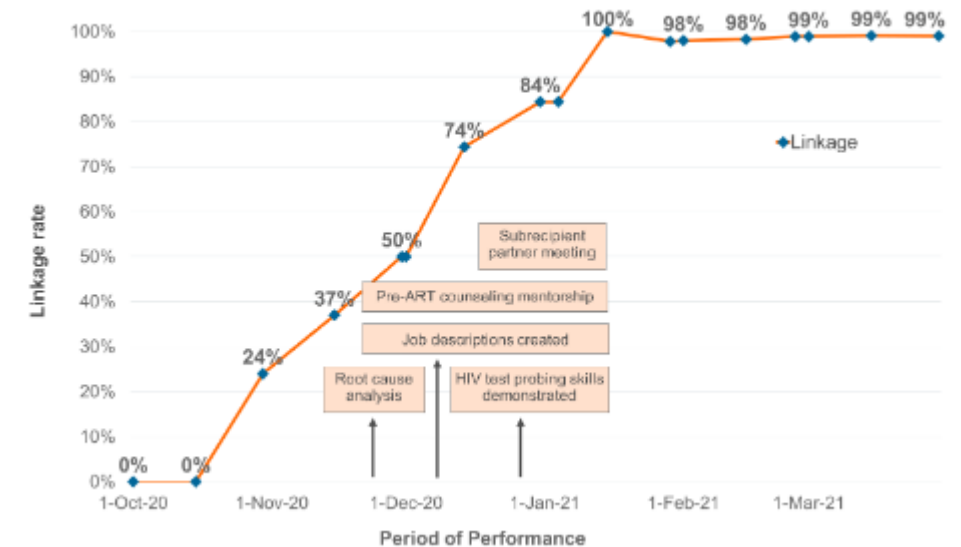
- Adaptation of community differentiated care models is feasible and can be strengthened to optimize viral load uptake and suppression among Transgender persons

- Adaptations in HIV service delivery made to a Transgender HIV program implemented in Mombasa, Kenya between April 2020 and September 2020, and the impact of the adaptations on viral load uptake and suppression.
- **Lessons learned:**
  - There was improvement in viral load uptake and suppression among Transgender persons with the adaptation of community differentiated care models and weekly telecounselling support.
  - Between October 2019 and March 2020 when 90% (26) of the cohort were dispensed to ART for 1 to 3 months and only 10% (3) were dispensed to ART for >3 months, the viral load uptake and suppression was 54% and 57% respectively.
  - However, with adaptation of differentiated care and telecounselling entailing provision of 92% (34) of the cohort with ART for 3 to 5 months and only 8% (3) of the cohort with ART for 1 to 3 months, the viral load uptake and suppression increased to 70% and 100% respectively.
  - Service providers felt that these interventions helped them listen more to their clients while beneficiaries appreciated not having to travel far for ART and viral load sampling services.

# The effect of a targeted quality improvement intervention to improve access to antiretroviral therapy (ART) services for key populations in Zambia

- USAID Open Doors Project implementing partner, ZANERELA+, faced challenges in linking HIV-positive key populations to clinical HIV services, after joining the project in October 2020. A quality improvement (QI) intervention with a goal of 95% of newly diagnosed clients were linked
- **Lessons learned:**
  - In the first quarter of fiscal year 2021, the linkage rate for key population groups was 48%
  - Majority of unlinked clients were tested during community-based outreach and were between the ages 20-29
  - Linkage increased to 99.4% by March 2021, after the completion of Q1 interventions
  - Among previously unlinked female sex workers, 92% were initiated on care. All men who have sex with men and transgender clients were initiated, resulting in 100% linkage

FIGURE 1. QI intervention implementation and linkage



**Conclusion:**

- Average monthly linkage increased from 27% before the QI intervention to 98% after intervention activities were completed. We recommend that QI be extended to other subrecipients to improve service delivery and organizational capacity.

## Offering Hormone Replacement Therapy (HRT) helps improve retention in HIV care and viral suppression among transgender patients in Atlanta, Georgia, USA

- Gender-affirming care pilot project at Positive Impact Health Centers (PIHC)
- The goal of this pilot program is to improve our understanding of how incorporating gender-affirming care in the form of HRT into the clinical care of transgender patients living with HIV impacts retention and engagement in care, and ultimately viral suppression
- **Lessons learned:**
  - After starting the HRT pilot program at PIHC, viral suppression rates among enrolled transgender patients living with HIV increased from 64% to 80%. Adding gender affirming care hormonal therapy to existing wrap-around services such as housing, case management, behavioral health, transportation, can help improve viral suppression among transgender people living with HIV.

### Conclusion:

- Positive Impact Health Centers recently hired a new Gender-Inclusive Program manager and TransLife Care Specialist to help expand our organization's services that prioritize the health needs of transgender people in our region.

# The use of SMS to support retention in the HIV-negative cascade: lessons learned from a key population-led health service organization in Chiang Mai, Thailand

- Programmatic data from a short message service (SMS) used to retain over 7,000 HIV-negative clients at Caremat, a key population-led health service organization based in Chiang Mai, Thailand

## Results:

- 375 clients or 10% of the population contacted through SMS communications returned for HIV testing during the 1-year period
- Over half (56%) of these returned more than 3 months after the initial SMS communication. These 375 tested clients accounted for 16% of annual testing numbers.
- We further calculated that one care and support staff can call approximately 10-15 clients a day for negative retention while an SMS system can reach out to an unlimited number of clients immediately (we estimated the cost of one SMS as US\$ 0.07 compared to one call at US\$ 1.80 plus staff time)

SMS Work flow and results



## Conclusions:

- SMS can complement in-person case management services for HIV-negative populations by offering an easy-to-use and inexpensive means for regular communications, particularly for organizations with limited human resources.
- These SMS appear to motivate certain key populations to seek repeat HIV testing where they can then be offered PrEP and other services.

## 'We are equal': increasing service uptake through strategic communications

- A cross-sectional study was conducted reaching 2,285 people dispersed across Mozambique (60% PLHIV, 45% of whom were female and 40% non-PLHIV, 39% of whom were female) with an additional analysis of social media performance to assess the impact of the campaign on attitudes and beliefs about HIV and ART
- **Results:**
  - 79% of respondents recalled messages from the campaign, with many respondents reporting preliminary steps towards behavior change as a result, including discussing HIV with someone else (54%) and seeking health services (21%).
  - While three of the four most popular social media posts were unrelated to HIV, the fourth was a PLHIV testimonial video, illustrating similarities between the lives of PLHIV and non-PLHIV.
  - Analysis of social media interactions showed 82% of private messages requested information or help related to HIV; this was unrelated to whether the post contained HIV or non-HIV content. The testimonial videos by PLHIV received positive feedback, showing the power of this form of content to connect with audiences.

### Conclusions:

- Breaking the association between HIV and ART is key to increasing men's uptake of treatment.
- Mass, mid and social media campaigns normalizing HIV treatment behaviors can play an effective role in changing attitudes and increasing service uptake.

# Barriers and facilitators to use of male friendly clinical services in Quelimane, Zambézia province, Mozambique: results of a qualitative study, 2021

## Results:

- Eighty-three in-depth interviews and five FGD were conducted.
- Barriers to uptake of male friendly services (MFS) included: not knowing such services were available; poor health care seeking behavior; competing priorities (e.g., work responsibilities); perception that poor quality care would be received; and prolonged wait times.
- Healthcare providers highlighted barriers such as limited human resources, equipment (e.g., sphygmomanometers) or infrastructure (e.g., confidential space), and long distances (for patients and providers) from home to the health facility, which could compromise one's safety after dark.
- Among the facilitators for MFS uptake, all groups mentioned extended hours, one-stop-model, and male providers as program elements which increased patient comfort and willingness to share personal/confidential information.

## Conclusions:

- Male friendly services are an acceptable means of offering male-centered care, especially for patients not able to visit the health facility during routine hours.
- Demand creation messaging is needed to improve awareness of MFS in the communities.
- Given the acceptance of the model, MFS could cover screening and management of infectious disease (e.g., HIV/AIDS) as well as non-communicable disease.

Table 1. Sociodemographic data (n=123)

	Patients (IDI) (n=65)	Health Care Providers (IDI) (n=18)	Employees (FGD) (n=14)	Community Members (FGD) (n=26)
Sex				
Female	24 (37%)	10 (56%)	NA	NA
Male	41 (63%)	8 (44%)	14 (100%)	26 (100%)
Educational Level				
No education level	17 (26%)	0	1 (7%)	3 (12%)
Basic Level	18 (28%)	0	1 (7%)	3 (12%)
Medium level	13 (20%)	3 (17%)	3 (21%)	6 (23%)
Pre-university level	13 (20%)	9 (50%)	5 (36%)	11 (41%)
Higher Level	4 (6%)	4 (22%)	4 (29%)	3 (12%)

NA - Not Applicable

Table 2. Primary barriers and facilitators identified by participants

BARRIERS	FACILITATORS
<p><b>Male and female patients, employees and males in community highlighted:</b></p> <ul style="list-style-type: none"> <li>❖ Perception that poor quality care would be received by health care providers</li> <li>❖ Not knowing such services were available <i>"Today is the first day that I am hearing of this, this project. Yes yes." (Male patient, Interview, Coalane HF)</i></li> <li>❖ Competing priorities (e.g., work responsibilities) <i>"If I have headaches, we take paracetamol... at dawn, you have to look for life to support the family" (Male from community, FGD, Community near Maquivalente HF)</i></li> <li>❖ Prolonged wait time at regular, non-EWH sectors</li> <li>❖ Men have a low predisposition to seek health services</li> </ul> <p>Healthcare providers highlighted barriers such as:</p> <ul style="list-style-type: none"> <li>❖ Limited human resources, limited equipment and long distances (for patients and providers) from home to the health facility, and male health care seeking behavior/ attitudes.</li> </ul>	<p><b>All participant groups mentioned:</b></p> <ul style="list-style-type: none"> <li>❖ Good quality care offered by health care providers</li> <li>❖ Extended Working Hours (EWH) <i>"Because... because of, the schedule established here, usually doesn't coincide with the work schedule... So, we are more available to go to the hospital when it is not time of work." (Male patient, Interview, 24 de Julho HF)."</i></li> <li>❖ One Stop Model <i>"...So I would advise because you don't have that situation of going to the queue on the other side, on the other side there is the queue, so you go there, ... finish there, so that's it, go home." (Male patient, Interview, 24 de Julho HF)."</i></li> <li>❖ Care/Attendance by male providers <i>"I would look for it because knowing that I am making an appointment with a man just like me is, I take all my secret to him and also to ask for an idea what I can do in my life." (Male from community, FGD, Community near Maquivalente HF)</i></li> <li>❖ Short waiting time</li> </ul>

## Improving male partners' involvement in HIV+ women's care in Malawi (WeMen study): a prospective, controlled before-and-after study

- Controlled before-and-after intervention study to evaluate the impact of three different interventions on male partners' involvement in HIV+ women's care in Malawi
- **Results:**
  - Overall, 461 women were included at the baseline and 483 in the post-intervention evaluation.
  - Where the special day intervention was implemented, we observed an increase of 32.8 % in the number of women accompanied by their partners (from 48.5 to 81.4%), and 32.1% in the number of women feeling safe at home (from 63.5% to 95.2%) after the intervention.
  - This outcome increased after the deployment of male champions in communities (from 44.0% to 75.0%).
  - In the site where the incentive was delivered to couples, we did not observe significant improvement in any outcomes.

### Conclusion:

The special day for men and the use of male champions may be effective strategies to enhance male involvement in the health of their female partners

## Increasing men's access to HIV prevention, care and treatment services in Nampula, Mozambique

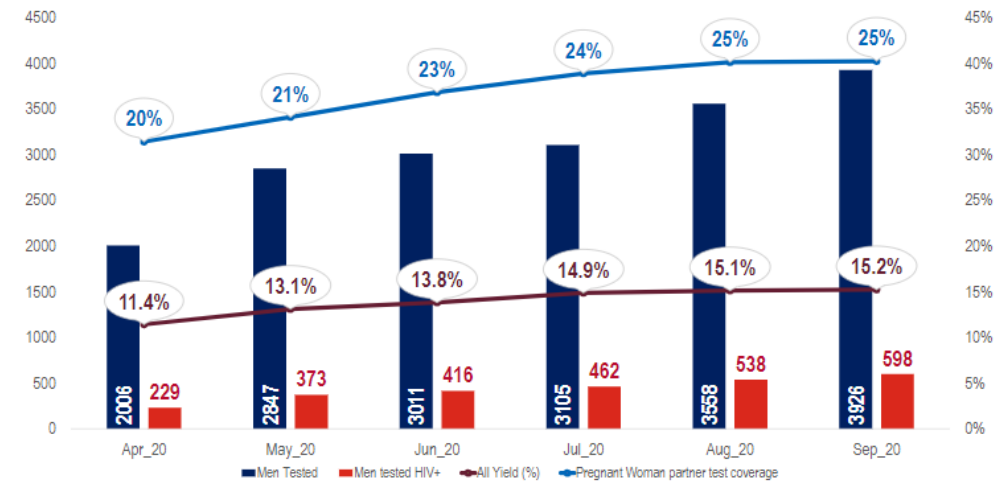
- In October 2020, ICAP, Nampula DPS/SPS and health facilities (HF) leadership designed and implemented a combined package of male engagement interventions in 10 HFs.
- **Lessons learned:**
  - At the selected HF, there was an increase in 40% (24,166/17,241) in HIV testing, 13% (1,560/1,385) in HIV case identification, 19% (106%/89%) in the proxy linkage, 7% (10,003/7,043) in viral load (VL) samples collected and 4% (92%/88%) in viral suppression (VS) among adult men between pre implementation (October-December 2020) and post-implementation (July-September 2021) period

**Key Message:** Targeted demand creation and health literacy strategies using peers and key community actors, coupled with differentiated service delivery, has resulted in an increased number of men receiving HIV testing services and increased HIV case identification and linkage to ART services among men.

## Strategies to engage men in health care services: lessons from Manica province, Mozambique

- Evaluation of the effect of these interventions on ME performance along the HIV care and treatment cascade in Manica province, Mozambique.
- **Lessons learned:**
  - ECHO collected routine data from national registers, disaggregated by sex, to analyze male performance in HIV testing positivity rates, people active on HIV treatment, and viral load suppression, focusing specifically on progress at sites implementing the ME plan.
  - From April 2020 to June 2021, the project observed improvements in HIV testing (47,706 men testing and 3,540 diagnosed with HIV), men active on ART (from 44,625 to 49,007, for a 10% increase) and viral load suppression (from 81% to 88%).
  - These results are encouraging and indicate that these interventions are helping to expand male engagement for HIV health services.

Male HIV Testing in ME sites and Coverage of Pregnant Women Partner Testing



### Conclusions:

- A combination of interventions focusing on male interests and needs may get more men engaged in health services.
- Encouraging a male-friendly environment through health provider capacity building can help attract men to services and get them invested in their health.

# Strategies to improve Antiretroviral Therapy (ART) initiation and early retention among men in sub-Saharan Africa: a systematic review

- Systematic review
- **Results:**
  - 5,493 sources identified with 210 qualifying for full review
  - 16 interventions met criteria
  - Five interventions (31%) were studied with RCTs. The majority of studies lacked a comparison group or baseline data
  - Only two interventions (13%) focused exclusively on men
  - Outcome definitions varied greatly, with nearly half (44%) lacking any timeframe

**Conclusion:**

- Despite years of data describing men's suboptimal ART outcomes, there is little high-quality evidence on strategies to increase men's ART initiation or early retention in SSA.

Intervention Type	n (%)	Definition	Description of Interventions
Facility-based services	3 (19%)	Interventions focused on changes to protocols/ services within facilities.	<ul style="list-style-type: none"> <li>• All (n=3) focused exclusively on same-day ART initiation</li> <li>• Two examined the impact of clinical algorithms (i.e., screening tools) to facilitate same-day ART initiation</li> </ul>
Community-based services	4 (25%)	ART dispensed outside the health facility	<ul style="list-style-type: none"> <li>• All (n=4) provided immediate ART initiation and counseling in community, home, and/or work settings</li> <li>• Two provided a single counseling session at initiation, while two provided ongoing monitoring and counseling</li> </ul>
Outreach	4 (25%)	Community-based activities to identify those in need of ART services and/or to promote linkage to a health facility	<ul style="list-style-type: none"> <li>• All (n=4) offered testing and support to attend facility for initiation</li> <li>• Two provided facility escort</li> <li>• Two provided a single interaction at initiation, while the other two provided follow-up interactions</li> </ul>
Counseling/peer support	3 (19%)	Ongoing counseling to identify and resolve barriers to care	<ul style="list-style-type: none"> <li>• All (n=3) provided ongoing (3-6 months) counseling from peers living with HIV. Duration and location were based on client preferences.</li> <li>• One was tailored for men and delivered by male peers living with HIV</li> </ul>
Conditional incentives	2 (13%)	Monetary/non-monetary incentive(s) conditional based on ART engagement	<ul style="list-style-type: none"> <li>• One intervention offered large fixed monetary incentives for monthly clinic visits</li> <li>• One intervention offered men large lottery non-monetary incentives for clinic registration, ART initiation, and/or viral suppression.</li> </ul>

# A "One Stop" Differentiated Service Delivery Model in the Maternal and Child Health Clinics improves compliance and viral suppression among children, pregnant and breastfeeding women in Lusaka District, Zambia

## Lessons learned:

- On average, ~1,600 pregnant women are seen at their first antenatal care (ANC1) visit in the clinics and subsequently monitored through labour and postnatally.
- A total of 250 (16%) mothers has HIV infections at ANC1 comprising the initial and known positives.
- If negative, PBFW are re-tested at 3-month intervals to check negative status for HIV infections.
- Using viral load suppression monitored at 12 month as an indicator of the efficacy of the model, 97% percent of pregnant women and 96% of breastfeeding women in the four clinics have exceeded the target of 95% virally suppressed.
- Additionally, 80% of children under the age of 5 years are virally suppressed.
- Furthermore, over 90% of children under the age of 24 months (>3 kg weight, > 4 weeks age) have been transitioned from Lopinavir/ritonavir- to Dolutegravir-based antiretroviral treatment regimen to improve viral suppression.

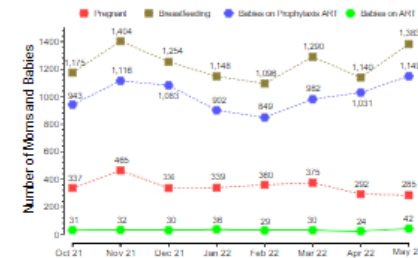


Figure 4. Screening of moms and babies by doctors and nurses in MCH. Trend lines show the consistency in attendance even during COVID-19 surges

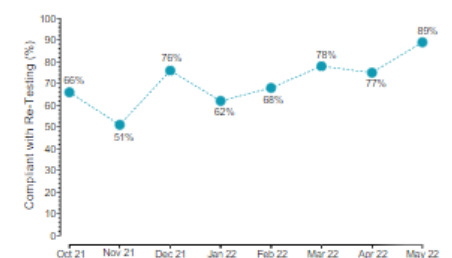


Figure 6. Repeating testing of pregnant and breastfeeding women after first antenatal care visit and followed postnatally.

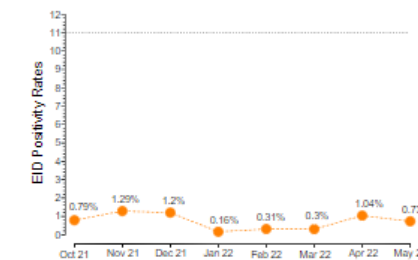


Figure 5. Trends in EID positivity rates in MCH clinics. Dotted line indicates UNAIDS MTCT rates for epidemiological estimates for Zambia of 11.0%.

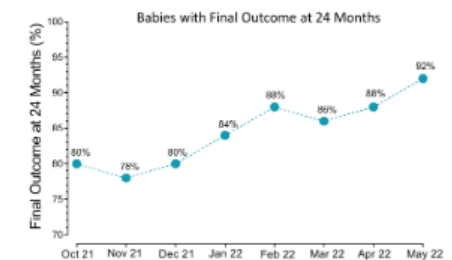


Figure 7. Trend line reveals a steady increase in percentage of babies with known final outcomes at 24 months.

**Conclusions:**

- The one-stop DSD model has resulted in improvements in prevention, linkages to care, treatment, and ART adherence for mothers and children under the age of 5 years.

# 1. DSD for HIV treatment

- DSD for HIV treatment in 2022
- Quantitative
- Qualitative
- Community models
- Include virtual and/or digital intervention
- Integration – family planning, Hepatitis B and C, mental health, NCDs, TB
- Specific populations
- **Advanced HIV disease**
- Cost and cost-effectiveness

## Can evidence based from robust trials be translated into routine practice? The adoption of an evidenced-based innovative REMSTART package to reduce mortality in advanced HIV disease individuals starting ART in Tanzania

- Evaluation of Cryptococcal Antigen (CrAg) Screening and pre-emptive treatment with fluconazole of asymptomatic CrAg positive individuals.
- **Results:**
  - A total of 2602 patients were enrolled in the 18 health facilities. The median (IQR) CD4 count(cells/ $\mu$ l) was 39 (19,94) among CrAg +ve asymptomatic(n:64), 47(9,99)among CrAg +ve with symptoms of meningitis (n:30), 96 (46,150) among CrAg -Ve (n:2162).
  - The median follow-up in days (IQR range) was 356 (4-395), 16 (1-117), and 365 (0-663))among CrAg +ve asymptomatic, CrAg +ve with symptoms of meningitis, and CrAg -Verespectively.
  - 3/76 (3.9%), 0/39(0%), 278/2487 (11.2%) participants were lost to follow-up among CrAg positive asymptomatic, CrAg positive symptomatic and CrAg negative participants respectively over 12 months.
  - Overall mortality was comparatively low 17/76 (22.4%) at 12 months among CrAg positive asymptomatic participants; 16/39 (41.0%) at 10 weeks among CrAg positive symptomatic participants; 214/2487 (8.6%) at 12 months among CrAg negatives patients.
  - If we assume those lost have died, then the mortality figures are 26/76(34.2%) and 20/39 (51.3%) among CrAg positive asymptomatic and symptomatic participants.

### Conclusions:

- The TRIP translational trial provides evidence that Cryptococcal Screening and pre-emptive fluconazole could be effectively translated and scaled up to reduce mortality among people with HIV under pure routine health care settings.
- The effectiveness is demonstrated by low mortality among CrAg positive asymptomatic, but very high mortality is still observed in CrAg positive with meningitis.

# Implementation of the CD4 advanced disease rapid test: lessons learned from the pilot test in Uganda

- Between January and August 2021, the Ministry of Health with support from Clinton Health Access Initiative, Inc. (CHAI), through funding from UNITAID, field tested VISITECT at 12 health facilities across Uganda with the aim of understanding its performance in an uncontrolled setting for consideration of potential scale-up
- **Results:**
  - Data from 681 comparative tests were collected from February to August 2021, highlighting 177 CD4  $\leq 200$  and 504 CD4  $> 200$  test results for the POC CD4+ machines while VISITECT had 195 CD4  $\leq 200$  and 486 CD4  $> 200$  test results.
  - From this data, the VISITECT sensitivity and specificity was determined to be 97% and 95%, respectively.
  - Although HCWs highlighted the long turnaround time with VISITECT (45 minutes) as a challenge, they reported that access to such a test would facilitate quick clinical action in lower-level facilities without CD4+ machines as opposed to referring samples to other health facilities.
  - It was also noted that VISITECT was portable, easy to use, and fit for facilities with limited technical expertise.

Region	Facility	No. of tests done
North Central	Kassandra HC IV	114
North Central	Kayunga RRH	63
North Central	Kiboga Hospital	16
South Central	Masaka RRH	66
Busoga	Mayuge HC III	112
Bugisu	Mbale RRH	68
North Central	Mubende RRH	64
Bugisu	Nakaloke HC III	37
Teso	Soroti RRH	93
Teso	Tiriri HC IV	15
South Central	Villa Maria Hospital	33

		POC CD4+ result		
		$\leq 200$	$> 200$	
VISITECT result	$\leq 200$	172	23	195
	$> 200$	5	481	486
		177	504	

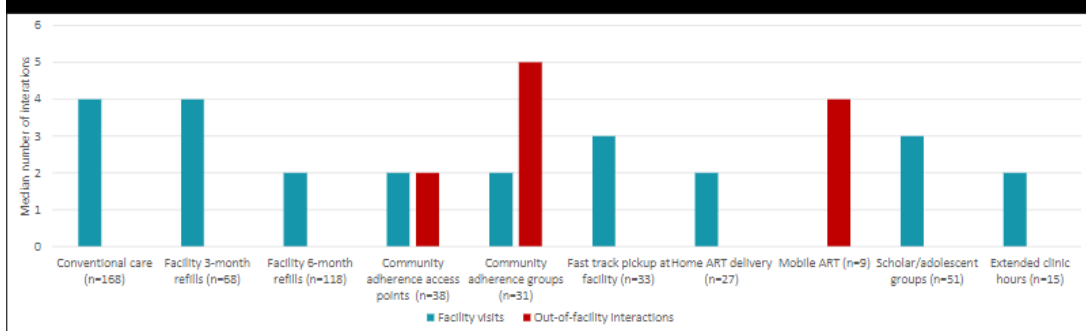
**Conclusion:** Implementation of VISITECT testing is feasible besides yielding good results and could significantly increase access to CD4+ testing and the AHD package of care.

# 1. DSD for HIV treatment

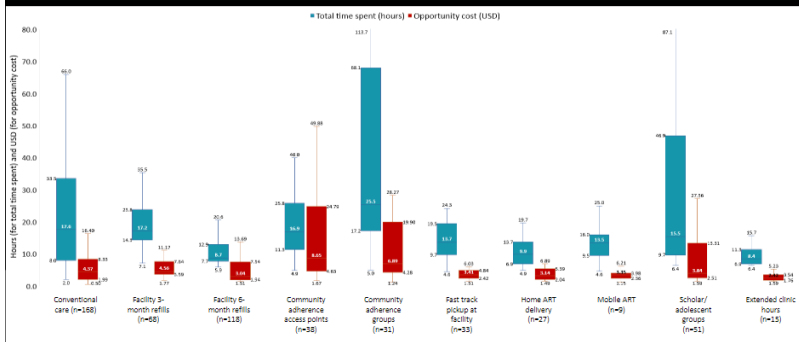
- DSD for HIV treatment in 2022
- Quantitative
- Qualitative
- Community models
- Include virtual and/or digital intervention
- Integration – family planning, Hepatitis B and C, mental health, NCDs, TB
- Specific populations
- Advanced HIV disease
- **Cost and cost-effectiveness**

# Do differentiated models of care for HIV treatment result in lower costs for recipients of care in Zambia?

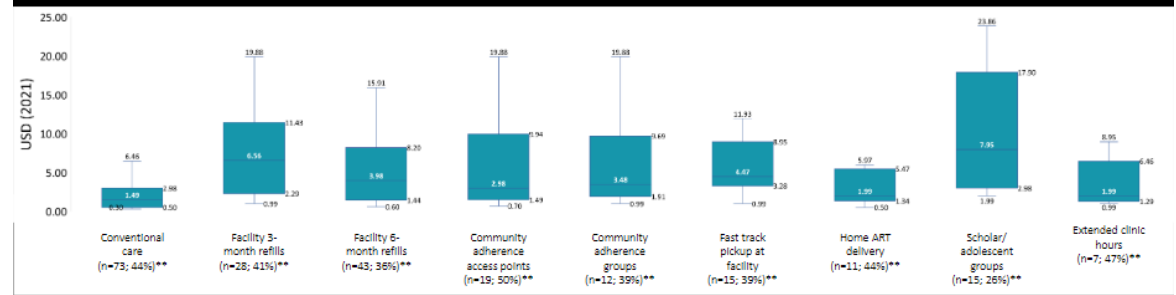
**Figure 1. Self-reported median number of health system interactions/RoC/year**



**Figure 2. Median time spent (hours) and opportunity costs (2021 USD) per RoC per year**



**Figure 3. Median transport costs (2021 USD) per RoC per year\***



**Key Message:** DSD models generally minimize costs and time for recipients of care as compared to conventional care, but this depends entirely on model design (number of interactions required/year).

## 2. DSD for PrEP

# IAS-WHO PrEP satellite

<https://programme.aids2022.org/Programme/Session/434>



Country policy development brief  
July 2022

## Differentiated pre-exposure prophylaxis (PrEP) service delivery

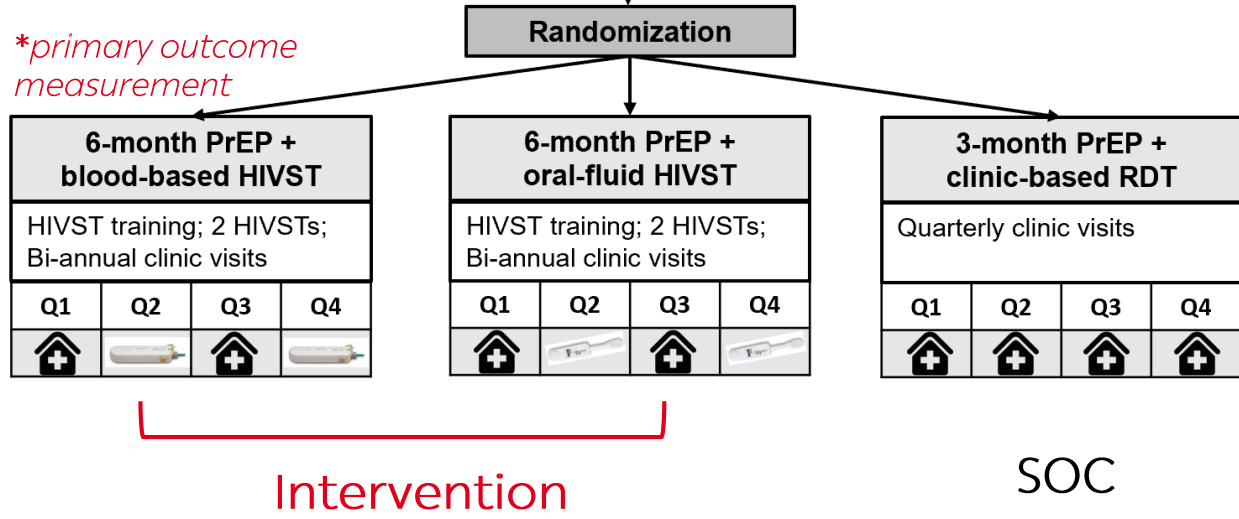
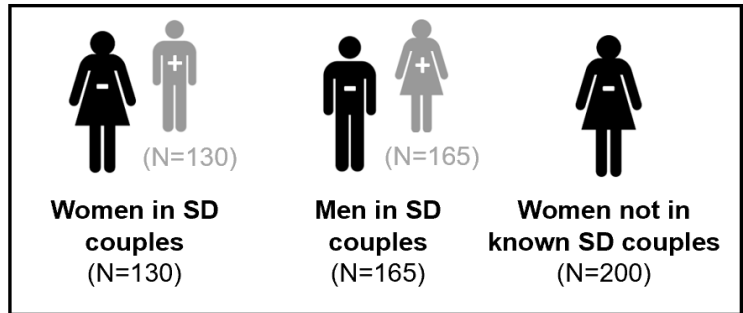
Key considerations in developing policy guidance for differentiated PrEP service delivery

Differentiated and simplified pre-exposure prophylaxis for HIV prevention

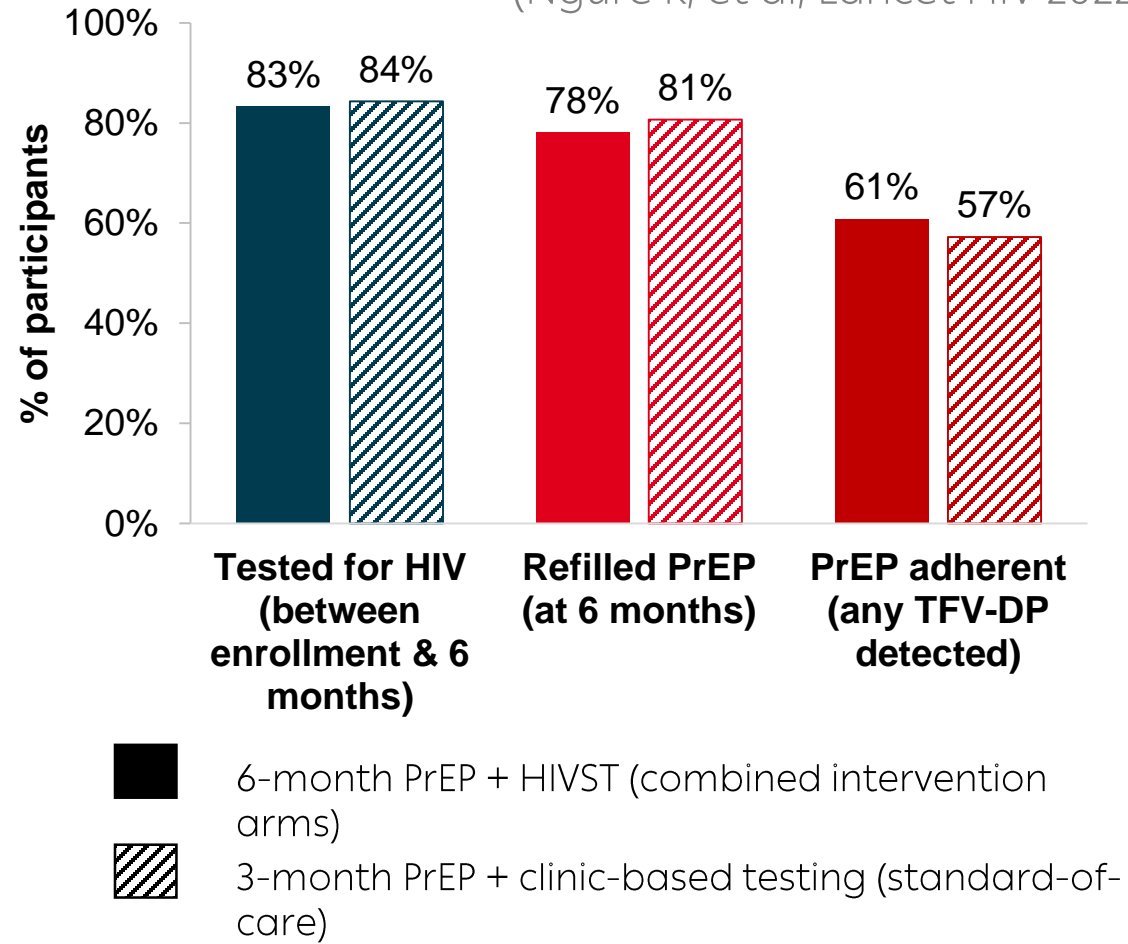
Update to WHO implementation guidance  
TECHNICAL BRIEF



# Adapting the WHEN: Innovations from Kenya



(Ngure K, et al, Lancet HIV 2022)



# Comparing the cost of six-month PrEP dispensing with interim HIV self-testing to the standard-of-care three-month PrEP dispensing with clinic-based testing in Kenya

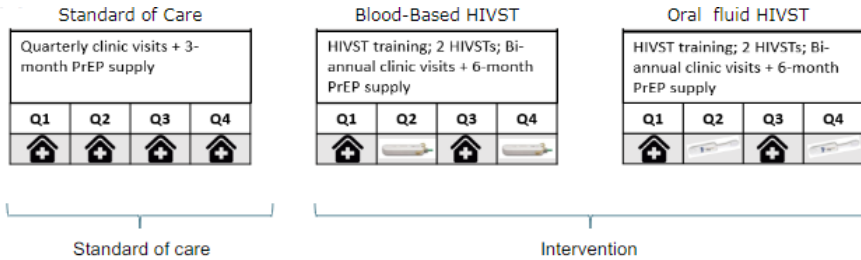


Fig. 1. Summary of allocation of PrEP delivery procedures by study arm

Table 1: Unit cost per person month of PrEP for the trial scenario

Costs (2019 USD)	SOC		Six-month PrEP + OF/BB HIVST	
	Cost per client per month	% Total cost	Cost per client per month	% Total cost
<b>Variable</b>				
Personnel (clinical)	\$2.64	9%	\$1.70	6%
Medication	\$6.75	22%	\$6.75	24%
Laboratory testing	\$3.48	11%	\$4.75	17%
Other supplies	\$0.77	3%	\$0.67	2%
<b>Sub-total</b>	<b>\$13.64</b>	<b>45%</b>	<b>\$13.87</b>	<b>49%</b>
<b>Fixed</b>				
Start-up	\$4.16	14%	\$3.59	14%
Personnel (supervision and administration)	\$7.07	23%	\$5.26	19%
Capital (e.g., creatinine machines, furniture)	\$2.31	8%	\$1.99	7%
Overhead (e.g., building, airtime, transport)	\$3.43	11%	\$2.96	11%
<b>Sub-total</b>	<b>\$16.96</b>	<b>55%</b>	<b>\$13.80</b>	<b>51%</b>
<b>Summary</b>	<b>\$30.60</b>		<b>\$27.67</b>	

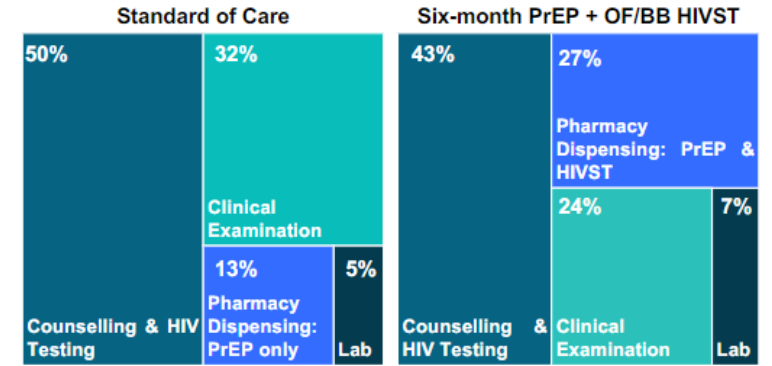


Fig. 2. Distribution of average personnel time spent on PrEP delivery activities

Table 2: Unit cost per person month of PrEP for the MOH scenario

Costs (2019 USD)	SOC		Six-month PrEP + OF/BB HIVST	
	Cost per client per month	% Total cost	Cost per client per month	% Total cost
<b>Variable</b>				
Personnel (clinical)	\$1.24	8%	\$1.08	8%
Medication	\$6.75	48%	\$6.75	48%
Laboratory testing	\$3.26	21%	\$2.84	22%
Other supplies	\$0.41	3%	\$0.36	3%
<b>Sub-total</b>	<b>\$11.67</b>	<b>80%</b>	<b>\$11.02</b>	<b>81%</b>
<b>Fixed</b>				
Start-up	\$0.97	6%	\$0.84	6%
Personnel (supervision and administration)	\$0.35	2%	\$0.31	2%
Capital (e.g., creatinine machines, furniture)	\$0.20	1%	\$0.18	1%
Overhead (e.g., building, airtime, transport)	\$1.57	10%	\$1.36	10%
<b>Sub-total</b>	<b>\$3.09</b>	<b>20%</b>	<b>\$2.69</b>	<b>19%</b>
<b>Summary</b>	<b>\$14.76</b>		<b>\$13.50</b>	

## Conclusion:

- Six-month PrEP dispensing with interim HIVST demonstrated comparable and lower costs than SOC clinic-based dispensing every three months in Kenya, with decreased personnel time.
- Reduction in cost of PrEP and HIVST kits may increase the affordability of PrEP and should be considered.

# High acceptability of a direct-to-pharmacy PrEP delivery model in public health HIV clinics in Kenya: perspectives of PrEP clients and healthcare providers

- Qualitative study to gather insights of PrEP clients and healthcare providers regarding a PrEP differentiated care intervention aimed at improving efficiency of PrEP delivery in public HIV clinics, March – November 2021

### Experiences

- Clients and providers reported satisfaction with the DTP model, attributed to improved service efficiency and quality, and enhanced PrEP continuation and adherence.
- Clients reported experiencing less queues and movement between clinic rooms, resulting in improved privacy, and reduced HIV clinic-associated stigma.

*“When I come, I just test myself and instead of going around to the places that we used to go to before, I just go over there and take my medicine.”*

**(PrEP Client, Female, 24)**

*“It is a model that we have seen from a clinician’s point of view, a client’s point of view and even from the pharmacy point of view that it saves time and is able to achieve the objective.”* **(Pharmacist, Male)**

### Attitudes and willingness

- Clients and providers expressed confidence in, and willingness to continue with the DTP model.
- However, clients and providers described concerns of clients missing out on other services during refill visits, and of HIVST self-efficacy and accuracy.
- Some providers also described worries over shift of workload to pharmacy and loss of roles among HTS providers.

*“For clinicians we are the two of us...we can see the clients both of us but now more of the workload is in the pharmacy and the pharmacist is alone so that was our biggest challenge.”*

**(Clinical Provider, Female)**



**Emmah Owidi**  
Social scientist  
ejowidi@pipsthika.org

### Opportunity costs and burden

- Clients reported reduced loss of working hours and income from less time spent in the clinic.
- Providers reported reduced workload and time saving, attributed to fewer staff involvement and improved clinic flow.

*“Workload has reduced and the amount of time I spend with them has reduced and therefore I have more time to take care of other responsibilities.”*  
**(Social Worker, Male)**

*“Because if you had left some work pending, you will be served very fast. You just come in, go to the clinician’s office, get your medication and then go back to your work.”*  
**(PrEP Client, Female, 37)**

### Conclusion:

- DTP refill visits with HIVST was highly acceptable as a differentiated care intervention for PrEP delivery among clients and providers. Context-specific adaptations and scale-up of the intervention could improve efficiency of PrEP delivery in public HIV clinics in Kenya.

# The acceptability of pharmacy-based HIV PrEP delivery among private pharmacy clients in Kenya: findings from a pilot study

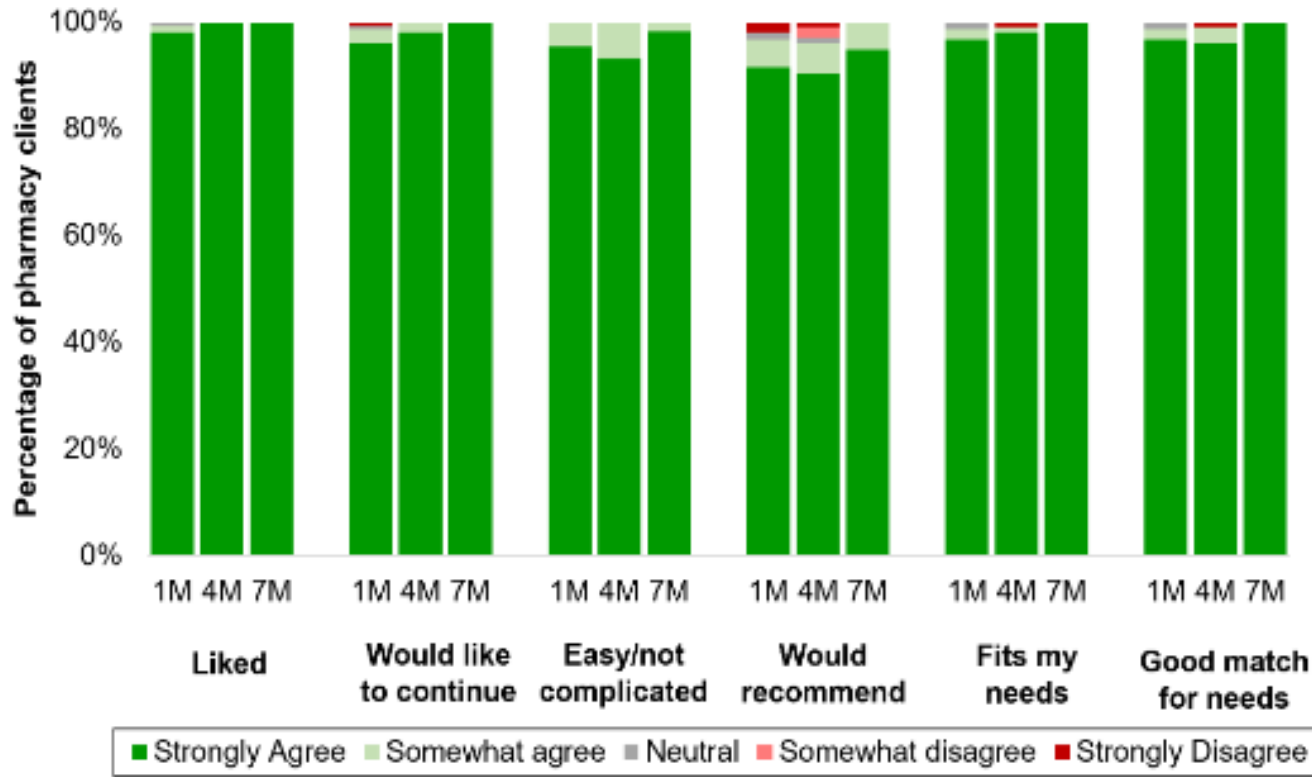


Figure: Acceptability of pharmacy-delivered PrEP services



Fig 1. Participating pilot pharmacy

- Between November 2020 and December 2021, screened 575 pharmacy clients for HIV risk and enrolled 287 (50%).
- At one, four, and seven months, 54% (156/287), 65% (102/156), and 57% (58/102) of participants due for follow-up continued PrEP.

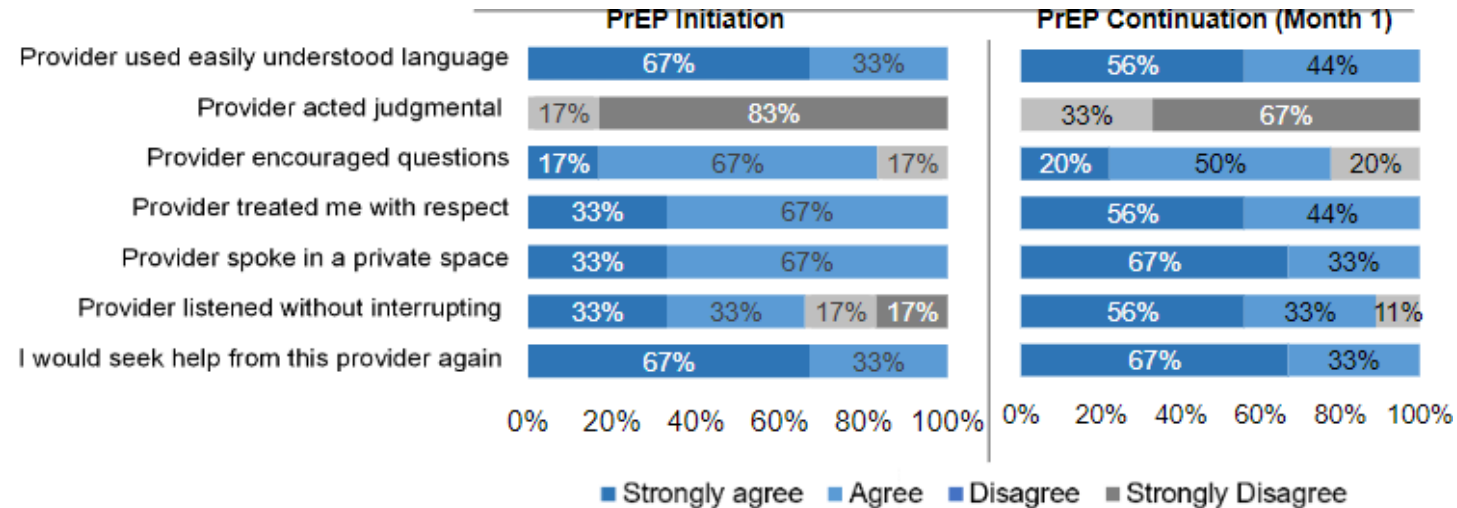
### Conclusions:

- The pharmacy clients participating in this pilot study found pharmacy-delivered PrEP services acceptable, which suggests that this model reaches and meets the care preferences of at least some portion of the target population for PrEP.

## The fidelity of a pharmacy-based PrEP delivery model in Kenya: an unannounced standardized patient actor assessment

- Feb to Aug 2021, 8 USPs completed 15 pharmacy PrEP visits.
- 60% (9/15) of the USP were asked about their interest in PrEP and 80% (12/15) about behaviors associated with HIV risk.
- All USP actors (100%, 15/15) reported being counseled on PrEP safety and side effects and most (87%, 13/15) on PrEP efficacy.
- Almost all USP actors (87%, 13/15) were assessed for a history of kidney or liver disease
- All (100%, 15/15) received assisted HIVST and PrEP in a private room during the visits.
- Of the USPs, 60%(9/15) agreed and 40%(6/15) strongly agreed that the quality of service at their visits was as expected.

Figure: Fidelity at PrEP initiation and continuation



### Conclusion:

- The fidelity of PrEP delivery at private pharmacies in the pilot study was high, as assessed by USP actors. This suggests pharmacy providers can deliver high-quality PrEP services supporting possible scale up of pharmacy-based PrEP delivery models in Kenya and similar settings.

# Delivery of HIV self-testing and pre-exposure prophylaxis through private retail pharmacies in Kenya: a mixed methods evaluation

- Mixed-methods approach consisting a cross-sectional questionnaire survey at randomly selected pharmacies to evaluate the HIVST and PrEP policies launched in 2017
- **Results:**
  - Of 195 pharmacies included, 107 (55%; 95% CI [42- 68 %]) were providing HIVST test kits, but none had performed a HIV test within the pharmacy in the last week.
  - Only 6 (3%) of pharmacies were providing PrEP. Reasons for this low adoption level included lack of a proper program to get PrEP supplies, lack of demand from clients and lack of knowledge.
  - With regard to structures and resources, 37% of pharmacies had a consultation room, 62% had a computerized stock management system, 83% had a HIV testing centre <1km away, and 70% opened 7 days a week.

**Table 2. Dissemination and adoption of the HST policy in pharmacies**

Implementation parameter	Nairobi (N=68)		Mombasa (N=64)		Kisumu (N=63)		Total (N=195)	
	n	%	n	%	n	%	n	%
Ever heard of HST	68	100%	64	100%	63	100%	195	100%
Ever received a client asking for HST	66	97%	59	92%	57	90%	182	93%
At least one staff member trained on HST	27	79%	39	93%*	18	58%	84	79%
Ever provided HST services, ie, had adopted the policy	34	50%	42	66%	31	49%	107	55%
Had a copy of the HST provider guide	4	19%	15	39%	7	23%	26	29%
Had a copy of the operational manual	5	7%	5	8%	4	6%	14	7%

**Table 3. Service level, integration, and monitoring of HST services in pharmacies**

Implementation parameter	Nairobi (n=34)		Mombasa (n=42)		Kisumu (n=31)		Total (n=107)	
	n	%	n	%	n	%	n	%
Number of months from policy launch to adoption (Median [IQR])	14	8-23	13	11-17	23*	22-29	16	11-23
Had test kits in stock in past month	32	94%	42	100%*	27	87%	101	94%
Sold at least one test in past week	26	76%	30	71%	16	52%	72	67%
Tested a client within the pharmacy in past week	4	12%	7	17%	5	16%	16	15%
HST kits added in stock management system (n=82 with computerized stock systems)	32	97%	26	90%	19	95%	77	94%
Proportion of staff members providing HST services (Median [range])	1.0	0.3-1.0	1.0	0.2-1.0	1.0	0.3-1.0	1.0	0.2-1.0
Visited by HST program coordinators in past six months	16	48%	34	83%	3	10%	53	51%

## Conclusions:

- Approximately three years after policy launch, HIVST services had been adopted by the majority of pharmacies. Adequate structures and resources exist in the private pharmacy sector for the delivery of HIV prevention interventions.
- Forthcoming qualitative data from the project will provide insights into the barriers hindering adoption of PrEP services.

# Implementation strategy package improves PrEP implementation for pregnant women in antenatal care clinics in western Kenya

- Between June-December 2021, a difference-in-differences study (3 months pre and post intervention; 4 intervention & 4 comparison facilities) in Western Kenya
- Tested 3 implementation strategies ' video-based PrEP information, HIV self-testing, and dispensing PrEP in antenatal care rooms ' together to improve PrEP delivery
- **No improvement in:**
  - **Service time** (+0.9 minute;  $p=0.328$ )
  - **HIV testing** (-4%,  $p=0.51$ )
  - Small increase in **waiting time** (+1.4 minute;  $p=0.009$ )
- **High acceptability & appropriateness** of implementation strategies by health care workers

## Conclusion

- This implementation strategy package may be useful to integrate PrEP provision into antenatal clinics. It enhanced PrEP delivery across implementation outcomes and client satisfaction without meaningfully increasing wait time or decreasing provider-client time.

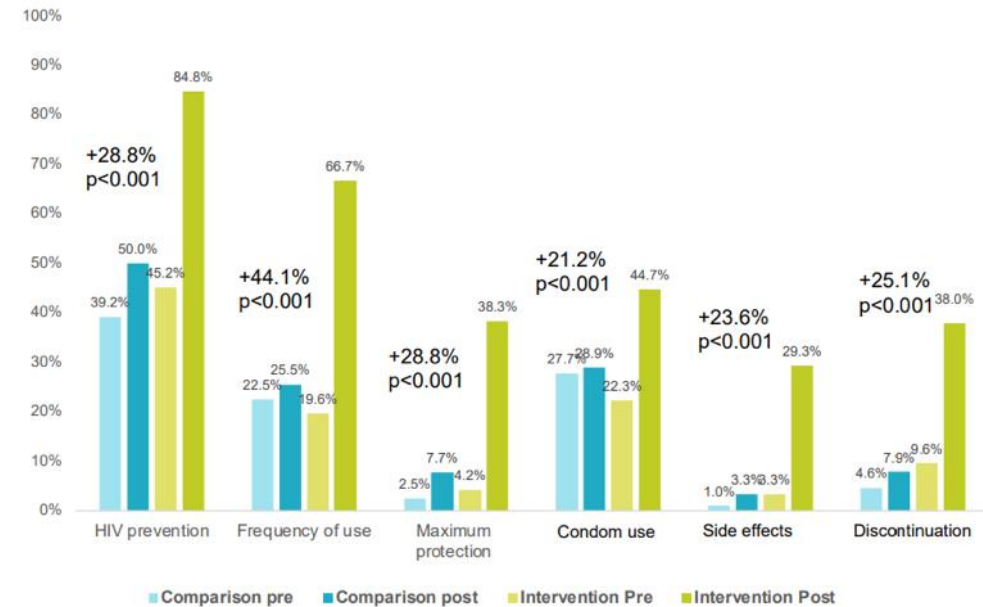


Figure 5: Changes in HIV knowledge associated with video

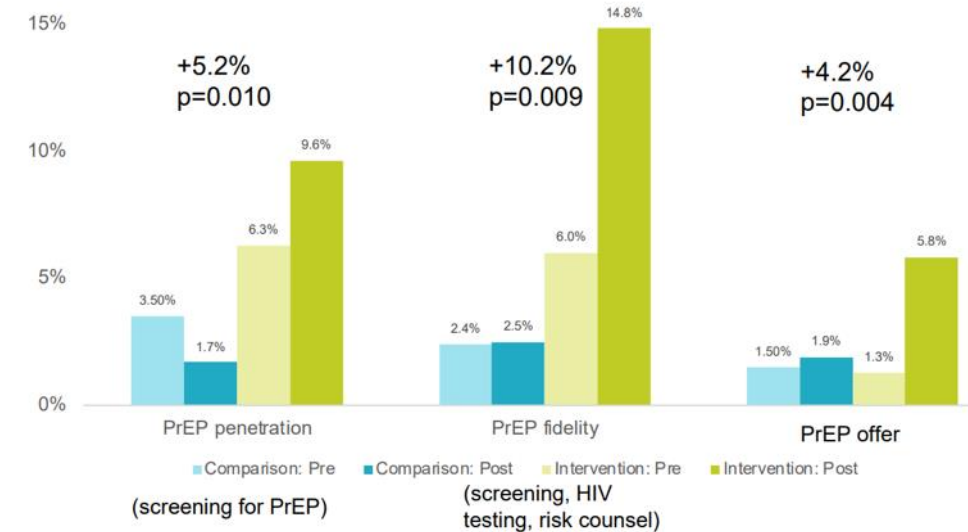
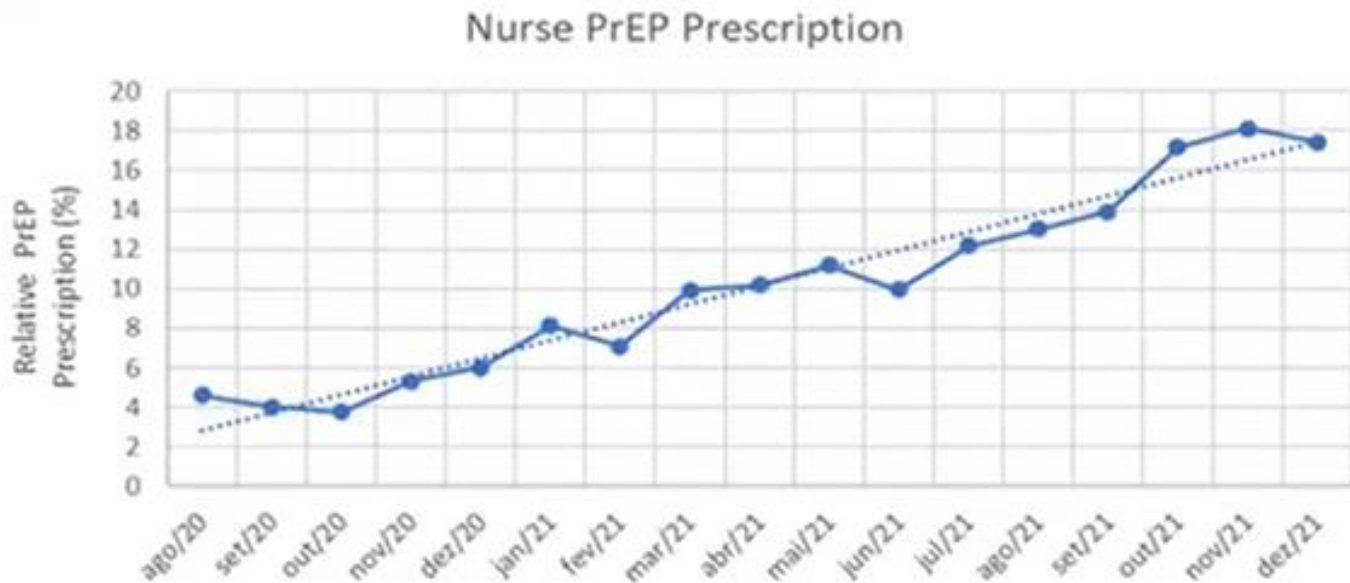


Figure 2: Implementation outcomes in intervention vs comparison

# Adapting the WHO: Innovations from Brazil

## PrEP Prescription from Nurses: strategy to scale up access to HIV prophylaxis in Brazil



- Evaluation of the impact of beginning Nurse PrEP prescription in expanding access to prophylaxis in Brazil.
- Nurse PrEP prescriptions had an important impact on expanding PrEP access, representing a growth rate of 10,68% (CI 95%: 9,09-12,30); R Squared (0,934) in relation to total prescriptions made.

**Conclusion:** Next steps involve making possible for other health professionals prescribing prophylaxis and supporting training process professionals.

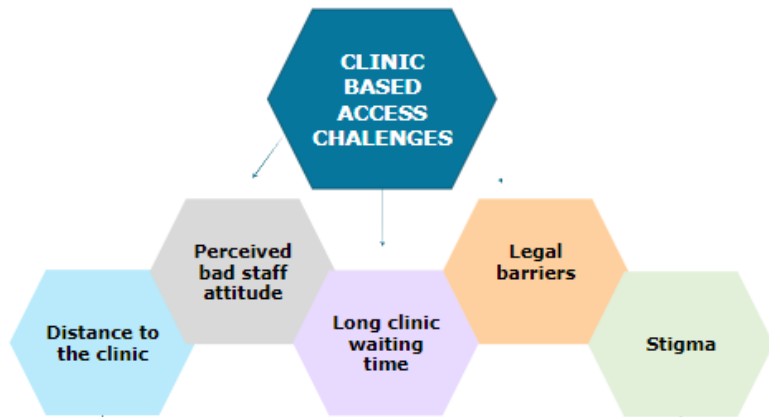
# Adapting the WHAT: Innovations from Thailand

## Building blocks of Xpress PrEP service in Thailand

Thailand National Guideline for PrEP 2021	PrEP screening, initiation and early follow-up (0-3 months)			PrEP continuation (+3 months)
	Screening	PrEP initiation visit	Initial follow-up	Routine clinical follow-up
<b>WHEN</b> Service frequency	Same-day PrEP		Months 1, 3	Every 3 months
<b>WHERE</b> Service location	Key population (KP)-led clinics/Community-based organizations (CBOs) Pribta Tangerine Clinic (Full telehealth scheme)		KP-led clinics/CBOs Pribta Tangerine Clinic	KP-led clinics/CBOs Pribta Tangerine Clinic
<b>WHO</b> Service provider	KP lay providers 2. Physicians/virtual physicians (which is prescribed remotely by physicians) 3. Clients		1. KP lay providers 2. Physicians/virtual physicians 3. Clients	1. KP lay providers 2. Physicians/virtual physicians 3. Clients
<b>WHAT</b> Service package	<b>Recommended:</b> Same-day HIV testing <ul style="list-style-type: none"> <li>• Cr, HBsAg (results come later)</li> <li>• PrEP counseling</li> <li>• PrEP prescription/virtual prescription</li> <li>• PrEP dispensing/give PrEP out</li> </ul>		<ul style="list-style-type: none"> <li>• HIV testing</li> <li>• PrEP/effective use counseling</li> <li>• PrEP prescription/virtual prescription</li> <li>• PrEP dispensing/give PrEP out</li> </ul>	<ul style="list-style-type: none"> <li>• HIV testing</li> <li>• Cr (results come later, every 6-12 months)</li> <li>• PrEP/effective use counseling</li> <li>• PrEP prescription/virtual prescription</li> <li>• PrEP dispensing/give PrEP out</li> </ul>
	<b>Alternatives:</b> Syphilis testing <ul style="list-style-type: none"> <li>• CT/NG testing (self-collection sampling)</li> <li>• Anti-HCV</li> </ul>		<ul style="list-style-type: none"> <li>• Syphilis testing (every 3-6 months)</li> <li>• CT/NG testing (self-collection sampling, every 3-6 months)</li> </ul>	<ul style="list-style-type: none"> <li>• Syphilis testing (every 3-6 months)</li> <li>• CT/NG testing (self-collection sampling, every 3-6 months)</li> <li>• Anti-HCV (every 6-12 months)</li> </ul>
<b>Laboratory results sharing via email, chat application, SMS, phone call</b>				

# Perceptions and experiences of key populations in Zambia with access to community-based delivered PrEP

- From 2016-2021, the University of Maryland Baltimore and its partners implemented the Zambia Community HIV Epidemic Control for Key Populations (Z-CHECK) program to reduce HIV transmission particularly among KPs.



"I cannot manage to be coming here to access the medicine because I might not have money for bus fares" - FGD with FSWs

"We fear that sometimes even if you know, let's say you need to go to the clinic or maybe you meet someone you fear...I will hear it in the community" - IDI with MSM

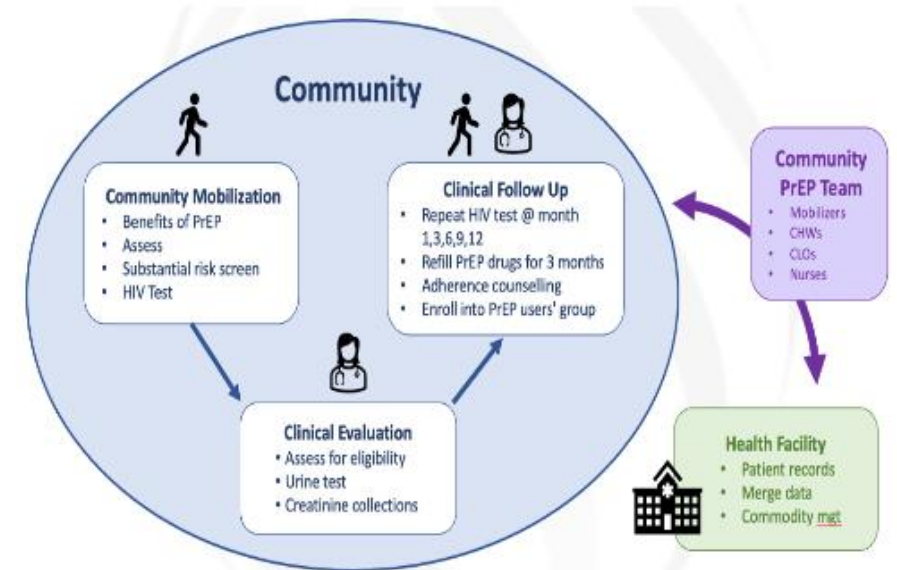
**Figure 2.** Challenges faced with clinic-based PrEP distribution



CHWs reaching KPs in places where healthcare workers could not.

- Safe
- Efficient
- Confidential
- Convenient
- Patient-centered

**Figure 3.** Key words that described client experiences of community PrEP distribution by CHWs



**Figure 1.** UMB Community PrEP Distribution Model

## Conclusion:

- Community distribution of PrEP is well regarded by KPs in Zambia and was perceived by KPs to improve PrEP access, uptake, and persistence.
- Future PrEP programs should consider integrating community-based delivery approaches to promote uptake among KPs.

## Gamification of peer mobilizers to increase pre-exposure prophylaxis uptake among transgender women

- Between August - September 2021, 21 community leaders recruited 219 clients for HIV testing (including 96 trans women). The mean number of new clients recruited per leader was 2.81.
- Of the HIV-negative trans women participants, 71% initiated PrEP, accounting for 41.38% of Mplus' annual PrEP service delivery among this population.

FIGURE 2. PrEP Uptake among KPs in Chiang Mai by Month, January - December 2020

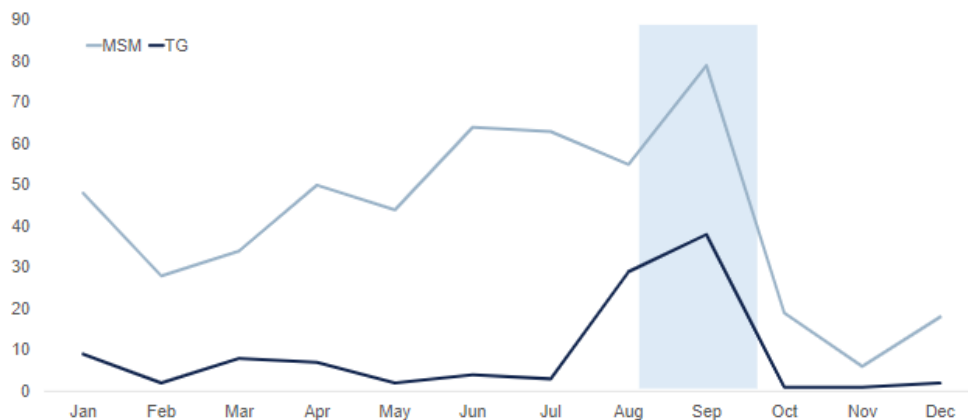


FIGURE 1. Outcome of Mae Koe 2020 Project, 18 August - 11 September 2020



### Conclusion:

- This gamified peer-driven recruitment model is a promising strategy for initiating trans women on PrEP while managing privacy concerns and warrants further implementation and evaluation.

## 3. DSD for HIV testing and linkage

## Differentiated Testing Services: Optimizing program design to enhance testing and linkage



### In summary....

- Close to reaching first 95 – BUT not for all sub-groups and not in all SSA contexts
- Reductions in volume of facility-based testing in the last 3 years impacted achieving second 90
- Many people using testing to re-enter care



Broader scope towards "status neutral" testing that actively supports linkage and engagement of individuals in PREVENTION and TREATMENT programmes

Targeted HIV testing services to increase knowledge of status among those more vulnerable to HIV acquisition and/or more likely to be associated with onward transmission through an innovative and strategic mix of modalities that evolve over time

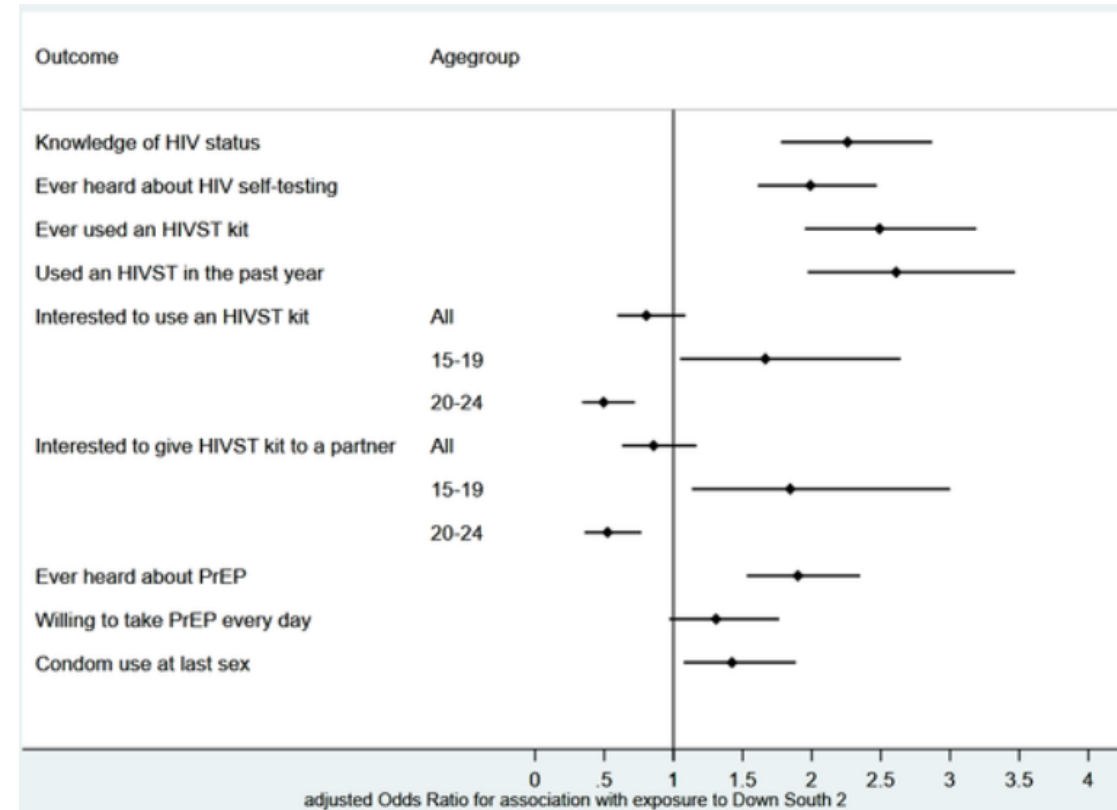
# Lessons from the *Future of HIV testing* expert consultation series

# Effects of a multimedia campaign on HIV self-testing and PrEP outcomes among young people in South Africa: a mixed-methods impact evaluation of 'MTV Shuga Down South'

- Mixed-methods evaluation to investigate whether and how the DS2 campaign works among 15-24 year-olds in Eastern Cape, South Africa, in 2020.

## Results:

- Among 3,431 online survey participants, 43% engaged with MTV Shuga and 24% with DS2. Knowledge of HIV status was higher among those exposed to DS2 (71% versus the non-exposed (39%; adjustedOR=2.26 [95%CI:1.78-2.87]) (See Figure 1).
- Exposure was also associated with increased awareness of HIVST (60% vs 28%; aOR=1.99[1.61-2.47]), use of HIVST (29% vs 10%; aOR=2.49[1.95-3.19]), and awareness of PrEP (52% vs 27%; aOR=1.90[1.53-2.35]).
- Qualitative insights offered evidence of DS2's influence on awareness, confidence and motivation to use HIVST and PrEP, but limited influence on service access.



## Conclusions:

- We found evidence consistent with a positive causal impact of the MTV Shuga DS2 campaign on HIV prevention outcomes among young people in a high-prevalence setting.
- As diverse testing and PrEP technologies become accessible, an immersive edutainment campaign can expand HIV prevention choices and narrow the age and gender gaps in HIV testing and prevention goals.

# HIV self-testing reached key populations regardless of COVID-19

To ensure HIV testing services is accessible to key populations (KP), a web-based HIV self-test (HIVST) distribution and linkage to ART and PrEP was piloted in three provinces in Vietnam to assess the uptake, feasibility, and effectiveness in linking self-testers to HIV services to inform national scale-up.

### Conclusions:

- Results of the pilot shows how web-based HIVST can be utilized as a critical COVID-19 adaptation for reaching KP, including younger age groups and those not previously tested.
- This approach was feasible, acceptable and facilitated linkage to ART and PrEP services which overcame service delivery challenges during the pandemic.

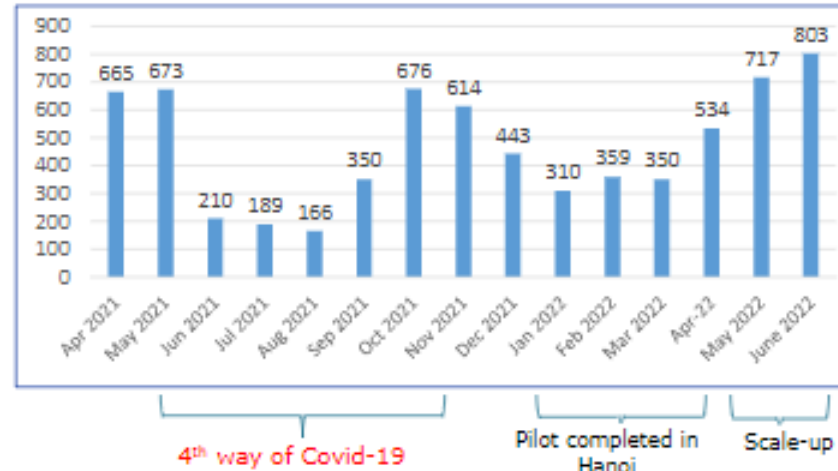


Fig 5. HIVST distribution during Covid-19

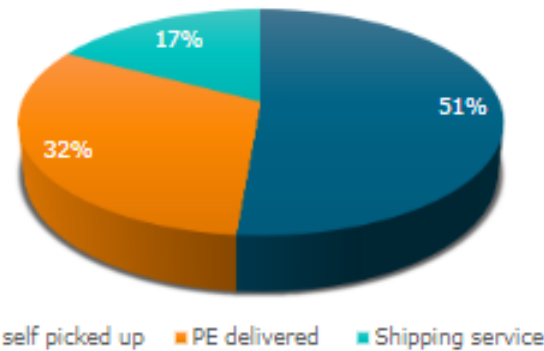


Fig 6. HIVST distribution by delivery approaches

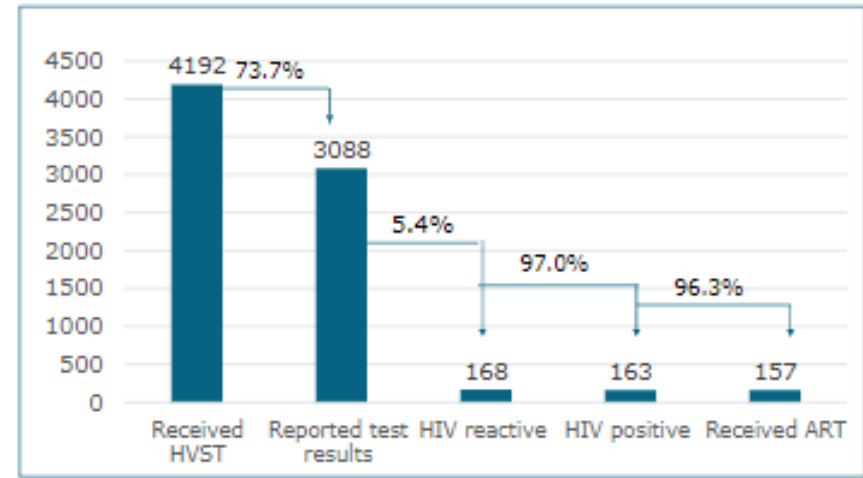


Figure 3. HIVST distribution and linkage to ART

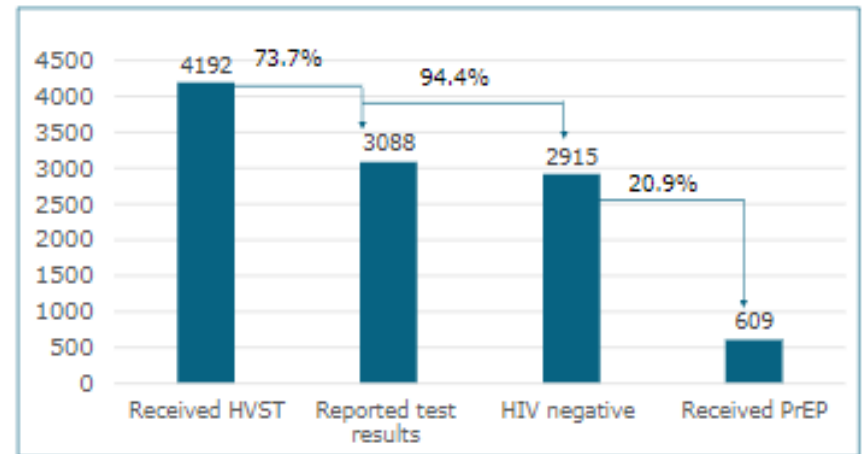


Fig 4. HIVST distribution during Covid (April 21-June 2022)

# How efficient are HIV self-testing models? A comparison of community, facility, one-stop-shop and pharmacy retail distribution models in Nigeria

Comparison of HIVST outcomes across 4 distribution models implemented by non-governmental and community-based organizations in Nigeria between Oct-Dec

HIVST cascade data were collected, documented in relevant HIVST tools and descriptively analyzed as shown in table 1.

Table 1:

	Distributed	Results returned %	Reactive %	Linked to testing %	Concordant test %	Linked to ART
Community	33023	33023(100%)	192(0.6%)	156(81%)	124(79%)	116(94%)
Facility	15225	15100(99%)	263(1.7%)	250(95%)	240(96%)	235(98%)
KP OSS	10301	10149(99%)	340(3.4%)	340(100%)	338(99%)	338(100%)
Pharmacy	245	238(97%)	1(0.4%)	0	N/A	N/A

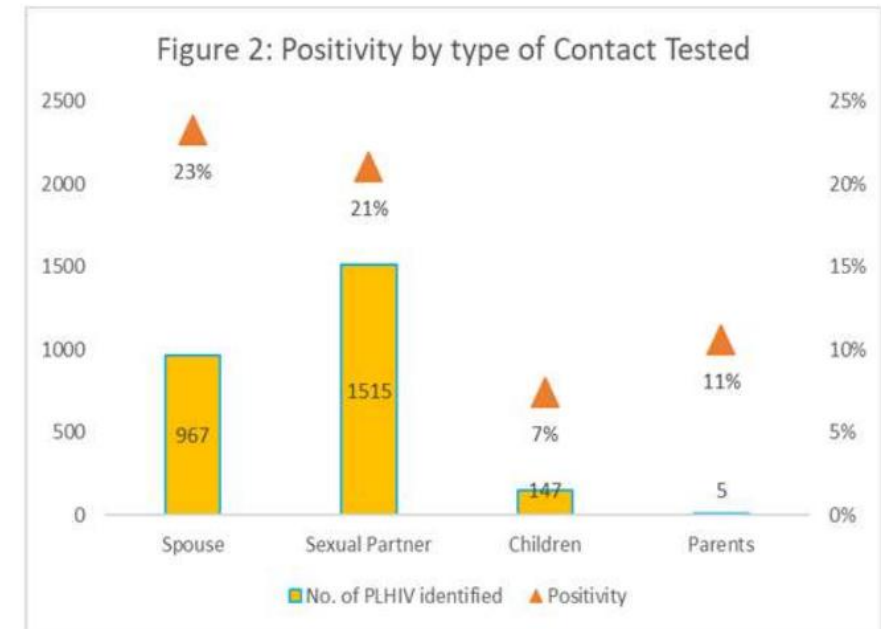
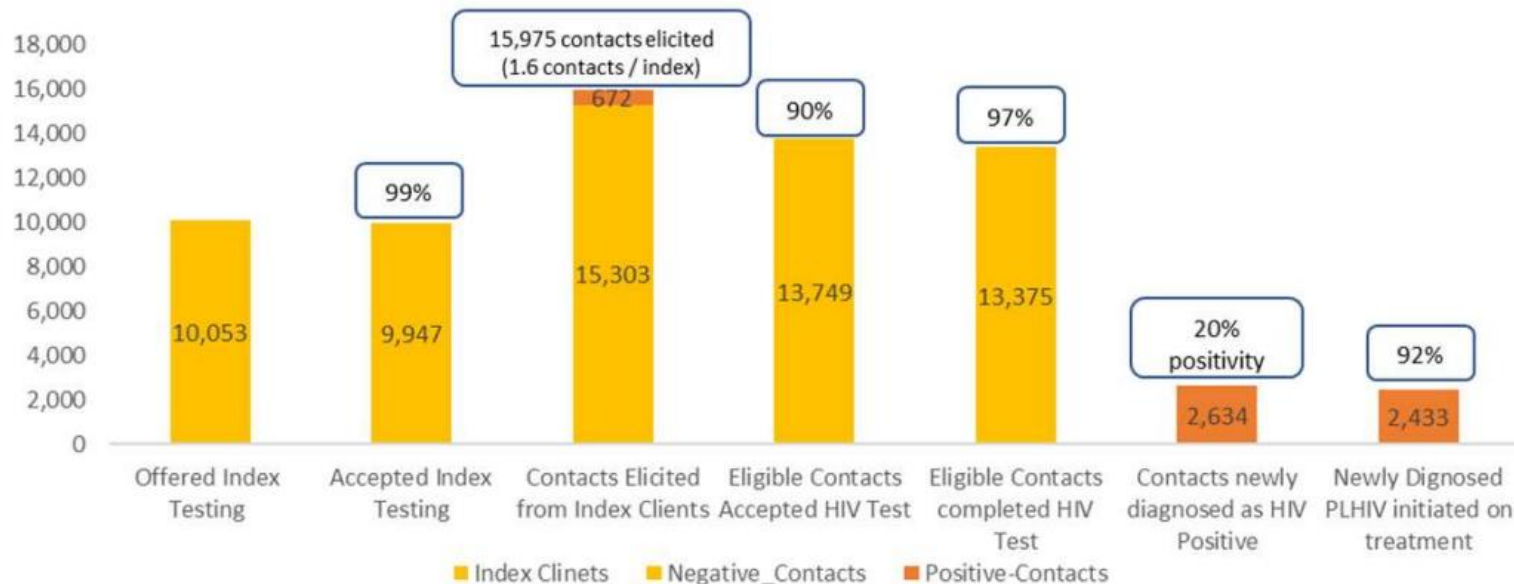
## Conclusions:

- HIV testing yield and performance across the cascade was optimized through KP one stop shops
- Low yield in community and pharmacy settings suggest need for better targeting;
- Absence of confirmatory testing following reactive tests from pharmacy distribution suggests a need for linkage support;
- Low test concordance in community-based distribution suggests possible test or data quality issues; and,
- High linkage to ART across models.

# Index testing approaches for early diagnosis of PLHIV and treatment initiation for HIV epidemic control

- Evaluation of the impact of index testing as a case identification strategy under the PEPFAR/USAID funded ACCELERATE in Telangana, India.

Figure 1: Index Testing Cascade during Aug 2000 to Dec 2021

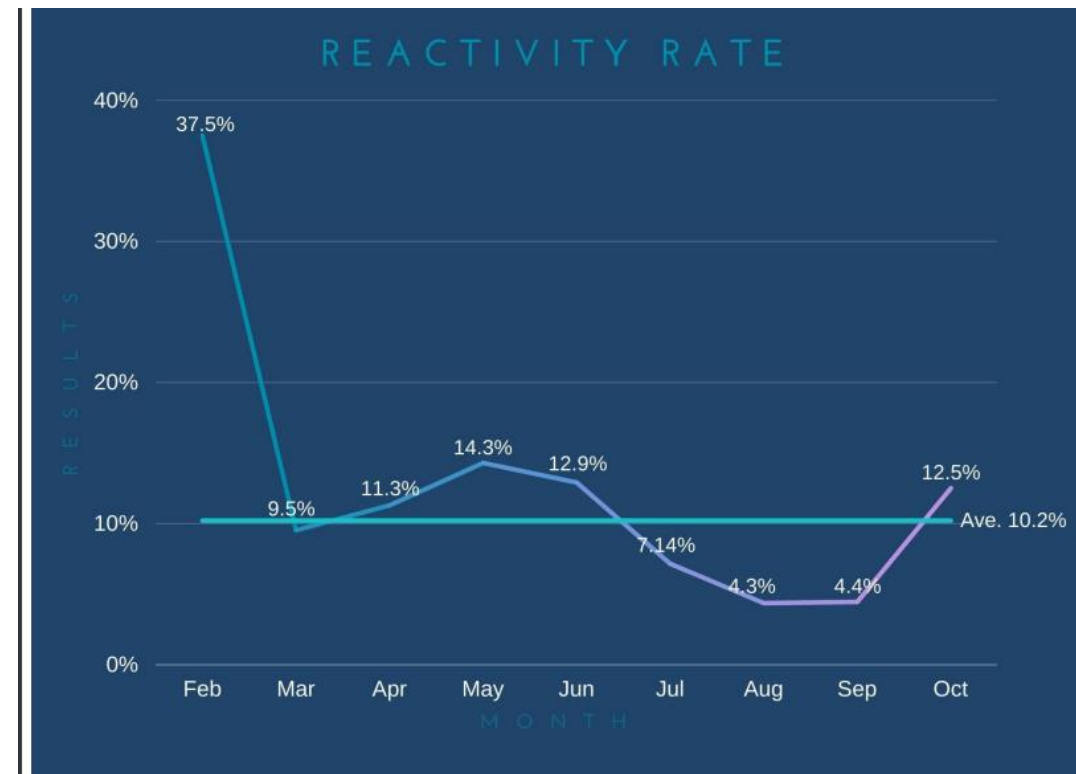
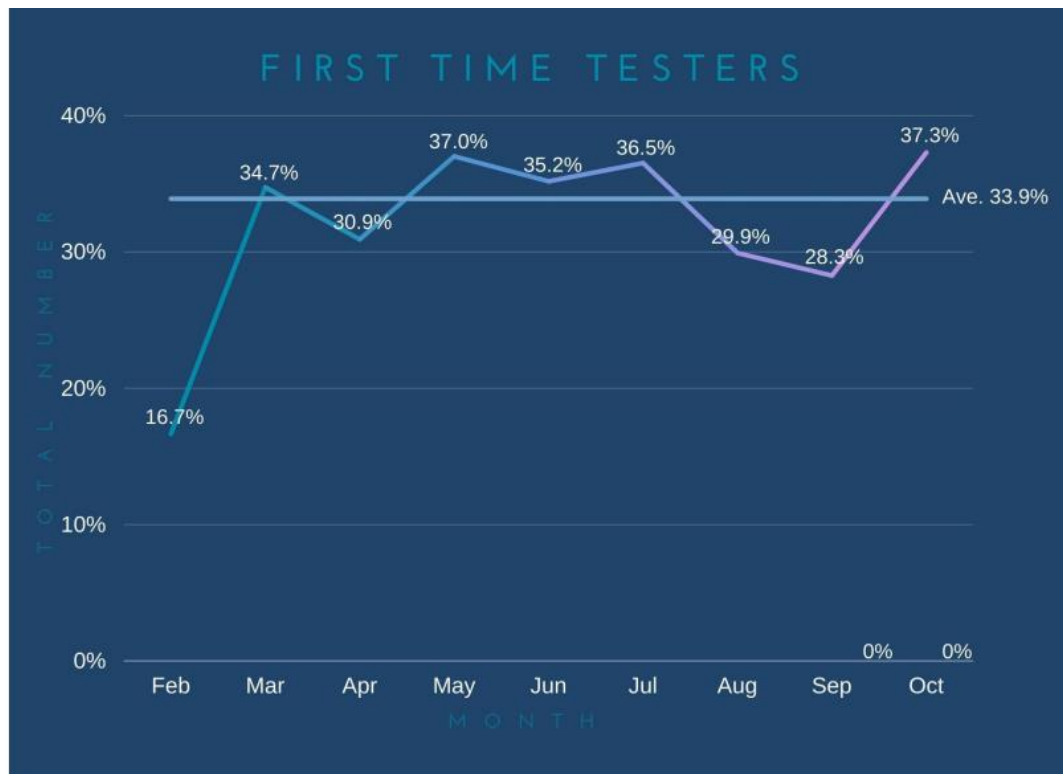


## Conclusions:

- Index testing approach provided high yield and absolute number of new HIV positive cases identified.

## Realized potential: results from a post-demonstration nationwide rollout of a community-run COVID-responsive unassisted HIVST service in the Philippines

KP-led CBO LoveYourself, from Feb-Nov 2021 scaled up HIVST, dubbed SelfCare, in the National Capital Region (NCR).



### Conclusions:

- Access to HIVST, coupled with courier delivery options and online outreach strategies, combats the negative impact of COVID-19 on HTS and resonates with hard-to-reach groups, especially first-time testers.

# Sexually transmitted infection testing integrated with HIV prevention and contraceptive services in hair salons in urban South Africa

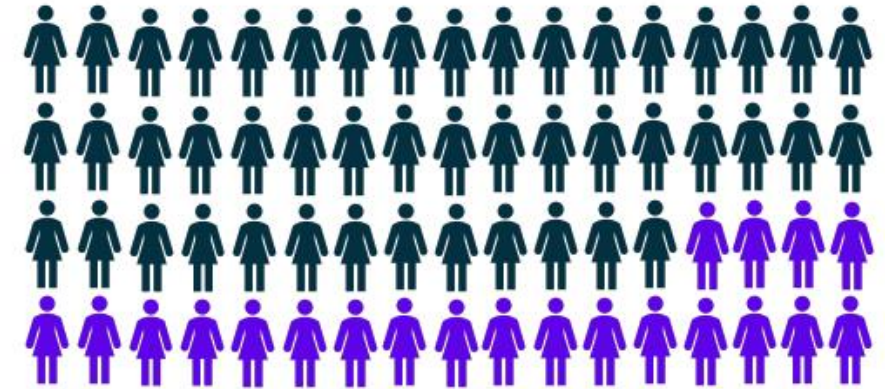
Evaluation of the implementation of STI testing integrated with HIV prevention and contraceptive services in hair salons in urban KwaZulu-Natal, South Africa.

- Women accessing oral HIV pre-exposure prophylaxis or hormonal contraception in hair salons in an ongoing study were offered testing for curable STIs
- Self-collected vaginal swabs were tested by polymerase chain reaction for gonorrhoea, chlamydia, and trichomoniasis
- Fingerstick blood was tested by non-treponemal and treponemal assays for syphilis
- Participants with positive results were contacted and offered treatment at the hair salon or local clinic

**Conclusions:** STI testing in hair salons in urban South Africa, integrated with HIV prevention and contraceptive services, is acceptable, reaches women with risk factors for STIs and HIV, and reveals a high STI prevalence. Hair salons may serve as novel venues to increase the reach of STI testing to women at risk for STIs and HIV.

Of 73 women enrolled and eligible for STI testing:

- 71 (97%) accepted STI testing
- 68 (93%) provided vaginal swabs and fingerstick blood
- 3 (4%) provided blood specimen only



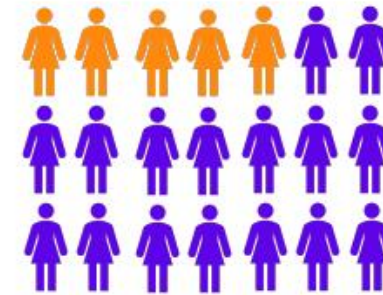
**21/68 (30.9%) tested positive for at least one STI**

**4/68 Gonorrhoea (5.9%)**

**16/68 Chlamydia (23.5%)**

**1/68 Trichomoniasis (1.5%)**

**4/71 Syphilis (5.6%)**



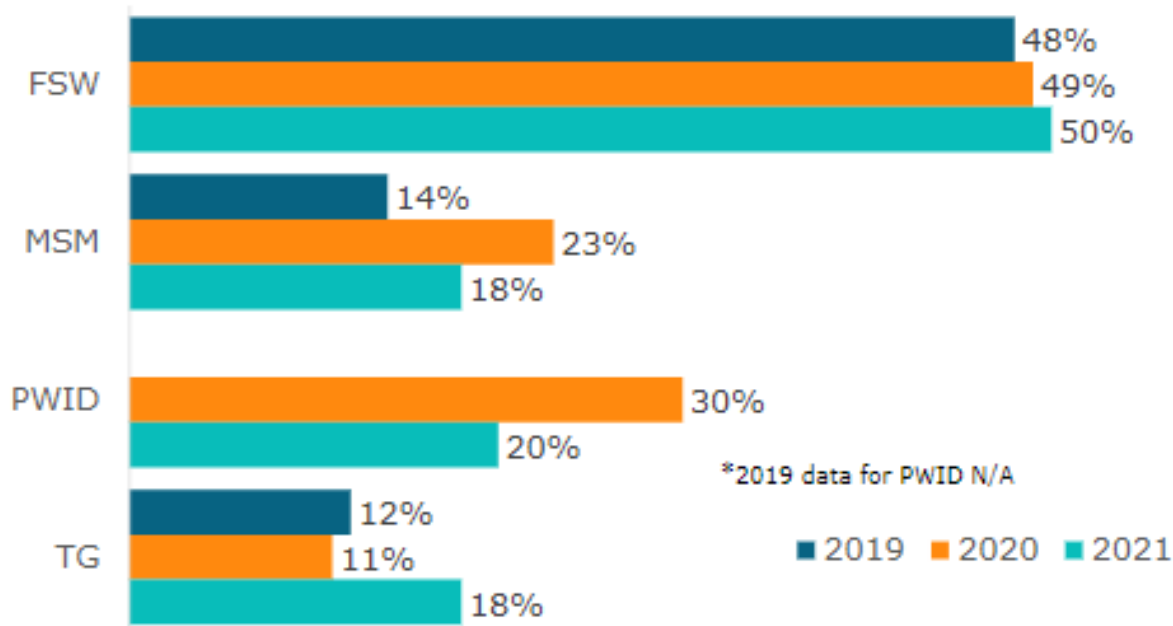
5/21 (24%) participants with any STI were symptomatic



17/21 (81%) elected to receive treatment in the salon

## Social network strategy improves access to HIV services for key populations in a legally restrictive environment: findings from Lusaka Zambia

Figure 3. SNS testing yields by KP type



### Conclusions:

- Social networking strategy (SNS) is an effective strategy for reaching previously undiagnosed, hard-to-reach, and highly stigmatized groups;
- Use of unique participant codes and real-time data monitoring prevented repeat participation by KP;
- Engagement of key population civil society groups helped to identify persons who were already receiving ART;
- Scheduling of appointments prevented overcrowding of safe spaces;
- Continuous planning and risk mitigation ensured safety and confidentiality of key populations.

## The use of vending machines for dispensing of HIV self-testing kits in Gauteng, South Africa: a pilot study

- Mar-May 2021 three pilot sites for vending machine distribution of HIVST kits were set up.
- Over the course of the 3 months, 900 test kits were dispensed across the three sites, with the majority of kits (91%) dispensed at the taxi rank.
- Approximately 83% of the kits dispensed to men, were to men in the age group of 25 - 39.
- 20% of females that received the test kit in the 15 - 24 age group had never previously tested for HIV.

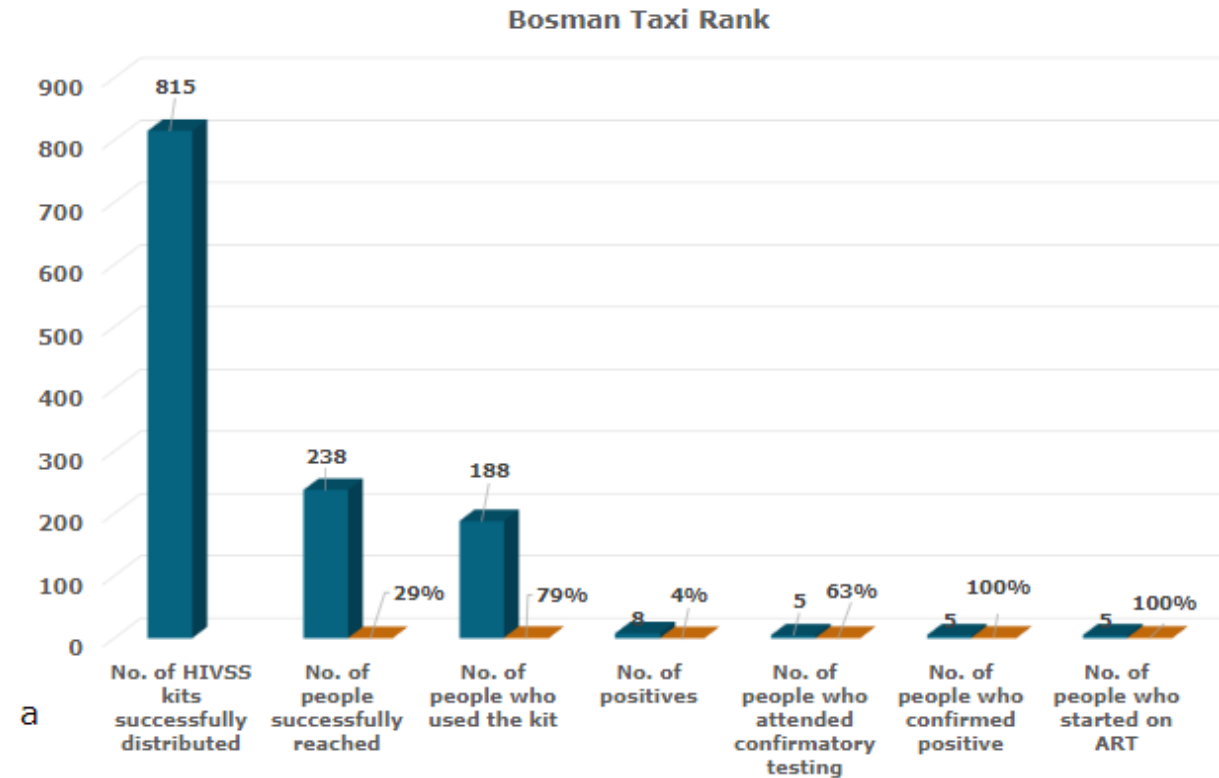


Figure 2: Distribution Outcomes Data for June 2021 at Bosman Taxi Rank

### Conclusion:

- Vending machines present an additional approach to distribution HIV self-tests. These outlets can be used for contactless provision of kits to relieve the burden on the system and increase access.

# Understanding gaps in index case testing cascade: Experience from Partners in Hope supported health facilities in Malawi

Fig. Description of the ICT testing cascade for contacts across 48 facilities in Malawi (October 2020 – January 2021)

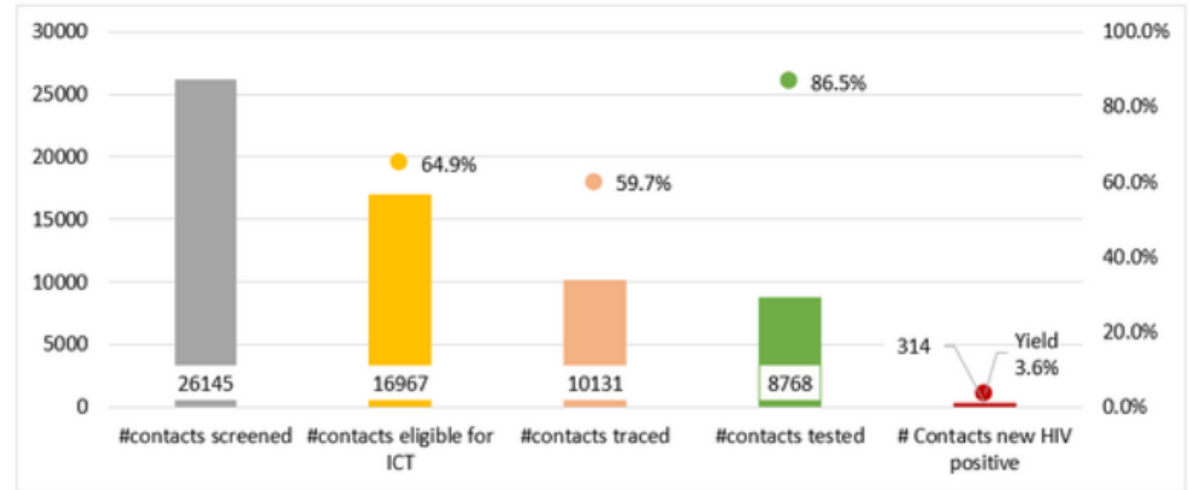


Table: Barriers to ICT implementation across the ICT cascade, results from in-depth interviews

Theme	Quotation
Barriers to enrollment in ICT and efficiencies	
<b>Facility level barriers</b>	
Lack of privacy in screening/enrolment locations	<i>'When we are doing screening we are only supposed to have one client at a time, but it sometimes depends on how many people we have for that day'</i> HIV Diagnostic Assistant, female
Limited quality assurances and monitoring of ICT screening protocols	<i>'Most of the times there is no quality assurance [observation], But if the provider is new, there is need to sit in the session to see what they are doing during screening'</i> Community Health Nurse, female
<b>Client level barrier</b>	
Clients lack trust for HCWs and fear unwanted disclosure (primarily new and extra-marital partners)	<i>'You know according to our culture it is hard for people to disclose their extra marital affair due to the fear of condemnation by the society as such they just opt to not disclosing it. Therefore, it becomes very difficult for us to recruit such people into ICT'</i> Community Health Nurse, female
Barriers to ICT tracing	
<b>Facility level barrier</b>	
Use of organization branded vehicles associated with HIV	<i>'I was fearful that sometimes the hospital people come with cars and bicycles and it may call attention from the neighbors. I wanted to bring them here alone, so that we may maintain our confidentiality'</i> Male index client
Long distances to communities	<i>'Sometimes even distance can be a hindrance because imagine that we are here at Kabudula they can come from T/A Kayembe very far from Dowa to get tested here, then it will be that yes we will register them here but then how do we follow them up to Dowa?'</i> HIV Diagnostic Assistant, Female
limited resources to facilitate tracing	<i>'Yes, we do but sometimes especially at the beginning of the month we go to ICT without receiving the allowance because they are mostly not ready that time'</i> HDA, Female
<b>Client level barriers</b>	
Inaccurate identifying information for contact clients	<i>'They do not usually refuse to be screened but if they could refuse then it has to be those kind of silent refusals whereby a client gives you false information'</i> Community Health Nurse, female
HIV positivity rate: Inefficiencies for BC testing	
Testing BCs for male index clients	<i>'I accepted (ICT) because I love my wife and children as such I even let them come to test them all at home'</i> Male index client
Testing non-eligible BCs who are easy to include during home visits to increase test productivity.	<i>'When you go there you find that all the children in the household have already been lined up waiting for your services'</i> HIV Diagnostic Assistant, Male

## Conclusion:

- Improving quality of counseling and privacy, facilitating tracing activities, and promoting fidelity of ICT protocols are key to success across the ICT cascade.

# 4. Re-engagement

# DSD pre-conference session 3 -

<https://programme.aids2022.org/Programme/Session/490>



## Key messages

- More of the people we are initiating on ART have been on ART before
- No current WHO guidance on the “ how to” sustain re-engagement including timing of VL
- Re-engagement pathways should not be a one size fits all
- Re-engagement pathways should not become a barrier to retention and should adapt to address client access challenges
- When designing a re-engagement pathway
  - Consider the duration the client has been off ART
  - Consider the clinical considerations



## The impact of a walk-in HIV care model for people who are incompletely engaged in care: the Moderate Needs (MOD) Clinic in Seattle, US

MOD Clinic provided walk-in, team-based primary care and support

Patients are referred to MOD based on incomplete engagement in care

Pre-determined analytic MOD eligibility criteria: either  $\geq 3$  no-shows in 12 months or an 18-month gap between visits.

Retrospective cohort study, two comparisons based on electronic medical records data, to evaluate patients' changes in viral suppression and engagement in care during the year after MOD enrollment and compared these outcomes to eligible controls who remained enrolled in the general HIV clinic.

### Conclusion:

Enrolling in a walk-in HIV clinic improved engagement in care and may have improved VS among persons incompletely engaged in HIV care.

**Figure 2. Outcomes among patients enrolled in the MOD Clinic (n=164)**  
**HIV Care Outcomes Among Patients Enrolled in MOD**

