

The impact of differentiated service delivery models on 12-months retention in HIV treatment in Mozambique

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Presentation Content



BACKGROUND



National prevalence of HIV in adults = 13.2%

Key HIV treatment landmarks



BACKGROUND

The DSD models

Source: https://differentiatedservicedelivery.org

Definition of stable clients

- 1. More than 6 months on ART;
- 2. Virologically suppressed;
- 3. Without opportunistic infections

Implemented DSD models for stable clients
1. ART Adherence Clubs

- 2. Community Adherence Support Group (CASG)
- 3. Fast Flow (FF)
- 4. Three-monthly dispensing of Antiretrovirals (3M)

Implemented DSD models for unstable clients 1. Family Approach (FA)

2. One-stop in Adolescent and Youth Friendly Services (YAFS)

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3. One-stop in Maternal and Child Health (MCH) services

4. One-stop in Tuberculosis (TB) services

BACKGROUND

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DSD logic model

INPUTS	ACTIVITIES		OUTPUTS		OUTCOMES	IMPACT
Funds Human	Guideline development Providers	•	Decreased visits for stable clients on DSD Integrated services for unstable clients on	, ,	Improved service efficiency	Decreased HIV associated mortality for all people living with HIV on ART
resources Infrastructure	training Demand generation		DSD models Decreased daily workload for providers Increased provider's		Improved retention on ART for all clients (DSD and non- DSD)	
Treatment supplies	DSD models provision		time for non-DSD clients Reduce visit length for non-DSD clients		Improved viral suppression for all clients	

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Primary aim

To measure the effect of the differentiated service delivery models of HIV treatment on 12-months retention after Antiretroviral Therapy (ART) initiation.

Secondary aim

To assess the impact of the COVID-19 response in Mozambique on the effect of the differentiated service delivery models of HIV treatment on 12-months retention after ART initiation.

Study setting, design, outcome and period

Primary analysis periods

Setting - Mozambique

Design - Uncontrolled interrupted time series

Outcome - Retention 12-months after ART initiation

Period - January 2016 to June 2021

Pre-intervention Roll-out

Post-intervention

2016-01 2018-12

2019-12

2021-06

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Study setting, design, outcome and period

Secondary analysis periods

Setting - Mozambique

Design - Uncontrolled interrupted time series

Outcome - Retention 12-months after ART initiation

Period - January 2016 to June 2021

Pre-intervention Roll-out Post-intervention

Pre-COVID Post-COVID

2016-01 2018-12 2019-12 2020-04

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2021-06

Participants and data source

- Participants All patients enrolled on ART in facilities using Electronic Patient Tracking System (EPTS), which feeds the Mozambique Antiretroviral Therapy (MozART) database.
- Data source MozART database (51% of the 1455 facilities providing ART in 2018).

Data analysis

• Segment regression analysis using linear mixed effect model with random intercept and slope at health facility level, stratified by sex and age.

Primary analysis regression equation

 $Y_t = \beta_0 + \beta_1 * (\text{time}) + \beta_2 * (\text{time.rollout}) + \beta_3 * (\text{time.DSD}) + \varepsilon_{ij}$

Secondary analysis regression equation

 $Y_t = \beta_0 + \beta_1 * (time) + \beta_2 * (time.rollout) + \beta_3 * (time.DSD) + \beta_4 * (covid) + \beta_5 * (time during covid) + \varepsilon_{ii}$

Where:

- β_0 The baseline 12-months retention on ART
- β_1 Monthly change before the intervention
- β_2 Monthly change during roll-out compared to before the intervention
- β_3 Monthly change during post-intervention (primary) or post-intervention without COVID-19 (secondary) compared to roll-out period
- β_4 Immediate change from pre- to pos-COVID-19 period
- β_5 Monthly change during post-intervention with COVID-19 compared to without COVID-19 Slide #9

Demographics of the studied cohorts

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Primary analysis

Trends of the outcome in different study periods

	Estimate and 95% CI	P value
Baseline 12-months retention	71.48 (69.98, 72.97)	< 0.01
Monthly change before the intervention	-0.37 (-0.42, -0.32)	< 0.01
Monthly change during roll-out compared to before the intervention	0.14 (0.06, 0.21)	< 0.01
Monthly change during post- intervention compared to roll-out period	1.18 (1.09, 1.27)	<0.01

Primary analysis

Overall impact of DSD models

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Secondary analysis

Trends of the outcome in different study periods

	Estimate and 95% CI	P value
Baseline 12-months retention	71. 34 (69.98, 72.97)	< 0.01
Monthly change before the intervention	-0.35 (-0.40, -0.30)	<0.01
Monthly change during roll-out compared to before the intervention	0.02 (0.01, 0.07)	0.66
Monthly change during post-intervention without COVID-19 compared to roll-out period	1.18 (1.09, 1.27)	< 0.01
Immediate change from pre- to pos-COVID-19 period	-1.89 (-3.38, -0.41)	0.01
Monthly change during post-intervention with COVID-19 compared to post-intervention without COVID-19	-1.27 (1.69, -0.86)	<0.01 Slide #13

Secondary analysis

Overall impact of COVID-19 on the effect of DSD models

DISCUSSION & CONCLUSION

- We found a significant and positive impact of the DSD models on the 12-months retention on ART.
- There was no meaningful difference in the impact by sex and age.
- COVID-19 had an immediate and sustained significant negative impact on the outcome.
- However, the impact of COVID-19 must be interpreted with caution.
- In conclusion, we demonstrated a positive impact of the implemented DSD models on 12-months retention on ART, and we generated a hypothesis that COVID-19 influenced negatively the impact of DSD models, that should be studied in the future.

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