



# The First Six Months of HIV Treatment: Clinic Visit Schedule and Dispensing Intervals at Zambian Clinics

## BACKGROUND

- ◆ Multi-month dispensing (MMD) of antiretroviral medications for HIV has become one of the most common “differentiated service delivery” (DSD) approaches implemented in many sub-Saharan African countries, both as a facility-based model in itself and as a feature of other DSD models. While the definition of MMD varies, it is typically understood as dispensing 6 months of medications at a time (MMD6) in countries in which 3-month dispensing is the standard of care and dispensing 3 months of medication at a time (MMD3) in countries in which the standard of care is one or two months.
- ◆ Until very recently, MMD has been limited to patients regarded as established (stable) on antiretroviral therapy (ART). Criteria for being established have always included at least 6 months’ experience on treatment, and sometimes 12 months. At least one suppressed viral load is also usually required; some countries require two consecutive suppressed viral loads. Patients in their first 0-6 months on treatment have not been eligible for MMD or most other DSD models, and eligibility in months 7-12 on ART has varied.
- ◆ In Zambia, patients must have at least 12 months on ART and 2 consecutive suppressed viral loads to be eligible for DSD model enrollment. Viral load testing is scheduled for 6 months and 12 months after ART initiation. In practice, facilities often require only 6 months’ experience on ART and one suppressed viral load result before offering DSD model enrollment.
- ◆ The onset of the COVID-19 pandemic led the Zambian Ministry of Health and individual healthcare facilities to take steps to minimize patient contact with clinics and reduce the burden of ART on patients whose movements and incomes may both have been restricted. These steps included allowing 3-month dispensing for patients in their first six months on ART.
- ◆ In this brief we look at 12 public sector healthcare facilities in two provinces in Zambia to describe the range of dispensing practices between ART initiation and DSD model eligibility in the periods prior to, during, and after the height of the COVID-19 pandemic.

## SOURCES

In this brief we look at 12 public sector healthcare facilities in two provinces in Zambia to describe the range of dispensing practices between ART initiation and DSD model eligibility in the periods prior to, during, and after the height of the COVID-19 pandemic.

## FINDINGS

- ◆ Table 1 summarizes the number of clinic visits required between ART initiation and DSD model eligibility (inclusive), the month since ART initiation at which patients’ eligibility for DSD model enrollment is assessed and enrollment allowed, the turnaround time for results of viral load tests (number of weeks or months between drawing sample and receiving results at clinic), since January 2022 (post-COVID).
- ◆ The clinics in the survey require between 4 and 8 clinic visits from ART initiation to DSD model eligibility (4 clinics required 4 visits, 4 required 5 visits, 2 required 6 visits, and 1 each required 7 and 8 visits).
- ◆ Patients become potentially eligible for DSD model enrollment at anywhere from 7 to 15 months after initiation (all sites require viral suppression for DSD model eligibility; 1 site requires 2 suppressed viral load tests).
- ◆ The turnaround time for viral load test results ranges from 2 weeks to 1 month for facilities located near centralized laboratories (7 facilities) to 1-4 months for those farther away (5 facilities).

## FINDINGS

**Table 1.** Numbers of clinic visits required between treatment initiation and DSD model eligibility and timing of DSD eligibility at 12 healthcare facilities in Zambia, 2022

Facility	Requirements between initiation and DSD model eligibility		
	Number of visits including initiation and eligibility visits	Earliest month of eligibility for DSD models	Turnaround time for viral load test results
<b>Lusaka Province</b>			
Urban Health Centre	4	9	2-3 months
Rural Health Centre	6	9	2 weeks
Urban Clinic	4	7	2 weeks
1st Level Hospital	6	7*	2 weeks-3 months
1st Level Hospital	5	10	2 weeks-2 months
Urban Health Centre	4	9	1-2 months
<b>Central Province</b>			
Mission Hospital	7	9	1-4 months
Urban Health Centre	6	9	1-3 months
Urban Health Centre	4	9	1-2 months
1st Level Hospital	5	10	2 weeks-1 month
District Hospital	8	15†	2 weeks-1 month
Mission Hospital	5	9	2 weeks

\*If VL result returned in time. †Only facility to follow guideline requiring 2 suppressed viral loads before DSD model eligibility.

**Table 2.** Numbers of clinic visits in first 12 months after ART initiation and earliest month of 3-month dispensing before, during, and after the period of COVID restrictions

Facility	Visits required in first 12 months (Year 1)†			First month at which 3 months ARVs dispensed		
	Pre-COVID*	COVID*	Post-COVID*	Pre-COVID	COVID	Post-COVID
<b>Lusaka Province</b>						
Urban Health Centre	5	4	4	4	1	1
Rural Health Centre	7	6	6	5	4	4
Urban Clinic	6	5	4	4	2	2
1st Level Hospital	8	5	5	5	2	2
1st Level Hospital	7	5	5	3	2	2
Urban Health Centre	6	4	4	4	1	1
<b>Central Province</b>						
Mission Hospital	7	6	7	3	1	2
Urban Health Centre	6	6	6	4	2	4
Urban Health Centre	7	4	4	5	1	1
1st Level Hospital	7	5	5	4	2	2
District Hospital	7	4	7	3	1	4
Mission Hospital	7	5	5	5	4	4

†At some facilities, ARVs dispensed at last visit shown in Year 1 last up to first 4 months of Year 2

\*Pre-COVID = Jan 2018-March 2020; COVID = March 2020-Dec 2021; post-COVID = Jan-May 2022

- ◆ During the COVID period, all facilities reduced the number of visits required during the first year on ART, and most offered 3-month dispensing only 1 or 2 months after ART initiation.
- ◆ In the post-COVID period, two thirds of the facilities retained the visit and dispensing schedules they adopted during the COVID period. The other third either reverted to pre-COVID procedures or, in one case, further reduced visit requirements.

## CONCLUSION

There is substantial variation among individual healthcare facilities in their requirements for clinic visits during the first year on ART, the timing of DSD model eligibility, and turnaround times for viral load tests. All facilities reduced visit numbers and extended dispensing intervals during the COVID period, and most retained these innovations in the post-COVID period.

# APPENDIX. Detailed visit and dispensing schedules for the study sites, January 2018-May 2022

Facility	Pre-COVID (Jan 2018-March 2020)				COVID (March 2020-Dec 2021)				Post-COVID (Jan 2022-present)				Timing of VL and DSD eligibility
	Visit #	Visit timing	ARVs dispensed	Months covered	Visit #	Visit	ARVs dispensed	Months covered	Visit #	Visit timing	ARVs dispensed	Months covered	
<b>Lusaka Province</b>													
Urban Health Centre	1	Initiation	1 month	1	1	Initiation	3 months	1-3	1	Initiation	3 months	1-3	
	2	End of month 1	2 months	2-3	2	End of month 3	3 months	4-6	2	End of month 3	3 months	4-6	
	3	End of month 3	3 months	4-6	3	End of month 6	3 months	7-9	3	End of month 6	3 months	6-9	VL sample
	4	End of month 6	3 months	7-9	4	End of month 9	3 months	10-12	4	End of month 9	6 months*	10-15	VL result and DSD eligibility
	5	End of month 9	3 months	10-12									
Rural Health Centre	1	Initiation	0.5 months†	1	1	Initiation	1 month	1	1	Initiation	1 month	1	
	2	0.5 months	0.5 months†	1	2	End of month 1	1 month	2	2	End of month 1	1 month	2	
	3	End of month 1	1 month	2	3	End of month 2	1 month	3	3	End of month 2	1 month	3	
	4	End of month 2	2 months	3-4	4	End of month 3	3 months	4-6	4	End of month 3	3 months	4-6	
	5	End of month 4	3 months	5-7	5	End of month 6	3 months	7-9	5	End of month 6	3 months	7-9	VL sample
	6	End of month 7	3 months	8-10	6	End of month 9	3 months	10-12	6	End of month 9	6 months*	10-15	VL result and DSD eligibility
	7	End of month 10	3 months	11-13									
Urban Clinic	1	Initiation	0.5 months†	1	1	Initiation	1 month	1	1	Initiation	1 month	1	
	2	0.5 months	0.5 months†	1	2	End of month 1	3 months	2-4	2	End of month 1	3 months	2-4	
	3	End of month 1	2 months	2-3	3	End of month 4	3 months	5-7	3	End of month 4	3 months	5-7	VL sample
	4	End of month 3	3 months	4-6	4	End of month 7	3 months	8-10	4	End of month 7	6 months*	8-13	VL result and DSD eligibility
	5	End of month 6	3 months	7-9	5	End of month 10	3 months	11-13					
	6	End of month 9	3 months	10-12									
1st Level Hospital	1	Initiation	0.25 months†	1	1	Initiation	1 month	1	1	Initiation	1 month	1	
	2	0.25 months	0.25 months†	1	2	End of month 1	3 months	2-4	2	End of month 1	3 months	2-4	
	3	0.5 months	0.5 months†	1	3	End of month 4	3 months	5-7	3	End of month 4	3 months	5-7	
	4	End of month 1	1 month	2	4	End of month 7	3 months	8-10	4	End of month 6	None		VL sample
	5	End of month 2	2 months	3-4	5	End of month 10	3 months	11-13	5	End of month 7	6 months*	8-13	VL result and DSD eligibility
	6	End of month 4	3 months	5-7									
	7	End of month 7	3 months	8-10									
	8	End of month 10	3 months	11-13									
1st Level Hospital	1	Initiation	0.5 months†	1	1	Initiation	1 month	1	1	Initiation	1 month	1	
	2	0.5 months	0.5 months†	1	2	End of month 1	3 months	2-4	2	End of month 1	3 months	2-4	
	3	End of month 1	1 month	2	3	End of month 4	3 months	5-7	3	End of month 4	3 months	5-7	
	4	End of month 2	3 months	3-5	4	End of month 7	3 months	8-10	4	End of month 7	3 months	8-10	VL sample
	5	End of month 5	3 months	6-8	5	End of month 10	3 months	11-13	5	End of month 10	6 months*	11-13	VL result and DSD eligibility
	6	End of month 8	3 months	9-11									
	7	End of month 11	3 months	12-14									
Urban Health Centre	1	Initiation	0.5 months†	1	1	Initiation	3 months	1-3	1	Initiation	3 months	1-3	
	2	0.5 months	0.5 months†	1	2	End of month 3	3 months	4-6	2	End of month 3	3 months	4-6	
	3	End of month 1	2 months	2-3	3	End of month 6	3 months	7-9	3	End of month 6	3 months	7-9	VL sample
	4	End of month 3	3 months	4-6	4	End of month 9	3 months	10-12	4	End of month 9	6 months*	10-12	VL result and DSD eligibility
	5	End of month 6	3 months	7-9									
	6	End of month 9	3 months	10-12									
<b>Central Province</b>													
Mission Hospital	1	Initiation	0.5 months†	1	1	Initiation	0.5 months†	1	1	Initiation	0.5 months†	1	
	2	0.5 months	0.5 months†	1	2	0.5 months	0.5 months†	1	2	0.5 months	0.5 months†	1	
	3	End of month 1	1 month	2	3	End of month 1	3 months	2-4	3	End of month 1	1 month	2	
	4	End of month 2	1 month	3	4	End of month 4	3 months	5-7	4	End of month 2	1 month	3	
	5	End of month 3	3 months	4-6	5	End of month 7	3 months	8-10	5	End of month 3	3 months	4-6	
	6	End of month 6	3 months	7-9	6	End of month 10	3 months	11-13	6	End of month 6	3 months	7-9	VL sample
	7	End of month 9	3 months	10-12	7	End of month 9	3 months	10-15	7	End of month 9	6 months*	10-15	VL result and DSD eligibility
Urban Health Centre	1	Initiation	0.5 months†	1	1	Initiation	0.5 months†	1	1	Initiation	0.5 months†	1	
	2	0.5 months	0.5 months†	1	2	0.5 months	0.5 months†	1	2	0.5 months	0.5 months†	1	
	3	End of month 1	2 months	2-3	3	End of month 1	3 months	2-4	3	End of month 1	2 months	2-3	
	4	End of month 3	3 months	4-6	4	End of month 4	3 months	5-7	4	End of month 3	3 months	4-6	
	5	End of month 6	3 months	7-9	5	End of month 7	3 months	8-10	5	End of month 6	3 months	7-9	VL sample
	6	End of month 9	3 months	10-12	6	End of month 10	3 months	11-13	6	End of month 9	6 months	10-15	VL result and DSD eligibility
Urban Health Centre	1	Initiation	0.5 months†	1	1	Initiation	3 months	1-3	1	Initiation	3 months	1-3	
	2	0.5 months	0.5 months†	1	2	End of month 3	3 months	4-6	2	End of month 3	3 months	4-6	
	3	End of month 1	1 month	2	3	End of month 6	3 months	7-9	3	End of month 6	3 months	7-9	VL sample
	4	End of month 2	2 months	3-4	4	End of month 9	3 months	10-12	4	End of month 9	6 months*	10-15	VL result and DSD eligibility
	5	End of month 4	3 months	5-7									
	6	End of month 6	3 months	8-10									
	7	End of month 9	3 months	11-13									
1st Level Hospital	1	Initiation	0.5 months†	1	1	Initiation	1 month	1	1	Initiation	1 month	1	
	2	0.5 months	0.5 months†	1	2	End of month 1	3 months	2-4	2	End of month 1	3 months	2-4	
	3	End of month 1	1 month	1	3	End of month 4	3 months	5-7	3	End of month 4	3 months	5-7	
	4	End of month 2	2 months	3-4	4	End of month 7	3 months	8-10	4	End of month 7	3 months	8-10	VL sample
	5	End of month 4	3 months	4-6	5	End of month 10	3 months	11-13	5	End of month 10	6 months*	11-16	VL result and DSD eligibility
	6	End of month 6	3 months	7-9									
	7	End of month 9	3 months	10-12									
District Hospital	1	Initiation	0.5 months†	1	1	Initiation	3 months	1-3	1	Initiation	0.5 months†	1	
	2	0.5 months	0.5 months†	1	2	End of month 1	3 months	4-6	2	0.5 months	0.5 months†	1	
	3	End of month 1	1 month	2	3	End of month 6	3 months	7-9	3	End of month 1	3 months	2-4	
	4	End of month 2	3 months	3-5	4	End of month 9	3 months	10-12	4	End of month 4	2 months	5-6	
	5	End of month 5	3 months	6-8					5	End of month 6	3 months	7-9	VL sample
	6	End of month 8	3 months	9-11					6	End of month 9	3 months	10-12	VL result
	7	End of month 11	3 months	12-14					7	End of month 12	3 months	13-15	Second VL sample
Mission Hospital	1	Initiation	0.5 months†	1	1	Initiation	1 month	1	1	Initiation	1 month	1	
	2	0.5 months	0.5 months†	1	2	End of month 1	2 months	2-3	2	End of month 1	2 months	2-3	
	3	End of month 1	1 month	2	3	End of month 3	3 months	4-6	3	End of month 3	3 months	4-6	
	4	End of month 2	2 months	3-4	4	End of month 6	3 months	7-9	4	End of month 6	3 months	7-9	VL sample
	5	End of month 4	3 months	5-7	5	End of month 9	3 months	10-12	5	End of month 9	6 months*	10-12	VL result and DSD eligibility
	6	End of month 6	3 months	8-10									
	7	End of month 9	3 months	11-13									

†To dispense <30 days, facilities open medication bottles and repack smaller quantities  
\*6 months dispensed only if virally suppressed