Jienchi Dorward, University of Oxford, UK &
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The science of differentiated service delivery: Where we are and where we're going

AIDS 2022

Conflict of interest disclosure

We have no relevant financial relationships with ineligible companies to disclose.

The science of differentiated service delivery: Where we are and where we're going

Session co-chairs

Kombatende Sikombe
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The science of differentiated service delivery: Where we are and where we're going

Session presenters

Peter Ehrenkranz
BMGF, USA

Nathan Ford
WHO, Switzerland

Julio Pacca
Abt Associates, Mozambique

Risa Hoffman
UCLA, USA

Khumbo Nyirenda
Partners in Hope, Malawi

Nkgomeleng Lekodeba
HE2RO, South Africa

Anna Grimsrud
IAS, South Africa

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Session overview

The science of differentiated service delivery: Where we are and where we're going
• **Welcome and overview,** Peter Ehrenkranz, BMGF, USA
• **The science of differentiated service delivery: Where are we**, Nathan Ford, WHO, Switzerland
• **Expanding and accelerating access to DSD for HIV treatment during COVID-19: Implementation science from Mozambique**, Julio Pacca, Abt Associates, Mozambique
• **Integrating hypertension treatment and support into DSD for HIV treatment models**, Risa Hoffman, UCLA, United States, Khumbo Nyirenda, Partners in Hope, Malawi
• **Impact of DSD for HIV treatment on healthcare workers: Lessons from AMBIT**, Nkgomeleng Lekodeba, HE2RO, South Africa
• **The science of differentiated service delivery: Where we are going**, Anna Grimsrud, IAS, South Africa
• Closing reflections

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Please engage

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Post your questions virtually

Nathan Ford, World Health Organization, Switzerland

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The science of differentiated service delivery: Where we are

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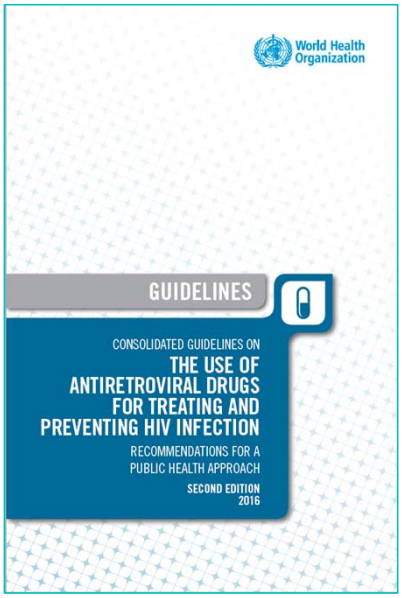
WHO's 2016 guidance – Chapter 6 on service delivery



Included recommendations on:

- Linkage from HIV testing to enrolment in care
- Retention in care
- Adherence
- Frequency of visits
- Task shifting and share
- Decentralization
- Integrating and linking services
- Adolescent-friendly health services

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Areas for additional HIV service delivery guidance

- Linkage from HIV testing to care and prevention
- Rapid ART initiation
- Out-of-facility ART initiation
- Adherence and retention in care
- Tracing and return to care
- Task sharing and decentralization
- Frequency of clinical visits and drug refills
- Differentiated service delivery for HIV treatment
- Service integration
- Provider attitudes


PLOS MEDICINE

Emerging priorities for HIV service delivery

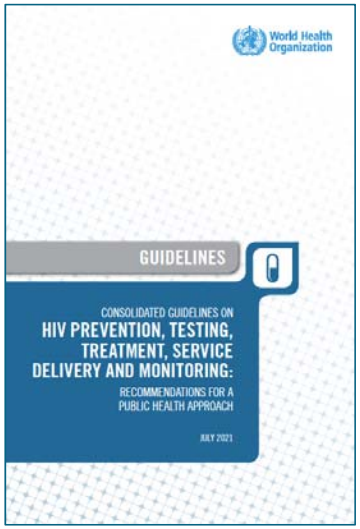
Summary points

Ford et al, Plos Med 2020

Developing new recommendations for HIV service delivery

Guideline development group meeting held in October 2020

Guidelines launched April 2021, consolidated July 2021



Expertise

- Guideline development supported by 32 external experts from 18 countries

Evidence

- 12 systematic reviews conducted to summarize the latest evidence
- Additional reviews and surveys conducted to assess feasibility, values and preferences and resource use

New service delivery recommendations (Chapter 7)

Recommendation	Strength
ART initiation may be offered outside the health facility	Conditional
Clinical visits every 3-6 months, preferably 6 months if feasible*	Strong
ART dispensing every 3-6 months, preferably 6 months if feasible*	Strong
Tracing and support for people who have disengaged	Strong
SRH services, including contraception, may be integrated with HIV services	Conditional
Diabetes and hypertension care may be integrated with HIV services	Conditional
Psychosocial interventions should be provided to all adolescents and young adults living with HIV	Strong
Task sharing of specimen collection and point-of care testing with non-lab personnel when professional capacity is limited	Strong

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POLICY FORUM

Future directions for HIV service delivery research: Research gaps identified through WHO guideline development

Nathan Ford[1]*, Ingrid Eshun-Wilson[2], Wole Ameyan[1], Morkor Newman[1], Lara Vojnov[1], Meg Doherty[1], Elvin Geng[2]

1 Department of HIV, Viral Hepatitis and STIs, World Health Organization, Geneva, Switzerland, **2** Division of Infectious Diseases, Washington University School of Medicine, St. Louis, Missouri, United States of America

* fordn@who.int

HIV service delivery and research gaps (1/2)

Issue	Research priority
1. Initiating ART outside of the health facility	Client preferences Evaluation of tools to support initiation Staffing (size and skillset) requirements Cost (provider and recipient perspectives)
2. Frequency of clinic visits and ART pick up	Outcomes of reduced frequency a) clinical consultation visits (annual) b) drug refill visits (annual)
3. Tracing and re-engagement	Tailored support to minimize disengagement and support sustained re-engagement along the cascade Qualitative research on acceptability of different approaches
4. Assessing adherence	Identification of feasible, accurate measures

HIV service delivery issues and research priorities (2/2)

Issue	Research priority
5. Integration (of HIV and SRH and HIV and diabetes and hypertension care)	Approaches to improve uptake and outcomes Tailored strategies for different contexts Values and preferences Cost effectiveness
6. Psychosocial interventions for adolescents & young adults	Interventions for different subgroups (e.g. those with disabilities) Support package for facilitators Programme evaluation (including cost) Long-term impact
7. Task sharing of specimen collection and point-of-care testing	Diagnostic accuracy by provider
8. Diagnostic integration	Impact across disease types Implementation science of best practices (including quality assurance)

Acknowledgements

Service Delivery Guideline Development Group (2020)

Co-chairs: Aleny Couto (Ministry of Health, Mozambique) and **Andreas Jahn** (Ministry of Health, Malawi).

Cindy Amaiza (Y+ Kenya, Kenya), **Florence Riako Anam** (Médecins Sans Frontières, Kenya), **Tsitsi Apollo** (Ministry of Health and Child Care, Zimbabwe), **Baker Bakashaba** (The AIDS Support Organisation, Uganda), **Erika Castellanos** (Global Action for Trans* Equality, The Netherlands), **Manish Bamrotiya** (John Hopkins University Field Staff, India), **Tom Ellman** (Médecins Sans Frontières, South Africa), **Elvin Geng** (Washington University in St. Louis, USA), **Naresh Goel** (National AIDS Control Organisation, India), **Charles Holmes** (Georgetown University Center for Innovation in Global Health, USA), **Daniella Mark** (Paediatric-Adolescent Treatment Africa, South Africa), **Thi Nhan** (Ministry of Health, Viet Nam), Catherine Orrell (University of Cape Town, South Africa), **Miriam Rabkin** (ICAP at Columbia University, USA), **Serhii Riabokon** (Public Health Center of the Ministry of Health of Ukraine), **Izukanji Sikazwe** (Centre for Infectious Disease Research in Zambia, Zambia), **Nikita Smirnov** (Moscow State City Center for AIDS Prevention and Control, Russian Federation) and **Nicola Willis** (Africaid Zvandiri, Zimbabwe).

External Review Group

Alice Armstrong (UNICEF Eastern and Southern Africa, Kenya), **Myo Nyein Aung** (Juntendo University, Tokyo, Japan), **Helen Bygrave** (Médecins Sans Frontières, United Kingdom), **Susan Cleary** (University of Cape Town, South Africa), **Anna Grimsrud** (International AIDS Society, South Africa), **Tamar Kabakian-Khasholian** (American University of Beirut, Lebanon), **Sergio Maulen** (Ministry of Health, Argentina), **Raymond Mutisya** (Jhpiego, Kenya), **Eyerusalem Negussie** (Ministry of Health, Ethiopia), **Nittaya Phanupkak** (Institute of HIV Research and Innovation, Thailand), **Sydney Rosen** (University of Boston, USA), **Nadia A. Sam-Agudu** (Institute of Human Virology at the University of Maryland School of Medicine, USA and Institute of Human Virology Nigeria) and **Sedona Sweeney** (London School of Hygiene & Tropical Medicine, United Kingdom).

Julio Pacca, Abt Associates, Mozambique

The science of differentiated service delivery: Where we are and where we're going

Expanding and accelerating access to DSD for HIV treatment during COVID-19: Implementation science from Mozambique

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Objective

In this presentation, ECHO articulates its experience and vision for using implementation science and learning to weave **informed adaptation approaches** into project implementation.

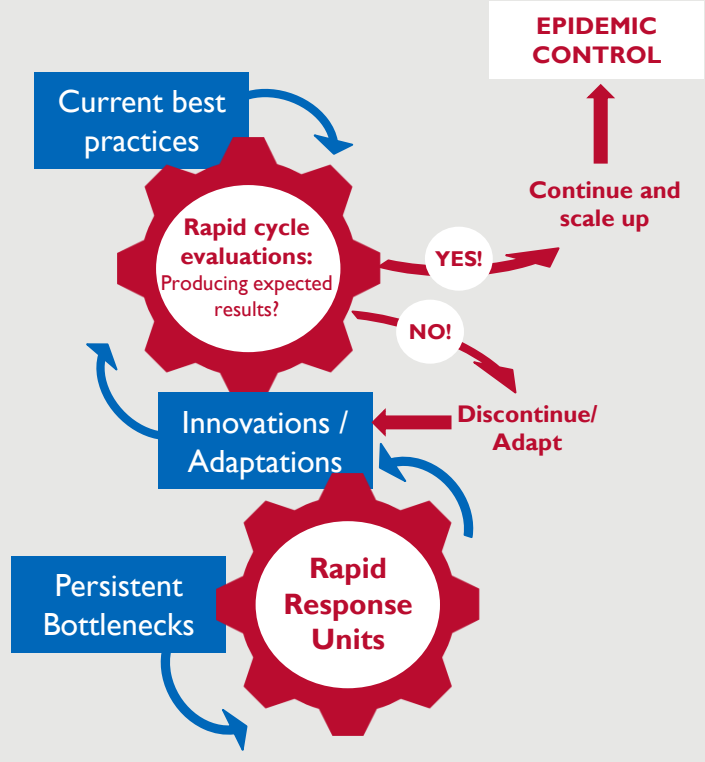
Our approach is to **absorb learnings** from high evidence threshold randomized clinical trials, apply them to Mozambique's **local context**, and bolster learnings with **rapid cycle evaluations**.

This allows us to evaluate, adjust, improve, and scale up the use of differentiated service delivery to **strengthen quality of care** in Mozambique.

Context in Mozambique and ECHO's response

Total population	**30,832,244** (INE, 2021)
Estimated people living with HIV (PLWH)	**2,100,000** (UNAIDS, 2020)
People under treatment at PEPFAR- supported sites	**1,479,085** (PEPFAR, April 2022)
People under treatment at ECHO sites	**342,224** (April 2022)
# of ECHO-supported sites	**150**
ECHO's share of PEPFAR-supported people under treatment	**23,1%**

Innovating, Learning, and Adapting Strategy



Project timeline

October 2019
Start of the ECHO project in 4 provinces of Mozambique (Niassa, Tete, Manica, Sofala)

March 20, 2020
Declared a state of emergency due to the COVID-19 outbreak

March 30, 2020
Mozambique changed 3MMD* guidelines to expand eligibility for providing PLWH with 3 months of medication to reduce clinic visits

March-September 2020
ECHO scaled up the number of health facilities implementing the 1st 6-months OSM** for adults from **7** to **36**

June 2020
ECHO started implementing community ARV dispensation by health providers in 42 health facilities

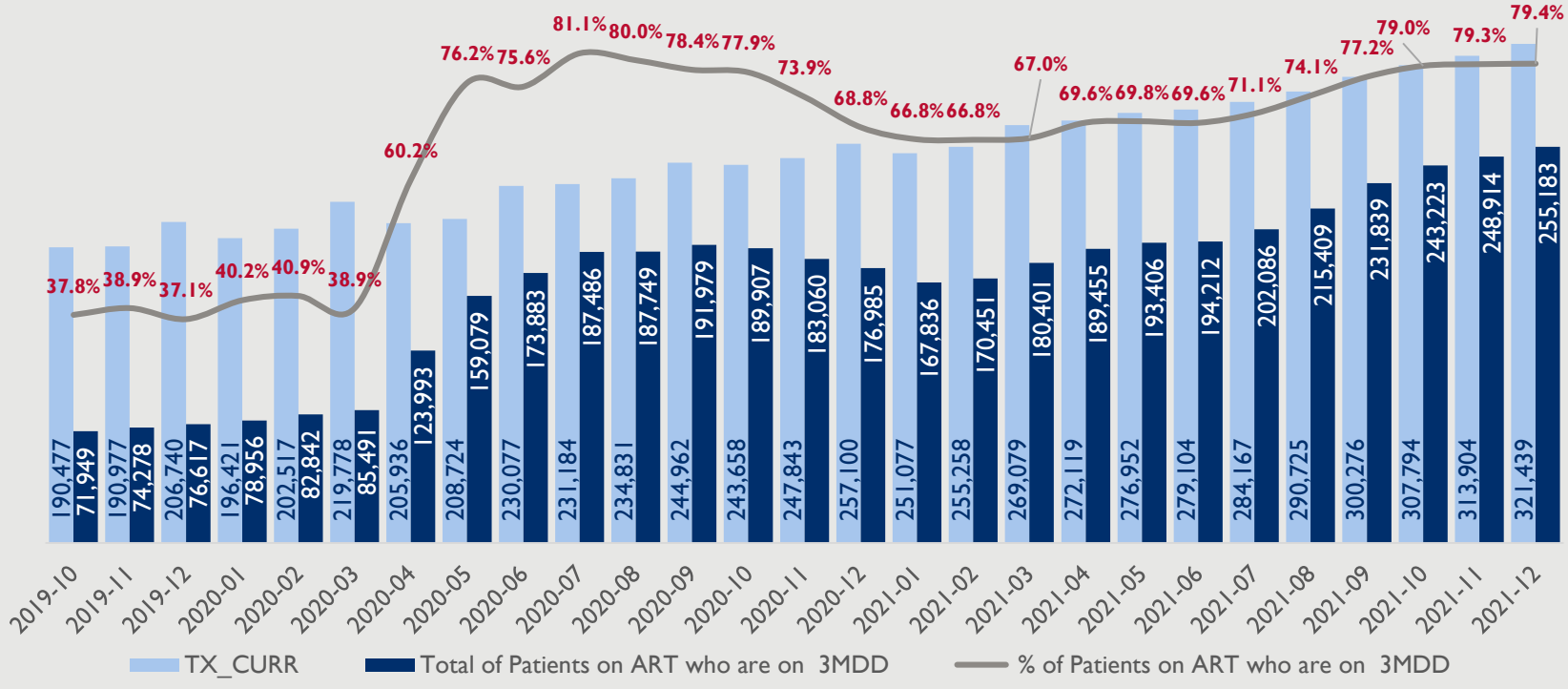
October 2021
ECHO started the implementation of ARV dispensing in private pharmacies, covering 12 health facilities and 24 pharmacies

Patients under ART treatment, ECHO, Oct 2019-Mar 2022

Increase of 63.1%

Notes:
*3MMD: 3 multi-month dispensing
**OSM: one stop model

Multi-month drug distribution enrolment



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 30th 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

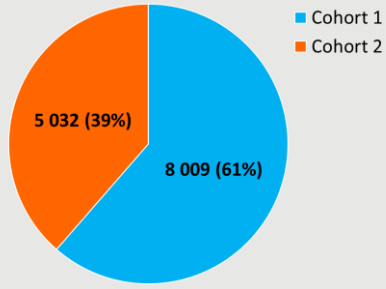
Cohort 2

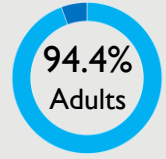
Patients who started ART on/after 1st November 2019 and became eligible for 3MMD due to the change in policy

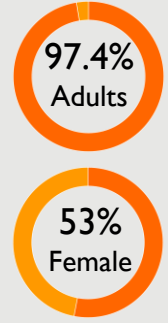
All patients were followed until September 2020 to assess viral load suppression (VL<1,000 copies/ml after at least 6-months on ART), and until May 2021 to assess long-term retention in care (>12 months on ART).

Results

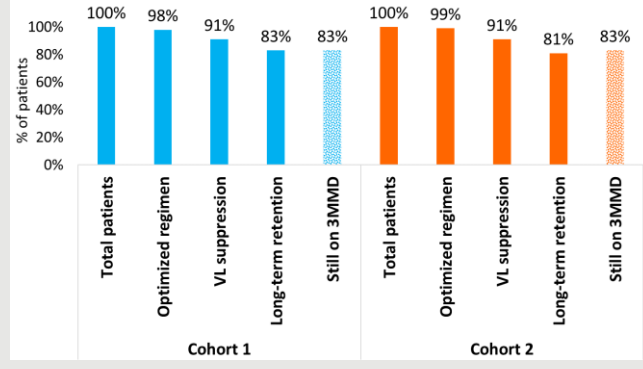
Both cohorts achieved viral suppression rates of 91%.







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



Cross-sectional patient outcomes analysis:
1st 6-months one stop model (adults only, August 2021)

How it Works

M0 (1st visit):
Clinical consultation, psychosocial support, prophylaxis, ART initiation

↓

M1 (2nd visit):
All services, monthly ART dispensing

↓

M2 (3rd visit):
All services, monthly ART dispensing

↓

M3 (4th visit):
All services, 3 multi-month ART dispensing

↓

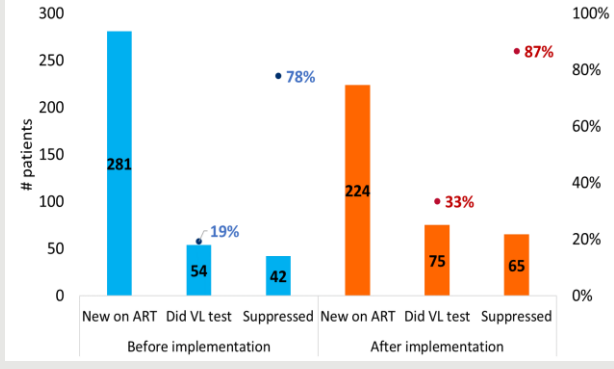
M6 (5th visit):
All services, viral load sample collection, 3 multi-month ART dispensing

Methodology

Comparative analysis of the results of some key indicators 6 months before and after implementation:

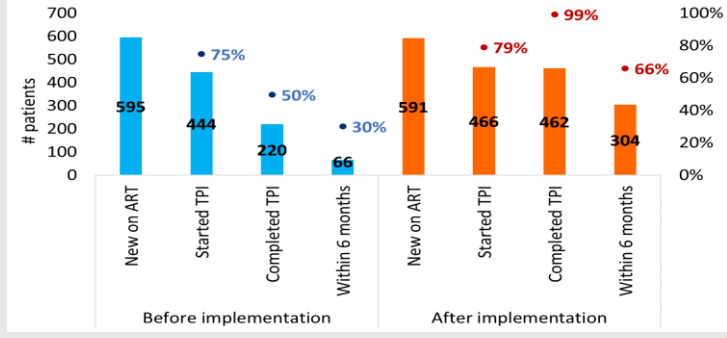
- TB preventive treatment (start and completion)
- Viral load testing (coverage and suppression)
- 6-month retention in care

Viral load testing (coverage and suppression), Gondola DH, Manica province

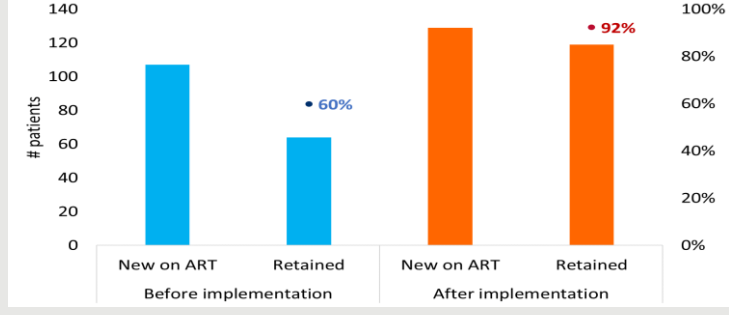


Results

TB preventive treatment (start and completion), Eduardo Mondlane HC, Manica province



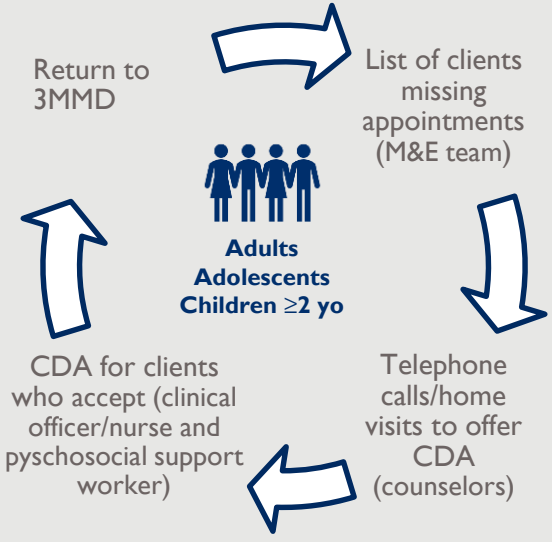
6-Months retention, N° 3 HC, Tete province



Enrolment analysis:
Community dispensing of ARVs (CDA) strategy

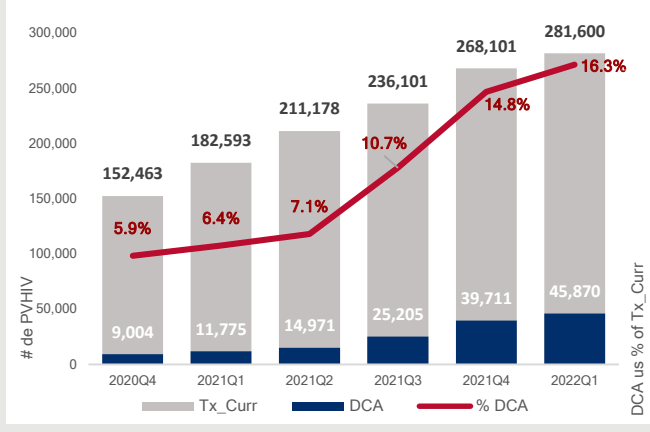
Once-off home delivery of 3-months of ART supply for people who missed appointment thereafter returning to facility-based 3MMD

How it Works

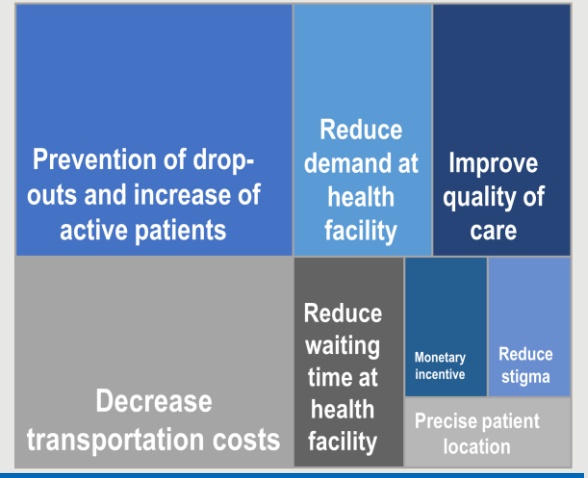


Results

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.

Enrolment and retention analysis:
ARVs dispensing in private pharmacies (October 2021 – April 2022)

How it Works

Pilot implemented in 12 health facilities among the 4 provinces supported by ECHO:

HF 1
HF 2
HF 3
7 private pharmacies

Referral process:

HF: Registration of drug pick-up on electronic medical records

Clinical consultation: offer of ARVs dispensing in private pharmacy

Pharmacy (HF): ARV dispensing, referral to private pharmacy for next pick-up through the electronic system

Private pharmacy: ARVs dispensing, registration on electronic system

Methodology

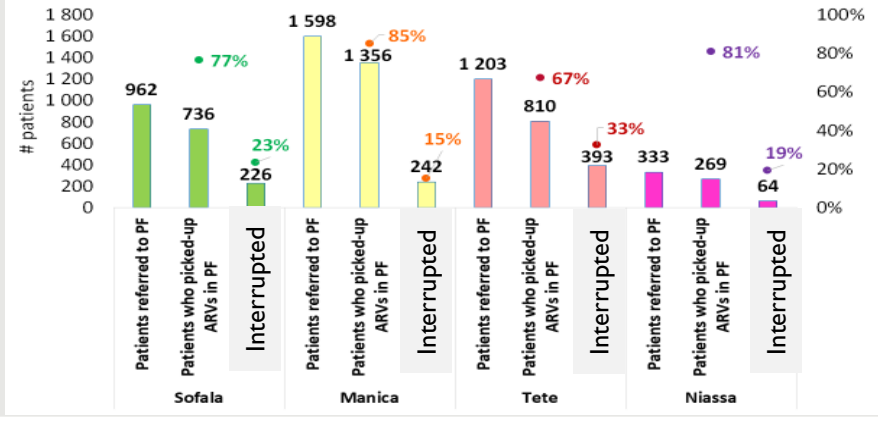
- Quantitative data triangulation between different primary sources (pharmacy registry books, electronic medical records, electronic pharmacy systems).

Challenges

- Synchronization between the electronic systems of the private pharmacy and the health facility.
- Low number of clients referred to private pharmacies
- Clinicians are not used to the system and may need more time
- Clients missing appointments at private pharmacies not well managed, as most pick up medicines back at the facility level

Results

Cascade of patients referred to PF, ECHO, October 2021 – April 2022



Way Forward

- Ongoing cost-benefit analysis of the strategy's execution by the different private pharmacies involved.

Note:
Pharmacy electronic system: iDART (intelligent dispensing of antiretroviral treatment)

Challenges to overcome

- VL coverage:
  - ECHO has been facing VL uptake stagnation at an unacceptable 71% (coverage) despite high VL suppression rates (above 90% in all provinces)
  - The 1st 6-months One Stop Shop model may compromise viral load: ECHO is launching a new strategy to avoid additional queues that keep patients away to get their VL assessed and managed.
  - Community dispensation (CDA) may compromise viral load uptake at the appropriate time point
- With an increasing number of models, models may now compete for enrolment but do importantly offer client choice. How much choice to offer? What is feasible and sustainable?
  - Private Pharmacies -- One Stop Shops
  - 6MMD and 3MMD -- Private Pharmacies
- There is a cycle of clients repeatedly using the CDA model (once off community ARV dispensing), compromising the flow of clinical appointments and thus impacting quality of care.

Conclusions

- Formal RCTs and implementation science complement each other and achieve scale
- The COVID-19 pandemic had changed the implementation of key DSD models and led to increased enrollment in multi-month and community drug distribution. This benefits both patients and health systems moving into the post-COVID-19 era.
- ECHO adopts evidence-based interventions to inform its implementation in close coordination with the local Ministry of Health and in accordance with agreements between the Government of Mozambique and PEPFAR
- ECHO's approaches follow studies with a high threshold of evidence

However,

- Its adoption usually benefits from adaptations and minor innovations which are informed through systematic short studies (even using a low threshold of evidence) using an implementation science and learning approach
- The combination of these approaches constitute the real science of the implementation

Thank you!

Risa Hoffman, UCLA, USA and Khumbo Nyirenda, Partners in Hope, Malawi

The science of differentiated service delivery: Where we are and where we're going

Integrating hypertension treatment and support into DSD for HIV treatment models

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Conflicts of Interest

Risa Hoffman serves on the editorial board for Elsevier's Clinical Key
The potential effects of relevant financial relationships with ineligible companies have been mitigated. Any clinical recommendations are based on evidence and are free of commercial bias.

Khumbo Phiri has no relevant financial relationships with ineligible companies to disclose.

WHO guidance on "Integrating diabetes and hypertension care with HIV care"

Recommendation (2021)

Diabetes and hypertension care may be integrated with HIV services *(conditional recommendation, very-low-certainty evidence).*

Implementation considerations

Focusing on improving investment in the overall health system will be important to support the integration of hypertension, diabetes and HIV services. Since an increasing proportion of people living with HIV are receiving their HIV treatment through a differentiated service delivery model with extended ART refills and less frequent clinical visits, aligning the provision of noncommunicable disease commodities with differentiated service delivery for HIV treatment models should be considered.

WHO guidance on hypertension

- Revised in 2021 – including elements of differentiated service delivery
- ”When” – reduced following for those whose blood pressure is under control
- ”Who” and “where” – task sharing with non-physician professionals and community health workers (CHWs), who can deliver medications

7. RECOMMENDATIONS ON FREQUENCY OF ASSESSMENT
WHO suggests a follow up every 3–6 months for patients whose blood pressure is under control.
Conditional recommendation, low-certainty evidence

8. RECOMMENDATION ON TREATMENT BY NONPHYSICIAN PROFESSIONALS
WHO suggests that pharmacological treatment of hypertension can be provided by nonphysician professionals such as pharmacists and nurses, as long as the following conditions are met: proper training, prescribing authority, specific management protocols and physician oversight.
Conditional recommendation, low-certainty evidence
Implementation remarks: ▪ Community health care workers (HCWs) may assist in tasks such as education, delivery of medications, blood pressure (BP) measurement and monitoring through an established collaborative care model. The scope of hypertension care practised by community HCWs depends on local regulations and currently varies by country.

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What happens with DSD for HIV treatment, if nothing changes for management of hypertension?

No efficiencies for the client OR the healthcare system

Integration is essential

Limited policy support for integration *within* DSD for HIV treatment models

INTEGRATION OF NON-COMMUNICABLE DISEASE REFILLS WITHIN DSD FOR HIV TREATMENT MODELS

Version: 20 January 2022
www.differentiatedservicedelivery.org

Key

- National policy
- Interim COVID-19 policy

References

Click on the ovals in the table to access the referenced policy.

Notes

Ghana: NCD treatment to be provided through same DSD for HIV treatment models for the same duration refill if available

Mozambique: The interim COVID-19 policy states that where possible, NCD treatment must be integrated with ART refills (3MMD)

South Africa: NCD (hypertension and diabetes treatment) fully integrated into DSD for HIV treatment models with same refill duration

Uganda: Those with other chronic co-morbidities (hypertension, diabetes, cardiac diseases, and renal diseases) can be considered established on treatment if their co-morbidities are controlled. COVID-19 policy enables alignment of NCD (diabetes and hypertension) treatment and ART refill durations

Zimbabwe: Clinical and NCD treatment refills aligned with DSD in normal policy, COVID-19 policy notes that clients with diabetes, cancer, hypertension and other cardiovascular conditions should be prioritized for MMD

IAS International AIDS Society

South Africa is the exception

- Policy for DSD is inclusive of HIV, TB and NCDs
- Of 2.4 million clients receiving their care through the national Central Chronic Medicines Dispensing and Distribution (CCMDD) programme
  - 65% are receiving ART only
  - **13% are receiving ART and NCD medications (300,000+ people)**
  - 28% are receiving NCD medications

- Three DSD for treatment models:

Differentiated service delivery for people with HIV and non-communicable diseases: South African policy enabler for integration

HIV and hypertension in Malawi

- ~20% of people living with HIV in Malawi have hypertension (HTN)[1,2] and receive HTN care in diverse settings
  - Outpatient Departments (OPD)
  - NCD clinics
  - Integrated HIV-NCD clinics – centres of excellence in a limited number of settings
- At an ART-NCD facility in Lilongwe, high rates of uncontrolled blood pressure with related cardiac changes:
  - 80% uncontrolled HTN over one year[3] (n=158)
    - MMD of ART 90 or 120 days, but HTN medications 30- or 60-days
  - Prevalence of left ventricular hypertrophy (LVH) 13%[2] and 1/3 with LVH had elevated blood pressure ≥140/90 (n=202)[4]

1-Rucker M, Sekai C et al. AIDS 2018; 2-Divala O, Amberbir A et al BMC Public Health 2016; 3-Hoffman RM, Chibwana F, Kahn D, Banda BA, et al. Global Heart 2021; 4-Hoffman RM, Chibwana F, Banda BA, et al. Open Heart 2022.

Makonda Study

- PLHIV with HTN report barriers to care include costs of transportation and time for care seeking.[1]
- 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

1-C Moucheraud, K Nyirenda et al. Global Public Health Jan 2021

Makonda participants

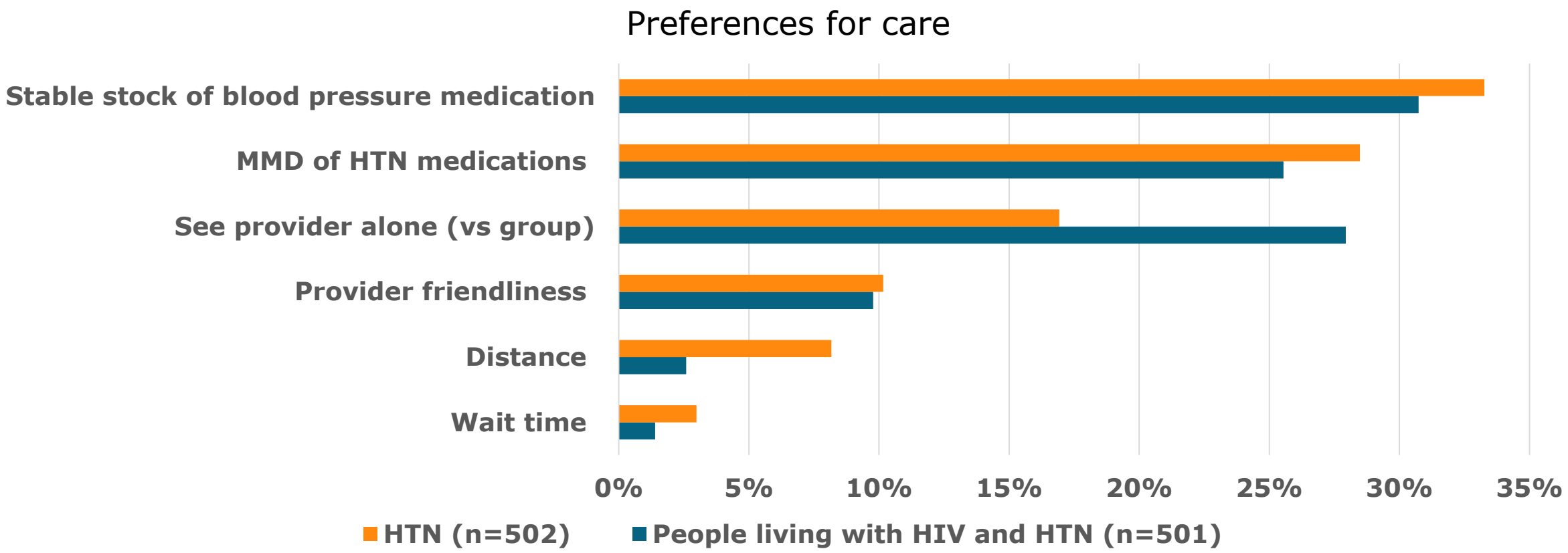
	People living with HIV and HTN* (n=501)	Chart review sub-group (n=244)	HTN (N=502)
Median age (IQR)	54 (48-60)	*54 (48-60)*	58 (51-66)
Female, n (%)	293 (58%)	*125 (55%)*	291(58%)
Duration on ART**, median years (IQR)	10 (6-15)	*12 (7-15)*	N/A
Duration with hypertension, median years (IQR)	5 (3-8)	*5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

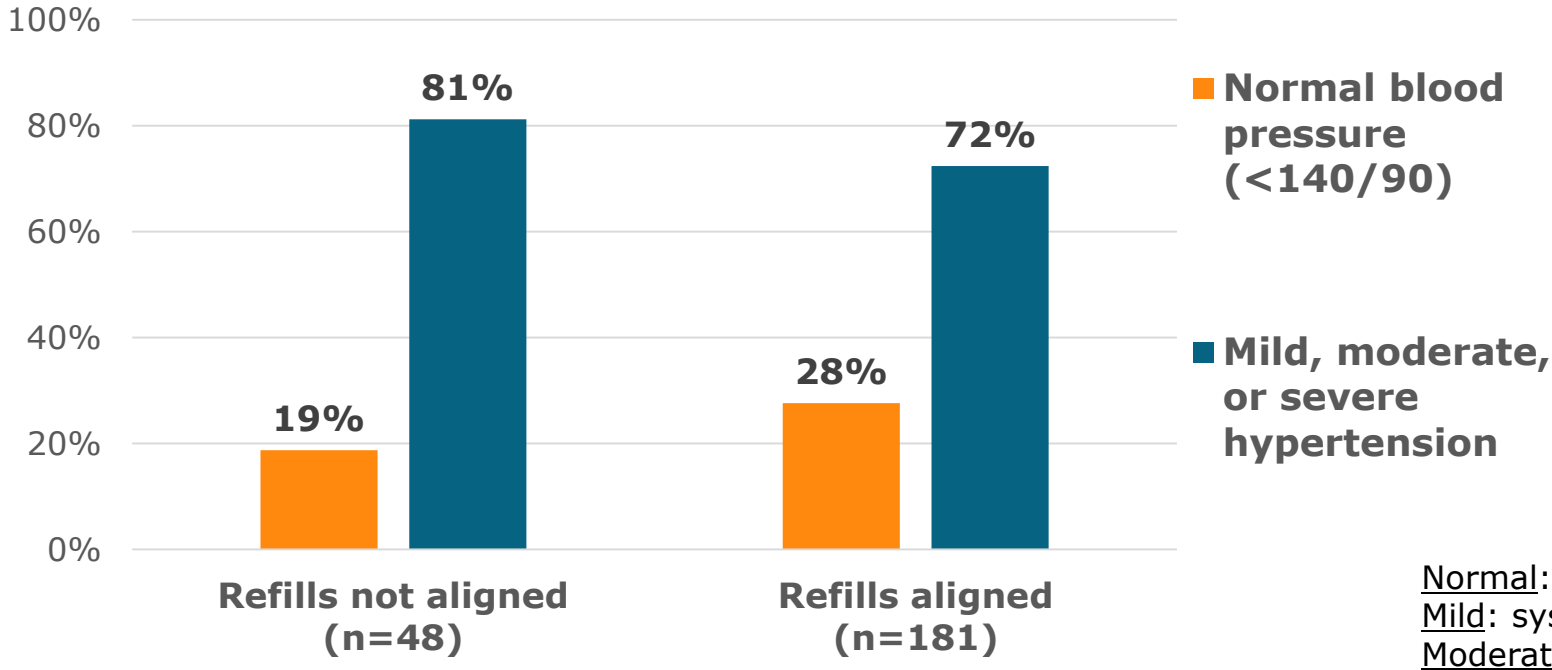
Chart review to look at ART dispensing intervals, alignment with HTN medication dispensing, and blood pressure data (n=244)

Makonda Study: Preferences for HTN care

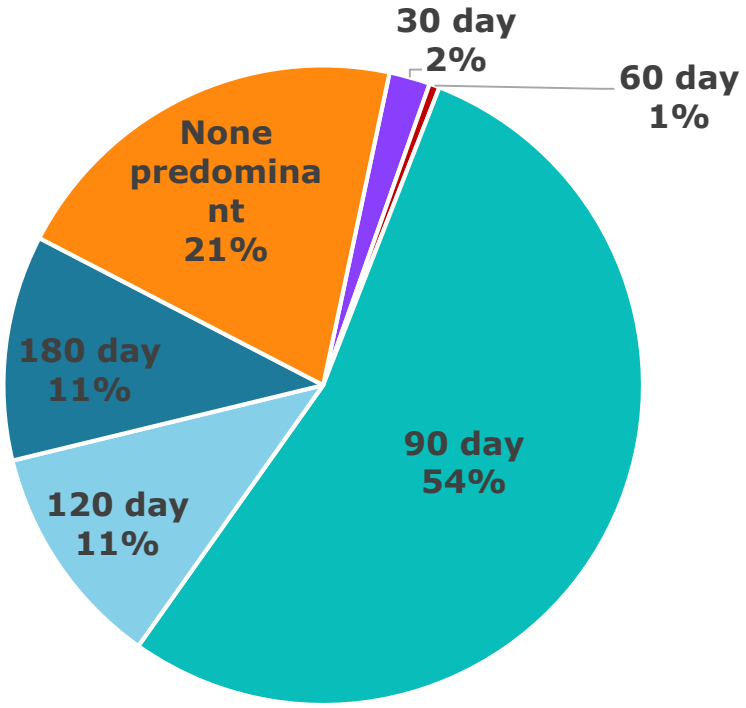


Alignment of ART and HTN medication (n=244)

- 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)

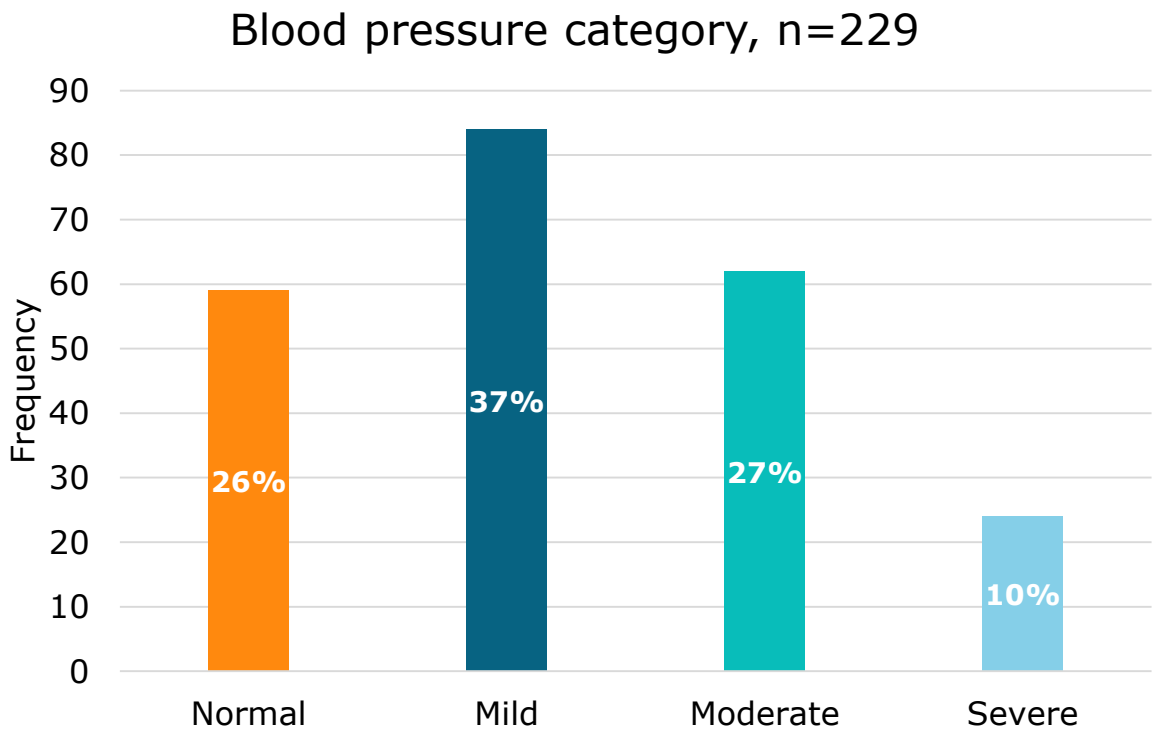


Predominant dispense interval among individuals receiving aligned refills



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 ≥ 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 ≥180 and/or diastolic ≥110 mm Hg

In closing

Limitations

- Limited to 3 centres of excellence in Lilongwe
- Formal DCE analyses pending
- Unclear if participants were dispensed the complete interval prescribed in medical records (however self-reported extra visits for refills were uncommon)

Conclusions

- Stated preferences prioritized medication supply and MMD of blood pressure medication.
- People living with HIV had high rates of uncontrolled blood pressure with trend toward better control in the group with consistent alignment.
- Integration with MMD and alignment of ART and HTN medications is person-centred but may not lead to improved outcomes for hypertension without additional interventions.

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Acknowledgements

We are grateful to the following individuals and institutions for their support:

- Makonda study participants
- Site staff at the 14 facilities in Malawi participating in the Makonda study
- Our funder: NIH Fogarty R21TW011691
- Partners in Hope leadership and co-investigators (Agnes Moses, Sam Phiri, Joep van Oosterhout) and Science Department staff, especially Pericles Kalande and Hannah Whitehead
- Co-investigator Corrina Moucheraud, Fielding School of Public Health at UCLA
- PEPFAR Cooperative Agreement 720612219CA00100 (CORE)
- IAS: Anna Grimsrud and Amie Baldeh

Nkgomeleng Lekodeba, HE2RO, South Africa

The science of differentiated service delivery: Where we are and where we're going

Impact of DSD for HIV treatment on healthcare workers: Lessons from AMBIT

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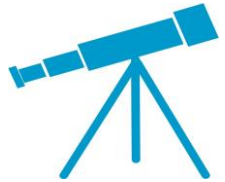
Introduction



- Countries in sub-Saharan Africa are rapidly expanding differentiated service delivery (DSD) models for HIV treatment and care
- DSD models aim to reduce healthcare providers' workload, decongest healthcare facilities, improve quality of care, and enhance provider job satisfaction
- DSD models may also reduce the time healthcare providers have to spend with established ART clients and increase time for non-DSD ART and non-ART clients
- BUT the effects of DSD model implementation on actual use of providers' time, workload, and job satisfaction have not been reported
- The AMBIT Project aims to evaluate the impact of DSD for HIV treatment on healthcare providers, healthcare clients, and on the healthcare system as a whole

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 ≤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 ≤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

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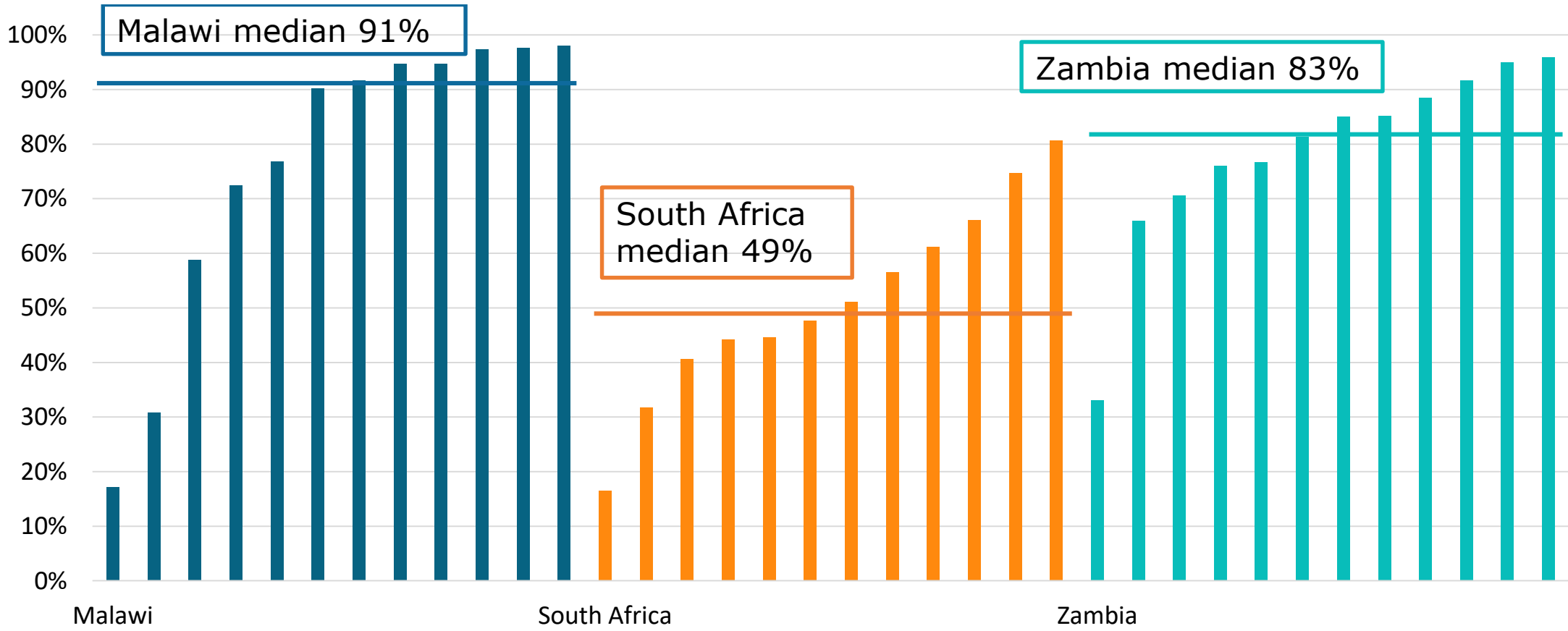
Characteristics of providers enrolled

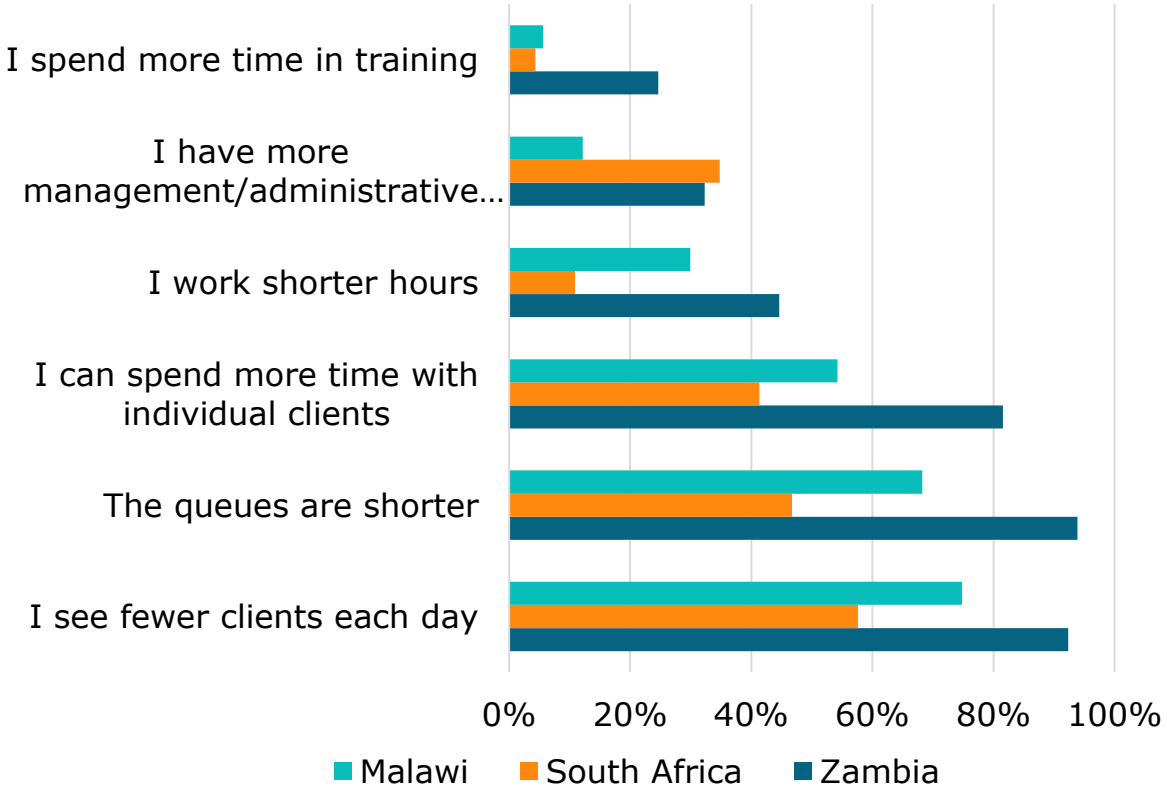
Characteristics	Total	Malawi	South Africa	Zambia
Cadre, N (%)	468	142	206	120
Doctor, clinical officer, or medical officer	53 (11.3)	36 (25.4)	1 (0.5)	16 (13.3)
Nurse	187 (40.0)	49 (34.5)	111 (53.9)	27 (22.5)
Pharmacist/assistant pharmacist	30 (6.4)	1 (0.7)	18 (8.7)	11 (9.2)
Admin clerk/data capturer	60 (12.8)	13 (9.2)	29 (14.1)	18 (15.0)
Lay counsellor/community health worker	123 (26.3)	31 (21.8)	47 (22.8)	45 (37.5)
Laboratory staff	15 (3.2)	12 (8.5)	-	3 (2.5)
Years' experience (median, IQR)	7 (3-11)	6 (3-10)	8 (5-12)	4 (2-10)
Time spent on HIV treatment delivery (median, IQR)	5 (3-5)	5 (3-5)	5 (2-5)	5 (5-5)

DSD model coverage

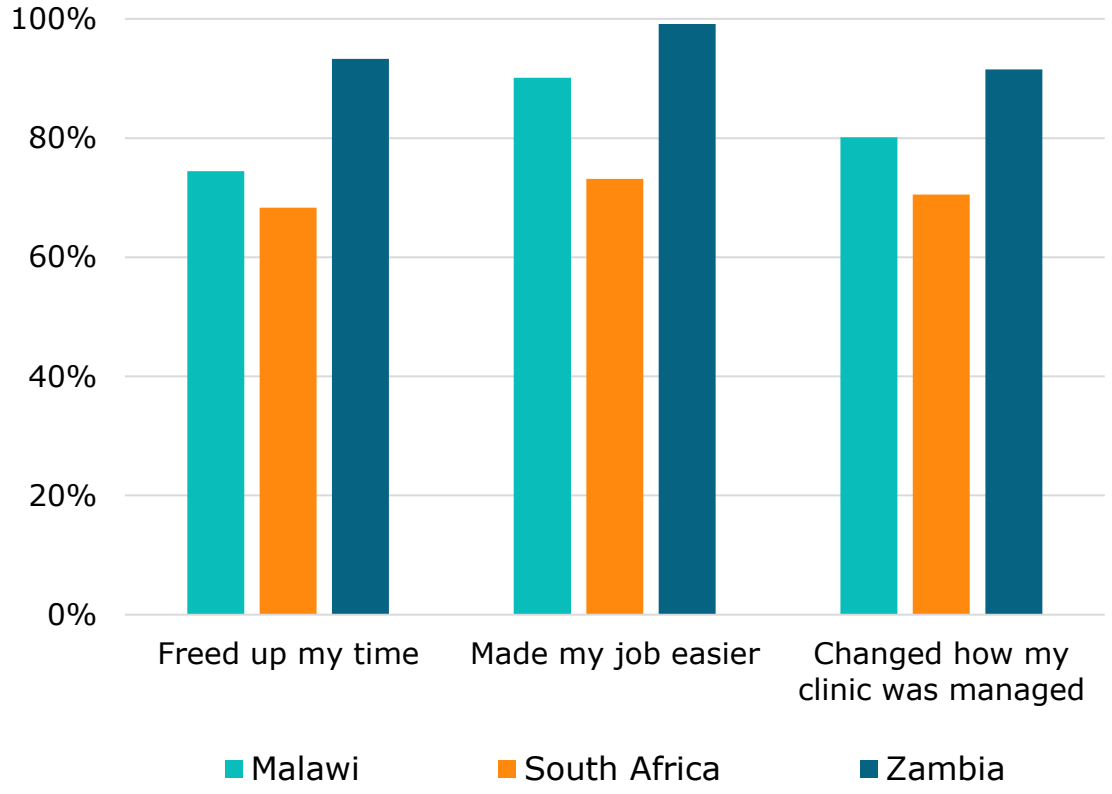


Results: Workload

Provider-reported changes after DSD implementation

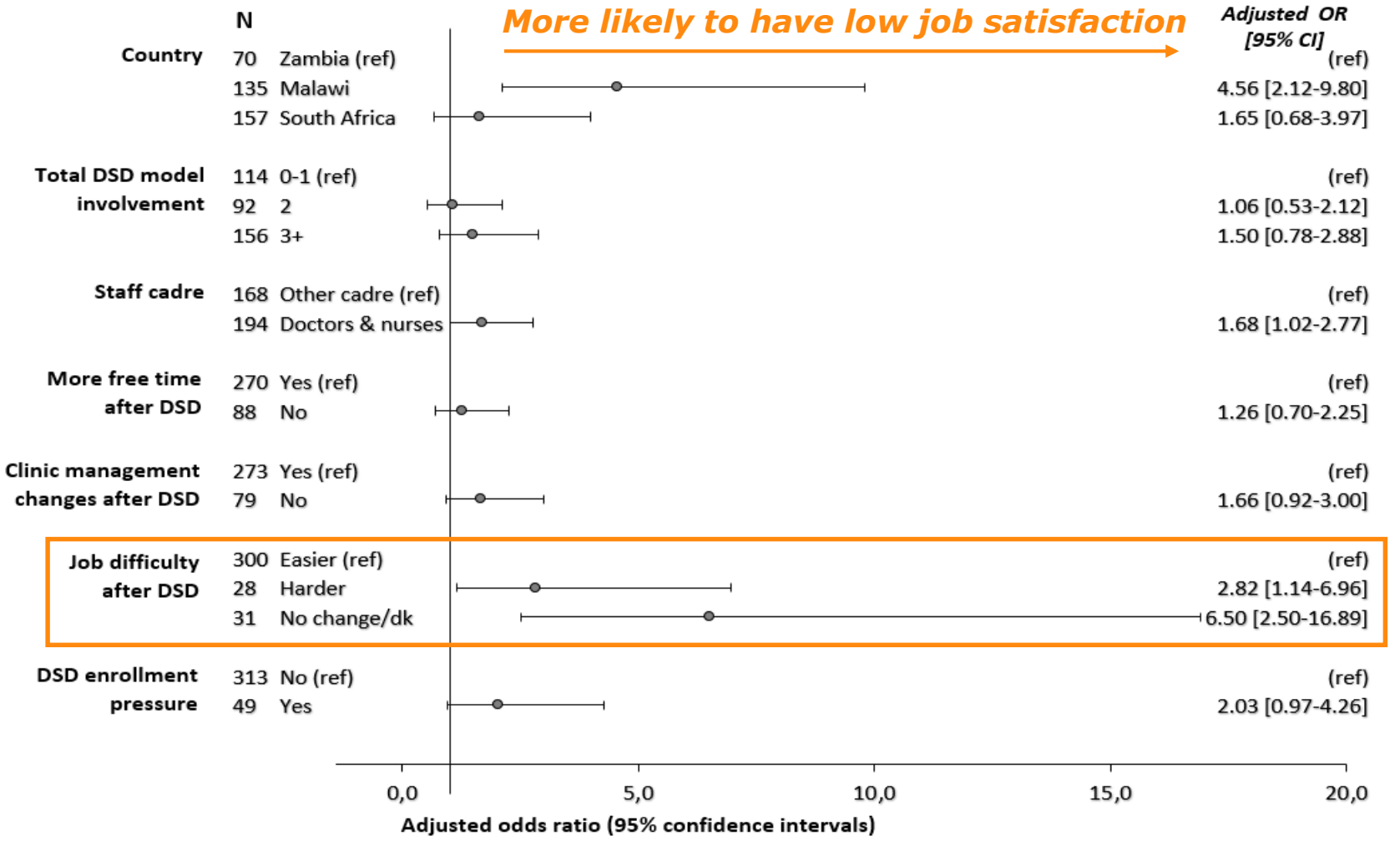


How did DSD implementation affect your job?



Results: Job satisfaction

Adjusted odds ratios of factors associated with low job satisfaction among healthcare workers in Malawi, South Africa, and Zambia



Of the 468 providers surveyed, 362 worked at the sites prior to DSD implementation, and 38% reported low job satisfaction which was associated with:

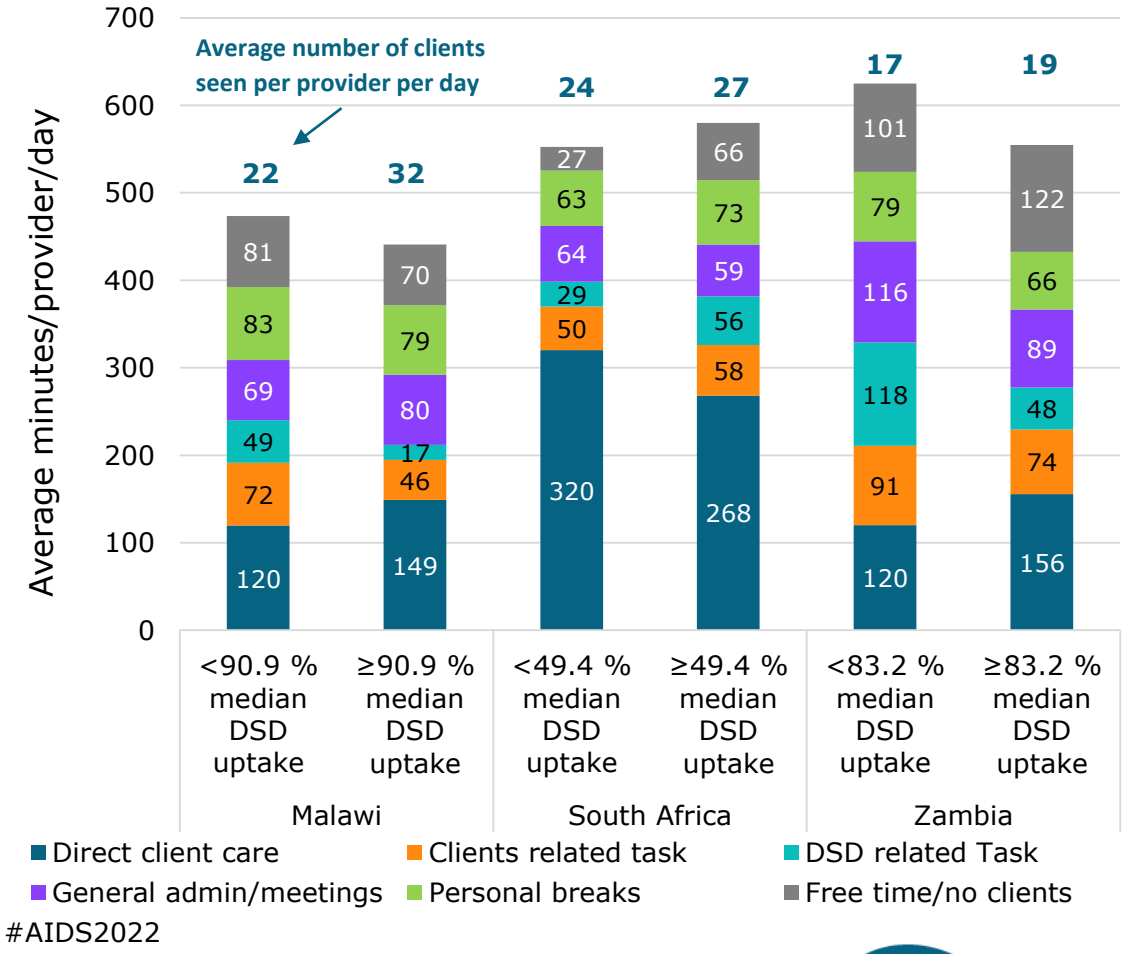
- Reporting that their Job became harder after DSD model introduction
- Reporting that their Job did not change after DSD model introduction
- Involvement in 3 or more DSD models
- Experiencing pressure to enrol clients in DSD models

Results: Time and motion (DSD uptake)

Providers in facilities with high DSD model uptake (compared to facilities with low DSD model uptake)

	Malawi	South Africa	Zambia
Duration of work day	-32 minutes/day	+27 minutes/day	-70 minutes/day
Time spent on direct client care	+21 minutes	-52 minutes	+36 minutes
Free time/time on breaks	-16 minutes	+49 minutes	+7 minutes
Time spent on client-related tasks	-31 minutes	+27 minutes	-70 minutes
Clients seen per day	+10 clients	+3 clients	+2 clients

Average minutes spent by provider per activity per day

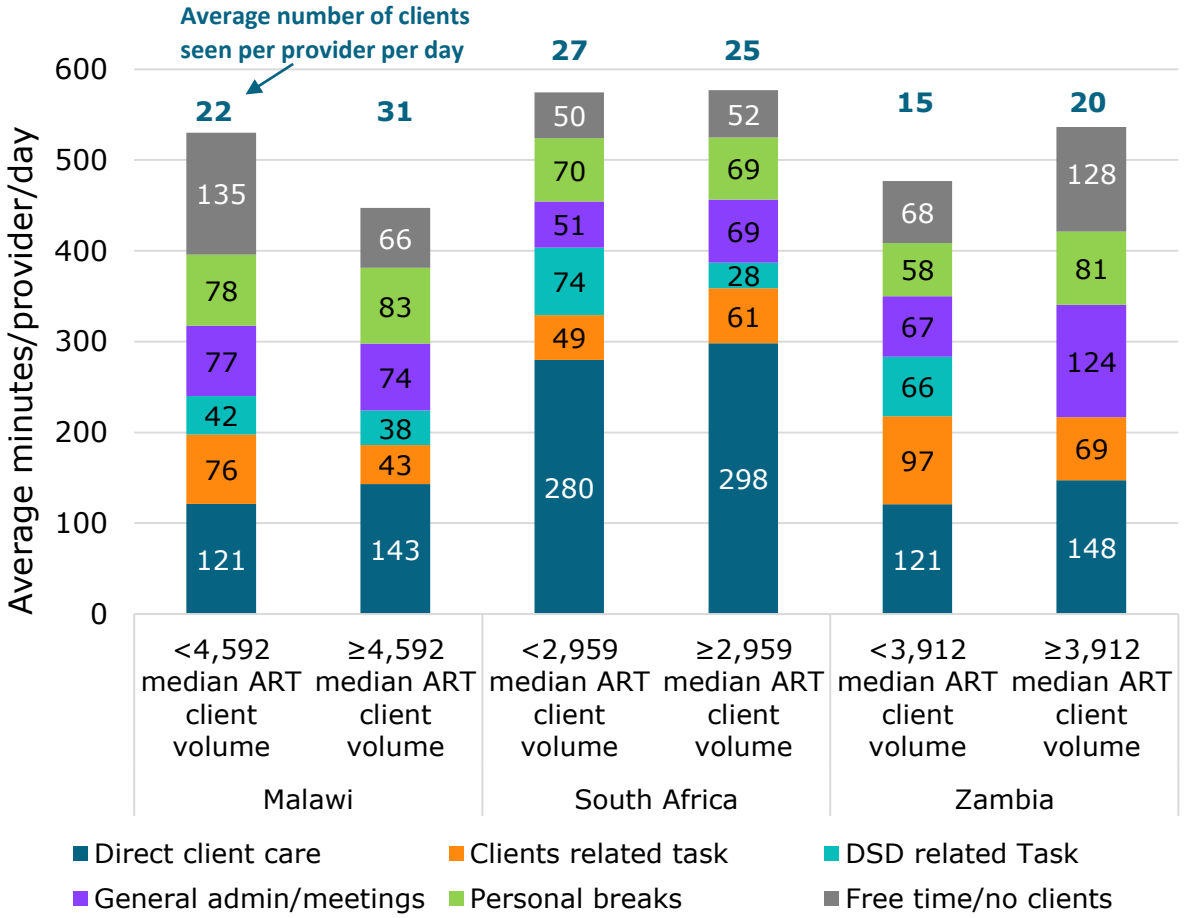


Results: Time and motion (client volume)

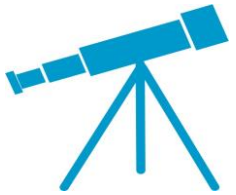
Providers in facilities with high ART client volume(compared to facilities with low ART client volume)

	Malawi	South Africa	Zambia
Duration of work day	-83 minutes/day	+3 minutes/day	+72 minutes/day
Time spent on direct client care	+22 minutes	+18 minutes	+26 minutes
Free time/time on breaks	+69 minutes	-2 minutes	-60 minutes
Clients seen per day	+9 clients	-2 clients	+5 clients

Average minutes spent by provider per activity per day

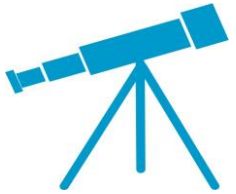


Conclusions



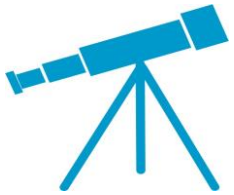
- DSD implementation was associated with increased job satisfaction for most (but not all) providers
  - Providers who reported no change in workload or more pressure to enroll clients in DSD models were more likely to report low job satisfaction
- Providers reported seeing fewer clients, reduced workloads, and more time spent with each client due to DSD models
- Observations showed that clinical providers in facilities with high DSD uptake spent less time on direct client care but more on related activities and saw more clients per day
- Limitations of the study included small number of study sites and small sample sizes

Recommendations



- As DSD model implementation and uptake expand, reallocation of providers' time could be considered to:
  - Enhance facility performance
  - Reduce unproductive time
  - Diminish stress on frontline health workers
- Routine job satisfaction surveys should be conducted (e.g. SA annual job satisfaction survey)
- Results should be incorporated into operational planning and resource allocation

What's next? AMBIT 2.0



Core activities (AMBIT 1.0 cont'd)

- DSD models in EMR data (GREAT 2.0)
- DSD models at sentinel sites (SENTINEL 2.0)
- Alternative delivery of ART optimization model (ADAPT 2.0)

New and exploratory activities

- Testing and its role in re-engagement
- Additional evaluations relevant to DSD models

Cross-cutting activities

- Partnerships and dissemination
- Building capacity to conduct this work locally

Acknowledgements

- Ministries and Departments of Health in Malawi, South Africa, and Zambia
- Implementing partners in all three countries
- Sentinel site staff and clients
- Bill & Melinda Gates Foundation
- CQUIN, IAS, and other collaborating organizations
- AMBIT project teams in Malawi, South Africa, Zambia, and the U.S.

Anna Grimsrud, IAS, South Africa

The science of differentiated service delivery: Where we are and where we're going

The science of differentiated service delivery: Where we're going

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I have no relevant financial relationships with ineligible companies to disclose.

Where we're going

Building on resilience from COVID-19

Earlier access to DSD for HIV treatment

Expanding access across populations

Ensuring community-based models

Expansion of virtual support

Improving transitions

Age

- Child to adolescent
- Adolescent to young adult
- Young adult to adult
- Adult to older adult

Pregnancy status

- Non-pregnant to pregnant
- Pregnant to mother-infant pair (breastfeeding)
- Mother-infant pair to mother (non-pregnant)

Changes that require service delivery transitions

Clinical stability

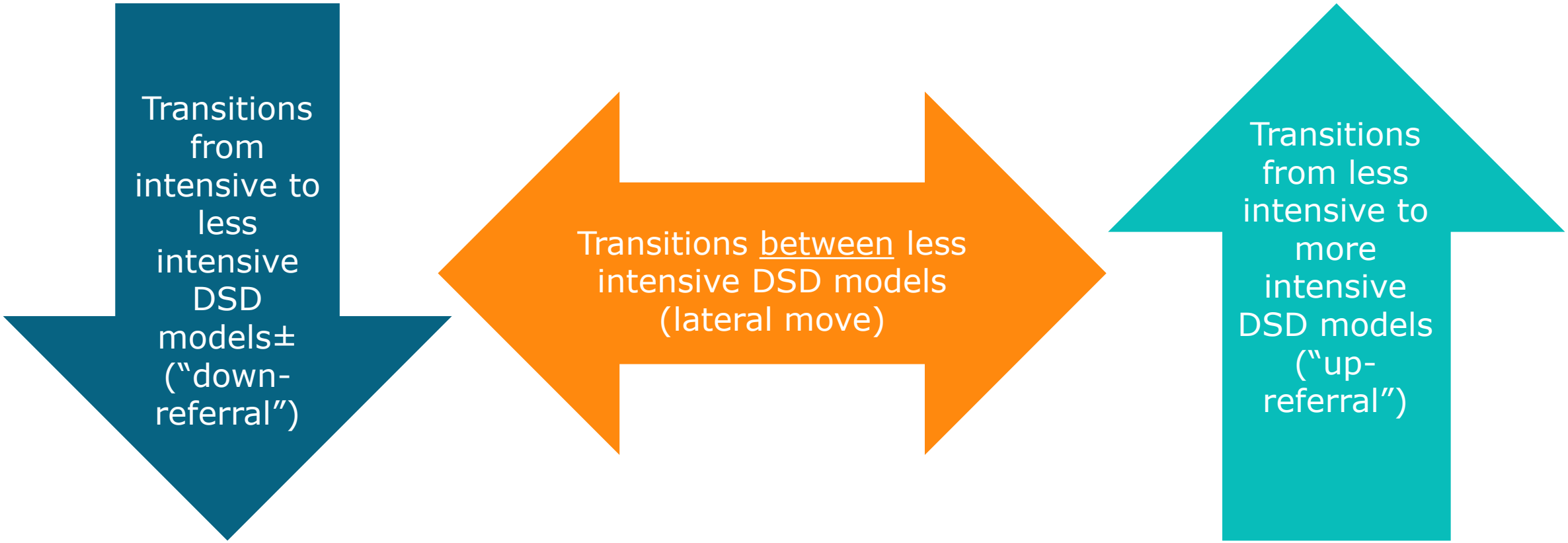
- Suppressed to elevated viral load*
- Well to unwell*
- Interrupted care to re-engaged in care

Preferences or model availability

- Migration (location change)
- Facility to community model*
- Individual to group model*

* *bi-directional*

Types of service delivery transitions

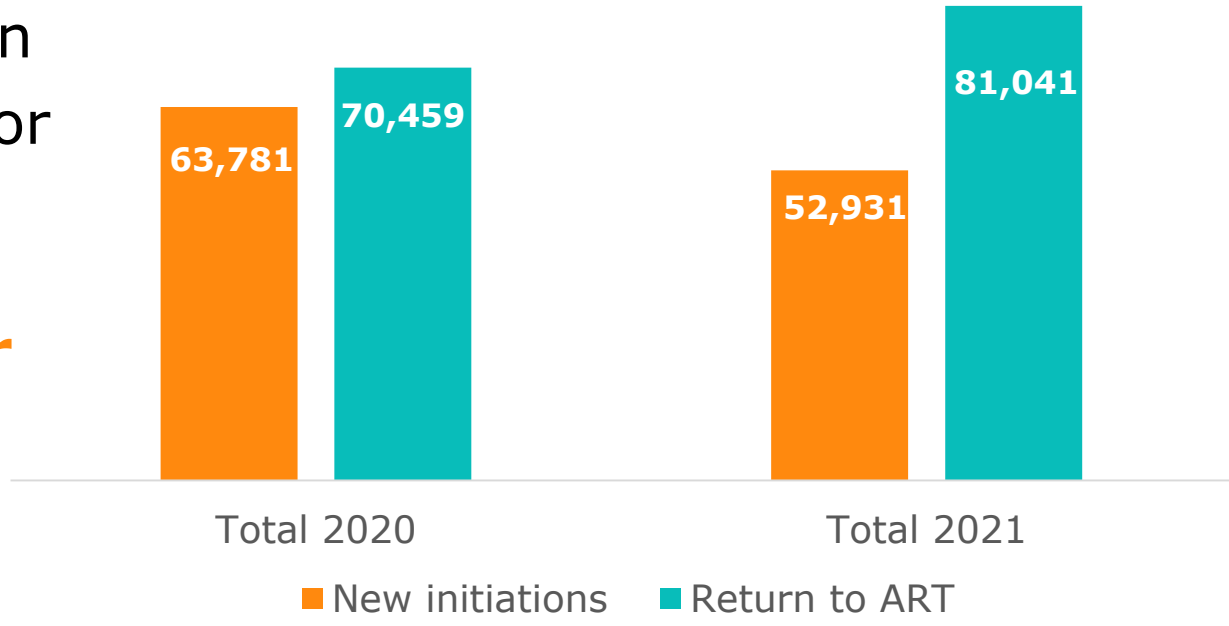


±Includes first time and transition back following a period of increased intensity

The need for differentiation at re-engagement

- Increasing number (and %) of people re-engaging in HIV care
- Not homogenous – need differentiation
- Consider clinical needs, and reasons for disengagement
- **How can we safely accelerate (re)entry to less intensive DSD for HIV treatment models?**

New initiations compared to return to treatment, Johannesburg*



*Data source: NDOH report for the City of Johannesburg

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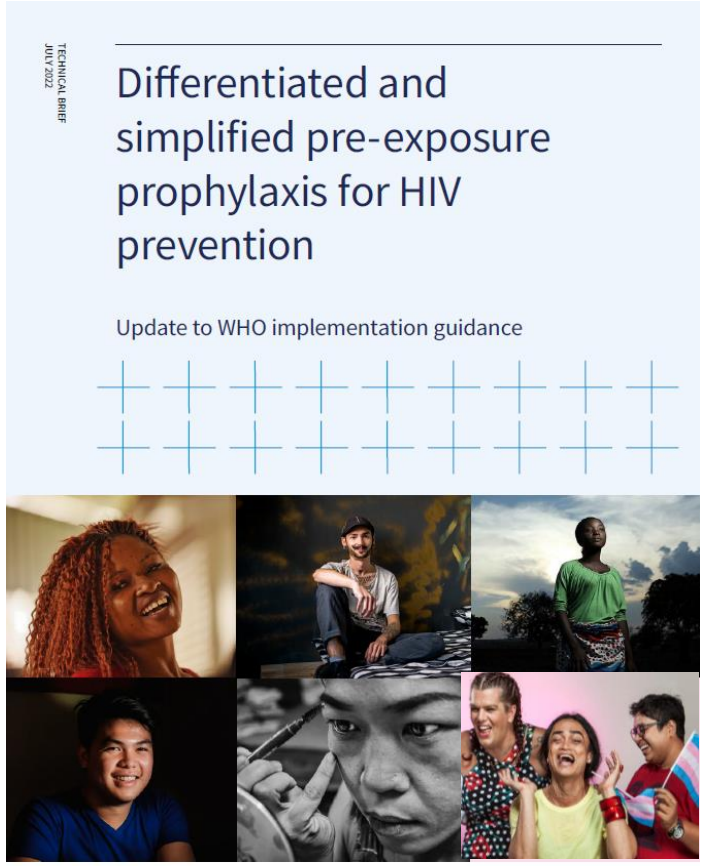
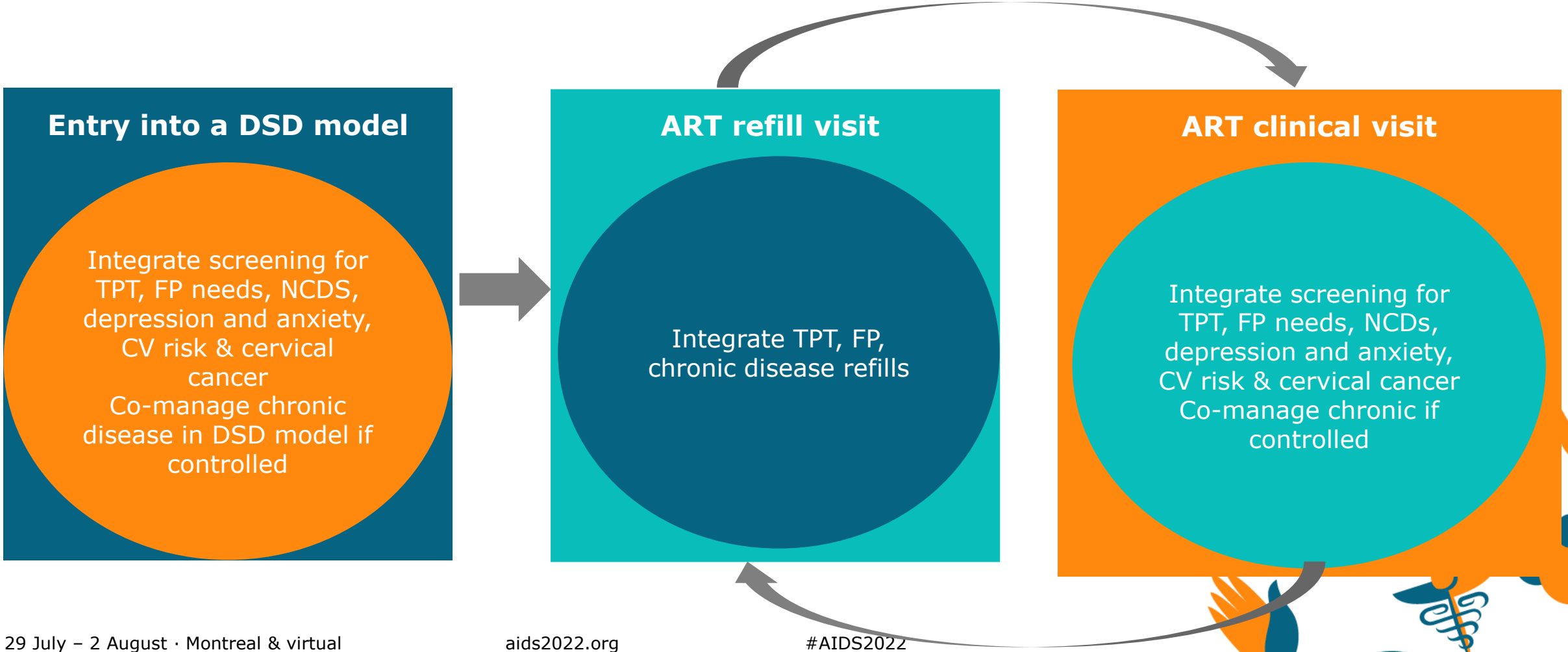
Differentiated PrEP service delivery



1. **Who** can prescribe PrEP or provide repeat scripts? **Who** can distribute PrEP refills? Or administer PrEP injectables?
2. **Where** can a person collect their PrEP refills or have PrEP injections administered?
3. **When**/how frequently must a person on PrEP be seen for a clinical consultation?
4. **What** is the minimum package of care at clinical follow-up visits by PrEP method?

World Health Organization

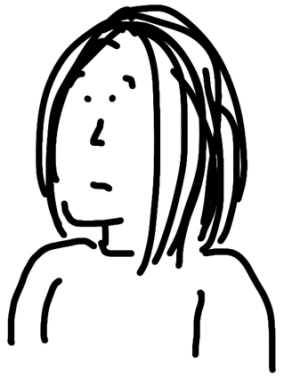
Understanding and addressing integration within DSD for HIV treatment models



Where we're going

Not just RCTs

Do you know about any RCTs that provide evidence that we should use RCTs?



- Implementation science
- Operational research
- Analysis of routine data

Allowing for recipient of care choice

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Impact beyond the outcomes of the recipient of care

- Community-level or facility-level outcomes
- Time-in-motion
- Health systems impact
- Perspectives of providers
- Perspectives of the recipients of care

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Where we're going – together

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What questions does WHO need answered to be able to provide additional/revised recommendations/guidance people living with and affected by HIV would like to see implemented in their countries?

Enable differentiation - from prevention to re-engagement

- Extending clinical visits to 12monthly
- 6MMD as an enabler – but not the new "one size fits all"
- Algorithms to support re-engagement (including access to DSD)
- Optimized adherence monitoring

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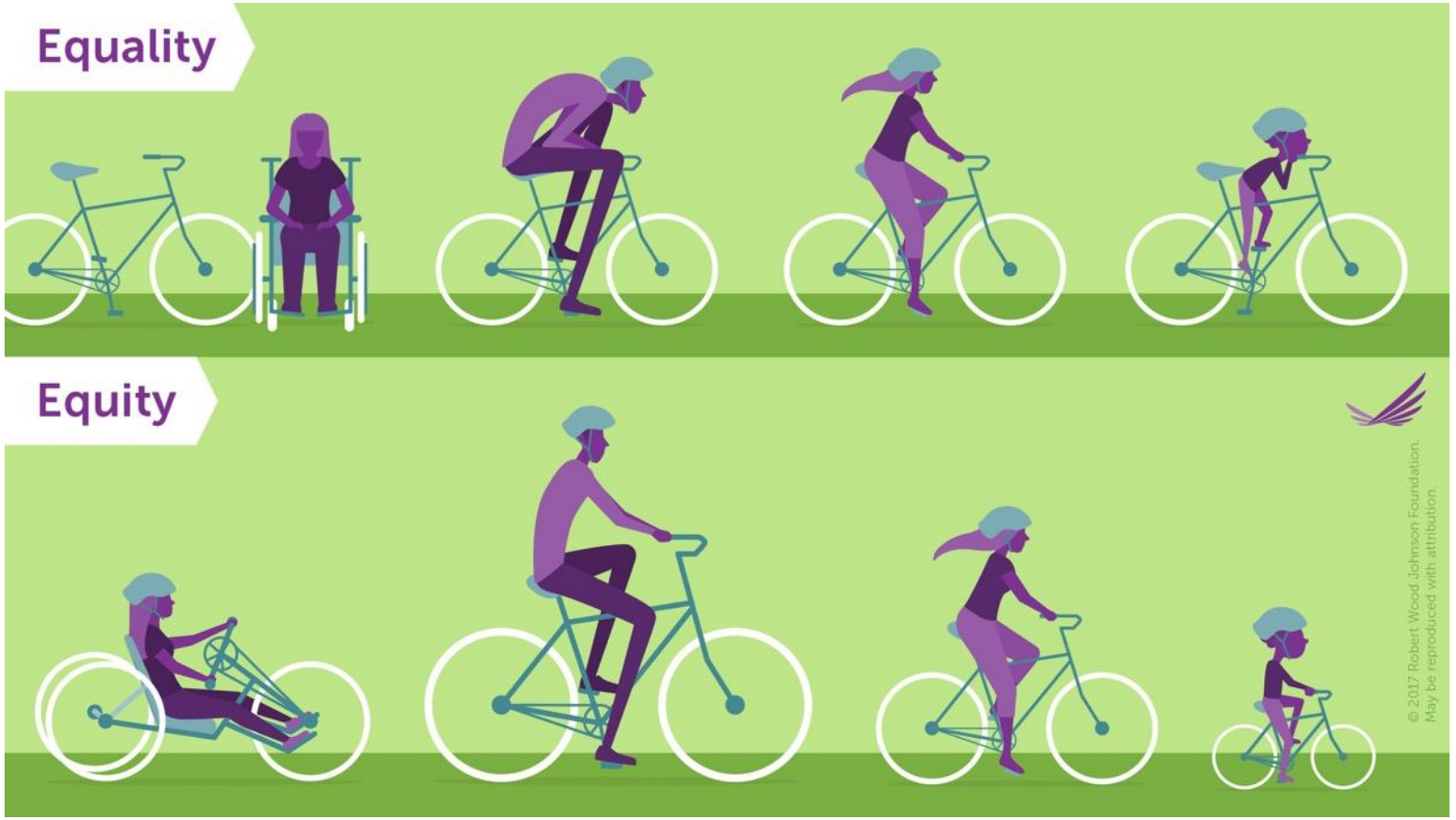
"It's not about everybody getting the same thing. It's about everybody getting what they need in order to improve the quality of their situation."
C. Parker



Jienchi Dorward, University of Oxford, UK &
Kombatende Sikombe, CIDRZ, Zambia

The science of differentiated service delivery: Where we are and where we're going

Q&A

Closing reflections

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Want to learn more? Register for our free course

Differentiated service delivery for HIV treatment

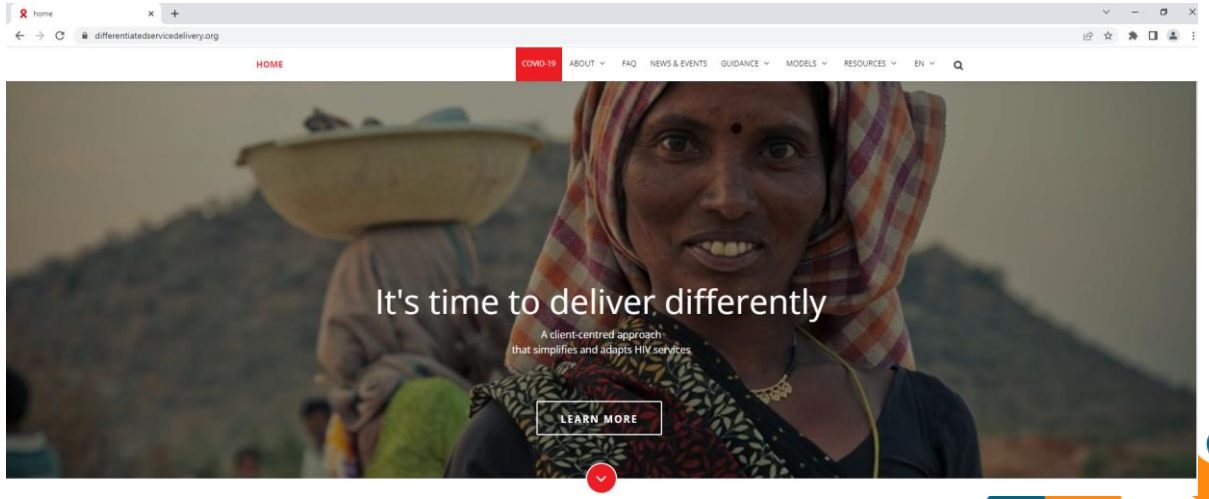
Free online course

https://ias-courses.org/

Want to learn more? Visit our website

Differentiated service delivery website

The compendium website contains tools and evidence endorsed for use by national HIV programmes and country implementing partners supported by the agencies engaged in its development.



https://differentiatedservicedelivery.org/

Download the AIDS 2022 DSD roadmap

DSD Roadmap for AIDS 2022

Check out the AIDS 2022 DSD roadmap and discover the latest DSD science – pre-conferences, satellites, symposia, oral abstract sessions and posters.

https://bit.ly/DSD_AIDS2022

AIDS 2022

DSD roadmap for AIDS 2022

Version 15 July 2022

*All times in EDT – local time Montreal, Canada.

PRE-CONFERENCE

- Differentiated service delivery for HIV treatment in 2022, Thursday, 28 July, 09:00 – 12:30 EDT

LIVE SESSIONS (satellites and symposia)

Friday, 29 July 2022

- Innovative differentiation: How best to deliver HIV testing, treatment and prevention services, Oral abstract session, Room 517b/Channel 4, 10:30 – 11:30 EDT
  - Medical drones to support HIV differentiated service delivery in an island population in Uganda - Rosalind Parkes-Ratanshi (Infectious Diseases Institute, Uganda)
  - How efficient are HIV self-testing models? A comparison of community, facility, one-stop-shop and pharmacy retail distribution models in Nigeria - Victor Abiola Adepoju (Jhpiego Nigeria (an affiliate of John Hopkins University), Nigeria)
  - How soon should patients be eligible for differentiated service delivery models for antiretroviral treatment? - Sydney Rosen (Boston University, United States)
  - The effect of six-month PrEP dispensing supported with interim HIV self-testing on PrEP continuation at 12 months in Kenya: a randomized implementation trial - Katrina Ortblad (University of Washington, United States)
- Differentiated Testing Services: Best practices and lessons learned re: optimizing HIV testing and linkage program design, Satellite, Room 524/Channel 9, ICAP at Columbia University and the Clinton Health Access Initiative (CHAI), 13:00 – 14:30 EDT
- Differentiated service delivery for Advanced HIV Disease: a health systems strengthening approach to improving the coverage and quality of AHD services, Satellite, Room 511/Channel 7, ICAP at Columbia University, 18:15 – 19:45 EDT

Saturday, 30 July 2022

- Expanding access to PrEP through differentiated service delivery: Lessons from COVID-19 adaptations, Satellite, Room 517c/Channel 5, IAS – the International AIDS Society and the World Health Organization, 08:00 – 09:00 EDT
- In it together: How to integrate health services for specific populations, Symposium, Room 517c/Channel 5, 11:45 – 12:45 EDT
  - Improving outcomes through integrated HIV, diabetes and hypertension care in sub-Saharan Africa, Shabbar Jaffar (Liverpool School of Tropical Medicine, United Kingdom)

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Questions?

Email us

dsd@iasociety.org